



Schedule of Sessions

SYMP: Symposia should consist of focused, integrated presentations assessing current understanding regarding a particular research problem, concept, application, or educational theme. Generally, symposia should have broad appeal within the ecological community or involve integration across sub-disciplines. Symposia focused within particular areas of ecology may be considered if these are areas of particularly active research, or if the symposia offer important new insights. Symposia may integrate historical perspectives explicitly, but this should generally be in the context of understanding current research and research questions. Presentations should offer new results and syntheses; speakers should not simply review previous work and results. No more than 24 symposia can be accepted for an Annual Meeting.

OOS: Organized oral sessions allow a wider range of thematic and conceptual options than symposia. Presentations included in an OOS must be topically coherent, but explicit synthetic overview is not required, and sessions need not have broad disciplinary or cross-disciplinary appeal. OOS's are particularly well suited for sets of related case studies, for specialized themes, or for presenting new work that does not yet admit of the synthesis called for in a symposium. Sessions may focus, for example, on a particular conceptual question, management problem, ecological process, or other unifying theme. A strong OOS proposal will provide a broad sampling of research in the topical area. OOS's may generate ideas for subsequent symposia. Up to (but no more than) eight speakers should be invited by session organizers and listed in the proposal; at least two speakers will be added subsequently by the Program Chair from the contributed abstracts. There is no limit on the number of OOS's that may be accepted each year.

OPS: Organized poster sessions are thematically and conceptually equivalent to organized oral sessions. Each OPS consists of a set of posters in multiples of 5. A strong OPS proposal will provide a broad sampling of research in the topical area. OPS's may generate ideas for subsequent symposia. There is no limit on the

number of OPS's that may be accepted each year. Organized poster sessions are scheduled concurrently with the regular poster sessions on specially marked boards.

COS: Contributed oral sessions are collections of submitted abstracts each organized around a common study taxon, ecosystem, subdiscipline, concept/process, or tool/application. Contributed abstracts are reviewed and organized by the Program Chairs and Program Coordinator.

WK: Workshops are intended to convey specific knowledge or skills; they are not intended for the presentation of research papers. Workshops are frequently more interactive and informal than sessions within the formal scientific program, and are not scheduled concurrently with symposia, organized oral, contributed oral, or poster sessions. Workshops may involve one or several teachers/presenters, and may include computer-based or other 'hands-on' training. Weekend workshops may be linked with a scientific field trip. Workshop proposals should make clear what participants might expect to gain. Limits of space and time may make it impossible to accommodate all worthy submissions.

SS: The ESA Annual Meetings include a wide range of events that do not conform to the criteria for the scientific sessions, workshops, or field trips. These 'special sessions' have included, for example, panel discussions, open discussions, lectures, and film screenings. Special sessions can permit extended dialogue, and may be vehicles for planning future events or organizations. Whatever its format, a special session should have some bearing on ecological science or education, broadly construed. Special sessions are open to all meeting registrants, although a ticket may be required for food or beverages.

PS: Poster sessions are collections of submitted abstracts each organized around a common study taxon, ecosystem, subdiscipline, concept/process, or tool/application. Contributed abstracts are reviewed and organized by the Program Chairs and Program Coordinator.

Thursday, August 4

1 pm-5 pm

CANCELED FT 1 - Big Bend National Park - Chihuahuan Desert Diversity (4 days 3 overnights)
Trinity Street Lobby Field Trip Pick Up, Austin Convention Center
Organized by: DJ Leavitt (dlea886@tamu.edu)

Saturday, August 6

6:30 am-5:30 pm

CANCELED FT 2 - The Balcones Canyonlands Preserve: Managing for Multiple Endangered Species in an Urban Preserve System
Trinity Street Lobby Field Trip Pick Up, Austin Convention Center
Organized by: L O'Donnell, L Laack

7 am-6 pm

CANCELED FT 3 - Endangered Species and the Military: Management of Sensitive Natural Resources on Fort Hood, Texas
Trinity Street Lobby Field Trip Pick Up, Austin Convention Center
Organized by: G Eckrich (gil.eckrich@us.army.mil),
TJ Hayden (timothy.j.hayden@usace.army.mil)

8 am-1 pm

FT 5 - A Day on the Blackland Prairie: Changes Wrought by Rising Atmospheric CO2 Concentration, the Proliferation of Exotic Plants, and Land Use Changes
Trinity Street Lobby Field Trip Pick Up, Austin Convention Center
Organized by: HW Polley, PA Fay (Philip.Fay@ars.usda.gov),
BJ Wilsey (bwilsey@iastate.edu)

THURSDAY

SATURDAY

8 am-7 pm

8 am-4 pm

CANCELED FT 4 - Arid Mesquite Savanna of South Texas: Comparing Native and Modified Landscapes (OVERNIGHT)

Trinity Street Lobby Field Trip Pick Up, Austin Convention Center

Organized by: L Gilbert (lawrencegilbert0@gmail.com)

8 am-5 pm

Governing Board Meeting

Austin Suite, Austin Convention Center

8 am-9 pm

FT 6 - Landscape, ecosystem, and species diversity and conservation ranching in the Texas Hill Country

Trinity Street Lobby Field Trip Pick Up, Austin Convention Center

Organized by: WE Rogers, FE Smeins

8:30 am-4:30 pm

WK 1 - Analysis of Multivariate Time-Series Data Using State-Space Models

14, Austin Convention Center

Organized by: EE Holmes (eli.holmes@noaa.gov), M Scheuerell, EJ Ward

This workshop covers the use of multivariate state-space models for analysis of ecological time-series data under situations where there are known and unknown measurement errors, unobserved states, multiple data sources or sites, and missing values.

8:30 am-6 pm

CANCELED FT 7 - Endangered Landscapes: Fire, Restoration, and Avian Ecology of the Balcones Canyonlands National Wildlife Refuge

Trinity Street Lobby Field Trip Pick Up, Austin Convention Center

Organized by: JD White

9 am-12 pm

WK 2 - Finding, Accessing and Using NASA Data and Tools for Ecology Research

12B, Austin Convention Center

Organized by: J Brennan (Jennifer.L.Brennan@nasa.gov), T Beaty

This workshop will provide the attendee with information regarding how to find, access and use NASA Earth science data that can be useful to the ecological research community. Spatial analysis, subsetting, visualization, and online data ordering tools will be featured.

Speakers:

J Brennan, NASA

T Maersperger, NASA Land Processes Distributed Active Archive Center (DAAC)

SS Vanaan, Oak Ridge National Laboratory

9 am-4:30 pm

CANCELED FT 8 - Action Ecology for All: Discovering the Oak Springs and Other Urban Socioecological Projects In Austin while Planting Ecological Knowledge with Poder

Trinity Street Lobby Field Trip Pick Up, Austin Convention Center

Organized by: AE Pérez-Quintero (anaelisa@comunidadesgaia.org), L Lastra-Díaz (loulastra@gmail.com), B Otero, LM Moreno (lorna.moreno@gmail.com)

9 am-6 pm

FT 9 - The National Vegetation Classification: Exploring the Unique Vegetation of the Edwards Plateau

Trinity Street Lobby Field Trip Pick Up, Austin Convention Center

Organized by: A McKerrow (amckerrow@usgs.gov), D Diamond (diamondd@missouri.edu), J Singhurst (Jason.Singhurst@tpwd.state.tx.us)

4 pm-7 pm

ESA SEEDS Student Orientation

Skyline, Radisson Hotel

Sunday, August 7

7 am-3 pm

FT 10 - Ecology, Hydrology and Management of Live oak-Juniper Savannas on the Edwards Plateau

Trinity Street Lobby Field Trip Pick Up, Austin Convention Center

Organized by: PW Barnes (pwbarnes@loyno.edu), S Schwinning (schwinn@txstate.edu), GW Moore (gwmooore@tamu.edu)

7 am-5 pm

FT 11 - Karst, Caves and Quercus: Where in the Soil-Rock System Do Trees Roots Fit In?

Trinity Street Lobby Field Trip Pick Up, Austin Convention Center

Organized by: BF Schwartz

8 am-12 pm

ESA Governing Board Meeting

Austin Suite, Austin Convention Center

WK 3 - Analysing biodiversity experiments using Diversity-Interaction models

14, Austin Convention Center

Organized by: J Connolly (john.connolly@ucd.ie), C Brophy
Biodiversity experiments are central to understanding the effect of species loss on ecosystem functioning. This workshop will cover the fundamentals of Diversity-Interaction modeling of Biodiversity-Ecosystem-Function relationships. The workshop programme will comprise a mixture of lectures, discussion and hands-on experience using R or SAS to analyse real datasets.

Speakers:

J Connolly, University College Dublin

C Brophy, National University of Ireland Maynooth

8 am-1:30 pm

CANCELED FT 12 - Community engagement and watershed management in the Cypress Creek

Trinity Street Lobby Field Trip Pick Up, Austin Convention Center

Organized by: VL Lopes (vlopes@txstate.edu), AL Vogl (avogl@txstate.edu)

8 am-4 pm

FT 13 - Canoe Trip: Ecology and Restoration of the Upper San Marcos River

Trinity Street Lobby Field Trip Pick Up, Austin Convention Center

Organized by: WH Nowlin, CF Best (chris_best@fws.gov)

8 am-4:30 pm

FT 14 - Urban Bioblitz: Ecologists Contributing to and Learning from a Progressive Austin Community Restoration Effort

Trinity Street Lobby Field Trip Pick Up, Austin Convention Center

Organized by: G Bowser, CT Lee, H Balbach, M Armstrong (melissa@esa.org)

8 am-5 pm

WK 4 - A Brief Introduction to Bayesian and Hierarchical Bayesian Modeling in Ecology

16A, Austin Convention Center

Organized by: K Ogle (Kiona.Ogle@asu.edu), I Ibanez, M Dietze

This workshop provides a brief introduction to Bayesian and hierarchical Bayesian modeling. It includes presentation and discussion of basic concepts, including important elements of Bayesian statistics and hierarchical Bayesian modeling. Participants will have the opportunity to develop and implement a Bayesian model in OpenBUGS.

WK 5 - Photography for Ecologists: Part 1. Capturing Powerful Images

13, Austin Convention Center

Organized by: MG Mehling (molymehling@gmail.com), N Losin, NB Dappen, NE Osborne

Intended for ecologists interested in using photography as a communication medium, this workshop will enhance participants' photographic skills, while deepening their understanding of visual communication and its application in ecological research and education.

8:30 am-12 pm

WK 6 - New Approaches to Sensitivity Analysis of Population Models and Markov Chains

12A, Austin Convention Center

Organized by: H Caswell (hcaswell@whoi.edu)

An introduction to new methods for sensitivity analysis of population models. This is an update of a workshop successfully presented in 2008 and 2009.

8:30 am-4:30 pm

WK 7 - Vegetation Analysis in Support of the National Vegetation Classification

Trinity Street Lobby Field Trip Pick Up, Austin Convention Center

Organized by: D Roberts (droberts@montana.edu)

Workshop participants will gain working knowledge of a broad range of multivariate analyses critical to the development of the National Vegetation Classification as well as for community ecology more broadly through hands-on computer-based analysis of representative datasets.

8:30 am-4 pm

8:30 am-4:45 pm

CANCELED FT 15 - At the Intersection of Rock, Water, Ecology and Society: The Water Quality Protection Lands
Trinity Street Lobby Field Trip Pick Up, Austin Convention Center

Organized by: K Thuesen (kevin.thuesen@ci.austin.tx.us),
M McCaw (matt.mccaw@ci.austin.tx.us)

9 am-12 pm

WK 8 - Using Qualitative Information to Improve Your Teaching and In Your Research: An Introduction to Conducting and Analyzing Interviews

19B, Austin Convention Center

Organized by: AC Maskiewicz (AprilMaskiewicz@pointloma.edu),
JW Schramm, C D'Avanzo, J Doherty

Interactive hands-on workshop to introduce participants to the practice of collecting and analyzing interview data. Participants will conduct a mock interview with a colleague as well as learn some techniques for the inductive analysis of qualitative data.

WK 9 - MODIS and SAR Remote-Sensing Data Acquisition and Analysis Tools for Ecology Research

19A, Austin Convention Center

Organized by: T Beaty, SS Vannan, V Wolf

This workshop will provide training in the use of five tools which will allow ecologists to extract and manipulate MODIS and SAR remote sensing products without special knowledge or software packages. Participants are encouraged to bring their laptops and follow along with interactively with presentations.

Speakers:

R Cook, Oak Ridge National Laboratory

9 am-1 pm

WK 10 - Building a global network for application of proposed IUCN Ecosystem Red List categories and criteria

18D, Austin Convention Center

Organized by: JP Rodriguez (jonpaul@ivic.gob.ve)

Introduction to and hands-on testing of proposed IUCN red list categories and criteria for ecosystems, using participants' own case studies and datasets.

9:30 am-4:30 pm

WK 11 - Introduction to Non-parametric Multiplicative Regression (NPMR) Using Examples of Species' Change Detection

18A, Austin Convention Center

Organized by: A Yost

We will introduce two nonparametric regression techniques, Nonparametric Multiplicative Regression (NPMR) and Random Forest. We will use example data sets that examine current change detection for species distributions. Lap-tops are required. The workshop should attract people doing species-habitat modeling or anyone dealing with statistical relationships showing nonlinearity and interacting factors.

10 am-12 pm

ESA SEEDS Mentor Orientation

18C, Austin Convention Center

10 am-3 pm

WK 12 - Developing Collaborative Research Projects in the Ecological Research as Education Network (EREN)

13, Austin Convention Center

Organized by: LJ Anderson (ljanders@owu.edu), J Dosch,
ES Lindquist, K LoGiudice, B Pohlad, KL Shea, CL Thomas,
JA Simmons

The Ecological Research as Education Network (EREN) aims to develop collaborative, large-scale experiments involving faculty and students at primarily undergraduate institutions. This workshop will preview EREN pilot projects and provide training for active participation in them. Participants will also devise their own project ideas using the EREN research model.

12:30 pm-4:30 pm

WK 13 - Fostering Diversity and Inclusiveness in Ecology

14, Austin Convention Center

Organized by: RM Rino (raynelle@sfsu.edu), A Finley

Fostering Diversity and Inclusiveness workshop promotes personal exploration and professional development by motivating participants to consider the relevance of diversity, tolerance, and inclusiveness in an academic community and more specifically, the role of the ecological community in promoting and supporting a welcoming and engaging environment for academic inquiry and debate.

WK 14 - Implementing graduate training to improve undergraduate learning: A faculty workshop

15, Austin Convention Center

Organized by: CL Gormally, EA Pardini, N Ruggeri, SA Wyse
In this faculty workshop, participants will adapt and implement a model for TA pedagogical development designed in light of STEM education reforms, which they can institute at their respective universities.

1 pm-2 pm

ESA Buell/Braun Judges Meeting

ML 12-level 2, Austin Convention Center

1 pm-4 pm

Discovering NEON Science and Education in Collaboration with Minority-serving Institutions: Part 1 (by invitation only)

Austin Suite, Austin Convention Center

SUNDAY

1 pm-4:15 pm**WK 15 - Instreamflow Methods and Models by the Numbers**
19B, Austin Convention Center

Organized by: P Harrison (csunc99@peoplepc.com)

It is designed to acquaint agency biologists, researchers and students to the realm of instreamflow. Thirty models and methods will be briefly reviewed. Primary emphasis will be on Instream Flow Incremental Methodology (IFIM). More contemporary models will be briefly discussed such as 2D flow models, IBM models, and others.

Speakers:
P Harrison**1 pm-5 pm****WK 16 - Hypothesis-Driven Habitat Modeling: Workshop and Web Tutorial**

19A, Austin Convention Center

Organized by: GN Ervin (GErvin@biology.msstate.edu),
CP Brooks

We will use common habitat modeling methodologies to direct discussion on the utility of environmental niche modeling as a tool for exploring species distribution hypotheses. Aspects of the modeling process to be discussed include: niche concepts, hypothesis formulation and environmental variable selection, and insight to be gained from model “failure.”

WK 17 - How to Manage Ecological Data for Effective Use and Re-use: A Workshop for Early Career Scientists

12B, Austin Convention Center

Organized by: C Strasser (strasser@nceas.ucsb.edu), A Budden

This workshop will provide information and tools for data management that are useful over all stages of the research cycle, from data collection to data re-use, and is aimed at early-career scientists. Part of the workshop will be dedicated to attendees examining their own data sets with workshop organizers.

Speakers:
S Hampton, National Center for Ecological Analysis and Synthesis
R Cook, Oak Ridge National Laboratory
V Hutchison, US Geological Survey
S SanthanaVannan, Oak Ridge National Laboratory
T Beaty, Oak Ridge National Laboratory
W Michener, University of New Mexico**WK 18 - Quantifying Uncertainty in Ecological Studies**

12A, Austin Convention Center

Organized by: MB Green, RD Yanai, J Campbell

Participants in this workshop will gain hands-on experience exploring uncertainty analysis using Monte Carlo techniques.

WK 19 - Student-Active Teaching Approaches – From Development and Implementation to Assessment and Publication in EcoEdDL or TIEE

18B, Austin Convention Center

Organized by: C Beck (christopher.beck@emory.edu), KL Shea, JA Reynolds, KM Klemow, T Mourad, TA Langen

The goals of the workshop are: to equip faculty with the background necessary to integrate student-active approaches in their teaching,

to increase the dissemination of these activities through EcoEdDL and TIEE, and to develop a cadre of ESA members willing to participate in leadership roles in support of ecology education.

1:30 pm-5 pm**WK 20 - Making Your Science Usable For Decision Makers**
18D, Austin Convention Center

Organized by: LA Hiding (lori.hiding@asu.edu), JE Herrick, D Sarewitz, M Farooque, C Duke

The workshop will explore the concept of “usable science.” It will include a discussion with representatives of federal agencies on making science usable for their agencies followed by small working groups in which participants will discuss how they can incorporate the concept of usable science into their work.

Speakers:
A Bartuska, USDA Research, Education and Economics
L Benaka, NOAA Marine Fisheries Service
G Chavarria, Natural Resources Defense Council
JD Herrick, US Environmental Protection Agency**2 pm-5 pm****ESA Council Orientation Meeting and Reception**

16B, Austin Convention Center

3 pm-4 pm**ESA Presider/AV Training**

17A, Austin Convention Center

5 pm-6:30 pm**PL 1 - ESA Opening Plenary Session**

Ballroom D, Austin Convention Center

A Panel Discussion of Earth Stewardship

Humanity faces a growing need for food, freshwater, energy, and many other resources drawn from Earth’s life support systems. Ensuring that these life support systems remain resilient under increasing human demands, requires stewardship on multiple scales and in multiple communities. Moderated by ESA Vice President for Public Affairs Laura Huenneke, the ESA Opening Plenary panel discussion will explore dimensions beyond ecology, including religious and moral, psychological, and management aspects of Earth stewardship.

6:30 pm-7:15 pm**ESA Opening Reception**

Ballroom D Lobby, Austin Convention Center

7 pm-9 pm**ESA SEEDS Welcome Dinner**

Travis III, Radisson Hotel

Monday, August 8

Field Trips, Business Meetings, Receptions

7 am-8 am

ESA SEEDS Breakfast
18D, Austin Convention Center

7 am-9 am

ESA Ecology Editorial Board Meeting
Austin Suite, Austin Convention Center

ESA Issues in Ecology Editorial Board Meeting
1, Austin Convention Center

7:30 am-7:30 pm

ESA Educator Day
10B, Austin Convention Center

8 am-10 am

PL 2 - ESA Scientific Plenary and ESA Awards Session

Ballroom D, Austin Convention Center

Keynote: Stephen W. Pacala, ESA MacArthur Lecturer, Director, Princeton Environmental Institute

11:30 am-12 pm

ESA Presider/AV Training
8, Austin Convention Center

11:30 am-1:15 pm

ESA Board of Professional Certification Meeting
ML 13-level 2, Austin Convention Center

ESA Joint Editorial Board Luncheon (by invitation only)
18B, Austin Convention Center

ESA Opening of Exhibits
Exhibit Hall 3, Austin Convention Center

ESA Past Presidents' Forum Luncheon
1, Austin Convention Center

ESA Science Committee Business Meeting
Austin Suite, Austin Convention Center

ESA Student Orientation
7, Austin Convention Center

11:45 am-1 pm

ESA Rangeland Ecology Section Business Meeting
16B, Austin Convention Center

12 pm-1 pm

ESA Long-term Studies Section Business Meeting
6B, Austin Convention Center

4:30 pm-6:30 pm

Ecology and Evolution, A Wiley Open Access Journal Launch Drinks Reception (Booth 303-305)
Exhibit Hall 3, Austin Convention Center

5 pm-5:45 pm

ESA Award Recipients' Reception (by invitation only)
13, Austin Convention Center

5 pm-6:30 pm

Musicians Central
Registration Lobby, Austin Convention Center

6:30 pm-8 pm

Christian Ecologists Social
19A, Austin Convention Center

ESA Aquatic Section Mixer
Austin III, Radisson Hotel

ESA Public Affairs Committee and the Inaugural Business Meeting of the NEW ESA Policy Section
1, Austin Convention Center

ESA Soil Ecology Section and Microbial Ecology Joint Mixer
19B, Austin Convention Center

ESA Student Mixer
Ballroom C, Austin Convention Center

ESA Theoretical Ecology Section Mixer
18D, Austin Convention Center

ESA Vegetation Section and IAVS-NA Business Meeting and Mixer
Austin Suite, Austin Convention Center

Utah State University Ecologists Mixer
Austin I, Radisson Hotel

Yale University Press Screening of 'Journey of the Universe'
14, Austin Convention Center

Monday Sessions

7 am-8 am

ESA SEEDS Breakfast
18D, Austin Convention Center

7 am-9 am

ESA Ecology Editorial Board Meeting
Austin Suite, Austin Convention Center

ESA Issues in Ecology Editorial Board Meeting
1, Austin Convention Center

7:30 am-7:30 pm

ESA Educator Day
10B, Austin Convention Center

8 am-10 am

PL 2 - ESA Scientific Plenary and ESA Awards Session
Ballroom D, Austin Convention Center

10 am-11:30 am

SS 1 - Resources for Ecology Education: Fair and Share (REEFS)
18A, Austin Convention Center

Organized by: JA Reynolds (julie.a.reynolds@duke.edu), T Mourad, KL Shea

Share your favorite classroom activity with your colleagues and learn about what they are doing to engage their undergraduate students in small group settings. Groups will offer general feedback and suggestions.

SS 2 - Ecology and Human Rights: Defining the Relationship, Identifying the Opportunities
12A, Austin Convention Center

Organized by: C Duke (csduke@esa.org), G Middendorf, J Wyndham

This session will explore the relevance of human rights for ecology and the value of the human rights framework as a tool by which to pursue development programs and address ecological concerns.

Speakers:
J Wyndham, American Association for the Advancement of Science

SS 3 - Creating Effective Data Management Plans for Ecological Research
12B, Austin Convention Center

Organized by: W Michener (wmichener@tinternet.edu), R Cook, A Budden, S Hampton, V Hutchison, C Strasser

Moderator: W Michener
Learn how to create a data management plan that is tailored to your specific proposal or project, see examples of good data management plans, and discuss best practices with your colleagues.

Speakers:
C Strasser, National Center for Ecological Analysis and Synthesis
V Hutchison, US Geological Survey
S Hampton, National Center for Ecological Analysis and Synthesis
A Budden, DataONE, University of New Mexico
R Cook, Oak Ridge National Laboratory
W Michener, University of New Mexico

SS 4 - 'Earth Stewardship': Workshop and Roundtable Discussion for a Potential Issues in Ecology
13, Austin Convention Center

Organized by: RA Dyball (rob.dyball@anu.edu.au), E Ellis

A round table workshop to gain critical input in developing a potential 'Issues in Ecology' manuscript, entitled 'Earth Stewardship and Human Ecology'. Ecologists and ESA have much to offer in developing Practical Earth Stewardship strategies for complex socio-environmental problems. Come be a part of the solution!

SS 5 - Outreach as Burden or Benefit? Scientists Reflect and Describe their Experiences as Research Ambassador Fellows
4, Austin Convention Center

Organized by: N Nadkarni (nadkarnn@evergreen.edu), AE Stasch

Moderator: N Nadkarni
Public engagement by scientists is urgently needed, but is not well rewarded in academic systems. We recruited ten "Research Ambassador Fellows" to communicate their research to non-traditional public audiences. They will describe their experiences and identify emerging patterns to help make outreach a benefit rather than a burden to ecologists.

Speakers:
MD Hurteau, Northern Arizona University
MG Mehling, Miami University
R Trueman, Concordia University Chicago
D Bruesewitz, University of Texas at Austin
AE Wilson, Auburn University
K Renwick, Colorado State University
A Macrae-Crerar, University of Pennsylvania
D Uma, University of Maryland
DJ Levey, University of Florida
AR Desai, University of Wisconsin

SS 6 - Scale, Heterogeneity, and Resilience: Grounding Abstract Concepts in Rangelands
16B, Austin Convention Center

Organized by: N Sayre, B Bestelmeyer
This Special Session will contribute to a general understanding of Earth Stewardship by synthesizing perspectives from rangeland ecology that illuminate the practical and management implications of key concepts in ecological theory: scale, heterogeneity, and resilience.

SS 7 - "Doing History" for the 2015 Centennial: How Every Ecologist Can Help Locate Primary Records for Research
17A, Austin Convention Center

Organized by: JC Mulroy (mulroy@denison.edu), KM Blue, SL White, NR Chiariello, JH Langenheim, H Balbach, TW Mulroy

The Historical Records Committee seeks ecologists willing to use their local and personal knowledge to locate primary resource material in preparation for ESA's 2015 Centennial. Session leaders will present examples of how small efforts by many ecologists can provide data valuable for understanding our past and guiding our future.

10 am-11:30 am; 11:30 am-1:15 pm**SS 8 - Industry and the Environment**

17B, Austin Convention Center

Organized by: ZH Leggett (zakiya.leggett@weyerhaeuser.com)

Moderator: ZH Leggett

This session examines industry activities and management practices that affect the environment. The session will present research and/or case studies that exemplify some of industry's innovative solutions to complicated environmental problems, sustainable management of environmental resources, and applied research.

Speakers:

ZH Leggett, Weyerhaeuser Company

G Ice, NCASI

PR Krause, ARCADIS US, Inc.

M Reiter, Weyerhaeuser Company

G Ice¹, A Lucier², TB Wigley³, L Irwin¹, JG Cook⁴, C Flinders² and P Wiegand², (1)NCASI, (2)National Council for Air and Stream Improvement, Inc. (NCASI), (3)National Council for Air and Stream Improvement (NCASI), (4)National Council for Air and Stream Improvement, Forestry and Range Sciences Laboratory—*Ecological Research by the National Council for Air and Stream Improvement, Inc*

M Hartley¹, M Evans², S Hills² and J Ellis³, (1)Chevron, (2)Chevron Energy Technology Company, (3)Ellis-Geospatial—*Remote sensing in support of environmental stewardship*

PR Krause¹, WR Gala², M Hartley³ and R Hill⁴, (1)ARCADIS US, Inc., (2)Chevron Energy Technology Company, (3)Chevron, (4)Chevron Environmental Management Company—*Determining the ecological value of shell mound reef habitats following decommissioning of offshore platform sites*

M Reiter, Weyerhaeuser Company—*The Trask Watershed Study: Examining the effects of contemporary forest practices on aquatic ecosystems at multiple scales*

ZH Leggett¹, J Nettles¹, EB Sucre¹, D Miller¹ and JA Homyack², (1)Weyerhaeuser Company, (2)Weyerhaeuser NR Company—*Evaluating the effects of biomass production in managed pine forests on water quality and quantity, soil productivity, and wildlife*

SS 9 - Sharing a Sense of Place, Responsibility, and Stewardship in Texas

5, Austin Convention Center

Organized by: ME Lam (mimibethlam@gmail.com), J Hook, AK Poole

The session panel, consisting of a diverse cross-section of Indigenous Texans, will utilize a question and answer format to explore personal histories, identities, cultures, and how being Indigenous in Texas today contributes to their sense of place, responsibility, and stewardship.

Speakers:

EG Ortega, Mexican Apache and Carrizo

A Gonzalez, Kickapoo Traditional Tribe of Texas

J Hooke, Cherokee Nation and University of North Texas

SS 10 - A Survey of Stewardship: The Science, Processes, and Products of the 3rd National Climate Assessment

8, Austin Convention Center

Organized by: ET Cloyd

In this special session, the National Climate Assessment (NCA) scientific and coordination teams will be presenting the science and processes of the NCA and soliciting feedback about methods for engaging the scientific community and developing a sustained assessment process.

11:30 am-12 pm**ESA Presider/AV Training**

8, Austin Convention Center

11:30 am-1:15 pm**ESA Board of Professional Certification Meeting**

ML 13-level 2, Austin Convention Center

ESA Joint Editorial Board Luncheon (by invitation only)

18B, Austin Convention Center

ESA Opening of Exhibits

Exhibit Hall 3, Austin Convention Center

ESA Past Presidents' Forum Luncheon

1, Austin Convention Center

ESA Science Committee Business Meeting

Austin Suite, Austin Convention Center

ESA Student Orientation

7, Austin Convention Center

WK 22 - Understanding and Implementing Team-Based Learning in Large Lecture Courses--FREE

19B, Austin Convention Center

Organized by: DJ Grisé (david.grise@tamucc.edu), CT Lee, CM Bailey, M Rivera

This workshop will inform participants about and engage them in team-based learning, as well as show them how to implement such activities into large lecture courses using a community ecology exercise as an example.

WK 23 - New and Continuing National Science Foundation Funding Opportunities for Students, Teachers, Postdocs, and Researchers--FREE

18D, Austin Convention Center

Organized by: DW Inouye (inouye@umd.edu), NB Grimm

This brown-bag lunch session is an opportunity to learn about NSF programs that can fund your graduate studies, participation by undergraduates or teachers in your research, postdocs, individual or collaborative research, workshops, or book writing project.

WK 24 - Writing a 'Teaching Philosophy' Statement: Models and Suggestions--FREE

18A, Austin Convention Center

Organized by: C D'Avanzo (cdavanzo@hampshire.edu), JC Moore

This workshop is designed to help graduate students and others write an effective teaching philosophy statement when they apply for academic positions.

WK 25 - ARKive.org: Using Audiovisuals to Promote Endangered Species Protection, Conservation and Education--FREE

14, Austin Convention Center

Organized by: L Vitali (liana.vitali@wildscreenusa.org)

After an introduction to ARKive's 70,000+ films and photos of endangered species freely available to formal educators and students, participants will enjoy clips of wildlife films illustrating examples of earth stewardship. The session will close with an

11: am-1:15 pm; 1:30 pm-5 pm

exploration of ARKive lesson plans and activities for the classroom and beyond.

Speakers:

L Vitali, ARKive (Wildscreen USA)

WK 26 - Driving Student Learning with Assessment--FREE

19A, Austin Convention Center

Organized by: D Ebert-May (ebertmay@msu.edu)

This education workshop focuses on driving instructional changes with assessment data. Participants will use backward design to examine and design course goals and objectives, create and use appropriate assessments, and design active learning instructional strategies to improve learning by all students.

WK 27 - Ecologists and Religious Organizations - Partnering for Earth Stewardship--FREE

18C, Austin Convention Center

Organized by: LM Jablonski (jablonski@dayton.edu), JR Miesel, MM Gregory, CH Nilon, GE Hitzhusen

Presentations by representatives from religious organizations engaged in environmental justice and earth stewardship. Discussion on curriculum resources, current trends, opportunities, challenges, training needs and best practices in forming partnerships. Ecologists and community organizations are invited to share ideas as we envision effective ecology education in faith-communities to achieve earth stewardship.

11:45 am-1 pm

ESA Rangeland Ecology Section Business Meeting

16B, Austin Convention Center

12 pm-1 pm

ESA Long-term Studies Section Business Meeting

6B, Austin Convention Center

1:30 pm-5 pm

SYMP 1 - Domestication, Feral Species and the Importance of Agriculture to the Future of Plant Diversity

Ballroom E, Austin Convention Center

Organized by: CL Sagers, PK Van de Water

Endorsed by: Plant Population Biology

Moderator: S Travers

Study of the evolutionary ecology of food species is timely given the growing concerns of burgeoning human populations, changing land use and the challenges of industrial agriculture. This symposium will address the effects of crop escape, crop-weed hybrids and the preservation of diversity in wild areas that border managed landscapes.

1:30 PM Introductory Remarks

1:40 PM SYMP 1-1 Ellstrand, N, University of California, Riverside. *Crops gone wild: Evolution of weeds and invasives from domesticated ancestors.*

2:05 PM SYMP 1-2 O'Hara, N¹, JS Rest² and SJ Franks³, (1)SUNY Stony Brook, (2)Stony Brook University, (3)Fordham University. *Infectious disease in natural plant populations under climate change.*

2:20 PM SYMP 1-3 Schafer, MG¹, AA Ross², JP Londo¹, SE Travers², PK Van de Water³ and CL Sagers⁴, (1)University of Arkansas, (2)North Dakota State University, (3)CSU Fresno, (4)University of Arkansas. *The occurrence of*

Earth Stewardship: Preserving and enhancing earth's life support systems

feral crop species in weedy environments.

2:35 PM SYMP 1-4 McClung, AM¹, GC Eizenga¹, DR Gealy¹, LH Ziska² and SR McCouch³, (1)USDA ARS, (2)USDA-ARS, (3)Cornell University. *Utilizing wild species to improve cultivated rice for yield, pest resistance, and response to climate change.*

3:00 PM SYMP 1-5 Van de Water, PK, California State University Fresno. *Pollen movement and gene migration at macro-geographic scales.*

3:25 PM Break

3:35 PM SYMP 1-6 Gordon, DR, The Nature Conservancy. *Assessing risks of invasion by hybrid and GMO plant species.*

4:00 PM SYMP 1-7 Londo, JP¹, M Bollman², CL Sagers¹, EH Lee² and L Watrud², (1)University of Arkansas, (2) US Environmental Protection Agency/NHEERL. *Hybridization, genetic hitchhiking, and the ecology of transgenes in feral Brassica.*

4:25 PM SYMP 1-8 Kane, N, University of British Columbia. *Crop-wild hybridization is associated with evolution of weedy sunflowers.*

4:50 PM Concluding Remarks

SYMP 2 - Earth Stewardship: Defining the Scientific Challenges and Opportunities

Ballroom C, Austin Convention Center

Organized by: RB Jackson (jackson@duke.edu)

Endorsed by: Physiological Ecology, Science, Environmental Justice, Human Ecology Section

Moderator: RB Jackson

This symposium addresses the scientific foundation and key challenges of earth stewardship for reversing unsustainable trends in global resource use, biodiversity loss, population growth, and other important factors.

1:30 PM SYMP 2-1 Athens, L, City of Austin. *Operating Principles for a Sustainable Future.*

2:00 PM SYMP 2-2 Matecko, L, Whole Foods Markets. *Whole Foods' sustainability efforts: Environment as a stakeholder.*

2:30 PM SYMP 2-3 Chapin, III, FS¹, RB Jackson², STA Pickett³, ME Power⁴ and C Duke⁵, (1)University of Alaska Fairbanks, (2)Duke University, (3)Institute of Ecosystem Studies, (4)University of California, Berkeley, (5)Ecological Society of America. *Shaping sustainable change: Earth stewardship as a strategy to transform social-ecological systems in a rapidly changing world.*

3:00 PM SYMP 2-4 Carpenter, SR, University of Wisconsin Madison. *Extreme changes in social-ecological systems.*

3:30 PM Break

3:40 PM SYMP 2-5 Matson, P, Stanford University. *Transitions to sustainability: The role of science in stewardship actions.*

4:10 PM SYMP 2-6 Pickett, ST¹, C Boone² and BP McGrath³, (1)Cary Institute of Ecosystem Studies, (2)Arizona State University, (3)Parsons The New School of Design. *Urbanization and demographic transitions: A unique opportunity for sustainable transformation.*

4:40 PM Discussion

SYMP 3 - What is Natural? A Long-Term View of the Ecosystems of the Americas

Ballroom G, Austin Convention Center

Organized by: MB Bush (mbush@fit.edu), JL Gill

Endorsed by: Paleoecology, Human Ecology

Moderator: MB Bush

1:30 pm-5 pm

Paleoecological and archaeological views of the pre-Columbian impact of indigenous peoples on the ecosystems of the Americas.

1:30 PM Introductory Remarks

1:45 PM SYMP 3-1 Power, M¹, F Mayle² and PJ Bartlein³, (1) University of Utah, (2)University of Edinburgh, (3) University of Oregon. *16th Century burning decline in the Americas: Population collapse or climate change?*

2:00 PM SYMP 3-2 Góes Neves, E, Universidade de São Paulo. *Cultural diversity and biological diversity in ancient amazonia: Resource abundance and alternative paths to landscape domestication.*

2:15 PM SYMP 3-3 Gill, JL¹, JW Williams², ST Jackson³, GS Robinson⁴, KB Lininger⁵ and GC Schellinger², (1) University of Wisconsin-Madison, (2)University of Wisconsin, Madison, (3)University of Wyoming, (4) Fordham College at Lincoln Center, (5)Union of Concerned Scientists. *If a mastodon falls in the forest, what happens to the trees? Conservation implications of the end-Pleistocene megafaunal extinctions.*

2:30 PM SYMP 3-4 Oswald, WW¹, DR Foster² and BN Shuman³, (1)Emerson College, (2)Harvard University, (3)University of Wyoming. *How natural was New England?*

2:45 PM Break

2:55 PM SYMP 3-5 McMichael, CN¹, MB Bush¹ and D Piperno², (1)Florida Institute of Technology, (2)Smithsonian National Museum of Natural History and Smithsonian Tropical Research Institute. *The history of fire and human landscape modifications in Amazonia.*

3:10 PM SYMP 3-6 Palace, M¹, MB Bush², EG Neves³, CN McMichael², C Czarnecki¹, B Braswell⁴, S Hagen⁵, B Moraes³ and M Raczka², (1)University of New Hampshire, (2)Florida Institute of Technology, (3)Universidade de São Paulo, (4)Atmospheric Environmental Research, (5) Applied GeoSolutions, LLC. *Remote sensing of terra preta in Amazonia.*

3:25 PM SYMP 3-7 Heckenberger, M and C Russell, University of Florida. *What's so human about amazonian nature? Complex societies in the early anthropocene, ca. 1000-500 BP.*

3:40 PM SYMP 3-8 Hecht, S, UCLA. *The rubber boom and bust: ecological consequences.*

3:55 PM SYMP 3-9 Barlow, J, Lancaster University. *How natural are Amazonian forests? Fire as a transformative process.*

OOS 1 - Community Engagement for Sustainability: Linking Research, Policy, and Education

16B, Austin Convention Center

Organized by: VL Lopes (vlopes@txstate.edu), AL Vogl

Moderator: VL Lopes

This session will showcase research and case studies that focus on community engagement through participatory learning efforts to engage local stakeholders in solving pressing environmental problems. These studies exemplify how community engagement and education can improve decision making and policy approaches that fit the community needs and preferred developmental approaches.

1:30 PM OOS 1-1 Roberts, S and MB Miller, Texas State University, San Marcos. *Community outreach for sustainable management of Texas Hill Country aquifers.*

1:50 PM OOS 1-2 Baker, D, Wimberley Valley Watershed Association. *Community engagement at the Jacob's Well Natural Area.*

2:10 PM OOS 1-3 Stroup, LJ¹ and S Luther², (1)Texas State University, San Marcos, (2)Texas State University. *Engaging communities in effective decision-making for more sustainable water resources and ecosystem management.*

2:30 PM OOS 1-4 Burgess, TL and S Sunico, Texas Christian University. *Fostering environmental awareness in a metroplex campus.*

2:50 PM OOS 1-5 Pierce, SA¹, J Guillaume², AJ Jakeman² and S El Sawah², (1)Jackson School of Geosciences, The University of Texas at Austin, (2)Fenner School of Environment and Society, Australian National University. *Community-driven decision support for groundwater management: Explicitly addressing uncertainty and social learning through dialectic intervention.*

3:10 PM Break

3:20 PM OOS 1-6 Vogl, AL, Texas State University. *Stakeholder participation in decision support system development: Impacts on buy-in and consensus.*

3:40 PM OOS 1-7 Arsuffi, TL¹, M Dominguez², Z Thomas¹ and J Strovas¹, (1)Texas Tech University, (2)Texas AgriLife Extension Service. *Texas Hill Country land and water stewardship: Multiple approaches and stakeholders at Llano River Field Station.*

4:00 PM OOS 1-8 Domroese, M¹, J Shirk², R Bonney², E Sterling¹, J Braus³, R Petty³, A Toomey¹ and F Arengo¹, (1)American Museum of Natural History, (2)Cornell University, (3)National Audubon Society. *Engaging the public in scientific research for conservation.*

4:20 PM OOS 1-9 Shirk, J¹, HL Ballard², RC Jordan³ and R Bonney¹, (1)Cornell University, (2)University of California, Davis, (3)Rutgers University. *Public participation in scientific research: A framework for intentional design.*

4:40 PM OOS 1-10 Kay, AD, A van Alst, AP Hays, JM Prebeck and AA Richardson, University of St. Thomas. *An urban garden project that combines student-led biodiversity research and community service.*

OOS 2 - Dynamics and Changing Roles of Freshwater Macrophyte Vegetation

17A, Austin Convention Center

Organized by: JE Titus (jtitus@binghamton.edu), B Zhu

Moderator: JE Titus

This session will seek links between freshwater macrophyte vegetation dynamics, for example due to invasive species, the roles of different species, and effective management.

1:30 PM OOS 2-1 Rybicki, N¹, J Kirshtein² and M Voytek³, (1) US Geological Survey, (2)USGS, (3)National Aeronautics and Space Administration. *DNA fingerprinting of Hydrilla, Egeria, and Elodea (Hydrocharitacea) reveals new information on their range and recent history.*

1:50 PM OOS 2-2 Smart, RM¹ and DH Smith², (1)US Army Corps of Engineers, (2)University of North Texas. *Nitrogen exploitation and its role in the explosive growth of the weedy invasive species, Hydrilla verticillata.*

2:10 PM OOS 2-3 Spencer, DF¹ and M Rejmánek², (1)USDA Agricultural Research Service, (2)University of California, Davis. *Arundo donax bud population growth rate estimates based on transition matrix models: implications for management.*

2:30 PM OOS 2-4 Zhu, B¹, LG Rudstam², ME Brown³, SE Georgian³, J Kopco² and B Bashaw³, (1)University of Hartford, (2)Cornell University, (3)Hobart & William Smith Colleges. *Ecological impacts and physical controls of an invasive macrophyte Hydrocharis morsus-ranae.*

2:50 PM OOS 2-5 Urban, RA¹, JE Titus² and JM Doherty³, (1) Lebanon Valley College, (2)Binghamton University, (3)University of Wisconsin-Madison. *Ecological roles, dispersal, and spread of the invasive submersed*

macrophyte *Utricularia inflata*.

- 3:10 PM Break
- 3:20 PM OOS 2-6 Shivers, SD¹, SP Opsahl² and AP Covich¹, (1)University of Georgia, (2)Joseph W. Jones Ecological Research Center. *The diel and seasonal effects of submerged aquatic vegetation on nutrient dynamics and organic carbon bioavailability in a southeastern reservoir.*
- 3:40 PM OOS 2-7 Findlay, SE, Cary Institute of Ecosystem Studies. *Linking tidal wetland ecological function to vegetation attributes.*
- 4:00 PM OOS 2-8 Smith, SD, University of Michigan. *Structure and dynamics of macrophyte communities in temporary and semipermanent ponds.*
- 4:20 PM OOS 2-9 Sullivan, G¹, PG Bajer² and PW Sorenson², (1) The Wetlands Initiative, Inc., (2)University of Minnesota. *Declining ecosystem performance of a restored lake and marsh associated with a rapidly expanding population of invasive common carp (*Cyprinus carpio*).*
- 4:40 PM OOS 2-10 Gilroy, MP¹, LL Dodd² and GO Dick³, (1)City of Austin, (2)University of North Texas, (3)USACE ERDC. *Establishing native macrophytes on two Central Texas reservoirs.*

OOS 3 - Determining Environmental Flows to Preserve River Biodiversity in a World Thirsting for Water

12A, Austin Convention Center

Organized by: KO Winemiller, N Lujan

Moderator: KO Winemiller

In this session, aquatic biologists and river conservationists from many latitudes will assemble to discuss factors that contribute to successful aquatic biodiversity conservation in the face of intense pressure to exceed the flow limits that must be set to maintain biodiversity in lotic systems.

- 1:30 PM OOS 3-1 Hardy, DTB, Texas State University. *Challenges for establishing environmental flows.*
- 1:50 PM OOS 3-2 Orth, DJ¹, RA McManamay¹ and SM Smith², (1)Virginia Tech University, (2)Virginia Department of Game and Inland Fisheries. *A tale of two tailwaters: Constraints to effective mitigation with environmental flow restoration.*
- 2:10 PM OOS 3-3 Arthington, A, Griffith University. *A test of the ELOHA framework for setting environmental flow rules in rivers.*
- 2:30 PM OOS 3-4 Roach, K, Texas A&M University. *River production sources vary in response to flows, 5 case studies.*
- 2:50 PM OOS 3-5 Power, M, University of California, Berkeley. *Food web dynamics and river flow variability.*
- 3:10 PM Break
- 3:20 PM OOS 3-6 Vaughn, CC, JP Julian and CL Atkinson, University of Oklahoma. *Incorporating ecological costs and benefits into environmental flow recommendations: Ecosystem services provided by freshwater mussels.*
- 3:40 PM OOS 3-7 Mayes, K, Texas Parks and Wildlife Department. *Socio-political and technical challenges of establishing environmental flows in Texas.*
- 4:00 PM OOS 3-8 Tharme, RE¹ and P Petry², (1)The Nature Conservancy, (2)TNC. *Responding to hydropower development at scale: Ensuring ecohydrological safeguards for Mexican river systems.*
- 4:20 PM OOS 3-9 McIntosh, AR¹, PA McHugh¹ and RM Thompson², (1)University of Canterbury, (2)Monash University. *Consistent scaling relationships between habitat size and food web structure in intermittent Canterbury streams.*
- 4:40 PM OOS 3-10 McCluney, KE¹, NL Poff¹, GC Poole², JH Thorp³ and M Palmer⁴, (1)Colorado State University, (2)

Montana State University, (3)University of Kansas, (4) University of Maryland. *Projecting future conditions of riverine ecosystems using a macroecological modeling approach.*

OOS 4 - Understanding Threats to Wildland Stewardship

14, Austin Convention Center

Organized by: NE Grulke (ngrulke@fs.fed.us)

Moderator: NE Grulke

This organized oral session will highlight current understanding of interactive abiotic and biotic threats, innovative approaches to detecting change, and insights for long term stewardship of wildlands.

- 1:30 PM OOS 4-1 Bentz, B¹, JA Powell², J Régnière³, JA Hicke⁴ and S Seybold⁵, (1)USDA Forest Service, (2)Utah State University, (3)Canadian Forest Service, (4)USDA Forest Service and University of Idaho, (5)Pacific Southwest Research Station. *Direct and indirect effects of climate change on bark beetle outbreaks.*
- 1:50 PM OOS 4-2 Frankel, SJ¹ and RN Sturrock², (1)USDA Forest Service, (2)Natural Resources Canada, Canadian Forest Service. *Climate change and forest diseases: Patterns of action.*
- 2:10 PM OOS 4-3 Potter, K¹ and B Crane², (1)North Carolina State University, (2)USDA Forest Service. *Toward gene conservation triage: A framework for assessing the relative risk of genetic degradation to forest trees affected by multiple threats.*
- 2:30 PM OOS 4-4 Harry, DE¹ and R Cronn², (1)Oregon State University, (2)USDA Forest Service. *GM organisms and wildlands: Genes will flow, so what should managers know?*
- 2:50 PM OOS 4-5 Riitters, K¹, JD Wickham², TG Wade² and P Vogt³, (1)USDA Forest Service, (2)US Environmental Protection Agency, (3)European Commission – Joint Research Centre. *Global comparisons of anthropogenic threats to conservation of grass-shrub and forest vegetation.*
- 3:10 PM Break
- 3:20 PM OOS 4-6 Hargrove, W¹, K Potter² and F Koch², (1)USDA Forest Service, Eastern Forest Environmental Threat Assessment Center, (2)North Carolina State University. *Forest tree species range shifts under two alternative GCM/scenario climate change forecasts.*
- 3:40 PM OOS 4-7 Campbell, J¹, AA Ager² and ME Harmon¹, (1)Oregon State University, (2)USDA Forest Service. *Maximizing wildfire mitigation with fuel reduction treatments while minimizing forest carbon losses.*
- 4:00 PM OOS 4-8 Preisler, HK¹, JA Hicke², AA Ager³ and JL Hayes³, (1)US Forest Service, (2)USDA Forest Service and University of Idaho, (3)USDA Forest Service. *Influence of climate and weather on observed spatiotemporal patterns of mountain pine beetle outbreaks in Washington and Oregon.*
- 4:20 PM OOS 4-9 Balbach, H, US Army ERDC. *Developing agency guidelines for relocation of species.*
- 4:40 PM OOS 4-10 Andriamanarina, E¹ and BJ Sewall², (1) Université Nord Madagascar, (2)Temple University. *Impacts of tropical forest conversion and regeneration on lemurs and birds in Madagascar.*

1:30 pm-5 pm

OOS 5 - Mechanisms Underlying Biodiversity-Ecosystem Functioning Relationships

15, Austin Convention Center

Organized by: WW Weisser (wolfgang.weisser@uni-jena.de), N Buchmann

Moderator: WW Weisser

Recent research has unraveled a multitude of biodiversity effects on ecosystem functioning, but the underlying mechanisms have rarely been described. This session reviews the state of knowledge of mechanisms underlying biodiversity – ecosystem functioning relationships, in particular mechanisms underlying species complementarity.

- 1:30 PM OOS 5-1 Diehl, S¹, M Striebel², S Behl³, M Stockenreiter³ and H Stibor⁴, (1)Umea University, (2)WasserKluster Lunz, (3)University of Munich, (4)Europole Mer. *Spectral niche complementarity and the diversity-productivity relationship in phytoplankton.*
- 1:50 PM OOS 5-2 Stachowicz, JJ, University of California, Davis. *Comparing lab, field and mesocosm experiments with intertidal seaweeds to examine the biological basis of species complementarity and diversity effects.*
- 2:10 PM OOS 5-3 Tilman, D and PB Reich, University of Minnesota. *How important is biodiversity? Comparing biodiversity with other factors that influence ecosystem functioning.*
- 2:30 PM OOS 5-4 Gessner, MO, Leibniz Institute of Freshwater Ecology & Inland Fisheries (IGB). *How litter decomposition is (or isn't) affected by species diversity.*
- 2:50 PM OOS 5-5 Eisenhauer, N, University of Minnesota. *Aboveground - belowground interactions as a source of complementarity effects in biodiversity experiments.*
- 3:10 PM Break
- 3:20 PM OOS 5-6 Meyer, ST, Friedrich Schiller University. *Mechanisms by which biodiversity causes complementarity in ecosystem functioning: Insights from a current review.*
- 3:40 PM OOS 5-7 Schmid, B¹, E Allan² and D Flynn¹, (1)University of Zurich, (2)University of Bern. *Mechanisms underlying plant community assembly in biodiversity experiments.*
- 4:00 PM OOS 5-8 Enquist, BJ¹, J Norberg², S Bonser³, C Violle⁴, CT Webb⁵ and VM Savage⁶, (1)University of Arizona and The Santa Fe Institute, (2)Stockholm University, (3)University of New South Wales, (4)University of Arizona, (5)Colorado State University, (6)UCLA. *Trait Driver Theory: Predicting organismal, community, and ecosystem responses to environmental changes.*
- 4:20 PM OOS 5-9 Baiser, B¹, RS Ardeshiri² and A Ellison³, (1)Harvard Forest, (2)University of California-Berkeley, (3)Harvard Forest (Harvard University). *Trophic diversity increases ecosystem functioning in a co-evolved food web.*
- 4:40 PM OOS 5-10 Isbell, FI¹, V Calcagno¹, A Hector², J Connolly³, WS Harpole⁴, PB Reich⁵, M Scherer-Lorenzen⁶, B Schmid², D Tilman⁵, J Van Ruijven⁷, A Weigelt⁸, BJ Wilsey⁴, E Zavaleta⁹ and M Loreau¹, (1)McGill University, (2)University of Zurich, (3)University College Dublin, (4)Iowa State University, (5)University of Minnesota, (6)University of Freiburg, (7)Wageningen University, (8)Friedrich-Schiller University, Jena, (9)University of California. *How many species are needed to maintain ecosystem functioning and services?*

OOS 6 - Integration of DNA Barcodes into Ecological Forensics and Community Phylogenetics

16A, Austin Convention Center

Organized by: DL Erickson (ericksond@si.edu)

Moderator: DL Erickson

This session will highlight the emerging integration between the global initiative to assemble DNA reference barcode libraries, and the application of this data to investigate ecological hypotheses, particularly in the contexts.

- 1:30 PM OOS 6-1 Kress, WJ and DL Erickson, Smithsonian Institution. *Plant DNA barcodes: Species identification and community phylogenies.*
- 1:50 PM OOS 6-2 Swenson, N, Michigan State University. *Comparative phylogenetic and functional turnover among temperate versus tropical forest sites.*
- 2:10 PM OOS 6-3 Kuzmina, ML¹, DH Janzen², W Hallwachs² and PDN Hebert³, (1)University of Guelph, (2)University of Pennsylvania, (3)Biodiversity Institute of Ontario. *Comparative community phylogenetic diversity derived from two-locus DNA barcodes for angiosperm components of Costa Rican ecosystems.*
- 2:30 PM OOS 6-4 Uriarte, M¹, NG Swenson², RL Chazdon³, WJ Kress⁴, DL Erickson⁴, LS Comita¹, J Thompson⁵ and JK Zimmerman⁶, (1)Columbia University, (2)Michigan State University, (3)University of Connecticut, (4)Smithsonian Institution, (5)Centre for Ecology and Hydrology, (6)University of Puerto Rico. *Trait similarity, shared ancestry, and the structure of neighborhood interactions in a subtropical wet forest: Implications for community assembly.*
- 2:50 PM OOS 6-5 Adamowicz, SJ¹, EE Boyle¹ and X Zhou², (1)University of Guelph, (2)Beijing Genomics Institute. *Local and regional community structure of sub-Arctic invertebrates.*
- 3:10 PM Break
- 3:20 PM OOS 6-6 Meyer, C¹, M Leray², JT Boehm³ and AI Dell⁴, (1)Smithsonian Institution, (2)University of Paris 6 Pierre & Marie Curie, (3)Queens College, CUNY, (4)University of California Los Angeles. *Determining trophic relationships in complex food webs using DNA barcoding of gut contents.*
- 3:40 PM OOS 6-7 Weiblen, G, University of Minnesota. *Population genetics of ecological communities with DNA barcodes: An example from New Guinea Lepidoptera.*
- 4:00 PM OOS 6-8 Garcia-Robledo, C, WJ Kress, DL Erickson, TL Erwin and CL Staines, Smithsonian Institution. *Reconstructing plant-herbivore interactions to test hypotheses of cascades of extinction due to global climate change.*
- 4:20 PM OOS 6-9 Janzen, D¹, W Hallwachs¹, JM Burns², I Chacon³, T Dapkey¹, AR Deans⁴, ME Epstein⁵, B Espinoza³, M Hajibabaei⁶, JPW Hall², PDN Hebert⁶, DJ Harvey², IJ Kitching⁷, DJ Lafontaine⁸, JY Miller⁹, JS Miller¹⁰, JF Landry⁸, SE Miller², J Montero³, S Ratnasingham⁶, RK Robbins², JJ Rodriguez¹¹, R Rougerie⁶, MJ Sharkey¹², AM Smith⁶, AM Solis¹³, BJ Sullivan¹⁴, PDN Thiaucourt¹⁴, DB Wahl¹⁵, SJ Weller¹⁶, JB Whitfield¹⁷, K Willmott⁹, MD Wood⁸, NE Woodley¹³ and JJ Wilson⁶, (1)University of Pennsylvania, (2)National Museum of Natural History, (3)INBio, (4)North Carolina State University, (5)California Dept. of Food & Agriculture, (6)Biodiversity Institute of Ontario, (7)The Natural History Museum, (8)Agriculture and Agri-Food Canada, (9)Florida Museum of Natural History, (10)American Museum of Natural History, (11)National Center for Ecological Analysis and Synthesis, (12)University of Kentucky, (13)SEL, USDA, Smithsonian Institution, (14)Private home, (15)American Entomological Institute, (16)University of Minnesota, (17)University of Illinois.

Reconstructing tropical biodiversity with DNA data and its implications for conservation.

COS 1 - Urban Ecology

Ballroom B, Austin Convention Center

- 1:30 PM COS 1-1 Connor Barrie, BT and I Ibanez, University of Michigan. *Land use alters seedling recruitment patterns along an urban-rural gradient.*
- 1:50 PM COS 1-2 Faeth, SH¹, S Saari² and C Bang³, (1) The University of North Carolina at Greensboro, (2) University of North Carolina at Greensboro, (3)Arizona State University. *The patterns of urban biodiversity of terrestrial animals.*
- 2:10 PM COS 1-3 Carter, T¹, M Miss² and J Steckel³, (1) Butler University, (2)Mary Miss Studio, (3)Williams Creek Consulting. *Raindrop: improving urban watershed awareness using mobile device technology.*
- 2:30 PM COS 1-4 Aloisio, JM¹, KC Matteson², MI Palmer³ and JD Lewis¹, (1)Fordham University, (2)University of Illinois at Chicago, (3)Columbia University. *Biomass and plant diversity of naturally colonized green roof substrate in New York City.*
- 2:50 PM COS 1-5 Lindemann-Matthies, P¹ and T Marty², (1) University of Education Karlsruhe, (2)University of Zürich. *Ecological gardening increases the aesthetic quality of gardens.*
- 3:10 PM Break
- 3:20 PM COS 1-6 Pavao-Zuckerman, M, University of Arizona. *Incorporating soil ecological knowledge into green infrastructure design: ecosystem services and rain gardens in a semi-arid city.*
- 3:40 PM COS 1-7 Hochuli, DF, The University of Sydney. *Rapid assessment of biodiversity and ecosystem function in urban remnants reveals ecological integrity and resilience in novel ecosystems.*
- 4:00 PM COS 1-8 Michalak, JL, University of Washington. *Effects of urban development and forest cover patterns on Garry oak (Quercus garryana) acorn dispersal processes.*
- 4:20 PM COS 1-9 Bigsby, K¹, MR McHale¹, G Hess² and JM Grove³, (1)North Carolina State University, (2)NC State University, (3)U.S. Forest Service. *Lifestyles choices, socio-economic status, and vegetation dynamics in urban ecosystems: is Raleigh, NC on a path to becoming Baltimore, MD?*
- 4:40 PM COS 1-10 Schermaier, AF and BM Walton, Cleveland State University. *Estimation of biomass and diversity of earthworms within the Cleveland Metroparks and how they influence plant and soil invertebrate communities.*

COS 2 - Phenology

Ballroom F, Austin Convention Center

- 1:30 PM COS 2-1 Yang, X¹, JF Mustard¹ and J Tang², (1)Brown University, (2)Marine Biological Laboratory. *Regional scale budburst and senescence modeling based on meteorological records and remote sensing observations.*
- 1:50 PM COS 2-2 Calinger, KM and PS Curtis, The Ohio State University. *Assessing climate change impacts on biodiversity in Ohio: Evidence from herbarium records for state-wide shifts in flowering phenology.*
- 2:10 PM COS 2-3 Denny, EG¹, JF Weltzin¹, CAF Enquist², A Rosemartin³, TM Crimmins¹ and RL Marsh¹, (1)USA National Phenology Network, (2)The Wildlife Society & USA National Phenology Network, (3)USA National Phenological Network & University of Arizona. *USA National Phenology Monitoring System: Enhancements for reporting phenophase intensity and abundance.*

Earth Stewardship: Preserving and enhancing earth's life support systems

- 2:30 PM COS 2-4 Polgar, C¹, RB Primack¹ and JS Dukes², (1) Boston University, (2)Purdue University. *The effect of climate change on leaf-out phenology in Concord, MA from 1852-2010.*
- 2:50 PM COS 2-5 Rasmussen, NL and VHW Rudolf, Rice University. *Phenology of species interactions: Size-mediated priority effects and the dynamics of predator-prey systems in seasonal communities.*
- 3:10 PM Break
- 3:20 PM COS 2-6 Allen, JM¹, JA Silander Jr.¹, RB Primack², H Kobori³, T Katsuki⁴ and K Iwamoto⁴, (1)University of Connecticut, (2)Boston University, (3)Tokyo City University, (4)Forest and Forestry Products Research Institute. *Springtime phenological responses in a survival analysis framework.*
- 3:40 PM COS 2-7 Browning, DM¹, JP Anderson² and DC Peters³, (1)USDA Agriculture Research Service, (2)New Mexico State University, (3)USDA Agricultural Research Service. *Patterns in reproductive phenology for dryland grasses and shrubs from 1993 to 2010 in the Chihuahuan Desert.*
- 4:00 PM COS 2-8 Tuff, T¹ and BA Melbourne², (1)University of Colorado, (2)University of Colorado at Boulder. *The relativity of biological space-time: Macroecology, phenology, and migration.*

COS 3 - Competition I

4, Austin Convention Center

- 1:30 PM COS 3-1 Song, Z¹, A Vail², MJ Sadowsky¹ and J Schilling¹, (1)University of Minnesota, (2)University of Minnesota. *Stochastic processes facilitating coexistence of wood-degrading fungi in microcosms.*
- 1:50 PM COS 3-2 Anderson, TL and HH Whiteman, Murray State University. *Asymmetric responses of two larval salamanders to varying competitor density in a response surface design.*
- 2:10 PM COS 3-3 Nathan, J¹, J Von Hardenberg² and E Meron¹, (1)Ben Gurion University, (2)ISAC-CNR. *Coexistence of competing vegetation species due to self organized patchiness.*
- 2:30 PM COS 3-4 Balzer, CH, University of California Santa Barbara. *Does relative nonlinearity of competition stabilize coexistence under current or future rainfall patterns in California grasslands?.*
- 2:50 PM COS 3-5 Jennings, DE and JR Rohr, University of South Florida. *The importance of phylogeny in dictating the strength of competition.*
- 3:10 PM Break
- 3:20 PM COS 3-6 Lamphere, BA, D Biederman and JF Gilliam, North Carolina State University. *Alternate pathways leading to the coexistence of intraguild predators—lessons from a field introduction.*
- 3:40 PM COS 3-7 Aschehoug, ET and RM Callaway, University of Montana. *Competition in multispecies native communities promotes coexistence with and without invasion.*
- 4:00 PM COS 3-8 Larsen, AE¹ and AJ MacDonald², (1) University of California, (2)University of California, Santa Barbara. *Non-consumptive effects maintain coexistence of a weaker competitor on a shared resource.*
- 4:20 PM COS 3-9 Allesina, S¹ and JM Levine², (1)University of Chicago, (2)University of California, Santa Barbara. *A competitive network theory of species diversity.*
- 4:40 PM COS 3-10 Hart, SP and DJ Marshall, University of Queensland. *The importance of species interactions in harsh environments determined using formal links between theory and experimental data.*

1:30 pm-5 pm

COS 4 - Species Interactions I

5, Austin Convention Center

- 1:30 PM COS 4-1 Dargent, F¹, J Torres-Dowdall², ME Scott¹, C Ghalambor², I Ramnarine³ and GF Fussmann¹, (1)McGill University, (2)Colorado State University at Fort Collins, (3)The University of the West Indies. *Forming mixed-species shoals reduces parasite loads in *Poecilia reticulata* and its sister species *Poecilia picta*.*
- 1:50 PM COS 4-2 Gonthier, DJ, University of Michigan. *Ant semiochemicals alter herbivore choice and reduce herbivory.*
- 2:10 PM COS 4-3 Orrock, JL¹, EL Preisser², JH Grabowski³ and GC Trussell⁴, (1)University of Wisconsin - Madison, (2) University of Rhode Island, (3)Gulf of Maine Research Institute, (4)Northeastern University. *The hidden cost of safety: Prey refugia increase the negative effect of predation risk in aquatic systems.*
- 2:30 PM COS 4-4 Rehage, J, Florida International University. *Seasonal wetland hydrology drives predator and prey co-occurrence in a subtropical estuary: Implications for predator-prey interactions and trophic dynamics.*
- 2:50 PM COS 4-5 Persson, L¹ and AM de Roos², (1)Umeå university, (2)University of Amsterdam. *Mixed competition-predation interactions: Potential versus realized interactions.*
- 3:10 PM Break
- 3:20 PM COS 4-6 McFrederick, QS, UT Austin. *The microbiota of halictid bee nests: Do wild bees use probiotics?.*
- 3:40 PM COS 4-7 Gouhier, TC and BA Menge, Oregon State University. *Regional processes mediate the relative importance of facilitation and keystone predation for the maintenance of coexistence in intertidal communities.*
- 4:00 PM COS 4-8 Shaner, PL¹, L Ke² and SH Wu², (1)National Taiwan Normal University, (2)National Chung Hsing University. *Inter- and intra-specific niche differences among small mammals in an evergreen forest in Taiwan: A stable isotope approach.*
- 4:20 PM COS 4-9 Correa, SB and KO Winemiller, Texas A&M University. *Using stomach contents, stable isotopes and morphometrics to quantify resource partitioning among fruit-eating fishes in Amazon floodplain habitats.*
- 4:40 PM COS 4-10 Larimer, A¹, K Clay¹ and JD Bever², (1)Indiana University, (2)University of Indiana. *Abiotic and biotic environmental context dependency of plant-microbial interactions.*

COS 5 - Biogeochemistry: C and N Cycling in Response to Global Change I

6A, Austin Convention Center

- 1:30 PM COS 5-1 Templer, PH, N Phillips and M Friedl, Boston University. *Effects of winter climate change on water and carbon dynamics in a northern hardwood forest.*
- 1:50 PM COS 5-2 Sistla, SA and JP Schimel, University of California, Santa Barbara. *The effects of long-term warming on tundra soil enzyme dynamics.*
- 2:10 PM COS 5-3 Xia, L and K Szlavecz, Johns Hopkins University. *Soil respiration responses to temperature are affected by substrate supply and earthworm activities.*
- 2:30 PM COS 5-4 Natali, SM, EAG Schuur and R Rubin, University of Florida. *Increased plant productivity in Alaskan tundra with experimental warming of deep soil and permafrost.*
- 2:50 PM COS 5-5 Wood, TE¹, W Silver² and M Detto³, (1) University of California - Berkeley, (2)University of California, (3)Smithsonian Tropical Research Institute. *Temperature and moisture controls on soil respiration of a humid tropical forest, Puerto Rico.*

- 3:10 PM Break
- 3:20 PM COS 5-6 Simpson, RT¹, JC Moore¹ and J Six², (1) Colorado State University, (2)University of California-Davis. *Free and occluded soil microaggregate dynamics in a low arctic moist acidic tundra ecosystem.*
- 3:40 PM COS 5-7 Fernandez, JS and GL Vourlitis, California State University. *The effects of C and N availability on soil microbial activity and biomass.*
- 4:00 PM COS 5-8 Tang, MH¹, S Porder¹, GM Lovett² and JM Melillo³, (1)Brown University, (2)Cary Institute of Ecosystem Studies, (3)Marine Biological Laboratory. *Phylogeny constrains nitrate reductase activity in northeastern forests even under nitrogen enrichment.*
- 4:20 PM COS 5-9 Black, CK¹, SC Davis¹, CJ Bernacchi² and EH DeLucia³, (1)University of Illinois at Urbana-Champaign, (2)University of Illinois/USDA-ARS, (3)University of Illinois. *Heterotrophic respiration from soil increases with atmospheric carbon dioxide and temperature.*
- 4:40 PM COS 5-10 Cusack, DF, UC - Los Angeles. *Soil carbon and nitrogen cycling along an urban-to-remote gradient in humid tropical forests.*

COS 6 - Climate Change: Communities I

6B, Austin Convention Center

- 1:30 PM COS 6-1 Docherty, K, R Gallery, K Blevins, P Travers and RH Kao, National Ecological Observatory Network (NEON). *Continental scaling of bacterial, archaeal and fungal communities: Preliminary results from the NEON soil microbe prototype.*
- 1:50 PM COS 6-2 Calder, WJ¹, A Rog², A Knoll² and BN Shuman¹, (1)University of Wyoming, (2)University of Minnesota. *The role of fire in the vegetation response to Little Ice Age climate change in the Big Woods of Minnesota.*
- 2:10 PM COS 6-3 Urban, MC, University of Connecticut. *On a collision course: Competition and climate change generate non-analogous communities and extinction.*
- 2:30 PM COS 6-4 Canham, CD, Cary Institute of Ecosystem Studies. *Demographic controls of tree species distributions along climate gradients in eastern North America.*
- 2:50 PM COS 6-5 Neumann, SM and I Ibanez, University of Michigan. *Inclusion of plant-soil feedbacks in assessing Great Lakes tree expansion in response to global warming.*
- 3:10 PM Break
- 3:20 PM COS 6-6 Nakazawa, T¹ and H Doi², (1)Kyoto University, (2)University Oldenburg. *Toward understanding the community consequences of species-specific phenological shifts under climate change.*
- 3:40 PM COS 6-7 Cleland, E¹, JM Allen², TM Crimmins³, S Pau⁴, SE Travers⁵ and EM Wolkovich⁶, (1)University of California - San Diego, (2)University of Connecticut, (3)USA National Phenology Network, (4)National Center for Ecological Analysis and Synthesis, (5)North Dakota State University, (6)University of California. *Species performance in a warming climate relates to phenological tracking.*
- 4:00 PM COS 6-8 Wertin, TM, J Belnap, SL Phillips and SC Reed, USGS. *The potential effects of changing climate on biocrusts.*
- 4:20 PM COS 6-9 Savage, VM¹, AI Dell² and S Pawar³, (1)UCLA, (2)University of California Los Angeles, (3)University of California, Los Angeles. *The temperature dependence of consumer-resource interactions.*
- 4:40 PM COS 6-10 Sorte, CJB¹ and JW White², (1)University of Massachusetts - Boston, (2)University of North Carolina Wilmington. *Climate change and context-dependent competitive outcomes drive alterations in community composition.*

COS 7 - Community Assembly and Neutral Theory I

8, Austin Convention Center

- 1:30 PM COS 7-1 Helmus, MR¹ and AR Ives², (1)University of Chicago, (2)University of Wisconsin. *Phylogenetic species-area curves.*
- 1:50 PM COS 7-2 Ostling, AM, RC Rael and R D'Andrea, University of Michigan. *How can we test neutral theory robustly in ecology?*
- 2:10 PM COS 7-3 Gray, SM, Stony Brook University. *Community succession patterns - a function of trophic position, sampling method, and depth of sampling?*
- 2:30 PM COS 7-4 Tello, JS, L Patrick and N Reid, Louisiana State University. *Evaluating the effects of poorly inferred trees on phylogenetic community structure.*
- 2:50 PM COS 7-5 Swan, CM¹ and BL Brown², (1)University of Maryland, Baltimore County, (2)Clemson University. *The interaction between the effects of habitat heterogeneity and isolation on beta diversity suggest the nature of community assembly in river networks.*
- 3:10 PM Break
- 3:20 PM COS 7-6 Germain, RM¹, L Johnson¹, AS MacDougall¹, K Cottenie¹ and E Gillis², (1)University of Guelph, (2) Vancouver Island University. *Spatial variability in granivory determines the strength of stochastic community assembly.*
- 3:40 PM COS 7-7 Myers, JA¹, JM Chase¹, I Jiménez², PM Jørgensen², A Araujo³, N Paniagua⁴ and R Seidel⁵, (1)Washington University in St. Louis, (2)Missouri Botanical Garden, (3)Museo de Historia Natural Noel Kempff Mercado, (4)Herbario Nacional de Bolivia, (5) Universidad Mayor de San Andrés. *Disentangling regional, environmental, and spatial influences on -diversity in temperate and tropical forests.*
- 4:00 PM COS 7-8 Pinney, TA and KJ Gutzwiller, Baylor University. *Investigating niche and neutral processes in bird community assembly: Regression with spatial eigenvectors can be more informative than regression on distance matrices.*
- 4:20 PM COS 7-9 Kadowaki, K, BD Inouye and TE Miller, Florida State University. *Assembly history dynamics of a pitcher-plant protozoan community in experimental microcosms.*
- 4:40 PM COS 7-10 Kelly, CK¹, SJ Blundell¹, MG Bowler¹, GA Fox², PH Harvey¹, MR Lomas³ and FI Woodward³, (1) University of Oxford, (2)University of South Florida, (3)University of Sheffield. *The statistical mechanics of community assembly and species distribution.*

COS 8 - Education: Pedagogy and Faculty Development

9AB, Austin Convention Center

- 1:30 PM COS 8-1 D'Avanzo, C¹, CW Anderson², LM Hartley³ and NJ Pelaez⁴, (1)Hampshire College, (2)Michigan State University, (3)University of Colorado Denver, (4)Purdue University. *A faculty development model for transforming introductory ecology and biology courses.*
- 1:50 PM COS 8-2 Jardeleza, SE, D Ebert-May and M Donahue, Michigan State University. *Assessing scientific reasoning in a liberal learning curriculum.*
- 2:10 PM COS 8-3 Shannon, SM, RM Slough and BJ Winterman, Indiana University. *A step-wise approach when introducing students to primary literature increases student comprehension.*
- 2:30 PM COS 8-4 Schutte, VGW¹, P Brickman¹, CL Gormally², GM Francom¹ and SE Jardeleza³, (1)University of Georgia, (2)Georgia Tech, (3)Plant Biology. *Project-based Applied Learning (PAL): Integrating science literacy skills*

into general education undergraduate courses.

- 2:50 PM COS 8-5 Dewsbury, BM, Florida International University. *The Teaching Pentagon: A quantitative, integrative approach to teaching ecology.*
- 3:10 PM Break
- 3:20 PM COS 8-6 Trueman, R, Concordia University Chicago. *Effective ecology pedagogy through GC/MS analysis of EDCs and PPCPs in a local river.*
- 3:40 PM COS 8-7 Reynolds, JA¹, R Thompson Jr.¹ and C Thaiss², (1)Duke University, (2)University of California, Davis. *Writing-to-learn in undergraduate science education: A grassroots initiative to promote education reform.*
- 4:00 PM COS 8-8 Collins, RJ, C Lassiter, D Poli, M Poore and M Ramesh, Roanoke College. *Useful pedagogical tool or distracting toy? The use of iPod Touch in the classroom.*
- 4:20 PM COS 8-9 Williams, KS¹, SD Bush², NJ Pelaez³, JA Rudd II⁴, MT Stevens⁵ and KD Tanner⁶, (1)San Diego State University, (2)California Polytechnic State University San Luis Obispo, (3)Purdue University, (4)California State University Los Angeles, (5)Utah Valley University, (6)San Francisco State University. *Investigation of science faculty with education specialties (SFES) within the largest university system in the US.*
- 4:40 PM COS 8-10 Ebert-May, D¹, TL Derting², JL Momsen³ and T Long¹, (1)Michigan State University, (2)Murray State University, (3)North Dakota State University. *What we say is not what we do: Effective evaluation of faculty professional development programs .*

COS 9 - Pollination I

9C, Austin Convention Center

- 1:30 PM COS 9-1 Roccaforte, K¹, SE Russo¹ and D Pilson², (1)University of Nebraska, (2)University of Nebraska-Lincoln. *Evaluating ecological mechanisms of reproductive isolation between diploid *Erythronium mesochoreum* (Liliaceae) and its tetraploid congener *E. albidum*.*
- 1:50 PM COS 9-2 Spigler, RB¹, DW Vogler² and S Kalisz¹, (1) University of Pittsburgh, (2)SUNY College at Oneota. *Correlates of autonomous self-fertilization in the annual *Collinsia verna*: Implications for the evolution of reproductive assurance and mixed mating.*
- 2:10 PM COS 9-3 Cruz Maysonet, S¹ and TH Roulston², (1) University of Puerto Rico in Bayamón, (2)University of Virginia. *Does a shift to small flowers in annual groundcherries leave specialist pollinators behind?*
- 2:30 PM COS 9-4 Essenberg, CJ, University of California-Riverside. *Scale-dependence of pollinator responses to floral resource density.*
- 2:50 PM COS 9-5 Schaeffer, RN, JS Manson and RE Irwin, Dartmouth College. *Effects of nectarivorous yeasts on pollinator foraging behavior and male plant fitness.*
- 3:10 PM Break
- 3:20 PM COS 9-6 Quinn, CF, CN Prins and EAH Pilon-Smits, Colorado State University. *Selenium accumulation in flowers and the associated implications for ecology, evolution and fortified foods.*
- 3:40 PM COS 9-7 Park, MG, J Losey and B Danforth, Cornell University. *Importance of wild bees in apple pollination.*
- 4:00 PM COS 9-8 Rafferty, NE and AR Ives, University of Wisconsin. *Pollinator effectiveness and composition vary with experimental shifts in flowering time.*
- 4:20 PM COS 9-9 Baum, KA and KE Wallen, Oklahoma State University. *The effects of rangeland management strategies on pollinators.*
- 4:40 PM COS 9-10 Tartaglia, ES and SN Handel, Rutgers

1:30 pm-5 pm

University. *Flower foraging behavior in the nectar feeding moth Hemaris (Lepidoptera: Sphingidae), a mimic of Bombus (Hymenoptera: Apidae).*

COS 10 - Herbivory I

10A, Austin Convention Center

1:30 PM COS 10-1 Le Gall, M and ST Behmer, Texas A&M University. *Nutrient-allelochemical interactions: metabolic effects on a generalist insect herbivore.*

1:50 PM COS 10-2 Stoepler, TM and JT Lill, George Washington University. *Direct and indirect effects of light environment on host plant-herbivore-parasitoid interactions.*

2:10 PM COS 10-3 Marquis, RJ¹, S Powell², F Camarota³, GV Priest¹ and HL Vasconcelos³, (1)University of Missouri - St. Louis, (2)University of Arizona, (3)Universidade Federal de Uberlândia. *Distribution of beetle-generated stem cavities and their occupancy by canopy ants in six species of Brazilian cerrado trees.*

2:30 PM COS 10-4 Cogger, BJ¹, MA Thomsen¹ and NR De Jager², (1)University of Wisconsin - La Crosse, (2)United States Geological Survey. *Interactive effects of flooding and white-tailed deer herbivory on tree seedling recruitment in floodplain forests of the Upper Mississippi River.*

2:50 PM COS 10-5 Poveda, K¹, MI Gomez Jimenez², R Halitschke¹ and A Kessler¹, (1)Cornell University, (2)Universidad Nacional de Colombia. *Overcompensating plants: their expression of resistance traits and effects on herbivore preference & performance.*

3:10 PM Break

3:20 PM COS 10-6 Kim, TN and N Underwood, Florida State University. *The multi-scale effects of neighborhood composition on patterns of associational resistance and susceptibility.*

3:40 PM COS 10-7 Utsumi, S¹, Y Ando², T Ohgushi³ and H Roininen⁴, (1)University of Tokyo, (2)Center for Ecological Research, Kyoto University, (3)Kyoto University, (4)University of Eastern Finland. *Biodiversity drives evolution of a community member through ecological functioning in indirect interaction webs.*

4:00 PM COS 10-8 Johnson, DR¹, M Lara¹, S Villarreal¹, PJ Webber² and CE Tweedie¹, (1)University of Texas at El Paso, (2)Michigan State University. *Lemmings drive short- and long-term vegetation and carbon dynamics in coastal tundra: resampling historic herbivore exclosures at Barrow, Alaska.*

4:20 PM COS 10-9 Dittler, MJ¹ and RH Jones², (1)Virginia Tech, (2)West Virginia University. *Fine root consumption patterns of immature insect assemblages in a longleaf pine-wiregrass system.*

COS 11 - Invasion I

12B, Austin Convention Center

1:30 PM COS 11-1 Poulette, MM, MA Arthur, RL McCulley and JA Nelson, University of Kentucky. *Associations between the invasive shrub *Lonicera maackii* and native tree species influence the soil microbial community.*

1:50 PM COS 11-2 Cobb, RC¹, VT Eviner² and DM Rizzo¹, (1) University of California Davis, (2)University of California Davis. *Sudden oak death impacts on soil and litterfall N dynamics.*

2:10 PM COS 11-3 Lekberg, Y, SM Gibbons, DL Mummey and PW Ramsey, MPG Ranch. *Legacies of plant invasion on ecosystem processes and microbial community structures.*

2:30 PM COS 11-4 Crocker, EV, MA Karp and EB Nelson, Cornell University. *Potential for pathogen facilitated invasiveness:*

*Differential responses of oomycete pathogens to native and non-native *Phragmites australis*.*

2:50 PM COS 11-5 Finch, H¹, SE Meyer² and PS Allen¹, (1) Brigham Young University, (2)USDA Forest Service, Rocky Mountain Research Station. *How the seed bank pathogen *Pyrenophora semeniperda* kills non-dormant cheatgrass seeds.*

3:10 PM Break

3:20 PM COS 11-6 Zamor, RM¹, KL Glenn² and KD Hambricht¹, (1)University of Oklahoma, (2)University of Oklahoma Biological Station. *Dispersal alone is not enough: Environmental conditions predict presence of an invasive harmful alga.*

3:40 PM COS 11-7 Caño, L¹, M Tens², T Fuertes-Mendizabal², MB González-Moro² and M Herrera², (1)University of California Davis, (2)University of the Basque Country. *The role of plasticity, genetic variation and maternal effects in the tolerance to salinity in the invasive plant *Baccharis halimifolia*.*

4:00 PM COS 11-8 Godoy, O¹ and JM Levine², (1)University of California, (2)University of California, Santa Barbara. *Phenology as a niche mechanism of community resistance to invasion.*

4:20 PM COS 11-9 Bois, ST¹, JM Allen¹, MA Kaproth², J Molofsky², KE Holsinger¹ and JA Silander Jr.¹, (1) University of Connecticut, (2)University of Vermont. *Phenotypic variation and local site adaptation in native and introduced ranges: Varying responses of two woody ornamentals with similar invasion histories.*

4:40 PM COS 11-10 Knochel, DG and TR Seastedt, University of Colorado at Boulder. *Spotted knapweed growth, reproduction, and seed banks: A synthesis of the constraints imposed by resource limitation, competition, and biological control.*

COS 12 - Disease and Epidemiology I

17B, Austin Convention Center

1:30 PM COS 12-1 Dalziel, BD and SP Ellner, Cornell University. *The influence of host movement on epidemic dynamics: Commuting patterns in cities and their consequences for the spread of influenza.*

1:50 PM COS 12-2 Bowden, SE¹, JM Drake², K Magori² and W Bajwa³, (1)Odum School of Ecology, The University of Georgia, (2)University of Georgia, (3)New York Department of Health. *Statistical prediction of West Nile Virus transmission intensity in New York City.*

2:10 PM COS 12-3 Reiner, Jr., RC¹, AA King¹, M Emch², M Yunus³, ASG Faruque⁴ and M Pascual⁵, (1)University of Michigan, (2)University of North Carolina-Chapel Hill, USA, (3)ICDDR,B: Centre for Health and Population Research, Dhaka, Bangladesh, (4)International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B), (5)University of Michigan AND Howard Hughes Medical Institute. *A probabilistic model of spatio-temporal disease dynamics: Urban cholera in Dhaka.*

2:30 PM COS 12-4 Ferrari, MJ¹ and RF Grais², (1)The Pennsylvania State University, (2)Epicentre. *Age-specific measles transmission in sub-Saharan Africa: implications for reactive vaccination.*

2:50 PM COS 12-5 Klepac, P¹, R Laxminarayan² and BT Grenfell¹, (1)Princeton University, (2)Center for Disease Dynamics, Economics & Policy. *Synthesizing epidemiological and economic optima for control of immunizing infections.*

3:10 PM Break

3:20 PM COS 12-6 Cortez, M and JS Weitz, Georgia Institute of Technology. *Comparing the effects direct and indirect*

pathogen transmission have on epidemic time series.

- 3:40 PM COS 12-7 Carver, SS, S VandeWoude, KR Crooks and M Lappin, Colorado State University. *Mechanisms of intra- and interspecific transmission of a newly discovered pathogen: Hemoplasma in felids.*
- 4:00 PM COS 12-8 Kosmala, M¹, PS Miller², D Armstrong³, R Bengis⁴, P Buss⁵, B Daly⁶, S Ferreira⁵, P Funston⁷, M Hofmeyr⁵, D Keet⁴, C Packer¹ and JP Pollack⁸, (1) University of Minnesota, (2)IUCN Species Survival Commission, (3)Omaha's Henry Doorly Zoo, (4) Department of Agriculture, (5)South Africa National Parks, (6)Conservation Breeding Specialist Group Southern Africa, (7)Tshwane University of Technology, (8)Cornell University. *Modeling host-disease dynamics of bovine tuberculosis in lions in Kruger National Park.*
- 4:20 PM COS 12-9 Groner, ML and RA Relyea, University of Pittsburgh. *Healthy herds and peaked packs: How infection alters inducible defenses against predators.*
- 4:40 PM COS 12-10 Eakin, L and G Dwyer, University of Chicago. *The effect of gypsy moth larval feeding behavior on the transmission of LdNPV.*

COS 13 - Modeling

18A, Austin Convention Center

- 1:30 PM COS 13-1 Lira-Noriega, A¹, J Soberon¹ and AT Peterson², (1)University of Kansas, (2)University of Kansas. *A comparison of mechanistic and correlative modeling approaches to understand species distributions at different spatial scales.*
- 1:50 PM COS 13-2 Milanovich, JR¹, WE Peterman², K Barrett³ and ME Hopton¹, (1)United States Environmental Protection Agency, (2)University of Missouri, (3) University of Georgia. *Validating species distribution models in urban and non-urban green spaces: A case study using amphibian species richness.*
- 2:10 PM COS 13-3 Kou, X¹, Q Li¹, S Liu² and J Ge¹, (1)Beijing Normal University, (2)Chinese Academy of Forestry. *How unreliable can a species distribution model be in projecting species ranges to future climates?.*
- 2:30 PM COS 13-4 Hayes, DJ¹, DP Turner², G Stinson³, Y Wei¹, TO West⁴, B deJong⁵, AD McGuire⁶, R Cook¹ and WM Post III¹, (1)Oak Ridge National Laboratory, (2)Oregon State University, (3)Canadian Forest Service, (4)Joint Global Change Research Institute, (5)ECOSUR, (6)University of Alaska Fairbanks. *Towards better-constrained assessments of the carbon balance of North America in the 21st Century: A comparison of recent model and inventory-based estimates.*
- 2:50 PM COS 13-5 Thorn, AM and CM Orians, Tufts University. *Plumbing constrains root precision: A bottom-up model for the role of sectoriality in localized root proliferation.*
- 3:10 PM Break
- 3:20 PM COS 13-6 Pathikonda, S and K Ogle, Arizona State University. *The differential importance of environmental heterogeneity and evolutionary history for specific leaf area and wood density.*
- 3:40 PM COS 13-7 Wang, D, D LeBauer and M Dietze, University of Illinois. *Modelling the growth of poplar (Populus spp.) using ecosystem demography 2 (ED2) model.*
- 4:00 PM COS 13-8 Stump, SM¹, DL Venable¹, BJ Enquist², J Horst³ and TE Huxman¹, (1)University of Arizona, (2) University of Arizona and The Santa Fe Institute, (3) University of Arizona. *Scaling laws for biomass allocation in desert annual plants.*
- 4:20 PM COS 13-9 Jones, J¹, AJ Kroll², MGBetts³, J Giovanini¹ and SD Duke¹, (1)Weyerhaeuser, (2)Weyerhaeuser Company, (3)Oregon State University. *Estimating thresholds in Earth Stewardship: Preserving and enhancing earth's life support systems*

occupancy when species detection is imperfect.

- 4:40 PM COS 13-10 Holden, MH, SP Ellner, DH Lee, JP Nyrop and JP Sanderson, Cornell University. *Nonlinear effects of retention, attraction, and plant spatial distribution on trap cropping efficacy.*

COS 14 - Dispersal and Colonization I

18C, Austin Convention Center

- 1:30 PM COS 14-1 Hirsch, BT¹, PA Jansen² and RW Kays¹, (1)New York State Museum, (2)Center for Tropical Forest Science-Smithsonian Institution Global Earth Observatory. *Extreme cache theft and re-caching leads to long term seed dispersal by Central American agoutis.*
- 1:50 PM COS 14-2 Boynton, PJ¹, C Peterson² and A Pringle¹, (1)Harvard University, (2)Massachusetts Institute of Technology. *Spatial scale and pitcher plant yeast community diversity.*
- 2:10 PM COS 14-3 Parker, AD¹, JC Trexler¹, DE Gawlik² and BB Botson², (1)Florida International University, (2)Florida Atlantic University. *Environmental filters of wet-season aquatic communities into dry-season pools of the Florida Everglades.*
- 2:30 PM COS 14-4 Wallace, RL¹, T Schroeder², T Gill² and EJ Walsh³, (1)Ripon College, (2)University of Texas at El Paso, (3)The University of Texas at El Paso. *Determinants of species richness and community composition in aridland aquatic systems.*
- 2:50 PM COS 14-5 Gade, KJ, Arizona State University. *Plant migration along freeways: Results from seed bank and seed trapping studies in Phoenix, Arizona.*
- 3:10 PM Break
- 3:20 PM COS 14-6 Lesser, MR and ST Jackson, University of Wyoming. *Contribution and timing of long-distance dispersal in the growth of disjunct ponderosa pine populations.*
- 3:40 PM COS 14-7 Barnes, MA¹, CL Jerde¹, D Keller², WL Chadderton³ and DM Lodge¹, (1)University of Notre Dame, (2)Indiana Department of Natural Resources, (3)The Nature Conservancy c/o Center for Aquatic Conservation. *Built to last: The influence of plant structure on desiccation rate of aquatic plants and implications for dispersal.*
- 4:00 PM COS 14-8 Bellemare, J¹ and MA Geber², (1)Smith College, (2)Cornell University. *Seed dispersal limits the local distribution and geographic range of an ant-dispersed forest herb, Jeffersonia Diphylla (Berberidaceae).*
- 4:20 PM COS 14-9 Spasojevic, MJ¹, EI Damschen² and SP Harrison³, (1)University of California Davis, (2)University of Wisconsin-Madison, (3)University of California, Davis. *Dispersal syndromes are more influenced by habitat quality than habitat patchiness in serpentine communities.*
- 4:40 PM COS 14-10 Patrick, CJ and MJ Cooper, University of Notre Dame. *Invertebrate community organization across spatial scales in a wetland complex.*

COS 15 - Detritus and Decomposition

18D, Austin Convention Center

- 1:30 PM COS 15-1 Berbeco, MR¹, JM Melillo² and CM Orians³, (1)University of California, Davis, (2)Marine Biological Laboratory, (3)Tufts University. *Soil warming differentially accelerates decomposition of woody debris.*
- 1:50 PM COS 15-2 Talbot, JM¹ and KK Treseder², (1)University of California Irvine, (2)University of California, Irvine. *Interactions between lignin, cellulose, and N are major controls over litter chemistry-decay relationships.*
- 2:10 PM COS 15-3 Mobley, ML, PR Heine and DD Richter, Duke

1:30 pm-5 pm; 4:30 pm-6:30 pm

- University. *Carbon and nitrogen storage and decomposition in decaying taproots at the Calhoun Experimental Forest, SC.*
- 2:30 PM COS 15-4 Fanin, N¹, S Barantal¹, N Fromin¹, H Schimann² and S Hattenschwiler¹, (1)CNRS national center of scientific research, (2)INRA-UMR ECOFOG. *Microbial resource limitation in tropical rainforest litter of variable C:N:P stoichiometry.*
- 2:50 PM COS 15-5 Pechal, JL¹, ME Benbow², AM Tarone¹, TL Crippen³ and JK Tomberlin¹, (1)Texas A&M University, (2)University of Dayton, (3)USDA-ARS. *Microbial community function on decomposing vertebrate carrion.*
- 3:10 PM Break
- 3:20 PM COS 15-6 Keiser, AD¹, JD Knoepp² and MA Bradford¹, (1)Yale University, (2)USDA Forest Service Southern Research Station. *Implications of familiarity: Non-random tree species change, litter decomposition, and the soil microbial community.*
- 3:40 PM COS 15-7 Feinstein, LM¹, L Wu², OJ Valverde¹, LG Leff¹, MW Kershner¹ and CB Blackwood¹, (1)Kent State University, (2)Nanchang University. *The influence of individual leaf species, litter diversity, and habitat on litter decomposition processes.*
- 4:00 PM COS 15-8 Birge, H, R Conant, MD Wallenstein and EA Paul, Colorado State University. *The effects of long-term incubation on biological controls of soil organic matter (SOM) decomposition.*
- 4:20 PM COS 15-9 Montemarano, JJ¹, M Sasa-Marin² and MW Kershner¹, (1)Kent State University, (2)Instituto Clodomiro Picado. *Cattail eradication effects on decomposition in a seasonally dry tropical wetland.*
- 4:40 PM COS 15-10 Martina, JP¹, MR Turetsky² and SK Hamilton³, (1)Michigan State University, (2)University of Guelph, (3)Department of Zoology, Michigan State University, East Lansing, MI 48824. *Invasive plants in wetlands: Effects of litter and soil conditioning on decomposition and N transformation rates.*

COS 16 - Ecosystem Function: Biodiversity I

19A, Austin Convention Center

- 1:30 PM COS 16-1 Mouquet, N¹, T Bell², C Barbera¹, M Combe¹, T Pommier³, T Bouvier⁴ and D Gravel⁵, (1)Université Montpellier 2, CNRS, (2)University of Oxford, (3)Université de Lyon, (4)ECOLAG - Université Montpellier 2, (5)Université du Québec à Rimouski. *Evolving the biodiversity-ecosystem functioning relationship.*
- 1:50 PM COS 16-2 Jae, P¹, T Levi¹, ES Zavaleta¹ and GD Tilman², (1)University of California, Santa Cruz, (2)University of Minnesota. *Biodiversities and ecosystem multifunctionality.*
- 2:10 PM COS 16-3 Crutsinger, GM¹, K Peay² and JA Rudgers³, (1)University of British Columbia, (2)University of Minnesota, (3)Rice University. *Genetic variation in plant architecture structures soil, litter, and foliage communities.*
- 2:30 PM COS 16-4 Striebel, M¹, G Singer¹, G Spörl², H Stibor³ and T Andersen⁴, (1)WasserKluster Lunz, (2)Leibniz Center for Tropical Marine Ecology (ZMT), (3)Europole Mer, (4)Oslo University. *Phytoplankton biodiversity promotes zooplankton growth and diversity.*
- 2:50 PM COS 16-5 McLaren, JR¹, A Novoplansky² and R Turkington³, (1)University of Texas at Arlington, (2)Ben-Gurion University of the Negev, (3)University of British Columbia. *The influence of plant functional group identity on ecosystem functioning in the Negev Desert, Israel.*
- 3:10 PM Break

- 3:20 PM COS 16-6 Petermann, JS and DS Srivastava, University of British Columbia. *Bottom-up and top-down effects of species loss on ecosystem functioning in bromeliad food webs.*
- 3:40 PM COS 16-7 Harvey, E, A Séguin, C Nozais, P Archambault and D Gravel, Université du Québec à Rimouski. *Predicting the impacts of multiple species extinctions on the functioning of complex food webs.*
- 4:00 PM COS 16-8 Cadotte, MW¹, R Dinnage² and D Tilman³, (1)University of Toronto - Scarborough, (2)University of Toronto, (3)University of Minnesota. *Evolutionary diversity promotes ecosystem stability.*
- 4:20 PM COS 16-9 Weis, JJ, Yale University. *The relative effects of inter- and intra-specific diversity on community productivity: A niche-based theoretical approach.*
- 4:40 PM COS 16-10 Hanley, TC, LM Puth, JP DeLong and DM Post, Yale University. *Intraspecific diversity of a primary consumer: Effects of Daphnia genotypic richness on ecosystem function.*

4:30 pm-6:30 pm

Ecology and Evolution, A Wiley Open Access Journal Launch Drinks Reception (booth303-305)
Exhibit Hall 3, Austin Convention Center

OPS 1 - Development of the National Ecological Observatory Network (NEON): Long-Term, Continental Scale Data and Information to Enable Ecological Understanding and Forecasting
Organized by: T Kampe (tkampe@neoninc.org), WK Gram

The session focuses on the design and prototype activities of the National Ecological Observatory Network (NEON), a new facility supported by the NSF to provide data and information to scientists, educators, and the public on how land use, climate change and invasive species affect biodiversity, disease ecology, and ecosystem processes.

- OPS 1-1 Joos, A, L Leyba-Newton and HW Loescher, NEON Inc. *Managing the calibration uncertainty and traceability for a large-scale ecological observatory.*
- OPS 1-2 Aulenbach, SM¹, BR Johnson¹ and MA Kuester², (1)NEON, Inc., (2)NEON Inc.. *NEON geographic products designed to enable continental-scale analysis and forecasting.*
- OPS 1-3 Fox, AM¹, WJ Sacks², DJP Moore³, DMR Ricciuto⁴, S Berukoff¹ and DS Schimel¹, (1)National Ecological Observatory Network, (2)National Center for Atmospheric Research, (3)King's College London, (4)Oak Ridge National Lab. *Assimilation of flux measurements into the NEON-NCAR land surface model.*
- OPS 1-4 Young, N, Colorado State University. *Scaling NEON plant species distribution data.*
- OPS 1-5 Kao, RH, C Gibson, R Gallery, CL Meier, DT Barnett, K Docherty, Y Springer, E Azuaje, K Blevins and P Travers, National Ecological Observatory Network (NEON). *NEON terrestrial field sampling: Designing large-scale, standardized sampling.*
- OPS 1-6 Duffy, P¹, DT Barnett², E Azuaje³, RH Kao³ and J McCorkel², (1)Neptune and Company, Inc, (2)NEON Inc., (3)National Ecological Observatory Network (NEON). *A scalable strategy for plant biodiversity sampling.*
- OPS 1-7 Powell, H¹, S Parker¹, K Goodman¹, A Price², T Cilke³ and C Seeger⁴, (1)NEON Inc., (2)NEON, Inc., (3)National Ecological Observatory Network (NEON), (4)NEON. *The NEON approach to constructing an aquatic site.*
- OPS 1-8 Parker, S, H Powell, K Goodman and A Price, NEON Inc.. *Strategies for measuring the biological community at NEON aquatic sites.*

- OPS 1-9 Ayres, E, HW Loescher and H Luo, National Ecological Observatory Network. *Continental representativeness of NEON's design for sensor-based measurements of soil properties.*
- OPS 1-10 Cilke, T, HW Loescher, E Ayers and H Lou, National Ecological Observatory Network (NEON). *Measuring the below ground environment: Prototyping borehole measurements.*
- OPS 1-11 Luo, H, HW Loescher and E Ayres, National Ecological Observatory Network. *Prototyping NEON's eddy covariance measurements: Comparison of two closed-path infra-red gas analyzers.*
- OPS 1-12 Vaughn, B¹, HW Loescher², L Newton² and H Luo², (1)University of Colorado, (2)National Ecological Observatory Network. *How isotopes in water and carbon dioxide are used in the National Ecological Observatory Network sensor design.*
- OPS 1-13 Taylor, J¹, H Luo¹, E Ayres¹, C Fiebrich², S Berukoff¹ and HW Loescher¹, (1)National Ecological Observatory Network, (2)Oklahoma Mesonet. *Data flows for NEON's fundamental instrument unit: Quality assurance and quality control approaches.*
- OPS 1-14 Loescher, HW¹, JW Munger², H Luo¹, B Vaughn³, B Holben⁴, T Meyers⁵, E Ayres¹, J Taylor⁶ and S Berukoff¹, (1)National Ecological Observatory Network, (2) Harvard University, (3)University of Colorado, (4)NASA's Goddard Space Flight Center, (5)NOAA, (6)NEON Inc.. *Standardization of key instrumentation and protocols among NEON and other agencies and networks.*
- OPS 1-15 Kampe, TU, BR Johnson, J McCorkel and M Kuester, NEON Inc.. *Development of airborne remote sensing instrumentation for NEON.*
- OPS 1-16 McCorkel, J, T Kampe, BR Johnson, M Kuester and K Krause, NEON Inc.. *Initial results from the NEON airborne observatory package pathfinder mission.*
- OPS 1-17 Blevins, K¹, R Gallery¹, K Docherty¹, G King², P Travers¹ and RH Kao¹, (1)National Ecological Observatory Network (NEON), (2)Louisiana State University. *NEON: Directions and resources for long-term monitoring in soil microbial ecology.*
- OPS 1-18 Gibson, C, K Blevins, P Travers and RH Kao, National Ecological Observatory Network (NEON). *Integrative taxonomy for NEON's continental-scale terrestrial insect observations.*
- OPS 1-19 Gardiner, L¹, WK Gram¹, S Henderson², S Newman¹, D Ward¹ and L Goldman¹, (1)NEON Inc., (2)NEON, Inc.. *A plan for public participation in NEON to inspire ecological understanding across the continent.*
- OPS 1-20 Henderson, S¹, S Newman¹, D Ward¹, P Alaback², K Havens³, L Gardiner¹, WK Gram¹ and J Schwarrz³, (1) NEON Inc., (2)University of Montana, (3)Chicago Botanic Garden. *Prototyping effective practices in continental scale citizen science campaigns through project budburst.*
- PS 1 - Education: Community-Based Learning**
Exhibit Hall 3, Austin Convention Center
- PS 1-21 Krasny, ME, Cornell University. *Applying social innovation and resilience theory to building educational capacity in a national environmental education training project.*
- PS 1-22 Kish, GR, U.S. Geological Survey. *Engaging the public in observing changes in the environment.*
- PS 1-23 Flowers, SK¹, L Toth², K Beyer³ and J Chase¹, (1) Washington University in St. Louis, (2)Missouri Botanical Garden, (3)External Project Evaluator. *Making natural connections: An authentic field research collaboration.*
- PS 1-24 Sewald, J and KV Root, Bowling Green State University. *Evaluating the relationship between knowledge of and attitudes towards bats.*
- PS 1-25 Barlow, B, Auburn University. *From eyesore to outreach: Using service learning and writing models to link students, communities, and the land.*
- PS 1-26 Ward, DL¹, E Russell², A Switzer², S Newman¹ and S Henderson¹, (1)NEON, Inc., (2)National Geographic Society. *Project BudBurst and FieldScope: Prototyping continental-scale citizen science data visualization tools.*
- PS 1-27 Armstrong, M and CA Cooley, Ecological Society of America. *Preparing diverse students in our Nation's west to lead sustainable communities.*
- PS 2 - Education: Pedagogy and Faculty Development**
Exhibit Hall 3, Austin Convention Center
- PS 2-28 Watkins, MHM, The University of Southern Mississippi. *GK-12 graduate fellowship experience: Learning to communicate ecological research by teaching longleaf pine fire ecology to minority high school students.*
- PS 2-29 Welch, NT¹, C D'Avanzo², CW Anderson³ and NJ Pelaez⁴, (1)Mississippi University for Women, (2)Hampshire College, (3)Michigan State University, (4)Purdue University. *I did it! - Faculty experiences using diagnostic assessment and active teaching to transform ecology courses.*
- PS 2-30 Kendall, KD and EE Schussler, University of Tennessee - Knoxville. *Does instructor title matter? Undergraduate perception of biology graduate teaching assistants.*
- PS 2-31 Grover, JP, HV Kojouharov, B Scarbrough, A Prieto Langarica, LD Mydlarz, L Gough, DL Hawkins, C Kribs-Zaleta and B Chen-Charpentier, University of Texas at Arlington. *Research-oriented education at the intersection of biology and mathematics: The undergraduate training in theoretical ecology research (UTTER) program.*
- PS 2-32 Barrett, CM¹, HZG Lauren², B Hug², J Planey² and FS Hu¹, (1)University of Illinois at Urbana-Champaign, (2) University of Illinois. *Education and ecology: Assessing the quality of a graduate student driven workshop for teachers.*
- PS 2-33 Gris , DJ, CM Bailey and M Rivera, Texas A&M-Corpus Christi. *Student performance relates to mentoring session attendance, math level, and student motivation in large-lecture introductory biology course.*
- PS 2-34 Cecala, KK and AD Rosemond, University of Georgia. *Efficacy of peer-review to improve student performance in scientific writing.*
- PS 2-35 Ivey, CT and KA Blee, California State University, Chico. *Integrated lab curricula as a research training tool in a comprehensive institution.*
- PS 2-36 Garcia, YV, University of Northern Colorado. *Sci*Five: A promising model to enhance ecology research in the elementary science classroom.*
- PS 2-37 Cromartie, WJ, Richard Stockton College. *Long term ecology research in an introductory lab: Do students learn from previous results?.*
- PS 2-38 Gammon, DE, JM Platania, S Manring and D Munoz, Elon University. *Interdisciplinary lunch discussions on the interface between economics and environmental issues.*
- PS 3 - Education: Research and Assessment**
Exhibit Hall 3, Austin Convention Center
- PS 3-39 Seltzer, CE, C Gottschalk-Druschke, E Kuroiwa, CR Shierk and JA Howell-Stephens, University of Illinois at Chicago. *Citizen scientists: Self-reported attitudes, behaviors, and knowledge before and after participation.*
- PS 3-40 Beck, C¹ and L Blumer², (1)Emory University, (2)

4:30 pm-6:30 pm

- Morehouse College. *Determining the factors that influence learning gains in inquiry-based laboratory courses using structural equation modeling.*
- PS 3-41 Runck, C, Georgia Gwinnett College. *Integrated assessment program of student learning outcomes in the biological sciences.*
- PS 3-42 Long, T¹, JZ Barlow², J Dauer¹, LM Hartley³, KM Kostelnik¹, JL Momsen⁴ and SR Thomas¹, (1)Michigan State University, (2)University of Massachusetts, (3) University of Colorado Denver, (4)North Dakota State University. *Analyzing visual representations of the carbon cycle: A picture worth a thousand misconceptions?.*
- PS 4 - Education: Tools and Technology**
Exhibit Hall 3, Austin Convention Center
- PS 4-43 McLean, JE and AA Leff, Kent State University. *Utilization of a computer tutorial to compare science majors and non-science majors in their use and knowledge of the scientific process, problem solving and critical thinking skills.*
- PS 4-44 Opdyke, MR, Point Park University. *GigaPan Technology: A web-based platform for ecological research and outreach.*
- PS 4-45 Schultz, RE, E Dibble, P Amburn and D Irby, Mississippi State University. *Taking the plunge without a wetsuit: Using 3-D visualization models of underwater landscapes to educate broad audiences about the impact of invasive macrophytes on aquatic communities.*
- PS 4-46 Guinn, SM¹, AJ Elmore¹, T Mourad², B Wee³, A Collins⁴, D Kirschtel⁵ and W Dennison¹, (1)University of Maryland Center for Environmental Science, (2)Ecological Society of America, (3)National Ecological Observatory Network (NEON), Inc, (4)West Virginia University, (5)Bentley University. *The Potomac River Basin as a landscape-scale classroom for exploring the future of environmental decisions.*
- PS 4-47 Sperger, C, B Maloney and KM Klemow, Wilkes University. *Developing a podcast trail guide for Nuangola Bog, Luzerne County, PA: Achieving community education through service learning and technology.*
- PS 4-48 Klemow, KM¹, P Allen², D Kirschtel³, KL Shea⁴, A Herrera⁵ and T Mourad⁵, (1)Wilkes University, (2)Cornell University, (3)Bentley University, (4)St. Olaf College, (5)Ecological Society of America. *Using data discovery to promote ecological understanding in undergraduate ecology courses: The EcoEd DL and science pipes collaboration.*
- PS 4-49 Malin, R¹, SA Pierce² and R Rich³, (1)The University of Texas at Austin, (2)Jackson School of Geosciences, The University of Texas at Austin, (3)University of Minnesota. *Data Flow Infrastructure Initiative (DFII): Coupling inventory practices and data collection technology to enhance research productivity and information access.*
- PS 4-50 Heinz, CA, Benedictine University. *iPads and ecology education.*
- PS 4-51 Fernandez, DS and RL Tremblay, University of Puerto Rico at Humacao. *Experiences in quantitative conservation biology and critical thinking for undergraduate students.*
- PS 4-52 Alva, JS, UTEP. *Using motion sensor cameras to examine wildlife use of water bodies in the northern Chihuahuan Desert.*
- PS 5-54 Maczko, K¹, SF Hamilton², JA Tanaka³, C Garretson-Weibel⁴, M Smith³, JE Mitchell⁵, C Stanley⁶, G Fults⁶, D Powell⁷, C Quimby⁸, D Loper⁹, L Bryant¹⁰ and JK Brite Jr.¹¹, (1)Sustainable Rangelands Roundtable, (2)Idaho Dept. of Lands (retired), (3)University of Wyoming, (4) Wyoming Business Council, (5)USDA Forest Service, Rocky Mountain Research Station, (6)USDA Natural Resources Conservation Service, (7)Bureau of Land Management (retired), (8)USDA Forest Service, (9) Wyoming State Grazing Board, (10)Bryant Ranches, (11) JA Ranch. *Ranch sustainability assessment: Integrating ecological, social, and economic monitoring information with a business planning process.*
- PS 5-55 Philipp, D, M Savin, K Coffey and B Briggs, University of Arkansas. *Utilization of legumes in cattle grazing systems to minimize synthetic N input.*
- PS 5-56 Rodstrom, RA¹, A Del Pozo¹, B Carlson¹, N Kittelson², E Hannon³ and JJ Brown¹, (1)Washington State University, (2)Idaho Department of Lands, (3)Fresno Department of Agriculture. *Environmentally friendly pest control: Natural enemies and alternative chemistry.*
- PS 5-57 Miesel, JR, MD Raudenbush, MJ Renz and RD Jackson, University of Wisconsin-Madison. *Nitrogen dynamics, soil respiration, and microbial exoenzyme activity in contrasting perennial bioenergy systems in southwestern Wisconsin.*
- PS 5-58 Lovell, ST, AB Bennett, R Ferguson and JR Taylor, University of Illinois. *Multifunctional urban agriculture - Supporting earth stewardship in human-dominated ecosystems.*
- PS 5-59 Jaber, F and S Mohan, Texas A&M University. *Evaluating best management practices for flood mitigation and stormwater contaminant removal in urban environments.*
- PS 5-60 Gibson, K, Stanford University. *Environmental Rhetoric and Communication Strategies.*
- PS 5-61 Kummerow, DMF¹ and VJ Watson², (1)Curtin University, (2) University of Montana. *Institutions to reduce fertility rates.*
- PS 6 - Community Assembly and Neutral Theory**
Exhibit Hall 3, Austin Convention Center
- PS 6-62 Razafindratsima, OH, S Mehtani and AE Dunham, Rice University. *Extinction of large Malagasy primate species altered their community assemblage trait structure.*
- PS 6-63 Haak, MJ, JJ Weirich III and CM Wojan, University of Wisconsin - Eau Claire. *Assemblage of lichen communities on rocky shorelines of the North Woods.*
- PS 6-64 Moore, JE¹ and S Franklin², (1)The University of Memphis, (2)University of Memphis. *Understanding the relative role of disturbance and species interactions in shaping Mississippi River island plant communities.*
- PS 6-65 Henderson, AN¹, BW Blonder², CA Lamanna², LL Sloat², AJ Kerkhoff¹ and BJ Enquist³, (1)Kenyon College, (2) University of Arizona, (3)University of Arizona and The Santa Fe Institute. *Plant community assembly and the role of intraspecific functional trait variability in alpine meadows.*
- PS 6-66 Stokes, KH and P Stiling, University of South Florida. *The effect of scale on associational resistance and a test of the mechanism in the *Asphondylia-Borrhichia-iva* system.*

PS 5 - Stewardship

Exhibit Hall 3, Austin Convention Center

- PS 5-53 Hung, J, CB Zou, DJ Turton, RE Will, DM Engle and SD Fuhlendorf, Oklahoma State University. *Interactive effects of vegetation and soil types on soil water dynamics in woody-encroached grasslands.*

PS 7 - Community Disturbance and Recovery

Exhibit Hall 3, Austin Convention Center

- PS 7-67 Johnson, J¹, E Mutai¹, A West¹, S Sabaratnam¹ and RE Emanuel², (1)Livingstone College, (2)North Carolina State University. *Assessing secondary ecosystem succession in Livingstone Forest, NC.*

- PS 7-68 Meiners, SJ, Eastern Illinois University. *Succession and the stability of communities in response to rainfall variation.*
- PS 7-69 Holzmüller, EJ, DJ Gibson and PF Suchecki, Southern Illinois University. *Central hardwood forest composition following a super derecho storm event.*
- PS 7-70 Michaletz, ST and EA Johnson, University of Calgary. *P. glauca seed survival during wildfire: Post-fire recruitment depends on the timing of fire occurrence relative to seed development.*
- PS 7-71 Gilland, KE and BC McCarthy, Ohio University. *Microsite effects on natural regeneration of anthropogenically disturbed habitats in eastern Ohio.*
- PS 7-72 Chumack, K¹, DE Rothstein¹ and JB Bradford², (1) Michigan State University, (2)US Geological Survey. *Changes in aboveground biomass following stand-replacing wildfire: Re-measurement of a chronosequence.*
- PS 7-73 Levy, MA and JR Cumming, West Virginia University. *Development of soil, biodiversity, and arbuscular mycorrhizae on pasture-reclaimed surface mines in Appalachia.*
- PS 8 - Community Pattern and Dynamics**
Exhibit Hall 3, Austin Convention Center
- PS 8-74 Shen, G¹, F He¹, R Waagepetersen², ZS Chen³, P Ding⁴, Z Hao⁵, IF Sun⁶ and M Yu⁴, (1)Sun Yat-sen University, (2) Aalborg University, (3)National Taiwan University, (4) Zhejiang University, (5)Institute of Applied Ecology, Chinese Academy of Sciences, (6)Tunghai University. *Separating the effects of dispersal limitation and habitat heterogeneity on spatial distributions of species in tree communities.*
- PS 8-75 King, C and RM Muzika, University of Missouri. *A 400 year history of canopy disturbance in pine-oak forests of the Ozark Highlands, Missouri, USA.*
- PS 8-76 Sue, R¹, JL Fail Jr.¹, J Jackson¹, M Talley¹, M Jackson¹, C Grimsley¹ and RE Emanuel², (1)Johnson C. Smith University, (2)Appalachian State University. *Ground truthing LIDAR data within a successional diverse piedmont forest .*
- PS 8-77 Gilbert, JC, JS Kush and RJ Barlow, Auburn University. *Are the longleaf pine ecosystem restoration and conservation practices of today sustainable?.*
- PS 8-78 Massi, KG¹ and MA Batalha², (1)Universidade de Brasília, (2)Universidade Federal de São Carlos. *The short and unseasonal fruiting of plants: Competition escape.*
- PS 8-79 Cook, JE, University of Wisconsin at Stevens Point. *Understory turnover and species disappearance in second growth forests - patterns across three spatial scales.*
- PS 8-80 Gutiérrez del Arroyo Santiago, O and C Nyctch, University of Puerto Rico. *The effects of microhabitat variability on intra-annual tree seedling mortality in a montane tropical forest.*
- PS 8-81 Bittel, AT, BL Foster and SE Hinman, University of Kansas. *Community assembly history influences primary productivity in a developing tallgrass prairie.*
- PS 8-82 DeWalt, SJ¹, K Ickes¹ and BN Taylor², (1)Clemson University, (2)College of Charleston. *Determinants of seedling survivorship in tropical rainforest on the island of Dominica, Lesser Antilles.*
- PS 8-83 Pec, GJ and GC Carlton, California State Polytechnic University, Pomona. *Impacts of non-native grasses in a coastal sage scrub-chaparral transition zone.*
- PS 8-84 Zokan, MA and JM Drake, University of Georgia. *Patterns of species diversity in a hyper-rich zooplankton community.*
- PS 8-85 Barthel, ZE¹, DA Smith¹, CJ Sutton¹, RE Emanuel² and LS Jernigan¹, (1)University of North Carolina at Pembroke, (2) North Carolina State University. *Assessment of secondary ecosystem succession in Hoke County, North Carolina.*
- PS 8-86 Elliott, KJ¹ and J Vose², (1)USDA Forest Service Southern Research Station, (2)USDA Forest Service. *Age and distribution of an evergreen clonal shrub in the Coweeta Basin: *Rhododendron maximum* L.*
- PS 8-87 Pesek, MF, University of Kansas. *Seed availability and soil fertility interact to govern the successional dynamics of plant diversity in a grassland ecosystem.*
- PS 8-88 Ikeda, H¹, K Kubota², A Kagawa¹ and T Sota³, (1)Forestry and Forest Products Research Institute, (2)University of Tokyo, (3)Kyoto University. *Diverse diet compositions among harpaline ground beetle species revealed by mixing model analyses of stable isotope ratios.*
- PS 8-89 Duran, III, R, Arizona State University. *Population dynamics and growth patterns of reintroduced Gunnison's prairie dog colonies at the Sevilleta National Wildlife Refuge, and their impact on the preexisting vegetative community.*
- PS 8-90 Pastore, AI, CM Prather, RD Ellis, ES Gornish and TE Miller, Florida State University. *Testing mechanisms of the intermediate disturbance hypothesis using long-term data of saxicolous lichens.*
- PS 8-91 Woods, NN¹ and MN Miriti², (1)The Ohio State University, (2)The Ohio State University. *The relative importance of abiotic and biotic factors for seedling establishment in the Colorado Desert.*
- PS 8-92 McClenahan, JL, KF Davies, BA Melbourne, K Tarsi, A Hicks and RH Wilson, University of Colorado at Boulder. *Ant community responses to land use change: An investigation of Australian Eucalypt forests.*
- PS 8-93 Collier, JL, Y Liu and SL Bell, Stony Brook University. *The plankton community context of blooms of the harmful alga *Aureococcus anophagefferens* on the south shore of Long Island, NY, USA.*
- PS 8-94 Roswell, ME¹ and J Harte², (1)Swarthmore College, (2)University of California, Berkeley. *Spatial patterns suggest warming-driven dominance shift reflects change in competition in Rocky Mountain meadow community.*
- PS 8-95 Murphy, SJ and BC McCarthy, Ohio University. *The effects of slope aspect on the spatial patterning of a mixed mesophytic old-growth forest.*
- PS 8-96 Pillsbury, FC¹, DPC Peters¹, J Yao¹ and GS Okin², (1) USDA Agricultural Research Service, (2)UCLA. *Multiscale drivers of spatially variable grass production and loss in the Chihuahuan Desert.*
- PS 8-97 Edgerton, JM, MW Kershner and CB Blackwood, Kent State University. *Detrital Foundations of Microbial, Invertebrate, and Amphibian Community Structure in Upland and Riparian Forested Vernal Pools.*
- PS 8-98 Philpott, SM¹, CJ Murnen¹, DJ Gonthier² and GH Domínguez³, (1)University of Toledo, (2)University of Michigan, (3)Finca Irlanda Research Station. *Food webs in the litter: Effects of food addition on decomposition and ant communities in coffee agroecosystems.*
- PS 8-99 Sides, MA, DB Murray and JD White, Baylor University. *Effects of disturbance on woodland composition inertia determined by analysis of historical landcover data.*
- PS 8-100 Bangle, DN¹, DJ Merkler² and JC Brinda³, (1)USBR-Multi-Species Conservation Program, (2)USDA-NRCS, (3)University of Nevada Las Vegas. *Soil properties and their effect on within site patchiness of the rare plant *Arctomecon californica* in the Mojave Desert.*
- PS 8-101 Ennis, KK¹ and DJ Gonthier², (1)University of Toledo, (2) University of Michigan. *BIOTIC and temporal influences on spatial distribution of dominant and subdominant ground-foraging ants in a tropical agroecosystem.*

4:30 pm-6:30 pm

- PS 8-102 Riojas-López, ME¹, E Mellink², F Raoul³, J Luévano², A Vaniscotte³ and P Giraudoux³, (1)CUCBA-Universidad de Guadalajara, (2)CICESE, (3)CNRS-Universite de Franche-Comté. *Landscape partitioning by rodents assemblages in the Llanos de Ojuelos, in Mexico's Central High Plateau.*
- PS 8-103 Walters, MB¹, J Willis¹ and KW Gottschalk², (1)Michigan State University, (2)USDA Forest Service Northern Research Station. *Interspecific variation in tree seedling height growth responses to harvest gap size: Implications for increasing tree diversity in mesic northern temperate forest.*
- PS 8-104 Garcia, AM¹, DJ Hoeinghaus², M Claudino¹, R Bastos¹, F Correa¹, S Huckembeck¹, J Vieira¹, D Loebmann¹, P Abreu¹, KO Winemiller³ and C Ducatti⁴, (1)Universidade Federal do Rio Grande, (2)University of North Texas, (3)Texas A&M University, (4)Universidade Estadual Paulista. *Flooding drives one-way connectivity of aquatic food webs across spatial and temporal scales in a subtropical coastal lagoon.*

PS 9 - Trophic Dynamics and Interactions

Exhibit Hall 3, Austin Convention Center

- PS 9-105 Ralston, CR¹, SA Peterson² and NV Ralston¹, (1)University of North Dakota, (2)Oregon State University. *Influence of environmental selenium on mercury bioaccumulation in stream fish of the western US.*
- PS 9-106 Marczak, L, The University of Montana. *Local versus geographic controls on saltmarsh arthropod communities.*
- PS 9-107 Missik, JE¹, AJ Meier¹, B Kessler¹, SR Borrett² and M Bartley¹, (1)Western Kentucky University, (2)University of North Carolina Wilmington. *Influences of microbial loops on connectivity of food web networks.*
- PS 9-108 Schulwitz, SE¹, MM Chumchal², J Burnham³, K Burnham⁴ and JA Johnson¹, (1)University of North Texas, (2) Texas Christian University, (3)Augustana College, (4) High Arctic Institute. *Comparison of mercury in birds at temperate, sub-Antarctic and Arctic locations.*
- PS 9-109 Ellison, AM¹ and NJ Gotelli², (1)Harvard University, (2) University of Vermont. *Moths, ants, and pitcher-plants: Small and large-scale biogeography of a tri-trophic interaction.*
- PS 9-110 Klass, JR¹, JM Trojan¹, SH Thomas² and D Peters³, (1)New Mexico State University, (2)New Mexico State University, (3)USDA Agricultural Research Service. *Nematode diversity in arid grasslands as indicators of change in soil biotic communities associated with desertification.*
- PS 9-111 Heathcote, AJ, C Filstrup, D Kendall and JA Downing, Iowa State University. *Examining the role of Cyanobacteria size and abundance on limiting heterotroph: Autotroph biomass ratios in eutrophic lakes.*
- PS 9-112 LeVan, KE and DA Holway, University of California, San Diego. *Do mutualisms between the Argentine ant and cotton aphids structure arthropod food webs in cotton?*
- PS 10-116 Wheeler, EC, LB Stabler and CJ Butler, University of Central Oklahoma. *Production and comparison of three habitat suitability maps for the imperiled lace hedgehog cactus *Echinocereus reichenbachii*.*
- PS 10-117 Wei, X, The Ohio State University. *Identification and removal of microbial contaminants in Upper Sugar Creek, Ohio watershed.*
- PS 10-118 Nunes, LF, ESACB. *Biomimicry functional model for sustainability inspired by Cork Oak Forests in Portugal.*
- PS 10-119 Lewis, JD, Western Oregon University. *Bedding habits of mule deer (*Odocoileus hemionus hemionus*) on high-elevation summer range.*
- PS 10-120 Griffin, L and WJ Platt, Louisiana State University. *Patch dynamics of longleaf pine (*Pinus palustris*): Regeneration in second-growth stands reinforces and expands concepts developed based on old-growth stands.*
- PS 10-121 Schoolmaster, Jr., DR¹, JB Grace², GR Guntenspergen², EW Schweiger³, BR Mitchell³ and DJ Cooper⁴, (1)IAP at US Geological Survey, (2)US Geological Survey, (3) National Park Service, (4)Colorado State University. *Statistical theory for construction of ecological indexes.*
- PS 10-122 Jansen, Najjdmbsbjrjm, J.W. Jones Ecological Research Center. *Impacts of skidder traffic on soils and seedling growth in a longleaf pine forest.*
- PS 10-123 Borneman, TE and TR Simons, North Carolina State University. *Effects of human activity on American Oystercatchers breeding at Cape Lookout National Seashore, North Carolina.*
- PS 10-124 Ruiz-González, SP¹, J Goluvob², MDC Mandujano Sánchez¹ and M Rojas-Aréchiga³, (1)Instituto de Ecología, UNAM, (2)UAM-X, (3)Instituto de Ecología UNAM. *Morphological description and germination of a rare cactus seed.*
- PS 10-125 Domic, AI and G Camilo, Saint Louis University. *Effects of habitat degradation on the regeneration of an Andean tree species (*Polylepis tomentella*, Rosaceae).*
- PS 10-126 Catellier, C and EG Lamb, University of Saskatchewan. *Ecological and management-related factors influencing the susceptibility of a rare Saskatchewan species (*Dalea villosa* var. *villosa*) to herbivory.*

PS 11 - Restoration Ecology

Exhibit Hall 3, Austin Convention Center

PS 10 - Conservation Management

Exhibit Hall 3, Austin Convention Center

- PS 10-113 Holden, MK, University of Arkansas. *Changes in coral reef health: A follow-up study on three fringing reefs of Magnetic Island.*
- PS 10-114 Thomas, SM and KA Moloney, Iowa State University. *Species distribution model for an invasive wetland plant – a hierarchical approach.*
- PS 10-115 Geary, B¹, MC Green¹, D Reed², BM Ballard² and B Howe³, (1)Texas State University - San Marcos, (2)Texas A&M University - Kingsville, (3)U.S. Fish & Wildlife Service. *Movements and survival of juvenile Reddish Egrets along the Gulf Coast: The first year of life.*
- PS 11-127 Padgett, W¹ and T Wood², (1)Bureau of Land Management, (2)U.S. Geological Survey. *Colorado Plateau Native Plant Program: A plant materials development program.*
- PS 11-128 Leichty, ER and WJ Platt, Louisiana State University. *Long and short-term effects of fire on pine savanna groundcover vegetation.*
- PS 11-129 Kinsey, JC¹, JT Baccus¹, R Perez² and DM Small¹, (1)Texas State University, (2)Texas Parks and Wildlife. *Dispersal and survival of Bobwhite quail released from surrogators.*
- PS 11-130 Lyons, KG, Trinity University. *Applying the diversity-invasion hypothesis to test restoration as biocontrol.*
- PS 11-131 Schiebout, MH and SB Franklin, University of Northern Colorado. *Gravel mine reclamation on the shortgrass steppe: Current status and assessment of competition.*
- PS 11-132 Becker, KE¹, JM Anderson² and CR Hinkle¹, (1)University of Central Florida, (2)North Carolina State University. *Variability of aboveground and belowground carbon stocks in Florida flatwoods ecosystems undergoing restoration and management.*
- PS 11-133 Henn, JH¹, CR Herron-Sweet¹, AE Kendig², TK Refsland¹ and KL Shea¹, (1)St. Olaf College, (2)Georgia Institute of Technology. *Tree growth, mortality, and reproduction in a 20-year old maple-basswood forest restoration.*

- PS 11-134 Kendig, AE¹, TK Refsland², JH Henn², CR Herron-Sweet² and KL Shea², (1)Georgia Institute of Technology, (2) St. Olaf College. *Productivity and soil characteristics as indices of tallgrass prairie restoration success.*
- PS 11-135 Fotinos, TD¹, S Namoff², C Lewis³, MP Griffith⁴, J Francisco-Ortega¹, J Maschinski⁵ and EJ von Wettberg¹, (1)Florida International University & Fairchild Tropical Botanic Garden, (2)Claremont Graduate University & Rancho Santa Ana Botanic Garden, (3)Center for Tropical Plant Conservation, Fairchild Tropical Botanic Garden, Miami, FL, (4)Montgomery Botanical Center, (5) Fairchild Tropical Botanic Garden. *Conservation genetics of the endangered Sargent's Cherry Palm, *Pseudophoenix sargentii*.*
- PS 11-136 Han, HS, U Song and EJ Lee, Seoul National University. *Selecting suitable macrophytes for remediation and restoration of leachate channel in a sanitary landfill.*
- PS 11-137 Foster, B, PJ Meiman, B Wolk and MW Paschke, Colorado State University. *Effects of crested wheatgrass soil on native plant production.*
- PS 11-138 Cole, RJ¹ and CM Litton², (1)University of Colorado, (2) University of Hawaii at Manoa. *Changes in understory vegetation in Hawaiian wet forest 15 years after removal of nonnative feral pigs.*
- PS 11-139 Stephens, EL, PF Quintana-Ascencio and LM Castro-Morales, University of Central Florida. *Seed germination and seedling survival of five endemic Florida Scrub species in intact and degraded habitats.*
- PS 11-140 Fry, JE, J Chakravarty, TD Phillips, SK Gleeson and A Relej, University of Kentucky. *Clipping response strategies of nine bunchgrasses native to the blue ash-oak savannah of the inner bluegrass region of Kentucky.*
- PS 11-141 Willey, KT¹, CM Swan¹ and BL Brown², (1)University of Maryland, Baltimore County, (2)Clemson University. *Local resource control versus regional constraints on species coexistence in restored stream reaches.*
- PS 11-142 Cox, RD and YF Chou, Texas Tech University. *Smoke-stimulated germination of Native Seeds: A management option.*
- PS 11-143 Summerhays, JR, EW Schupp and AD Reinwald, Utah State University. *Changes to nutrient availabilities and cheatgrass (*Bromus tectorum* L.) metrics following non-surface disturbing restoration treatments in a sagebrush-steppe ecosystem.*
- PS 11-144 Schulz, KE, J Wright and S Ashbaker, Southern Illinois University Edwardsville. *Is cutting and regrowth spraying more effective than cutting and stump painting to kill Asiatic bush honeysuckle (*Lonicera* spp.)?.*
- PS 11-145 Crandall, RM¹ and RE Masters², (1)Washington University, (2)Oklahoma State University. *Response of understory plant communities to timber and fire management in a mixed-pine hardwood forest.*
- PS 11-146 Eyheralde, P, EJ Artz and WS Fairbanks, Iowa State University. *Bison-mediated seed dispersal in a tallgrass prairie reconstruction.*
- PS 11-147 Andruk, CM and NL Fowler, University of Texas at Austin. *The effects of initial vegetation composition, seed availability, fire and competition on herbaceous species recruitment in savannas and savanna restoration.*
- PS 11-148 Ganade, G¹, MN Miriti², GG Mazzochini¹ and CP Paz³, (1) Universidade Federal do Rio Grande do Norte, (2)The Ohio State University, (3)Universidade do Vale do Rio dos Sinos - UNISINOS. *Pioneer effects on exotic and native tree colonizers: Insights for Araucaria forest restoration.*
- PS 11-149 Cordell, S¹, EJ Questad¹, KM Kinney², JR Kellner², JM Thaxton³ and GP Asner⁴, (1)USDA Forest Service, (2) University of Maryland, (3)University of Puerto Rico, (4) Carnegie Institution. *Guiding ecological restoration in invaded landscapes.*
- PS 11-150 Statz, AE, PA Seiwert and CK Meyer, Simpson College. *Regional evaluation of recovery following restoration in Platte River wetlands.*
- PS 11-151 Chen, L¹, S Peng² and E Siemann³, (1)SunYat-Sen (Zhongshan) University & Rice University, (2)Sun Yat-Sen University, (3)Rice University. *Competitive control of an exotic mangrove: Restoration of native mangrove forests by altering light availability.*
- PS 11-152 Scoles-Sciulla, SJ and LA DeFalco, US Geological Survey, Western Ecological Science Center. *Contrasting seedling survival of an early- and late-colonizing species transplanted to burned shrublands in the northeast Mojave Desert.*

PS 12 - Conservation Planning, Policy, and Theory

Exhibit Hall 3, Austin Convention Center

- PS 12-153 Breckheimer, I¹ and A Milt², (1)University of North Carolina, Chapel Hill, (2)University of Tennessee, Knoxville. *Connect: New GIS tools supporting management of landscape connectivity for wildlife.*
- PS 12-154 Dillenberg, S¹ and CB Anderson², (1)University of North Texas, (2)University of North Texas and Universidad de Magallanes. *The evolution of conservation: A global analysis in trends in the academic literature regarding how we perceive, study and protect biodiversity.*
- PS 12-155 Iacona, GD¹, FD Price² and PR Armsworth¹, (1)University of Tennessee, (2)Florida Natural Areas Inventory. *What determines the invadedness of protected areas?.*
- PS 12-156 Contador, TA¹, JH Kennedy², R Rozzi³, F Massardo⁴, RA Molina⁵, A Stambuk⁶, CB Anderson⁷, J Ojeda Villarreal⁴, Y Medina⁸, C Pizarro⁹, KP Moses², FL Marticorena¹⁰, F Olivares¹¹, C Saavedra¹¹ and F Leyton¹¹, (1)University of North Texas, Sub-Antarctic Biocultural Conservation Program, Omora Ethnobotanical Park, Chile, (2)University of North Texas, (3)University of North Texas and University of Magallanes - Institute of Ecology and Biodiversity, Chile, (4)University of Magallanes and Omora Ethnobotanical Park, (5)Omora Ethnobotanical Park, Institute of Ecology and Biodiversity, Chile, (6)Omora Ethnobotanical Park, Chile, (7)University of North Texas and Universidad de Magallanes, (8)Universidad de Magallanes Programa de Conservación Biocultural Subantártica - Parque Etnobotánico Omora, (9)Universidad de Magallanes & IEB Chile, (10)Museo Martin Gusinde, Puerto Williams, Chile, (11)Liceo Donald Mc.Intyre Griffiths, Puerto Williams, Chile. *Aquatic Invertebrates of the southernmost watersheds of the Americas: Field environmental philosophy at the Omora Ethnobotanical Park, Chile (55°S).*

PS 13 - Ecosystem Services Assessment

Exhibit Hall 3, Austin Convention Center

- PS 13-157 Koo, J and YC Youn, Seoul National University. *Urban dweller's willingness to pay for biodiversity improvement policy in south Korea.*
- PS 13-158 O'Connell, CS, University of Minnesota. *Making things fit: Modeling a sustainable, well-fed world in 2050.*
- PS 13-159 Martin, LM and BJ Wilsey, Iowa State University. *Exotic- and native-dominated grasslands exhibit differences in ecosystem services in the Northern Plains.*
- PS 13-160 Dobbs, C¹ and F Escobedo², (1)University of Melbourne, (2)University of Florida. *Analyzing the ecosystem services, disservices, and tradeoffs in an urban forest.*
- PS 13-161 Mokondoko, P and RH Manson, Instituto de Ecología, A.C.. *Valuing the effects of changes in land cover on water*

4:30 pm-6:30 pm

quality and public health in central Veracruz, Mexico.

- PS 13-162 Tanzi, SC¹, N Urena² and TV Dietsch², (1)University of Vermont, (2)Earthwatch Institute. *Above ground biomass and soil organic matter in coffee, pasture, and forest land-uses in a montane tropical landscape of Costa Rica.*
- PS 13-163 Hayden, L¹, VT Eviner¹, KJ Rice¹ and CM Malmstrom², (1)University of California Davis, (2)Michigan State University. *Impacts of California grassland species on multiple ecosystem services.*
- PS 13-164 Kiger, S and WS Currie, University of Michigan. *Modeling ecosystem processes as drivers of ecosystem services.*

PS 14 - Agroecology

Exhibit Hall 3, Austin Convention Center

- PS 14-165 Eviner, VT¹, B Hoorens², R Fitzhugh², F Zhu¹ and R Venterea³, (1)University of California Davis, (2)U of Illinois, (3)USDA ARS. *The impacts of elevated atmospheric carbon dioxide and ozone on litter decomposition in corn-soybean rotations.*
- PS 14-166 Fernández-Lugo, S, LA Bermejo, L de Nascimento, J Méndez and JR Arévalo, University of La Laguna. *Short-term effects of traditional grazing exclusion on protected pastures of the Canary Islands (Spain).*
- PS 14-167 Otero-Jiménez, B¹ and AJ Nowakowski², (1)University of Puerto Rico Rio Piedras Campus, (2)Florida International University. *Landscape resistance to dispersal of a common poison frog in the lowlands of northeastern Costa Rica.*
- PS 14-168 Ren, W, H Tian, B Tao, G Chen, M Liu, C Lu and X Xu, Auburn University. *Food productivity in the US: a synthetic analysis of crop productivity in response to climate change during 1951-2050.*
- PS 14-169 Dugarjav, D and ST Gower, University of Wisconsin-Madison. *Biomass equations for two poplar clones grown in Arlington, WI, USA.*
- PS 14-170 Smith, RG¹, DA Mortensen², ME Barbercheck² and DJ Sandy², (1)University of New Hampshire, (2)The Pennsylvania State University. *Weed seed bank dynamics in four contrasting organic feed and forage production systems.*
- PS 14-171 Woltz, JM and DA Landis, Michigan State University. *Landscape configuration as well as composition influences coccinellid abundances in agricultural landscapes.*
- PS 14-172 Skillman, JE, D Jackson, J Vandermeer and I Perfecto, University of Michigan. *The relative effect of *Lecanicillium lecanii* on the prevalence of coffee rust infections compared to shade, precipitation and coffee variety.*
- PS 14-173 Kovach, KE, Duke University. *Ecology, Evolution, and Environmental Education: Teaching All Ages.*

5 pm-5:45 pm**ESA Award Recipients' Reception (by invitation only)**

13, Austin Convention Center

5 pm-6:30 pm**Musicians Central**

Registration Lobby, Austin Convention Center

5:15 pm-9:30 pm

FT 16 - FT 16 Sense of Place Biocultural Event at Lady Bird Johnson Wildflower Center--Students and developing countries \$42/Non-student \$57

Trinity Street Lobby Field Trip Pick Up, Austin Convention Center

Organized by: ME Lam (m.lam@fisheries.ubc.ca), R Rozzi, J Hook (jonathan.hook@unt.edu), AK Poole (alexandria.poole@gmail.com), JJ Armesto, JJ Tewksbury

6:30 pm-8 pm**Christian Ecologists Social**

19A, Austin Convention Center

ESA Aquatic Section Mixer

Austin III, Radisson Hotel

ESA Public Affairs Committee and the Inaugural Business Meeting of the NEW ESA Policy Section

1, Austin Convention Center

ESA Soil Ecology Section and Microbial Ecology Joint Mixer

19B, Austin Convention Center

ESA Student Mixer

Ballroom C, Austin Convention Center

ESA Theoretical Ecology Section Mixer

18D, Austin Convention Center

ESA Vegetation Section and IAVS-NA Business Meeting and Mixer

Austin Suite, Austin Convention Center

Utah State University Ecologists Mixer

Austin I, Radisson Hotel

Yale University Press Screening of 'Journey of the Universe'

14, Austin Convention Center

7 pm-10 pm

SS 11 - An Evening of Music: Live Performance by ESA Musicians

17A, Austin Convention Center

Organized by: N Gotelli (Nicholas.Gotelli@uvm.edu)

An evening of live music and entertainment by the ESA membership.

8 pm-10 pm

WK 28 - Photography for Ecologists: Part 2. Putting Images to Work--FREE

18A, Austin Convention Center

Organized by: MG Mehling (mollymehling@gmail.com), N Losin, NB Dappen, NE Osborne

Intended for ecologists interested in using photography as a communication medium, this workshop will enhance participants' ability to use their images in ecological education, outreach, engaging audiences and research.

Speakers:

K Kline, Ecological Society of America

Tuesday, August 9

Field Trips, Business Meetings, and Receptions

7 am-8 am

ESA Graduate Students and Post Doc Roundtable with ESA Leadership
7, Austin Convention Center

7 am-9 am

ESA Ecosphere Editor in Chief Meeting
Austin Suite, Austin Convention Center

ESA Frontiers Editorial Board Meeting
1, Austin Convention Center

ESA Meetings Committee Meeting
ML 13-level 2, Austin Convention Center

ESA SEEDS Advisory Board Meeting
Treaty Oak, Radisson Hotel

7:15 am-8 am

ESA Rocky Mountain Chapter Business Meeting
19B, Austin Convention Center

7:30 am-5 pm

ESA Leaf Teachers' Meeting
10B, Austin Convention Center

8 am-9 am

ESA Centennial Committee Meeting
ML 12-level 2, Austin Convention Center

8 am-5 pm

ESA Vegetation Classification Panel
Lakeview, Radisson Hotel

11:30 am-1:15 pm

ESA Past Presidents' 2015 Committee Meeting
ML 12-level 2, Austin Convention Center

Carleton College Alumni and Friends Brown Bag Lunch
Ballroom F, Austin Convention Center

ESA Canada Chapter Business Meeting
ML 13-level 2, Austin Convention Center

ESA Southwest Chapter Brown Bag Lunch

17B, Austin Convention Center

ESA Traditional Ecological Knowledge Section Business Meeting

Ballroom E, Austin Convention Center

Rapid Response Team Luncheon (by invitation only)

6B, Austin Convention Center

12 pm-1 pm

ESA Mexican Chapter Annual Business Meeting: Challenges for Ecology in Latin America

Skyline, Radisson Hotel

ESA Paleoeecology Section Business Meeting

1, Austin Convention Center

12 pm-1:15 pm

Ecology Letters Editorial Board Meeting

Austin Suite, Austin Convention Center

GLBT Ecologists Brown Bag Lunch

Old Pecan St, Radisson Hotel

Penn State Ecology Luncheon

Ballroom C, Austin Convention Center

4 pm-6 pm

ESA Ecological Applications Editorial Board Meeting

1, Austin Convention Center

4:30 pm-6:30 pm

Royal Society Publishing Event (booth 210)

Exhibit Hall 3, Austin Convention Center

5 pm-6:30 pm

ESA Musicians Central

Registration Lobby, Austin Convention Center

6:30 pm-8 pm

All Tropical Biology Mixer Hosted by OTS

Lakeview, Radisson Hotel

Ecology Letters Drinks Reception

Ballroom G, Austin Convention Center

ESA Applied Ecology, Agroecology, Human Ecology, Urban Ecosystem Ecology, and Environmental Justice Joint Mixer

Travis III, Radisson Hotel

ESA Asian Ecology Section Business Meeting and Mixer

Austin I, Radisson Hotel

ESA Biogeosciences Mixer

Ballroom F, Austin Convention Center

ESA Education Section

Travis I, Radisson Hotel

ESA Fund for the Future Reception (by invitation only)

Victorian Room, The Driskill Hotel

ESA Historical Records Committee Business Meeting

Austin Suite, Austin Convention Center

ESA Mid-Atlantic Chapter Business Meeting

1, Austin Convention Center

ESA Statistical Ecology Section Business Meeting and Mixer

18D, Austin Convention Center

ESA Student Section Business Meeting and Awards Ceremony

7, Austin Convention Center

Michigan Ecology Mixer

19B, Austin Convention Center

NEON Meet & Greet

Ballroom C, Austin Convention Center

Oecologia Editorial Board Reception (by invitation only)

Skyline, Radisson Hotel

USGS Meet & Greet

Ballroom E, Austin Convention Center

7 am-11:30 am

Tuesday Sessions

7 am-8 am

ESA Graduate Students and Post Doc Roundtable with ESA Leadership

7, Austin Convention Center

7 am-9 am

ESA Ecosphere Editor in Chief Meeting

Austin Suite, Austin Convention Center

ESA Frontiers Editorial Board Meeting

1, Austin Convention Center

ESA Meetings Committee Meeting

ML 13-level 2, Austin Convention Center

ESA SEEDS Advisory Board Meeting

Treaty Oak, Radisson Hotel

7:15 am-8 am

ESA Rocky Mountain Chapter Business Meeting

19B, Austin Convention Center

7:30 am-5 pm

ESA Leaf Teachers' Meeting

10B, Austin Convention Center

8 am-9 am

ESA Centennial Committee Meeting

ML 12-level 2, Austin Convention Center

8 am-11:30 am

SYMP 4 - Building a Global Sense of Place, Responsibility, and Stewardship

Ballroom E, Austin Convention Center

Organized by: ME Lam (mimibethlam@gmail.com), AK Poole

Endorsed by: Human Ecology, Natural History, Traditional Ecological Knowledge

Moderator: ME Lam

This symposium introduces ecologists to sense of place, from the research perspectives of various sub-disciplines within ecology, the social sciences and the humanities, to integrate a firm scientific base from which to explore the knowledge and pathways needed to build a global sense of place, responsibility and stewardship.

8:00 AM Introductory Remarks

8:10 AM SYMP 4-1 Chapin, III, FS, University of Alaska Fairbanks. *Strengthening sense of place at multiple scales as a foundation for Earth Stewardship.*

8:30 AM SYMP 4-2 Williams, DR¹, L Yung² and ME Patterson², (1)USDA Forest Service, (2)University of Montana. *Sustaining local senses of place in a global world: Some critical reflections.*

8:50 AM SYMP 4-3 Eyles, JD, McMaster University. *Relating sense of place in urban environments to health and well-being.*

9:10 AM SYMP 4-4 Poole, AK¹, R Rozzi², AE Pérez-Quintero³ and Y Medina⁴, (1)Center for Environmental Philosophy, Institute of Applied Science, University of North Texas, (2) University of North Texas and University of Magallanes - Institute of Ecology and Biodiversity, Chile, (3)University of Puerto Rico, (4)Universidad de Magallanes Programa de Conservación Biocultural Subantártica - Parque Etnobotánico Omora. *Identifying drivers of biocultural homogenization and an urban sense of place.*

9:30 AM Break

9:40 AM SYMP 4-5 Trosper, RL, University of British Columbia. *Relationships among traditional ecological knowledge and the ecological sciences.*

10:00 AM SYMP 4-6 Pitcher, TJ, University of British Columbia. *Changing places: Local knowledge and shifting baselines in marine ecosystems.*

10:20 AM SYMP 4-7 Figueroa, RM, University of North Texas. *Science, policy, and justice in climate change mitigation and adaptation strategies: An argument for indigenous and local knowledge contributions.*

10:40 AM SYMP 4-8 Berkes, F, University of Manitoba. *Building stewardship by re-linking social-ecological systems through a sense of place.*

11:00 AM Panel Discussion

SYMP 5 - Plugging Back in to Earth's Life-support Systems: Advances in Ecosystem Service Science That Make a Difference

Ballroom C, Austin Convention Center

Organized by: H Tallis, T Ricketts

Moderator: T Ricketts

The study of earth's life-support systems has potential to integrate diverse fields of biological and social science, and influence every corner of society. This symposium highlights recent advances in modeling ecosystem services in diverse policy contexts and looks forward to the future of this science-policy interface.

8:00 AM SYMP 5-1 Kareiva, P and J Molnar, The Nature Conservancy. *Delivering on our promises: Making ecosystem services work for businesses and governments.*

8:15 AM SYMP 5-2 Bhagabati, N, World Wildlife Fund. *Ecosystem services in public land use planning: From zoning in China to incentives for sustainable development in Indonesia.*

8:30 AM SYMP 5-3 Arkema, KK¹, M Ruckelshaus², A Guerry³, CK Kim¹, M Papenfus¹, J Toft¹, G Guannel¹, G Verutes² and JR Bernhardt², (1)Stanford University, (2)Natural Capital Project, (3)The Natural Capital Project & Stanford University. *Calming the waves in marine spatial planning: Modeling ecosystem services in a multi-stakeholder process on Vancouver Island, Canada.*

8:45 AM SYMP 5-4 Tallis, H and S Wolny, Stanford University. *Including people in the mitigation hierarchy: Mapping ecosystem service winners and losers in Colombia.*

9:00 AM SYMP 5-5 Benitez, S¹, A Calvache¹, H Tallis², S Wolny², A Jarvis³, N Uribe³ and J Valencia³, (1)The Nature Conservancy, (2)Stanford University, (3)CIAT- Centro Internacional para la Agricultura Tropical. *Targeting water fund investments based on biophysical efficiency, social preferences and climate vulnerability.*

9:15 AM Panel discussion

9:40 AM Break

- 9:50 AM SYMP 5-6 Bennett, EM, A Gonzalez, MJ Lechowicz and JM Rhemtulla, McGill University. *Ecosystem services and the future of production systems.*
- 10:05 AM SYMP 5-7 Collins, S, USDA. *Establishing new ecosystem service markets: The status of debate in the US federal government.*
- 10:20 AM SYMP 5-8 Groves, C and E Game, The Nature Conservancy. *Evolving conservation planning: Including ecosystem services and multiple objectives in The Nature Conservancy's planning approaches.*
- 10:35 AM SYMP 5-9 Mooney, H, Stanford University. *The emerging Global Biodiversity Observation Network: Status and trends of ecosystem services.*
- 10:50 AM Panel discussion

SYMP 6 - Towards Trait-Based Disease Ecology: Integrating Theory and Data across Kingdoms

Ballroom G, Austin Convention Center

Organized by: JP Cronin (jpatrickcronin@gmail.com), F Keesing, CT Webb

Moderator: JP Cronin

This symposium addresses fundamental issues that limit the development of ecological theory and its application to conservation medicine by 1) identifying data gaps for relationships between the environment, functional traits, and epidemiological parameters and 2) identifying theoretical gaps that limit the integration of emerging trait-based models with traditional disease models.

- 8:00 AM Welcoming Remarks
- 8:05 AM SYMP 6-1 Keesing, F¹ and RS Ostfeld², (1)Bard College, (2)Cary Institute of Ecosystem Studies. *Key challenges facing conservation medicine.*
- 8:25 AM SYMP 6-2 Previtali, MA¹, F Keesing² and RS Ostfeld¹, (1)Cary Institute of Ecosystem Studies, (2)Bard College. *Mammalian host traits and species contributions to disease transmission.*
- 8:45 AM SYMP 6-3 Welsh, ME, JP Cronin and C Mitchell, University of North Carolina at Chapel Hill. *Plant host physiology and risk of infection with generalist, vector-borne pathogens.*
- 9:25 AM Break
- 9:35 AM SYMP 6-4 Han, BA¹, AW Park² and S Altizer¹, (1) University of Georgia, (2)Odum School of Ecology, University of Georgia. *Body size scaling of host behavioral traits to predict infectious disease dynamics among mammals.*
- 9:55 AM SYMP 6-5 Vredenburg, VT, San Francisco State University. *Topic: Amphibian traits and fungal disease risk.*
- 10:15 AM SYMP 6-6 Kilpatrick, AM, University of California, Santa Cruz. *Topic: Host traits and their contribution to pathogen amplification.*
- 10:35 AM SYMP 6-7 Metcalf, CJE¹, JP Cronin², ME Welsh³ and C Mitchell⁴, (1)Princeton, (2)University of North Carolina, (3)University of North Carolina at Chapel Hill, (4) University of North Carolina, Chapel Hill. *The community context of disease risk: Functional traits, demography and competition in a changing environment.*
- 10:55 AM SYMP 6-8 Webb, CT, Colorado State University. *Using traits-based approaches to understand the dynamics of community composition.*
- 11:15 AM Discussion

OOS 7 - Earth Stewardship in Action: Examples and Milestones

16B, Austin Convention Center

Organized by: ME Power, M Gleason

Moderator: ME Power

Speakers in the OOS will present examples of implementation of earth stewardship from a variety of working ecosystems, and will discuss how they are assessing, or will assess, whether their efforts are moving the system towards more resilience and sustainability.

- 8:00 AM OOS 7-1 Gleason, M, The Nature Conservancy. *Transforming an ailing fishery: California's central coast groundfish.*
- 8:20 AM OOS 7-2 Reed, Sr., R¹, FK Lake² and B Tripp¹, (1) Karuk Tribe, (2)U.S. Forest Service, Pacific SW. *Earth stewardship and Karuk world renewal on the middle Klamath river.*
- 8:40 AM OOS 7-3 Sisk, TD, Northern Arizona University. *Ranching, local ecological knowledge, and the stewardship of public lands.*
- 9:00 AM OOS 7-4 Hobbie, SE¹, LA Baker², C Fissore¹, JY King³, JA McFadden³ and KC Nelson¹, (1)University of Minnesota, (2)University of Minnesota, (3)University of California. *Earth stewardship begins at home: Quantifying the biogeochemical impacts of household choices in the Minneapolis-Saint Paul, Minnesota, metropolitan area.*
- 9:20 AM OOS 7-5 Winter, K, National Tropical Botanical Garden. *Socio-ecological restoration in island ecosystems: Creating a scalable model of sustainability.*
- 9:40 AM Break
- 9:50 AM OOS 7-6 Foster, DR, Harvard University. *Wildlands and woodlands: Using history, science and a vision to advance a conservation future for New England.*
- 10:10 AM OOS 7-7 Imhoff, ML, NASA's Goddard Space Flight Center. *Gray wave of the great transformation: A satellite view of urbanization, climate change, and biological productivity.*
- 10:30 AM OOS 7-8 Sayre, N, University of California, Berkeley. *Earth stewardship and the built environment: Climate change, scale, and devaluation.*
- 10:50 AM OOS 7-9 Morais, TN, Environment Canada. *Partnering with First Nations and other Aboriginal groups to promote stewardship and species at risk recovery in Ontario, Canada.*
- 11:10 AM OOS 7-10 Boucher, DH, Union of Concerned Scientists. *How much has reducing deforestation contributed to mitigating climate change?.*

OOS 8 - Biogeochemical Implications of Bioenergy Crop Production

17A, Austin Convention Center

Organized by: I Gelfand (igelfand@msu.edu), SK Hamilton, GP Robertson

Moderator: SK Hamilton

As interest in renewable energy sources from agricultural crops increases it is critical to understand environmental consequences of biofuel production. In this session we will present a comparative biogeochemical analysis of proposed biomass production systems with emphasis on cellulosic feedstocks.

- 8:00 AM OOS 8-1 Gelfand, I¹, SK Hamilton² and GP Robertson³, (1)Michigan State University, (2)Department of Zoology, Michigan State University, East Lansing, MI 48824, (3) Department of Crop and Soil Sciences, Michigan State University, East Lansing, MI 48824. *Carbon and energy balances for cellulosic biofuel crops converted from CRP lands.*

8 am-11:30 am

- 8:20 AM OOS 8-2 Jackson, RD and H Kummel, University of Wisconsin-Madison. *Linking biofuel plant communities and their management to potential C sequestration.*
- 8:40 AM OOS 8-3 Bhardwaj, AK¹, B Basso², SK Hamilton³, P Jasrotia¹ and GP Robertson¹, (1)Michigan State University, (2)University of Basilicata, (3)Department of Zoology, Michigan State University, East Lansing, MI 48824. *Water use and uptake limitations in alternative biofuel cropping systems.*
- 9:00 AM OOS 8-4 Smith, CM, MB David, M Khanna, H Huang and EH DeLucia, University of Illinois. *Biofuel crops and the nitrogen problem in the Mississippi River basin.*
- 9:20 AM OOS 8-5 Gower, ST, University of Wisconsin-Madison. *Exploring the effect of varying biomass harvest regimes on short and long term soil fertility and its feedback of productivity.*
- 9:40 AM Break
- 9:50 AM OOS 8-6 Zenone, T¹, J Chen¹, MW Deal¹, J Xu¹, SK Hamilton² and GP Robertson³, (1)University of Toledo, Toledo, OH 43606, (2)Department of Zoology, Michigan State University, East Lansing, MI 48824, (3)Department of Crop and Soil Sciences, Michigan State University, East Lansing, MI 48824. *CO₂ fluxes of transitional bioenergy crops: Effect of land conversion.*
- 10:10 AM OOS 8-7 Kallenbach, C and AS Grandy, University of New Hampshire. *Litter decomposition dynamics in biofuel cropping systems.*
- 10:30 AM OOS 8-8 Jackson, CR¹, KB Vache², E Du¹, JJ McDonnell² and JI Blake³, (1)University of Georgia, (2) Oregon State University, (3)U. S Forest Service–Savannah River. *Modeling issues in up-scaling field and small watershed biogeochemistry data from biomass production experiments.*
- 10:50 AM OOS 8-9 Palmer, MM¹, DE Rothstein², JA Forrester¹ and DJ Mladenoff¹, (1)University of Wisconsin-Madison, (2)Michigan State University. *Nitrogen cycle impacts of short-rotation woody crop establishment across the Northern Lake States.*
- 11:10 AM OOS 8-10 Miresmailli, S¹, M Zeri¹, AR Zangerl¹, CJ Bernacchi², MR Berenbaum¹ and EH DeLucia¹, (1) University of Illinois, (2)University of Illinois/USDA-ARS. *Impacts of biofuel feedstock crops on atmospheric volatile organic composition and potential consequences for global climate change.*

OOS 9 - Heralding Change: How Can Plant Phenology be Used to Facilitate Sustainable Natural Resources Management?

17B, Austin Convention Center

Organized by: GW Chong (geneva_chong@usgs.gov), L Prihodko, H Steltzer, DT Barnett

Moderator: GW Chong

Plant phenology is an indicator of the condition of Earth's life-support systems, and changes in phenology will affect other life-support systems and organisms, so we present new methods for collecting and analyzing plant phenology data and examples of how resource managers may use phenology information to facilitate sustainable resource management.

- 8:00 AM OOS 9-1 Enquist, CA¹ and JF Weltzin², (1)The Wildlife Society & USA National Phenology Network, (2)USA National Phenology Network. *Using phenology as a tool for resource management and climate change adaptation.*
- 8:20 AM OOS 9-2 Steltzer, H¹, R Shory², GW Chong³, DR Brooks⁴, C Landry⁵, JC von Fischer² and MN Weintraub⁶, (1)Fort Lewis College, (2)Colorado State University, (3)

US Geological Survey, (4)Institute for Earth Science Research and Education, (5)Center for Snow and Avalanche Studies, (6)University of Toledo. *Observing plant community life histories and their response to environmental change.*

- 8:40 AM OOS 9-3 Shory, R, Colorado State University. *Data management to promote cross-site research on plant life history responses to environmental change.*
- 9:00 AM OOS 9-4 Barnett, DT¹, RH Kao², T Kampe¹, J McCorkel¹, M Kuester¹, B Johnson³, K Krause¹ and CL Meier¹, (1) NEON Inc., (2)National Ecological Observatory Network (NEON), (3)NEON, Inc.. *Scaling from plants to landscapes: An example with invasive plants.*
- 9:20 AM OOS 9-5 Jarnevich, C¹, W Eaias², P Ma², JT Morisette³, J Nickeson⁴, TJ Stohlgren³ and TR Holcombe¹, (1)U.S. Geological Survey, (2)NASA Goddard Space Flight Center, (3)USGS Fort Collins Science Center, (4)Sigma Space Corp at Goddard Space Flight Center. *Using phenology in predicting the northward expansion of the Africanized honey bee.*
- 9:40 AM Break
- 9:50 AM OOS 9-6 Esaias, WE¹, JE Nickeson², B Tan³, PL Ma², JM Nightingale² and RE Wolfe¹, (1)NASA Goddard Space Flight Center, (2)Sigma Space Corp at GSFC, (3)ERT Inc. at GSFC. *Tracking climate effects on plant-pollinator interaction phenology with satellites and honey bee hives.*
- 10:10 AM OOS 9-7 Gordon, WS, Texas Parks and Wildlife Department. *Climate change, phenology and ecosystem management: A state manager's perspective on assessing vulnerability and adaptive capacity.*
- 10:30 AM OOS 9-8 Thomas, KA¹, A Evenden², SJ Mazer³, ER Matthews⁴ and JF Weltzin⁵, (1)US Geological Survey, (2) National Park Service, (3)University of California, Santa Barbara, (4)University of California Santa Barbara, (5) USA National Phenology Network. *Linking species to science in a phenology monitoring project: The California Phenology Project case study.*
- 10:50 AM OOS 9-9 Prev y, JS, DG Knochel and TR Seastedt, University of Colorado at Boulder. *Effects of simulated grazing on grassland community composition in the Colorado Front Range.*
- 11:10 AM OOS 9-10 Weltzin, JF, TM Crimmins, EG Denny, CAF Enquist, RL Marsh and A Rosemartin, USA National Phenology Network. *Nature's Notebook: A USA National Phenology Network program for ecological monitoring and information management.*

OOS 10 - Science-Based Management Strategies and the Future of Grasslands, Shrublands, and Savannas in North America

12A, Austin Convention Center

Organized by: K Metzger, NM DeCrappeo, B Bestelmeyer, DA Pyke

Moderator: K Metzger

Science-based policy and management to adapt to global change will necessitate collaboration, unconventional partnerships, public support, and creative, engaged thinkers. We draw upon examples from grasslands, savannas and shrublands to highlight success stories in management and the general stewardship strategies underpinning them.

- 8:00 AM OOS 10-1 Herrick, JE¹, JN Quinton², G Baldi³ and DE Naugle⁴, (1)USDA Agricultural Research Service, (2) Lancaster University, (3)Universidad Nacional de San Luis, (4)University of Montana. *Overview: Revolutionary land and land-use changes in grasslands, shrublands, and savannas.*

- 8:20 AM OOS 10-2 DeCrappeo, NM and DA Pyke, U.S. Geological Survey, Forest and Rangeland Ecosystem Science Center. *Soil degradation legacies and soil restoration as a basis for grassland and shrubland stewardship.*
- 8:40 AM OOS 10-3 DA Pyke, U.S. Geological Survey, Forest and Rangeland Ecosystem Science Center. *Managing species invasions: Eradication, patience, or adaptation?*
- 9:00 AM OOS 10-4 du Toit, J, Utah State University. *Balancing livestock production and wildlife conservation: Can rangelands also be wildlands?*
- 9:20 AM OOS 10-5 Augustine, DJ¹ and JD Derner², (1)USDA-ARS, (2)USDA ARS, High Plains Grasslands Research Station. *The conservation-production interface in rangelands: Acknowledging tradeoffs and moving toward win-win solutions.*
- 9:40 AM Break
- 9:50 AM OOS 10-6 Brunson, MW, Utah State University. *Viewing stewardship through a coupled natural-human systems lens: The role of feedbacks and uncertainty.*
- 10:10 AM OOS 10-7 Malmstrom, CM¹, R Harrison² and HS Butterfield³, (1)Michigan State University, (2)Pete's Valley Cattle, (3)The Nature Conservancy. *Connecting local knowledge and research: Strategies for promoting collaboration between managers and scientists.*
- 10:30 AM OOS 10-8 Sayre, N, University of California, Berkeley. *Grassland, shrubland, and savanna stewardship: Where do we go from here.*
- 10:50 AM OOS 10-9 Koford, RR¹, JA Vogel² and DL Otis¹, (1)Iowa Cooperative Fish and Wildlife Research Unit, (2)Iowa State University. *Bird response to enhanced vegetation diversity in the Spring Run Complex of Northwestern Iowa.*
- 11:10 AM OOS 10-10 Schlaepfer, DR¹, WK Lauenroth¹ and JB Bradford², (1)University of Wyoming, (2)US Geological Survey. *Consequences of declining snow accumulation for semiarid intermountain ecosystem water balance.*

OOS 11 - Multi-Factor Global Change Experiments: What Have We Learned about Terrestrial Carbon Storage and Exchange?

14, Austin Convention Center

Organized by: PH Templer (ptempler@bu.edu)

Moderator: AB Reinmann

Our session brings together researchers focused on the effects of multiple aspects of climate change on terrestrial carbon storage among a variety of terrestrial ecosystems.

- 8:00 AM OOS 11-1 Finzi, AC and JE Drake, Boston University. *Responses and feedbacks of coupled biogeochemical cycles to global change.*
- 8:20 AM OOS 11-2 Hanson, PJ, SD Wullschlegel, RJ Norby and C Gunderson, Oak Ridge National Laboratory. *Impacts of environmental and atmospheric changes on carbon storage and exchange in upland deciduous forests: Current patterns and future possibilities.*
- 8:40 AM OOS 11-3 Henry, HA and MK Kim, University of Western Ontario. *Responses of net ecosystem CO₂ exchange and plant biomass to warming and nitrogen addition in a temperate grass-dominated system.*
- 9:00 AM OOS 11-4 McCulley, RL, JA Nelson and EA Carlisle, University of Kentucky. *Effects of elevated temperature and additional growing season precipitation on managed grassland carbon storage and flux.*
- 9:20 AM OOS 11-5 Norby, RJ¹, JF Weltzin², P Kardol³, CM Iversen¹, S Wan⁴, CT Garten Jr.¹ and AT Classen⁵, (1)Oak Ridge National Laboratory, (2)USA National Phenology

Network, (3)Swedish University of Agricultural Sciences, (4)Henan University, (5)University of Tennessee. *Carbon dynamics in an oldfield ecosystem: Was a multi-factor experiment the best approach for revealing responses to atmospheric and climatic change?*

- 9:40 AM Break
- 9:50 AM OOS 11-6 Suseela, V and J Dukes, Purdue University. *Linking the carbon cycle to climate change: Effects of warming and altered precipitation on organic matter decomposition in an old-field ecosystem.*
- 10:10 AM OOS 11-7 Tang, J¹, T Savas¹, S Hackley¹, X Yang², JM Melillo¹, S Pelini³ and A Ellison⁴, (1)Marine Biological Laboratory, (2)Brown University, (3)Harvard University, (4)Harvard Forest (Harvard University). *How do soil respiration and its sensitivity to temperature change with different warming experiments?*
- 10:30 AM OOS 11-8 Hockaday, WC¹, ME Gallagher², CA Masiello³, HW Polley⁴, JA Baldock⁵ and LA Pyle⁶, (1)Baylor University, (2)Rice University, (3)Rice University, Houston, TX, (4)USDA, Agricultural Research Service, (5)CSIRO Land and Water, (6)University of Texas. *Biochemical inventory as a tool to assay ecosystem carbon dynamics.*

OOS 12 - Molecular Tools and Ecology: A Guide for Genomic-Phobic Ecologists

15, Austin Convention Center

Organized by: A Szczepaniec (ada.s@tamu.edu), M Herde

Moderator: MD Eubanks

This symposium will feature research that successfully integrates molecular biology and ecology and will inform ecologists about the applicability and general methods involved in utilizing modern molecular tools in ecology.

- 8:00 AM OOS 12-1 Jones, C, University of North Carolina. *High-throughput sequencing for measuring transcription: What it can and cannot tell an ecologist.*
- 8:20 AM OOS 12-2 Verhoeven, KJ¹, TOG Tytgat², LM McIntyre³, A Biere¹ and NM van Dam², (1)Netherlands Institute of Ecology (NIOO-KNAW), (2)Radboud University, (3)University of Florida. *Responses of feral Brassica to above- versus below-ground herbivores: From ecology to transcriptomics and back.*
- 8:40 AM OOS 12-3 Willis, J, Duke University. *Using genomic approaches to study environmental adaptation in Mimulus.*
- 9:00 AM OOS 12-4 Cresko, W, University of Oregon. *Exposing evolution genome-wide in wild threespine stickleback.*
- 9:20 AM OOS 12-5 Szczepaniec, A and MD Eubanks, Texas A&M University. *Using basic tools of molecular biology to study interactions between cotton and its herbivores.*
- 9:40 AM Break
- 9:50 AM OOS 12-6 Walling, L, University of California, Riverside. *Global analysis of plant and insect genes involved in mutual adaptation strategies.*
- 10:10 AM OOS 12-7 Giron, D¹, W Kaiser¹, M Body¹, E Huguet¹, A Lanoue², G Glevarec² and J Casas¹, (1)Centre National de la Recherche Scientifique - University of Tours, (2)University of Tours. *Leafminer insects trigger the host plant physiology through an unexpected association with endosymbiotic bacteria.*
- 10:30 AM OOS 12-8 Toth, A, Iowa State University. *Evolutionary insights from behavioral genomics of natural populations of bees and wasps.*
- 10:50 AM OOS 12-9 Anderson, JT, CR Lee and T Mitchell-Olds, Duke University. *Local adaptation results from genetic*

8 am-11:30 am

tradeoffs at the QTL (Quantitative Trait Locus) level in Boechera stricta, a wild relative of Arabidopsis.

11:10 AM OOS 12-10 Hobbs, FC and K Clay, Indiana University. *Disjunct eastern hemlock populations: Ancient relicts or recent long distance dispersal events?.*

11:30 AM OOS 12-11 Miner, BE and BB Kerr, University of Washington. *Molecular mechanisms of divergent adaptation to a variable environmental stressor among neighboring Daphnia populations.*

OOS 13 - Conserving Bats to Ensure a Healthy Planet

16A, Austin Convention Center

Organized by: EB Arnett, K Williams-Guillén

Moderator: EB Arnett

Bats are essential to the health of our planet and given their declining populations worldwide, conservation efforts are critical to avoid the loss of these unique mammals, whose loss would undoubtedly have negative consequences for ecosystems and human economies.

8:00 AM OOS 13-1 Kunz, TH, Boston University. *Keynote: Ecosystem services provided by bats and their roles in ecosystem health.*

8:20 AM OOS 13-2 K Williams-Guillén, University of Washington. *Ecosystem services of neotropical insectivorous bats in a highly diverse tropical agroforestry system.*

8:40 AM OOS 13-3 Geiselman, C¹, T Lobova² and S Mori³, (1) Columbia University, (2)Old Dominion University, (3) The New York Botanical Garden. *Seed dispersal and reforestation by bats in South American rain forests.*

9:00 AM OOS 13-4 Reichard, JD, LE Gonzalez, CM Casey, LC Allen and TH Kunz, Boston University. *Foraging energetics and the redistribution of nutrients by Brazilian free-tailed bats.*

9:20 AM OOS 13-5 Braun de Torrez, EC¹, VA Brown², TH Kunz¹ and GF McCracken³, (1)Boston University, (2)The University of Tennessee, (3)University of Tennessee. *Bats, bugs and pecans: The role of insectivorous bats in a pecan agroecosystem in central Texas.*

9:40 AM Break

9:50 AM OOS 13-6 Turmelle, AS, S Recuenco and CE Rupprecht, Centers for Disease Control and Prevention. *Emerging diseases and bats: Implications for conservation and ecosystem health.*

10:10 AM OOS 13-7 Medellin, R, Arizona-Sonora Desert Museum and Instituto de Ecología, UNAM. *Continent-wide conservation actions in the most bat speciose area in the world: The next 20 years.*

10:30 AM OOS 13-8 Wallrichs, MA and K Vulinec, Delaware State University. *Golf courses: An innovative opportunity for bat conservation.*

COS 17 - Aquatic Ecology I

Ballroom B, Austin Convention Center

8:00 AM COS 17-1 Dewsbury, BM, Florida International University. *The abundance, distribution and biogeochemistry of marine plants and algae in Biscayne Bay, Florida.*

8:20 AM COS 17-2 Oliver, AA and RA Dahlgren, University of California, Davis. *An upside-down river: Impoundments and eutrophication alter downstream predictions of water quality in the Klamath River, Oregon.*

8:40 AM COS 17-3 Scoggins, M, City of Austin. *Ecological effects of sewage overflows in small urban streams in Austin, TX.*

9:00 AM COS 17-4 Hain, EF, BA Lamphere and JF Gilliam, North Carolina State University. *Understanding the relative*

influences of land use patterns and exotic species on the densities and demographic condition of Hawaii's amphidromous fish species.

9:20 AM COS 17-5 Crenshaw, C, N Grimm, XL Dong and N Olsen, Arizona State University. *Biogeomorphic structure and ecosystem functioning in a desert stream during hydrologic changes.*

9:40 AM Break

9:50 AM COS 17-6 Meier, O and C Johanson, Western Kentucky University. *Modeling the impacts of riparian buffer restoration on water quality in the upper Green River watershed of Kentucky.*

10:10 AM COS 17-7 Waletzko, EJ, The Ohio State University. *Methane production from created freshwater flow-through wetlands.*

10:30 AM COS 17-8 Powers, SM¹ and EH Stanley², (1)University of Wisconsin, (2)University of Wisconsin. *Water chemistry responses to hydraulic manipulation of a flow-through wetland.*

10:50 AM COS 17-9 Ghosh, S¹, M Moitra¹, EE Manis¹, LT Johnson², TV Royer² and LG Leff¹, (1)Kent State University, (2) Indiana University. *Patterns of nitrogen utilization by bacteria isolated from streams with varying nitrate concentrations.*

11:10 AM COS 17-10 Watson, VJ¹, MW Suplee², WK Dodds³ and W McDowell⁴, (1)University of Montana, (2)Montana Department of Environmental Quality, (3)Kansas State University, (4)Clark Fork Coalition. *10 years of nutrient reductions on Montana's Clark Fork River.*

COS 18 - Behavior

Ballroom F, Austin Convention Center

8:00 AM COS 18-1 Reddy, GV, S Balakrishnan, JE Remolona, R Kikuchi and JP Bamba, University of Guam. *Visual cues are relevant in behavioral control measures for new Guinea sugarcane weevil (Rhabdoscelus obscurus (Coleoptera: Curculionidae)).*

8:20 AM COS 18-2 Censer, ML, University of California, Davis. *Home sweet home: Natal Habitat Preference Induction in the minute pirate bug (Orius tristicolor).*

8:40 AM COS 18-3 Jones, MC¹, MRJ Forstner² and JR Dixon³, (1)Texas State University - San Marcos, (2)Texas State University-San Marcos, (3)Texas A&M University. *Is bigger always better? Mate selection in the houston toad (Bufo houstonensis).*

9:00 AM COS 18-4 Rosier, RL¹ and T Langkilde², (1)The Pennsylvania State University, (2)Penn State university. *Predicting body size: The role of behavior in determining growth rates of juvenile eastern fence lizards, Sceloporus undulatus.*

9:20 AM COS 18-5 Farrell, SL, Texas A&M University. *Use of social information for habitat selection in songbirds.*

9:40 AM Break

9:50 AM COS 18-6 Steffenson, MM and DR Formanowicz, University of Texas at Arlington. *Do changes in morphology or behavior account for differential intraspecific foraging success in Hogna helluo wolf spiders.*

10:10 AM COS 18-7 Wilkins, KD and G Bowser, Colorado State University. *Effects of human visitors on Sandhill crane (Grus canadensis) behavior in the San Luis Valley, Colorado.*

10:30 AM COS 18-8 Robinson, DH, Texas A&M University. *Response of golden-cheeked warblers to road construction noise in Austin, Texas.*

10:50 AM COS 18-9 Law, Y and JA Rosenheim, University of

- California, Davis. *My neighbours drive me cannibalistic: New cannibalism mechanism reduces population growth.*
- 11:10 AM COS 18-10 Berger-Tal, O¹ and T Avgar², (1)Ben-Gurion University, (2)University of Guelph. *The glass half-full: Overestimating the quality of a novel environment is advantageous.*

COS 19 - Competition II

4, Austin Convention Center

- 8:00 AM COS 19-1 Sigmon, E and JT Lill, George Washington University. *Aggressive fighting behavior in shelter-building caterpillars.*
- 8:20 AM COS 19-2 Smith, G¹, MA Leibold¹ and GA Wellborn², (1)University of Texas at Austin, (2)The University of Oklahoma. *Testing coexistence mechanisms with cryptic species of *Hyalella amphipods*.*
- 8:40 AM COS 19-3 Allgood, DW and DA Yee, University of Southern Mississippi. *Factors influencing the effects of larval interspecific resource competition on two species of tire-inhabiting mosquitoes (Diptera: Culicidae).*
- 9:00 AM COS 19-4 Zeilinger, AR¹, DM Olson² and DA Andow¹, (1)University of Minnesota, (2)USDA-ARS. *Stink bug pests are released from competition with *Helicoverpa zea* larvae in transgenic *Bt* cotton.*
- 9:20 AM COS 19-5 Tsao, T, SH Li and P.J.L. Shaner, National Taiwan Normal University. *Competitive exclusion between two sister avian species (*Paradoxornis webbianus* and *P. alphonisianus*)? A test using ecological niche modeling.*
- 9:40 AM Break
- 9:50 AM COS 19-6 Kramer, AM and JM Drake, University of Georgia. *Population variance and extinction of two competitors consuming a common resource.*
- 10:10 AM COS 19-7 Chang, C and MD Smith, Yale University. *Resource availability differentially drives above and belowground competitive interactions between genotypes of a dominant *C₄* grass.*
- 10:30 AM COS 19-8 Wright, JP and BM McGill, Duke University. *Effect of biotic neighborhood on traits is more constrained for leaf-level relative to plant-level traits.*
- 10:50 AM COS 19-9 Weiler, A¹, B Von Holle¹ and C Neill², (1) University of Central Florida, (2)Marine Biological Laboratory. *Giving native species the competitive edge: Restoration methods for abandoned agricultural lands.*
- 11:10 AM COS 19-10 Farrior, CE¹, D Tilman², PB Reich², R Dybzinski¹ and SW Pacala¹, (1)Princeton University, (2) University of Minnesota. *Evolutionarily stable strategies explain complex plant responses to simple resource addition experiments.*

COS 20 - Species Interactions II

5, Austin Convention Center

- 8:00 AM COS 20-1 Werner, PA, Australian National University. *Growth and survival of termite-hollowed trees decrease with degree of piping, contrary to commonly-held belief that termites benefit host trees.*
- 8:20 AM COS 20-2 Martínez-Bauer, AE and M Burd, Monash University. *Are ants good to an *Acacia* in Australia?*
- 8:40 AM COS 20-3 Spiesman, BJ and BD Inouye, Florida State University. *The effect of landscape context on quantitative plant-pollinator networks.*
- 9:00 AM COS 20-4 Lesmeister, DB¹, EM Schaubert¹, CK Nielsen² and EC Hellgren¹, (1)Southern Illinois University, (2)Southern Illinois University Carbondale. *Factors influencing occupancy dynamics of a carnivore guild.*
- 9:20 AM COS 20-5 Bricker, M¹ and JL Maron², (1)Pacific Earth Stewardship: Preserving and enhancing earth's life support systems

University, (2)The University of Montana. *Post-dispersal seed predation limits the abundance of a long-lived perennial forb (*Lithospermum ruderale*).*

- 9:40 AM Break
- 9:50 AM COS 20-6 Epps, MJ and AE Arnold, University of Arizona. *Specialization, generalization, and community structure in Appalachian beetle-fungus associations.*
- 10:10 AM COS 20-7 Long, EY and DL Finke, University of Missouri. *Predator identity not diversity determines the top-down suppression of an insect vector of a plant pathogen.*
- 10:30 AM COS 20-8 O'Dwyer, J, Santa Fe Institute. *Niche vs neutral and top-down vs bottom up: Bridging the gaps between theories of community assembly.*
- 10:50 AM COS 20-9 de Roos, AM¹ and L Persson², (1)University of Amsterdam, (2)Umeå university. *Effects of ontogenetic niche shifts on the structure of small communities.*
- 11:10 AM COS 20-10 Marshall, KN, DJ Cooper and NT Hobbs, Colorado State University. *Wolves, elk, and willows: Spatial variation in landscape configuration on Yellowstone's Northern Range.*

COS 21 - Biogeochemistry: C and N Cycling in Response to Global Change II

6A, Austin Convention Center

- 8:00 AM COS 21-1 Rodibaugh, KJ, WH Nowlin and JC Becker, Texas State University. *Bacterially mediated carbon and nutrient dynamics in a highly impacted river system.*
- 8:20 AM COS 21-2 Wissinger, BD¹, MD Bell² and BA Newingham¹, (1)University of Idaho, (2)University of California, Riverside. *Harvester ant responses to atmospheric nitrogen deposition in southern California deserts.*
- 8:40 AM COS 21-3 Berdanier, AB¹ and RT Conant², (1) Colorado State University, (2)Queensland University of Technology. *Regionally-differentiated estimates of cropland *N₂O* emissions reduce uncertainty in global calculations.*
- 9:00 AM COS 21-4 Keville, MP, CC Cleveland and JA Aylward, University of Montana. *Effects of mountain pine beetle outbreak on biogeochemical cycling in whitebark pine ecosystems.*
- 9:20 AM COS 21-5 Gerber, S¹, LO Hedin², SG Keel² and E Shevliakova², (1)University of Florida IFAS, (2)Princeton University. *Mechanisms and pathways of N accumulation in the terrestrial biosphere and consequences for its CO₂ response.*
- 9:40 AM Break
- 9:50 AM COS 21-6 Hickman, J¹ and C Palm², (1)The Earth Institute at Columbia University, (2)Earth Institute at Columbia University. *Impacts of an African Green Revolution on greenhouse gases and pollution precursors: Nonlinear trace nitrogen gas emission responses to incremental increases in fertilizer inputs in a western Kenyan maize field.*
- 10:10 AM COS 21-7 Ruan, L and GP Robertson, Michigan State University. *The impact of N fertilizer management on nitrous oxide and methane fluxes in switchgrass.*
- 10:30 AM COS 21-8 Niu, S, RA Sherry, X Zhou and Y Luo, University of Oklahoma. *Composition of *C₃* and *C₄* species regulates ecosystem response to climate warming.*
- 10:50 AM COS 21-9 McCarthy, HR¹ and R Oren², (1)University of California, (2)Duke University. *Stand development patterns at the Duke free air CO₂ enrichment site.*
- 11:10 AM COS 21-10 Chen, M and Q Zhuang, Purdue University. *Temperature acclimation effects on carbon dynamics of the conterminous United States forest in the 21st century.*

8 am-11:30 am**COS 22 - Climate Change: Communities II**

8, Austin Convention Center

- 8:00 AM COS 22-1 Evans, SE¹, MD Wallenstein¹ and IC Burke², (1)Colorado State University, (2)University of Wyoming. *Does long-term drought alter the response of soil microbial communities to moisture?*
- 8:20 AM COS 22-2 Warren, II, RJ¹, V Bahn² and MA Bradford¹, (1) Yale University, (2)Wright State University. *Temperature cues phenological synchrony in ant-mediated seed dispersal.*
- 8:40 AM COS 22-3 Pelini, SL¹, SE Diamond², AM Ellison¹, NJ Gotelli³, NJ Sanders⁴ and RR Dunn², (1)Harvard University, (2)NCSU, (3)University of Vermont, (4) University of Tennessee. *Warm ants: Ant responses to warming across northeastern US forests.*
- 9:00 AM COS 22-4 Robinson, EA, GD Ryan and JA Newman, University of Guelph. *A meta-analysis of the effects of elevated CO₂ on plant-arthropod interactions highlights the importance of interacting environmental and biological variables.*
- 9:20 AM COS 22-5 Barton, BT, University of Wisconsin-Madison. *Reduced precipitation dissolves apparent competition in a biocontrol system.*
- 9:40 AM Break
- 9:50 AM COS 22-6 Vu, HD, J Buck, K Wieski and SC Pennings, University of Houston. *Crab driven tidal creek formation in sinking salt marshes.*
- 10:10 AM COS 22-7 Tunney, TD¹, KS McCann¹ and BJ Shuter², (1) University of Guelph, (2)University of Toronto. *Climate change and the structure of lake food webs.*
- 10:30 AM COS 22-8 Going, BM¹, BL Anacker¹ and S Harrison², (1) University of California, Davis, (2)University of California - Davis. *Temporal stability in California grasslands.*
- 10:50 AM COS 22-9 Kopp, C¹ and E Cleland², (1)University of California, San Diego, (2)University of California – San Diego. *Shrub invasion of alpine areas. An uphill battle?.*
- 11:10 AM COS 22-10 Khan, S, F Lehman and J Mohan, University of Georgia. *Survival and growth of tropical tree seedlings to simulated changes in climate along an elevation-climate gradient.*

COS 23 - Community Assembly and Neutral Theory II

9AB, Austin Convention Center

- 8:00 AM COS 23-1 Bewick, SA¹, RA Chisholm², E Akçay¹ and W Godsoe¹, (1)University of Tennessee, (2)Smithsonian Tropical Research Institute. *'Neutral' Models with Overlapping Niches.*
- 8:20 AM COS 23-2 Jiang, L¹ and L Brady², (1)Georgia Institute of Technology, (2)Kenyon College. *Species diversity, invasibility, and alternative community states in sequentially assembled communities.*
- 8:40 AM COS 23-3 Valverde, OJ¹, KA Smemo², LM Feinstein¹, MW Kershner¹ and CB Blackwood¹, (1)Kent State University, (2)The Holden Arboretum. *Evidence of belowground community structuring and niche divergence among coexisting species in a temperate forest.*
- 9:00 AM COS 23-4 Hulshof, CM¹, C Violle¹, BJ McGill², EI Damschen³, SP Harrison⁴ and BJ Enquist⁵, (1)University of Arizona, (2)University of Maine, (3)University of Wisconsin-Madison, (4)University of California, Davis, (5)University of Arizona and The Santa Fe Institute. *The relative importance of intra- and interspecific trait variation in the maintenance of plant species diversity.*
- 9:20 AM COS 23-5 Wang, S¹, A Chen², SW Pacala² and J Fang¹, (1)Peking University, (2)Princeton University. *Variation in per capita speciation rate and diversity patterns in neutral and niche-structured communities.*

- 9:40 AM Break
- 9:50 AM COS 23-6 Economo, EP¹ and E Trembl², (1)University of Michigan, (2)University of Queensland. *Drift, determinism, and biodiversity persistence in spatial networks: The varied role of connectivity.*
- 10:10 AM COS 23-7 Parent, CE¹, PR Peres-Neto² and MA Leibold¹, (1)University of Texas at Austin, (2)University of Quebec at Montreal. *Disentangling the environmental and historical biogeography effects in island species distributions: A metacommunity phylogenetics approach.*
- 10:30 AM COS 23-8 Takimoto, G, Toho University. *Local-regional richness relationships of metacommunities with local facilitation.*
- 10:50 AM COS 23-9 Gavilanez, MM and RD Stevens, Louisiana State University. *Role of environmental and historical factors in the structure of neotropical primate communities: Taxonomic and phylogenetic perspectives.*
- 11:10 AM COS 23-10 Schmucki, R, R Lindborg and SAO Cousins, Stockholm University. *Plant diversity in heterogeneous landscapes: Implication of landscape context and management in grassland communities.*

COS 24 - Education: Research and Assessment

9C, Austin Convention Center

- 8:00 AM COS 24-1 Hansen, MJ, University of British Columbia. *The use of everyday life analogies in scientific teaching.*
- 8:20 AM COS 24-2 Kostelnik, KM, T Long, EB Morrison, J Dauer and JW Schramm, Michigan State University. *Last undergrad in the woods: Students' prior experiences and regional environmental literacy.*
- 8:40 AM COS 24-3 Abraham, JK, S Allison-Bunnell and E Meir, SimBiotic Software. *Computer-based instruction and testing: Preliminary data on student scientific literacy and academic behaviors.*
- 9:00 AM COS 24-4 Momsen, JL¹, E Bray Speth², T Long³, SA Wyse⁴ and D Ebert-May³, (1)North Dakota State University, (2) Saint Louis University, (3)Michigan State University, (4) Bethel University. *Can't argue that: Students' quantitative reasoning in an introductory biology course.*
- 9:20 AM COS 24-5 Dauer, J¹, T Long¹, S Makohon-Moore¹, KM Kostelnik¹ and JL Momsen², (1)Michigan State University, (2)North Dakota State University. *Quantifying student-generated models of biological systems.*
- 9:40 AM Break
- 9:50 AM COS 24-6 Kamarainen, AM, S Metcalf, C Dede, TA Grotzer and Y Jiang, Harvard University. *Student gains in science inquiry skills following participation in curriculum that combined EcoMUVE (Ecosystems Multi-user Virtual Environment) and field experiences.*
- 10:10 AM COS 24-7 Cook, WM, Saint Cloud State University. *Evaluating effectiveness of participation incentives in an online biological statistics course.*
- 10:30 AM COS 24-8 Pocock, MJO¹ and DM Evans², (1)University of Bristol, (2)University of Hull. *The Conker Tree Science project: Linking public engagement with ecology and hypothesis-driven research.*
- 10:50 AM COS 24-9 Lloyd-Strovas, JD and TL Arsuffi, Texas Tech University. *Identifying patterns in environmental education and stewardship programs across Texas: a database and survey approach.*
- 11:10 AM COS 24-10 Long, T¹, KM Kostelnik¹, J Dauer¹, SA Wyse², JL Momsen³ and D Ebert-May¹, (1)Michigan State University, (2)Bethel University, (3)North Dakota State University. *Detecting difference downstream: Incorporating longitudinal impacts in the evaluation of reform efficacy.*

COS 25 - Pollination II

10A, Austin Convention Center

- 8:00 AM COS 25-1 Mandelik, Y¹, R Winfree² and C Kremen³, (1) The Hebrew University of Jerusalem, (2) Rutgers University, (3) University of California, Berkeley. *Complementary habitat use by wild bees in agro-natural landscapes.*
- 8:20 AM COS 25-2 Messinger, OJ¹ and SD Sipes², (1) Southern Illinois University Carbondale, (2) Southern Illinois University. *Who needs common scents? The role of olfactory limitation in host-choice for a specialist bee, *Diadasia*.*
- 8:40 AM COS 25-3 Manson, JS¹, JP Strange² and RE Irwin¹, (1) Dartmouth College, (2) USDA-ARS. *The invasive plant *Linaria vulgaris* affects native bumble bee populations.*
- 9:00 AM COS 25-4 Benjamin, F¹ and R Winfree², (1) Rutgers, the State University of New Jersey, (2) Rutgers University. *Pollination services from native bees: What scale matters?.*
- 9:20 AM COS 25-5 Bischoff, M¹, DR Campbell¹, AW Robertson² and JM Lord³, (1) UC Irvine, (2) Massey University, (3) University of Otago. *Where have all the blue flowers gone: Selection on flower color in New Zealand *Wahlenbergia albomarginata*.*
- 9:40 AM Break
- 9:50 AM COS 25-6 Lin, C, M Miriti and K Goodell, The Ohio State University. *Clonal reproduction provides reproductive assurance for a spring ephemeral in an environment with uncertain pollination.*
- 10:10 AM COS 25-7 Burkle, LA¹, TM Knight² and JC Marlin³, (1) Montana State University, (2) Washington University in St. Louis, (3) University of Illinois. *Comparison of historic and contemporary plant-pollinator interaction networks: Changes in phenology, loss of specialist bee species, and decreased pollinator fidelity.*
- 10:30 AM COS 25-8 Lopera-Blair, MDP, University of South Florida. *Interactions for pollination and reproductive isolation in sympatric species of *Liatris* (Asteraceae), in a Sandhill community, Florida.*
- 10:50 AM COS 25-9 Carr, DE¹, H Hart², B Tawes³, R Kaczorowski⁴ and JM Carpenter⁵, (1) University of Virginia, (2) Transylvania University, (3) Rowan University, (4) University of Arizona, (5) Winchester Public Schools. *Reduced pollen production and viability lowers bumblebee visitation rates to *Mimulus guttatus* flowers.*
- 11:10 AM COS 25-10 Gaddis, KD and VL Sork, UCLA. *Site factors affecting reproduction among subpopulations of *Acacia greggii* A Gray in a desert ecosystem.*

COS 26 - Herbivory II

12B, Austin Convention Center

- 8:00 AM COS 26-1 Barber, NA¹ and LS Adler², (1) University of Massachusetts - Amherst, (2) University of Massachusetts. *Effects of belowground herbivores on plant-pollinator interactions in cucumber (*Cucumis sativus*).*
- 8:20 AM COS 26-2 West, NM and B Tenhumberg, University of Nebraska-Lincoln. *Apical dominance as an optimal strategy.*
- 8:40 AM COS 26-3 Tran, HE, L Souza, NJ Sanders and AT Classen, University of Tennessee. *Plant genotype, not nutrients, shape aphid population dynamics.*
- 9:00 AM COS 26-4 Murray, BD, CR Webster and JA Vucetich, Michigan Technological University. *Chronic moose browsing impacts the architecture of balsam fir saplings.*
- 9:20 AM COS 26-5 Keefover-Ring, KM, KF Rubert-Nason, AE Bennett and RL Lindroth, University of Wisconsin - Madison. *Responses of trembling aspen to simulated browsing and application of ungulate saliva.*

- 9:40 AM Break
- 9:50 AM COS 26-6 Lenhart, PA, ST Behmer and MD Eubanks, Texas A&M University. *Nutrient niche hypothesis: Investigating correlations between plant quality and generalist grasshopper communities.*
- 10:10 AM COS 26-7 Jamieson, MA¹, T Seastedt² and MD Bowers², (1) Colorado State University, (2) University of Colorado at Boulder. *Influence of soil nitrogen availability on plant allocation patterns: Allelochemical response varies with developmental stage and among plant parts.*
- 10:30 AM COS 26-8 Cipollini, D and DM Lieurance, Wright State University. *Escaping costs of induced resistance in the invasive plant, *Alliaria petiolata*.*
- 10:50 AM COS 26-9 Ahern, JR, Rice University. *Factors associated with the maintenance of a defensive chemical polymorphism in *Xanthium strumarium*.*

COS 27 - Invasion II

13, Austin Convention Center

- 8:00 AM COS 27-1 Turner, KG¹, RA Hufbauer² and LH Rieseberg¹, (1) University of British Columbia, (2) Colorado State University. *Phenotypic variation in an invasive weed across multiple common gardens.*
- 8:20 AM COS 27-2 Lowry, E¹, J Gurevitch¹, KL Wojtas¹, RA Hufbauer² and R Sforza³, (1) Stony Brook University, (2) Colorado State University, (3) European Biological Control Laboratory, USDA-ARS. *Comparing early seedling growth of *Centaurea stoebe* from European (native), western North American and eastern North American seed sources.*
- 8:40 AM COS 27-3 Dugan, LE, DA Hendrickson and C Parmesan, University of Texas. *Predicting the distribution of an introduced fish in an endemic hotspot, Cuatro Ciénegas, in Coahuila, Mexico.*
- 9:00 AM COS 27-4 Faulkes, Z and TP Fera, The University of Texas-Pan American. *Risk assessment of a mysterious invader: Marbled crayfish in Japan.*
- 9:20 AM COS 27-5 Keser, LH¹, Y Song², FH Yu³, J Klimešová⁴, M Fischer¹, M Dong² and M van Kleunen⁵, (1) University of Bern, (2) Chinese Academy of Sciences, (3) Beijing Forestry University, (4) Academy of Sciences of the Czech Republic, (5) University of Konstanz. *Determinants of invasiveness in clonal plant species.*
- 9:40 AM Break
- 9:50 AM COS 27-6 Feinstein, L, U.C. Davis. *Evolution of an expanded niche via hybridization: an experimental comparison of the ecological amplitude of *Spartina foliosa*, *Spartina alterniflora* and their hybrids.*
- 10:10 AM COS 27-7 Ringold, PL¹, I Washburn¹, TK Magee¹, PR Kaufmann¹ and AT Herlihy², (1) US EPA, Western Ecology Division, (2) Oregon State University. *Accounting for multiple stressors in regional stream ecosystem analysis: A demonstration with riparian invasive plants.*
- 10:30 AM COS 27-8 Menuz, DR and KM Kettenring, Utah State University. *Modeling the distribution of an invasive riparian plant species: Understanding drivers of invasion and testing model assumptions.*
- 10:50 AM COS 27-9 Wilkerson, ML, University of California Davis. *The role of the surrounding landscape matrix in invasion of conservation linkages by non-native plants.*
- 11:10 AM COS 27-10 Alba, CM and RA Hufbauer, Colorado State University. *The usefulness of biogeographic comparisons for prioritizing experimental work on plant invasions: an example with *Verbascum thapsus* (common mullein).*

8 am-11:30 am

COS 28 - Physiological Ecology I

18A, Austin Convention Center

- 8:00 AM COS 28-1 Pratt, RB¹, MF Tobin² and AL Jacobsen², (1) California State University Bakersfield, (2)California State University, Bakersfield. *Xylem vulnerability to cavitation can be accurately characterized in species with long vessels: A case study with Quercus wislizeni A.DC. (Fagaceae).*
- 8:20 AM COS 28-2 Jacobsen, AL, RB Pratt and MF Tobin, California State University, Bakersfield. *Xylem vessel length and centrifuge measures of xylem cavitation resistance.*
- 8:40 AM COS 28-3 Brantley, S¹ and C Ford², (1)Coweeta Hydrologic Lab, (2)USDA Forest Service. *Seasonal drivers of Rhododendron maximum transpiration in forest understories in the southern Appalachians.*
- 9:00 AM COS 28-4 Santiago, LS, K Alstad, SC Pasquini, A Pivovarov, J Ambriz and J Stemke, University of California. *Xylem vulnerability and hydraulic architecture as determinants of plant drought resistance on a desert-shrubland gradient.*
- 9:20 AM COS 28-5 Quaresma, RM, AL Jacobsen, RB Pratt and MF Tobin, California State University, Bakersfield. *Xylem vessel structure is linked to functional shifts between post-fire resprouting and unburned chaparral shrubs.*
- 9:40 AM Break
- 9:50 AM COS 28-6 Michaletz, ST and EA Johnson, University of Calgary. *A new mechanism of tree stem mortality in forest fires: Heat-induced xylem cavitation.*
- 10:10 AM COS 28-7 Tobin, MF, CA Traugh, AL Jacobsen, CC Whitelock, S Barrera, ME De Guzman, SR Del Rio and RB Pratt, California State University, Bakersfield. *Relationships among water transport, biomechanics, and storage for stem xylem of 32 shrub species of the chaparral community.*
- 10:30 AM COS 28-8 Blonder, B¹, C Violle¹, LD Patrick¹ and BJ Enquist², (1)University of Arizona, (2)University of Arizona and The Santa Fe Institute. *Linking leaf venation networks to the worldwide leaf economics spectrum and paleoclimate.*
- 10:50 AM COS 28-9 Taylor, SH¹, PJ Franks¹, SP Hulme¹, E Spriggs², PA Christin², EJ Edwards², FI Woodward¹ and CP Osborne¹, (1)University of Sheffield, (2)Brown University. *Evolution of C₄ photosynthesis in grasses linked to reduction in the anatomical capacity for stomatal conductance.*

COS 29 - Modeling: Communities, Disturbance, Succession

18B, Austin Convention Center

- 8:00 AM COS 29-1 Wollrab, S¹, S Diehl² and AM de Roos³, (1)Ludwig-Maximilian-University Munich, (2)Umea University, (3)University of Amsterdam. *Simple rules describe bottom-up and top-down control in food webs with alternative energy pathways.*
- 8:20 AM COS 29-2 Holm, JA and HH Shugart, University of Virginia. *GAP model validation for a subtropical dry forest and predicting poor transition of abandoned fields into secondary forests in Puerto Rico.*
- 8:40 AM COS 29-3 Connolly, J¹, T Bell², C Brophy³, JA Finn⁴, L Kirwan⁵, A Luescher⁶, MT Sebastia⁷ and A Weigel⁸, (1) University College Dublin, (2)University of Oxford, (3) National University of Ireland Maynooth, (4)Teagasc, (5) Waterford Institute of Technology, (6)Agroscope ART, (7)CTFC, (8)Friedrich-Schiller University, Jena. *A new synthesis of models of biodiversity-ecosystem-function relationships based on pairwise species interactions.*
- 9:00 AM COS 29-4 Miller, AD¹, SH Roxburgh² and K Shea¹, (1)The

Pennsylvania State University, (2)CSIRO. *How frequency and intensity shape diversity-disturbance relationships.*

- 9:20 AM COS 29-5 Reid, NM¹, MM Koopman², AJ Zellmer¹ and BC Carstens¹, (1)Louisiana State University, (2) Eastern Michigan University. *Integrating over taxonomic and phylogenetic uncertainty in analyses of phylogenetic community structure in the fluid of the pale pitcher plant (Sarracenia alata).*
- 9:40 AM Break
- 9:50 AM COS 29-6 Nichols, ES¹, M Uriarte¹, DE Bunker², TH Larsen³, FZ Vaz de Mello⁴, K Vulinec⁵, M Favila⁶, S Naeem¹ and SH Spector¹, (1)Columbia University, (2)New Jersey Institute of Technology, (3)Princeton University & World Wildlife Fund, (4)Universidade Federal de Mato Grosso, (5)Delaware State University, (6)Instituto de Ecología. *A global assessment of dung beetle species correlates of extinction proneness in human-modified tropical forest.*
- 10:10 AM COS 29-7 Woods, LM and JM Chase, Washington University. *A metacommunity approach to modeling the effect of habitat destruction on species richness scaling.*
- 10:30 AM COS 29-8 Young, K and BA Roundy, Brigham Young University. *Seedling establishment and modeling seedling root depth of Great Basin species.*
- 10:50 AM COS 29-9 Kulmatiski, A¹, J Heavilin² and KH Beard², (1) University of Alaska Anchorage, (2)Utah State University. *Plant-soil feedbacks quantified: model validation with experimental data shows the importance of plant-soil feedbacks to plant community development.*
- 11:10 AM COS 29-10 Grace, JB¹, DR Schoolmaster Jr.², GR Guntenspergen¹, EW Schweiger³, BR Mitchell³, A Little⁴, K Miller³ and DJ Cooper⁵, (1)US Geological Survey, (2) IAP at US Geological Survey, (3)National Park Service, (4)University of Wisconsin-Stout, (5)Colorado State University. *Causal networks as interpretive structures for multi-metric indices of ecological integrity.*

COS 30 - Dispersal and Colonization II

18C, Austin Convention Center

- 8:00 AM COS 30-1 Altermatt, F¹, FCarrara², MHolyoak³, ARinaldo² and S Schreiber³, (1)Swiss Federal Institute of Aquatic Science and Technology (Eawag), (2)Ecole Polytechnique Fédérale de Lausanne ENAC, (3)University of California, Davis. *Interactive effects of disturbance and directional dispersal and invasions on species richness and composition in linear and dendritic freshwater metacommunities.*
- 8:20 AM COS 30-2 Davies, SW and MV Matz, University of Texas at Austin. *Lack of coral recruitment in the Northern Caribbean: Suggestions from a "corals and cues around the world" approach.*
- 8:40 AM COS 30-3 Hoch, JM, ER Sokol, AD Parker and JC Trexler, Florida International University. *Fish movement and migration in the seasonally varying wetlands of the Florida Everglades.*
- 9:00 AM COS 30-4 Galic, N¹, H Baveco², P Thorbek³, A Schmolke⁴, E Bruns⁵ and P van den Brink², (1)Wageningen University and Research Center, (2)Alterra, Wageningen University and Research Center, (3)Syngenta Ltd., (4) Helmholtz-Zentrum für Umweltforschung – UFZ, (5) Bayer CropScience. *How habitat permeability influences metapopulation dynamics and population recovery in the weak flyer Chironomus riparius.*
- 9:20 AM COS 30-5 Beaudrot, L and AJ Marshall, University of California-Davis. *Tropical forest primate communities are structured more by dispersal limitation than by species sorting along environmental gradients.*

9:40 AM Break

TUESDAY

- 9:50 AM COS 30-6 Lee-Yaw, JA, TH Sechley and DE Irwin, University of British Columbia. *Conflicting effects of microhabitat on long-toed salamander movement: implications for landscape connectivity.*
- 10:10 AM COS 30-7 Sivakoff, FS¹, JA Rosenheim¹ and JR Hagler², (1)University of California, (2)USDA-ARS, Arid-Land Agricultural Research Center. *Comparing the dispersal ability of an herbivore relative to its predators in an annual agroecosystem using a novel large-scale mark-capture technique.*
- 10:30 AM COS 30-8 Hughey, MC¹, MW McCoy¹, JR Vonesh² and KM Warkentin¹, (1)Boston University, (2)Virginia Commonwealth University. *Patterns and mechanisms of spatial variation in patch use by egg-foraging social wasps, egg-mass-infesting flies, and eucoiline fly-parasitoids.*
- 10:50 AM COS 30-9 Osbourn, MS and RD Semlitsch, University of Missouri. *The effects of habitat quality on initial movement in juvenile amphibians.*

COS 31 - Evolution: Selection and Adaptation I

18D, Austin Convention Center

- 8:00 AM COS 31-1 Malcom, JW, University of Texas at Austin. *From gene networks to evolutionary ecological dynamics.*
- 8:20 AM COS 31-2 Duputié, A¹, F Massol², I Chuine³, M Kirkpatrick⁴ and O Ronce⁵, (1)Centre d'Écologie Fonctionnelle et Évolutive, (2)CEMAGREF, (3)CNRS, (4) University of Texas at Austin, (5)Institut des Sciences de l'Évolution. *Multivariate adaptation in a changing environment: a theoretical model.*
- 8:40 AM COS 31-3 Perry, EB and BJ Bohannan, University of Oregon. *Community evolution in a bacteria-bacteriophage model.*
- 9:00 AM COS 31-4 Powell, S¹, RJ Marquis², F Camarota³, GV Priest² and HL Vasconcelos⁴, (1)University of Arizona, (2)University of Missouri - St. Louis, (3)Universidade de Uberlândia, (4)Universidade Federal de Uberlândia. *Understanding the evolutionary impacts of ecosystem engineers: How have beetle-produced cavities influenced the diversification of cavity-nesting ants?*
- 9:20 AM COS 31-5 Vogan, PJ and H Maherali, University of Guelph. *The evolution of photosynthetic capacity is associated with climate.*
- 9:40 AM Break
- 9:50 AM COS 31-6 Gonzalez, A and G Bell, McGill University. *Range adaptation and eco-evolutionary rescue in a deteriorating environment.*
- 10:10 AM COS 31-7 Van Cleve, J¹ and E Akçay², (1)Santa Fe Institute, (2)National Institute for Mathematical and Biological Synthesis (NIMBioS). *Behavioral responses in structured populations pave the way to group adaptation.*
- 10:30 AM COS 31-8 Meyer, SE¹, KR Merrill², SJ Novak³, EA Leger⁴ and CE Coleman², (1)USDA Forest Service, Rocky Mountain Research Station, (2)Brigham Young University, (3)Boise State University, (4)University of Nevada, Reno. *Population genetic structure of *Bromus tectorum* in western North America: Implications for the invasion of novel habitats.*
- 10:50 AM COS 31-9 Revilla, TA¹, F Encinas-Viso² and E van Velzen², (1)Instituto de Zoología y Ecología Tropical, Universidad Central de Venezuela, Facultad de Ciencias, (2)Community and Conservation Ecology Group. *Evolutionary ecology of seed dispersal by frugivores: From exploitation to mutualism.*
- 11:10 AM COS 31-10 Townley, S¹, THG Ezard² and RA Johnstone³, (1)University of Exeter, (2)University of Surrey, (3) University of Cambridge. *Maternal effects may alter the course of evolutionary change.*

Earth Stewardship: Preserving and enhancing earth's life support systems

COS 32 - Ecosystem Function: Biodiversity II

19A, Austin Convention Center

- 8:00 AM COS 32-1 Narwani, A and A Mazumder, University of Victoria. *Resource species diversity impacts the functioning and stability of food webs.*
- 8:20 AM COS 32-2 Allen, DC¹, CC Vaughn¹, JF Kelly², JT Cooper¹ and MH Engel¹, (1)University of Oklahoma, (2) Oklahoma Biological Survey & University of Oklahoma. *Biodiversity increases resource subsidy flux between ecosystems.*
- 8:40 AM COS 32-3 Selmants, PC and ES Zavaleta, University of California. *Realistic species losses reduce nitrogen uptake and nitrogen-use efficiency in a California serpentine grassland.*
- 9:00 AM COS 32-4 Rohr, JR¹, PW Crumrine², NT Halstead¹, SA Johnson³, TA McMahon¹ and TR Raffel¹, (1)University of South Florida, (2)Rowan University, (3)University of Florida Institute of Food and Agricultural Sciences. *Contaminant-induced declines in freshwater biodiversity modify ecosystem functions: The case of the fungicide chlorothalonil.*
- 9:20 AM COS 32-5 Stoler, AB and RA Relyea, University of Pittsburgh. *Functional trait diversity of leaf litter and its influence on biological processes of forest ponds.*
- 9:40 AM Break
- 9:50 AM COS 32-6 Handa, IT¹, R Aerts², F Berendse³, MP Berg², A Bruder⁴, O Butenschön⁵, E Chauvet⁶, MO Gessner⁴, J Jabiol⁶, B McKie⁷, M Makkonen², B Malmqvist⁸, ETHM Peeters⁹, S Scheu⁵, M Schindler⁴, B Schmid¹⁰, W Schulze¹¹, J van Ruijven³, V Vos³ and S Hättenschwiler¹², (1)Université du Québec à Montréal, (2)Vrije University, (3)Wageningen University, (4)Eawag, (5)University of Goettingen, (6)Université de Toulouse, UPS, INP, (7) Swedish University of Agricultural Sciences (SLU), (8)Umeå University, (9)Aquatic Ecology and Water Quality Management Group, Wageningen University, (10)University of Zurich, (11)Max-Planck-Institut für Molekulare Pflanzenphysiologie, (12)CNRS. *Diversity and forest leaf litter decomposition: Patterns and mechanisms across biomes in terrestrial and aquatic ecosystems.*
- 10:10 AM COS 32-7 Six, LJ¹, JD Bakker² and RE Bilby¹, (1) Weyerhaeuser NR Company, (2)University of Washington. *Grassland vegetation changes over an agroforestry management cycle.*
- 10:30 AM COS 32-8 Pendleton, RM¹, DJ Hoeinghaus¹, LC Gomes² and AA Agostinho², (1)University of North Texas, (2) Universidade Estadual de Maringá. *Realistic scenarios of biodiversity loss alter ecosystem structure and function in tropical floodplain lagoons.*
- 10:50 AM COS 32-9 Zitzer, SF, desert research Institute. *Natural regeneration of native plant diversity following prescribed fire in a grazed sagebrush community with encroaching pine and juniper in east central Nevada, but lacking invasive cheatgrass (*Bromus tectorum*).*
- 11:10 AM COS 32-10 Samaritani, E, Neuchâtel University. *Spatio-temporal variability and restoration effects on soil bacteria communities and ecosystem functions at the Thur floodplain.*

COS 33 - Conservation Management

19B, Austin Convention Center

- 8:00 AM COS 33-1 Thorne, JH¹ and MJ Santos², (1)University of California, Davis, (2)University of California, Berkeley. *Historic and contemporary landcover, urban areas and protected areas as a framework for regional conservation planning.*

8 am-11:30 am; 8 am-5 pm; 11:30 am-1:15 pm

- 8:20 AM COS 33-2 Barrows, CW¹ and ML Murphy², (1)University of California at Riverside, (2)University of California Riverside. *Modeled climate change impacts on vegetation of the Mojave-Sonoran Desert interface.*
- 8:40 AM COS 33-3 Wendelberger, KS¹ and J Maschinski², (1) Florida International University, (2)Fairchild Tropical Botanic Garden. *Can assessing microsite and regeneration niche preferences when introducing endangered species help mitigate extinction debt?*
- 9:00 AM COS 33-4 Dries, LA, City of Austin. *Habitat reconstruction results in increased abundance, density, reproduction, and recruitment of endangered *Eurycea sosorum*, the Barton Springs Salamander.*
- 9:20 AM COS 33-5 Gillespie, JH, University of Texas at Austin. *Application of time-series and multiple regression techniques to assess population variability in two populations of the endangered Barton Springs Salamander (*Eurycea sosorum*).*
- 9:40 AM Break
- 9:50 AM COS 33-6 Crawford, BA¹, JC Maerz¹, NP Nibbelink¹, K Buhlmann¹, TM Norton² and SE Albeke³, (1)University of Georgia, (2)Georgia Sea Turtle Center, (3)University of Wyoming. *Hot spots and hot moments for diamondback terrapin (*Malaclemys terrapin*) road mortality.*
- 10:10 AM COS 33-7 Ruyle, LE¹, BD Todd² and JC Maerz³, (1) University of Georgia, (2)Savannah River Ecology Laboratory, (3)The University of Georgia. *Effects of varying human population pressures on the critically endangered endemic Honduran Paleate Spiny-tailed Iguana, *Ctenosaura melanosterna*, in the Cayos Cochinos Archipelago, Honduras.*
- 10:30 AM COS 33-8 O'Brien, JM, University of California, Davis. *Estimating the risk of contact and disease transmission between bighorn and domestic sheep due to foray movements by bighorn rams.*
- 10:50 AM COS 33-9 Brown, DJ¹, JT Baccus², DB Means³ and MRJ Forstner¹, (1)Texas State University-San Marcos, (2)Texas State University, (3)Coastal Plains Institute. *Short-term outcomes for juvenile amphibians after fire in a southern USA pine forest.*
- 11:10 AM COS 33-10 Wootton, JT¹ and DA Bell², (1)University of Chicago, (2)East Bay Regional Park District. *Assessing predictions of population viability analysis: Peregrine falcon populations in California.*

8 am-1 pm**FT 17 - Hamilton Pool: An Example of a Past Climate Change Refugium**

Trinity Street Lobby Field Trip Pick Up, Austin Convention Center

Organized by: J Poole

8 am-5 pm**ESA Vegetation Classification Panel**

Lakeview, Radisson Hotel

11:30 am-1:15 pm**ESA Past Presidents' 2015 Committee Meeting**

ML 12-level 2, Austin Convention Center

Carleton College Alumni and Friends Brown Bag Lunch
Ballroom F, Austin Convention Center

ESA Canada Chapter Business Meeting

ML 13-level 2, Austin Convention Center

ESA Southwest Chapter Brown Bag Lunch

17B, Austin Convention Center

ESA Traditional Ecological Knowledge Section Business Meeting

Ballroom E, Austin Convention Center

Rapid Response Team Luncheon (by invitation only)

6B, Austin Convention Center

WK 21 - Learn How to Publish in EcoEd DL, ESA's Digital Teaching Library!--\$5

19B, Austin Convention Center

Organized by: KM Klemow (kenneth.klemow@wilkes.edu), KL Shea, D Kirschtel, T Mourad

Have you developed materials that you use to teach undergraduate ecology? Come learn how to publish them online! This workshop will provide an overview of the submission and review process for ecology educators interested in submitting their resources to ESA's digital teaching library. Leadership team opportunities will also be explored.

WK 29 - SEEDS Professional Development: the basics in writing for applying to graduate school--FREE

18A, Austin Convention Center

Organized by: AT Chang (antchang@ucdavis.edu), JA Reynolds

The purpose of this workshop is to elucidate the mystery of applying to graduate school by giving participants knowledge on how to effectively 1) contact potential advisors via email, and 2) write personal statements for graduate school applications.

WK 30 - 101 ways to effectively use journal articles as teaching tools--FREE

18D, Austin Convention Center

Organized by: ESJ Rauschert (erauschert@psu.edu), J Dauer, JL Momsen, A Sutton-Grier

In this workshop, we will explore how a range of learning objectives can be met by using the primary literature in a variety of ways, at all levels of undergraduate education.

WK 31 - Nature's Notebook: Tracking Phenology for Research, Management and Education in the Face of Climate Change--FREE

18C, Austin Convention Center

Organized by: JF Weltzin, CAF Enquist, A Rosemartin

This workshop will introduce participants to programs and products that can enhance our understanding of climate change impacts on natural systems through involvement in phenological research programs. Scientists, educators, managers and volunteer program coordinators are welcome.

WK 32 - Shaping the future: how students can set a precedent for Planetary Stewardship--FREE

19A, Austin Convention Center

Organized by: J Talbot, N Zimmerman, AL Kuchy, J Ramos Jr.

Planetary stewardship remains a pending assignment in the to-do-list of many ecology students. This workshop will identify the most practical ways for ESA students to be active stewards and will

12 pm-1:15; 1:30 pm-5 pm

develop strategies for how we can build a foundation of planetary stewardship ethics for our generation.

WK 33 - Funding Challenges and Opportunities for Ecological Research at Undergraduate Institutions--FREE
18B, Austin Convention Center

Organized by: LJ Anderson (ljanders@owu.edu), R Burks

This workshop will explore a range of funding options for ecologists at primarily undergraduate institutions. Topics covered will include strategies for gaining funds from government agencies, local foundations, and corporations. Participants will also create a list of funding challenges and best practice solutions to be posted as an online resource.

12 pm-1 pm

ESA Mexican Chapter Annual Business Meeting: Challenges for Ecology in Latin America
Skyline, Radisson Hotel

ESA Paleoecology Section Business Meeting
1, Austin Convention Center

12 pm-1:15 pm

Ecology Letters Editorial Board Meeting
Austin Suite, Austin Convention Center

GLBT Ecologists Brown Bag Lunch
Old Pecan St, Radisson Hotel

Penn State Ecology Luncheon
Ballroom C, Austin Convention Center

1:30 pm-5 pm

SYMP 7 - How We Manage Our Share of Planet Earth
Ballroom E, Austin Convention Center

Organized by: H Balbach (Hal.E.Balbach@usace.army.mil), J Shurin, JS Brown, J Maul

Endorsed by: Applied Ecology, Agroecology Section, Aquatic Ecology, Rangeland

Moderator: H Balbach

Researchers and managers charged with responsibility for the nation's resources will present their goals, achievements, challenges, and responsibility to the country for the results.

1:30 PM Introductory Remarks

1:35 PM SYMP 7-1 Berish, J, Florida Fish and Wildlife Conservation Commission. *Saving ancient dunes, black holes, and burrowing turtles: The challenges of conserving gopher tortoises in Florida.*

1:55 PM SYMP 7-2 Davis, J and C Smith, Texas Parks and Wildlife Department. *Where the winds blow and the microalgae grows: The changing lands and culture of the lone star state.*

2:15 PM SYMP 7-3 Salomon, AK¹, L Lee¹, RW Markel², RG Martone² and JB Shurin³, (1)Simon Fraser University, (2)University of British Columbia, (3)University of California- San Diego. *Trophic cascades on temperate reefs: Managing for the resilience and adaptive capacity of coastal communities.*

2:35 PM SYMP 7-4 Diamond, DD¹, LF Elliott¹, C Blodgett¹, D

True¹, K Ludeke², D German² and A Treuer-Kuehn², (1)University of Missouri, (2)Texas Parks and Wildlife Department. *The foundation for stewardship: Understanding the opportunities.*

2:55 PM Break

3:05 PM SYMP 7-5 Hill, A, USFS Rocky Mountain Research Station. *Global research, results and ramifications: Evolution of the forest service's all lands approach.*

3:25 PM SYMP 7-6 Brent, J¹, RN Addington² and ML Elmore³, (1)Fort Benning, GA, (2)The Nature Conservancy, (3)The Nature Conservancy. *Preserving a disappearing ecosystem while the Army trains.*

3:45 PM SYMP 7-7 Hock, V¹, CB Shea² and MK McInerney³, (1)US Army ERDC, (2)Chicago District, USACE, (3)U.S. Army Construction Engineering Research Laboratory. *Managing barriers to prevent asian carp invasion of the Great Lakes.*

4:05 PM SYMP 7-8 Walters, JR, Virginia Polytechnic Institute and State University. *The rise of the phoenix: How DoD and basic research saved the endangered red-cockaded woodpecker.*

SYMP 8 - Thirty Years of Earth Stewardship Research: Long-Term Matters

Ballroom C, Austin Convention Center

Organized by: GP Robertson, DR Foster, C Boone, DL Childers, SE Hobbie

Moderator: GP Robertson

Long-term research is critical for providing an ecological context appropriate for addressing many of the Earth's most pressing problems related to earth stewardship.

1:30 PM SYMP 8-1 Collins, SL¹, GP Robertson², DR Foster³ and DL Childers⁴, (1)University of New Mexico, (2)Michigan State University, (3)Harvard University, (4)Arizona State University. *Emergence and future role of long-term socio-ecological research for earth stewardship.*

2:00 PM SYMP 8-2 Knapp, AK¹, MD Smith², SE Hobbie³, TJ Fahey⁴, SL Collins⁵, G Hansen⁶, DA Landis⁷, KJ Komatsu La Pierre², JM Melillo⁸, T Seastedt⁹ and JR Webster¹⁰, (1)Colorado State University, (2)Yale University, (3)University of Minnesota, (4)Cornell University, (5)University of New Mexico, (6)University of Wisconsin, (7)Michigan State University, (8)Marine Biological Laboratory, (9)University of Colorado at Boulder, (10)Virginia Polytechnic Institute and State University. *Long-term experiments in the LTER network: Past, present, and future roles.*

2:30 PM SYMP 8-3 Thompson, JR¹, DR Foster², SR Carpenter³, TA Spies⁴, NB Grimm⁵ and FJ Swanson⁶, (1)Smithsonian/Harvard, (2)Harvard University, (3)University of Wisconsin - Madison, (4)USDA Forest Service Pacific Northwest Research Station, (5)Arizona State University, (6)USDA Forest Service, Pacific NW Research Station. *Future scenarios of landscape vulnerability and resilience to global change.*

3:00 PM SYMP 8-4 Fountain, A¹, H Ducklow², JJ Magnuson³ and M Williams⁴, (1)Portland State University, (2)Marine Biological Laboratory, (3)University of Wisconsin-Madison, (4)University of Colorado. *The disappearing cryosphere: Impacts and ecosystem responses to rapid cryosphere loss.*

3:30 PM Break

3:40 PM SYMP 8-5 Jones, JA¹, K Hatcher¹, A Covich², C Dahm³, NB Grimm⁴ and M Williams⁵, (1)Oregon State University, (2)University of Georgia, (3)University of New Mexico, (4)Arizona State University, (5)University of Colorado.

1:30 pm-5 pm

Water supply sensitivity and ecosystem resilience to land use change, climate change, and climate variability.

4:10 PM SYMP 8-6 Driscoll, CT¹, KF Lambert², FS Chapin³, CM Hart², DB Kittredge⁴, DJ Nowak⁵, TA Spies⁶ and FJ Swanson⁶, (1)Syracuse University, (2)Harvard Forest (Harvard University), (3)University of Alaska Fairbanks, (4)University of Massachusetts, (5)US Forest Service, c/o SUNY College of Environmental Science & Forestry, (6)US Forest Service, Pacific Northwest Research Station. *Integrating science and society: the role of long-term studies in environmental stewardship and policy.*

4:40 PM Concluding Remarks

SYMP 9 - Assessing The Relative Contributions of Fungi and Bacteria to Terrestrial Biogeochemical Processes: State of The Art

Ballroom G, Austin Convention Center

Organized by: MD Wallenstein (mawallen@nrel.colostate.edu), K Peay

Endorsed by: Microbial Ecology, Biogeochemistry

Moderator: EA Lilleskov

This symposium brings together state of the art research on the roles of bacteria and fungi in biogeochemical processes and assesses the need for a more nuanced functional view of microbial soil communities.

1:30 PM Introductory Remarks

1:35 PM SYMP 9-1 Strickland, MS¹, N Fierer² and MA Bradford¹, (1)Yale University, (2)University of Colorado. *Seasonal variation in fungal:bacterial dominance and its relationship to environmental factors and ecosystem processes.*

2:00 PM SYMP 9-2 Allison, SD, University of California. *Trait-based modeling of microbial decomposition.*

2:25 PM SYMP 9-3 Sinsabaugh, R¹, A Porras-Alfaro² and J Herrera³, (1)University of New Mexico, (2)Western Illinois University, (3)Truman State University. *The imprint of Ascomycota on the biogeochemistry of arid ecosystems.*

2:50 PM SYMP 9-4 Rousk, J, Bangor University. *Fungal and bacterial growth measurements in soil.*

3:15 PM Break

3:25 PM SYMP 9-5 McGuire, KL¹, N Fierer², SD Allison³ and KK Treseder⁴, (1)Barnard College, Columbia University, (2) University of Colorado, (3)University of California, (4) University of California, Irvine. *Global roots of soil fungi: evidence that ectomycorrhizal fungi influence the composition and distribution of saprotrophic fungal communities.*

3:50 PM SYMP 9-6 Baldrian, P, Institute of Microbiology of the ASCR. *Parsing microbial community structure and function using next generation sequencing, stable isotope probing and enzyme analysis.*

4:15 PM SYMP 9-7 Schneider, T, University of Zurich. *Who is who in litter decomposition: Metaproteomics reveals major microbial players and their biogeochemical functions.*

4:40 PM Panel Discussion

OOS 14 - Engaging with Communities and Regional Decision Makers to Sustain Earth's Life-Support Systems

16B, Austin Convention Center

Organized by: N Lymn (nadine@esa.org), G Middelndorf

Moderator: N Lymn

The session goal is to increase awareness of ways in which ecologists may work with local communities on environmental issues. This requires a variety of tasks, including interacting with people with various perspectives and backgrounds. Ecologists can contribute to Earth stewardship by becoming a trusted part of a local community.

1:30 PM OOS 14-1 Wyndham, J, American Association for the Advancement of Science. *Human rights and the advisory role of ecologists.*

1:50 PM OOS 14-2 Middendorf, G¹ and CH Nilon², (1)Howard University, (2)University of Missouri. *Guidelines for engaging outside the ecological community: Fostering local and regional interactions with communities in need.*

2:10 PM OOS 14-3 Kearns, F, Pew Charitable Trusts. *The potential of mindfulness and other contemplative practices in engaging with communities.*

2:30 PM OOS 14-4 Lindenfeld, L¹ and L Silka², (1)University of Maine, (2)Margaret Chase Smith Policy Center. *Building stakeholder partnerships for sustainable solutions.*

2:50 PM OOS 14-5 Neff, JC, University of Colorado. *Building institutional partnerships to address climate change adaptations and regional environmental change.*

3:10 PM Break

3:20 PM OOS 14-6 Sisk, T¹, MRR Loeser² and TE Crews³, (1)Northern Arizona University, (2)Yakima Valley Community College, (3)Prescott College. *Engaging in science-based environmental policy and resource management in the American west.*

3:40 PM OOS 14-7 Udvardy, S, American Rivers. *Working with communities to increase natural resilience against flooding in the Upper Mississippi River Basin.*

4:00 PM OOS 14-8 Krasny, M and KG Tidball, Cornell University. *Civic ecology.*

4:20 PM OOS 14-9 Mack, Jr., JJ¹, BM Walton² and A Schermaier², (1)Cleveland Metroparks, (2)Cleveland State University. *Translating ecological knowledge into decision-making for the repurposing of vacant land: The vacant land rapid assessment procedure.*

4:40 PM OOS 14-10 Mesmer, R¹, PJ Bohlen², M Clark³, EH Boughton¹, S Hollingsed¹, S Shukla³ and N Singh⁴, (1) Archbold Biological Station, (2)University of Central Florida, (3)University of Florida, (4)World Wildlife Fund. *Increasing efficiency of monitoring environmental services on working agricultural landscapes.*

OOS 15 - Spatial Spread of Invasive Species and Infectious Diseases: Theoretical and Empirical Advances

17A, Austin Convention Center

Organized by: JH Burns, MG Neubert

Moderator: A Hastings

Models to predict the speed of spatial spread are becoming increasingly sophisticated, improving our ability to predict such processes as invasion, disease dynamics, and responses to global climate change.

1:30 PM OOS 15-1 Melbourne, BA¹ and A Hastings², (1) University of Colorado at Boulder, (2)University of California, Davis. *Randomness and uncertainty in spatial spread: Stochastic models and biological experiments.*

1:50 PM OOS 15-2 Shea, K¹, E Jongejans², O Skarpaas³, D Kelly⁴ and SP Ellner⁵, (1)The Pennsylvania State University, (2) Radboud University Nijmegen, (3)Norwegian Institute for Nature Research, (4)University of Canterbury, (5) Cornell University. *Linking theory and data to understand the spread of an invasive plant.*

2:10 PM OOS 15-3 Burns, JH¹, EA Pardini², MR Schutzenhofer³, YYA Chung², KJ Seidler² and TM Knight², (1)Case Western Reserve University, (2)Washington University in St. Louis, (3)McKendree University. *Differences in dispersal are more important than differences in demography to the greater invasion speed of invasive plant species than their noninvasive relatives.*

2:30 PM OOS 15-4 Liebhold, AM, USDA Forest Service. *Empirical*

analysis of forest insect invasion spread: Measurement, mechanisms, and management.

2:50 PM OOS 15-5 Neubert, MG¹, AK Shaw² and H Caswell¹, (1) Woods Hole Oceanographic Institution, (2) Princeton University. *Two-sex invasions.*

3:10 PM Break

3:20 PM OOS 15-6 Miller, TEX¹, BD Inouye² and BA Melbourne³, (1) Rice University, (2) Florida State University, (3) University of Colorado at Boulder. *Sex, density dependence and the spread of invasive organisms.*

3:40 PM OOS 15-7 Duke-Sylvester, SM¹, R Biek² and LA Real¹, (1) Emory University, (2) University of Glasgow. *The evolutionary genetic signatures of spatial dynamics during the epidemic expansion of infectious diseases.*

4:00 PM OOS 15-8 Bradshaw, CJ¹, C McMahon², PS Miller³, RC Lacy⁴, MJ Watts¹, ML Verant⁵, JP Pollack⁶, DA Fordham¹, TAA Prowse¹ and BW Brook¹, (1) University of Adelaide, (2) Charles Darwin University, (3) IUCN Species Survival Commission, (4) Chicago Zoological Society, (5) University of Minnesota, (6) Cornell University. *Novel coupling of individual-based epidemiological and demographic models predicts realistic dynamics of tuberculosis in alien buffalo.*

4:20 PM OOS 15-9 Ordonez, A¹ and H Olff², (1) University of Groningen, (2) RUG. *Comparing the functional differentiation of native and alien plants across spatial scales.*

4:40 PM OOS 15-10 Hock, K and NH Fefferman, Rutgers University. *Impact of individual behavioral decisions and interaction structure on the spread of infectious disease in an ecosystem.*

OOS 16 - Maintaining Hydrologic Connectivity to Preserve Biodiversity in a World Hungry for Hydropower

17B, Austin Convention Center

Organized by: N Lujan, KO Winemiller

Moderator: N Lujan

In this session, aquatic biologists and river conservationists from many latitudes will assemble to discuss factors that contribute to successful aquatic biodiversity conservation in the face of intense pressure to impede hydrologic connectivity beyond the limits that must be set to maintain biodiversity in lotic systems.

1:30 PM OOS 16-1 Jacobsen, D¹, NK Lujan², V Meza V³, K Roach², V Rimarachin C.³, J Arana M.³ and KO Winemiller², (1) University of Copenhagen, (2) Texas A&M University, (3) University of San Marcos. *Anthropogenic impacts and longitudinal, elevational effects on the periphyton, macroinvertebrate, and fish communities of an Amazonian headwater.*

1:50 PM OOS 16-2 Anderson, EP¹ and CM Pringle², (1) Florida International University, (2) University of Georgia. *Challenges and opportunities for maintaining hydrologic connectivity in montane Neotropical streams.*

2:10 PM OOS 16-3 Agostinho, A, LC Gomes and SM Thomaz, Universidade Estadual de Maringá. *Mitigating biodiversity and ecosystem function losses in the Parana River, the world's most fragmented river basin.*

2:30 PM OOS 16-4 Pusey, B, M Kennard and T Jardine, Griffith University. *Freshwater fish and connectivity in tropical northern Australian rivers.*

2:50 PM OOS 16-5 Dugan, P, WorldFish Center. *Blending ecological science with development of the Mekong River: how ecologists can make a difference.*

3:10 PM Break

3:20 PM OOS 16-6 Cada, G, Oak Ridge National Laboratory. *The potential of technological innovations to cope with threats to biodiversity.*

3:40 PM OOS 16-7 Miyazono, S and C Taylor, Texas Tech University. *Effects of habitat isolation on species turnover and community nestedness in a desert river system.*

4:00 PM OOS 16-8 Auerbach, DA, Colorado State University. *Models in the penstocks: putting theory to work for river conservation.*

4:20 PM OOS 16-9 Ziv, G¹, E Baran², I Rodriguez-Iturbe¹ and SA Levin¹, (1) Princeton University, (2) World Fish Centre, Cambodia. *Sustainable hydropower development in the Mekong River.*

OOS 17 - Contribution of Observing Systems and Analyses to Continental Scale Ecology

12A, Austin Convention Center

Organized by: K Docherty (kdocherty@neoninc.org), B Wee

Moderator: B Wee

The session will focus on continental scale analyses of ecological phenomena encompassing a broad range of topics from micro-organisms to ecosystems and from the post-glacial past to the future under climate change.

1:30 PM OOS 17-1 Schimel, D, NEON Inc.. *NEON Continental Scale Data Products to Enable Ecological Analysis and Forecasting.*

1:50 PM OOS 17-2 Phinn, S¹, A Specht¹, A Lowe², M Liddell³, D Lindenmayer⁴, P Grace⁵, A Held⁶, H Cleugh⁶, A Steven⁶, M Grundy⁶, IC Prentice⁷ and C Walker², (1) The University of Queensland, (2) The University of Adelaide, (3) James Cook University, (4) Australian National University, (5) Queensland University of Technology, (6) CSIRO, (7) Macquarie University. *Australia's TERN: Development a Terrestrial Ecosystem Research Network, Building on Past Knowledge to Generate New Understanding.*

2:10 PM OOS 17-3 Johnson, B¹, M Kuester² and DJP Moore², (1) NEON, Inc., (2) NEON Inc.. *The NEON Airborne Observation Platform: A Tool for Scaling from Organismal to Continental Scales.*

2:30 PM OOS 17-4 Goodrich, DC¹, D Marks², MR Walbridge³, MS Moran¹, DPC Peters⁴, MP McClaran⁵, MH Nichols¹ and MB Adams⁶, (1) USDA-ARS-SWRC, (2) USDA ARS Northwest Watershed Research Center, (3) USDA-ARS Office of National Programs, (4) USDA ARS Jornada Experimental Range and Jornada Basin LTER Program, (5) University of Arizona, (6) USDA FS Timber and Watershed Laboratory. *The Need for a Long-Term Agro-Ecosystems Research (LTAR) Network: Using Long-Term USDA Experimental Sites as Basis for Continental Scale Agro-Eco-Hydrology.*

2:50 PM OOS 17-5 McLachlan, J¹, CJ Paciorek², M Dietze³, DR Foster⁴, ST Jackson⁵ and JW Williams⁶, (1) University of Notre Dame, (2) University of California, Berkeley, (3) University of Illinois, (4) Harvard University, (5) University of Wyoming, (6) University of Wisconsin-Madison. *Putting Climate Change in Context: What Is the Signal of Vegetation Change Over the Last 2000 Years?.*

3:10 PM Break

3:20 PM OOS 17-6 Antonopoulos, DA, Argonne National Laboratory. *North American Soil Metagenomes Cluster by Ecosystem Type and Edaphic Factors.*

3:40 PM OOS 17-7 Moore, DJ, NEON Inc.. *Development of a Data Assimilation System to Study Ecosystem Exchange at the National Scale Using Data from the National Ecological Observatory Network.*

4:00 PM OOS 17-8 Crimmins, TM¹, EG Denny², CAF Enquist¹, RL Marsh¹, A Rosemartin³ and JF Weltzin¹, (1) USA National Phenology Network, (2) Northeast Regional Phenology Network, (3) USA National Phenological Network &

1:30 pm-5 pm

University of Arizona . *Tracking climate change using Nature's Notebook.*

4:20 PM OOS 17-9 Jørgensen, PS¹, K Böhning-Gaese², K Thorup¹, AP Tøttrup¹ and C Rahbek¹, (1)University of Copenhagen, (2)Biodiversity and Climate Research Centre (Bik-F). *Global change response in European birds: Trait-environment interactions link short-term dynamics with long-term trends.*

4:40 PM OOS 17-10 Brown, T¹, J Borevitz², KR Hultine³ and PL Nagler⁴, (1)TimeScience, (2)University of Chicago, (3) Northern Arizona University, (4)U.S. Geological Survey. *From gigapixel timelapse cameras to unmanned aerial vehicles to smartphones: a review of emerging near remote sensing technologies for scaling from organism to ecosystem.*

OOS 18 - Preserving & Enhancing Biodiversity in Temperate Deciduous Forests: Response of the Herb Layer to Anthropogenic Disturbance Regimes

14, Austin Convention Center

Organized by: JI Burton (julia.burton@oregonstate.edu), FS Gilliam, DJ Mladenoff, CC Kern

Moderator: JA Forrester

In this session we examine the effects of a range of anthropogenic disturbance regimes on forest ground-layer plant communities and explore the challenges of characterizing these effects within a general framework.

1:30 PM OOS 18-1 Gilliam, FS, Marshall University. *Effects of excess nitrogen deposition on the herbaceous layer of temperate hardwood forests.*

1:50 PM OOS 18-2 Flinn, KM, Emory & Henry College. *Agricultural legacies in forest herb communities.*

2:10 PM OOS 18-3 Luken, JO, Coastal Carolina University. *Plant invasion of forests: Divergent narratives and possible explanations.*

2:30 PM OOS 18-4 Johnson, SE¹ and DM Waller², (1)University of Wisconsin-Madison, (2)University of Wisconsin. *A river runs through it: 55-year changes in floodplain forest herbs in Wisconsin.*

2:50 PM OOS 18-5 Wyatt, JL and MR Silman, Wake Forest University. *Long-term effects of clearcutting in the Southern Appalachians.*

3:10 PM Break

3:20 PM OOS 18-6 Kern, CC¹, PB Reich², RA Montgomery² and TF Strong³, (1)USDA Forest Service, (2)University of Minnesota, (3)USDA Forest Service, Retired. *Harvest-created canopy gap size influences niche partitioning of the ground-layer plant community in a northern hardwood forest.*

3:40 PM OOS 18-7 Burton, JI¹, DJ Mladenoff², JA Forrester² and MK Clayton³, (1)Oregon State University, (2)University of Wisconsin-Madison, (3)UW-Madison. *Anthropogenic constraints to the restoration of old-growth characteristics to younger second-growth stands.*

OOS 19 - From Reasoning to Action: Environmental Literacy for Effective Earth Stewardship

15, Austin Convention Center

Organized by: JH Doherty (dohertyjh@gmail.com), JW Schramm, EG Keeling

Moderator: JW Schramm

This session brings together cutting-edge research by ecologists and learning scientists on the reasoning of students as they grapple with ecological concepts, such as carbon cycling, community assembly, natural selection, and water dynamics, across their

formal education curriculum and how that reasoning is connected with citizenship decisions and quantitative reasoning.

1:30 PM OOS 19-1 Covitt, B¹, JH Doherty² and L Pitot³, (1) University of Montana, (2)Michigan State University, (3) Colorado State University. *Developing an environmental science citizenship learning progression framework.*

1:50 PM OOS 19-2 Schuttlefield, JD¹, KL Gunckel² and BA Covitt³, (1)University of Wisconsin, Oshkosh, (2)University of Arizona, (3)University of Montana. *Developing a learning progression for water in socio-ecological systems.*

2:10 PM OOS 19-3 Cano, A¹ and A Whitmer², (1)University of California, Santa Barbara, (2)Georgetown University. *Santa Barbara Middle School Student Discourse using IPCC Climate Change Evidence.*

2:30 PM OOS 19-4 Mayes, RL¹, M Lyford¹, M MacGregor¹, S Parker¹ and J Schuttlefield², (1)University of Wyoming, (2)University of Wisconsin, Oshkosh. *Role of quantitative reasoning on the development of environmental literacy.*

2:50 PM OOS 19-5 Keeling, EG¹, AR Berkowitz¹, CW Anderson², RL Mayes³ and R Foot⁴, (1)Cary Institute of Ecosystem Studies, (2)Michigan State University, (3)University of Wyoming, (4)Towson University. *Teaching strategies for improving public understanding of the global carbon cycle.*

3:10 PM Break

3:20 PM OOS 19-6 Doherty, JH, JW Schramm and CW Anderson, Michigan State University. *The role of heredity, environment, and agency in students' accounts of adaptation by selection and phenotypic plasticity.*

3:40 PM OOS 19-7 McMahan, S¹, LM Hartley² and B Wilke³, (1)Colorado State University, (2)University of Colorado Denver, (3)Michigan State University. *Student understanding of processes and principles related to species diversity in communities.*

4:00 PM OOS 19-8 Berkowitz, AR¹, S Parker², R Tschillard³, B Caplan¹, JH Doherty⁴, A Whitmer⁵ and JC Moore⁶, (1) Cary Institute of Ecosystem Studies, (2)University of Wyoming, (3)Poudre Learning Center, (4)Michigan State University, (5)Georgetown University, (6)Colorado State University. *How can professional development help teachers use learning progressions in teaching for environmental science literacy?*

4:20 PM OOS 19-9 Byrne, LB¹, M Lowman² and T Mourad³, (1)Roger Williams University, (2)North Carolina State University, (3)Ecological Society of America. *What does it mean to be environmentally literate?*

COS 34 - Aquatic Ecology II

Ballroom B, Austin Convention Center

1:30 PM COS 34-1 Moody, EK¹, BC Weidel², TD Ahrenstorff³, WP Mattes⁴ and J Kitchell⁵, (1)Arizona State University, (2)US Geological Survey, (3)University of Minnesota-Duluth, (4) Great Lakes Indian Fish & Wildlife Commission, (5)Univ. of Wisconsin-Madison. *Out in the cold: Effects of differing host temperatures on sea lamprey (*Petromyzon marinus*) growth.*

1:50 PM COS 34-2 Luhing, TM¹ and RM Holdo², (1)University of Missouri, (2)University of Florida. *Body size as an adaptation for drought survival in stochastic aquatic environments.*

2:10 PM COS 34-3 Phillis, CC¹, DE Pearse² and JW Moore¹, (1) Simon Fraser University, (2)NOAA National Marine Fisheries Service. *Ecological consequences of rapid life-history evolution in rainbow trout.*

2:30 PM COS 34-4 Matthews, KR, Conservation of Biodiversity Program. *California golden trout and climate change: Will their stream habitat be resilient to increased water temperature.*

- 2:50 PM COS 34-5 Han, H, University of Michigan, Ann Arbor. *Size-specific foraging gain, and the growth-predation risk tradeoff: How body size influence risk-taking foraging behavior.*
- 3:10 PM Break
- 3:20 PM COS 34-6 Kenkel, CD¹, GE Goodbody-Gringley², E Bartels² and MV Matz¹, (1)The University of Texas at Austin, (2)Mote Marine Laboratory. *Evidence of local thermal adaptation in a reef-building coral.*
- 3:40 PM COS 34-7 Pedruski, MT, GF Fussmann and A Gonzalez, McGill University. *Dynamics in competitive metacommunities: Fitness inequality and niche differentiation.*
- 4:00 PM COS 34-8 Lemasson, BH¹, D Smith² and RA Goodwin³, (1)U.S. Army Engineer R & D Center, (2)U.S. Army Engineer R&D Center, (3)U. S. Army Engineer R&D Center. *Assessing the utility of drift-feeding behavior to reduce the uncertainty of habitat suitability analyses using a virtual species.*
- 4:20 PM COS 34-9 Atlas, WI and WJ Palen, Simon Fraser University. *The influence of terrestrial resource subsidies on the top-down effects of multiple predators in a freshwater community.*
- 4:40 PM COS 34-10 Phillipsen, IC and DA Lytle, Oregon State University. *Habitat fragmentation in desert streams drives population structure of an aquatic insect.*

COS 35 - Arid and Semi-Arid Systems

Ballroom F, Austin Convention Center

- 1:30 PM COS 35-1 Goolsby, DP¹, B Bestelmeyer² and SR Archer³, (1)New Mexico State University, (2)USDA Agricultural Research Service, (3)University of Arizona. *Incorporating spatial patterns into a state and transition model for arid grasslands and shrublands in southern New Mexico.*
- 1:50 PM COS 35-2 Dettweiler-Robinson, E and JD Bakker, University of Washington. *Biotic and abiotic characteristics interact with fire history to influence biological soil crust cover and composition in the Columbia Basin.*
- 2:10 PM COS 35-3 Hewins, DB¹, HL Throop¹, SR Archer² and GS Okin³, (1)New Mexico State University, (2)University of Arizona, (3)UCLA. *Soil-litter mixing accelerates decomposition and facilitates soil aggregate formation in a Chihuahuan Desert grassland.*
- 2:30 PM COS 35-4 Vest, KR¹, AJ Elmore², JM Kaste³ and GS Okin⁴, (1)Appalachian Laboratory, University of Maryland Center for Environmental Sciences, (2)University of Maryland Center for Environmental Science, (3)The College of William and Mary, (4)UCLA. *Wind erosion in groundwater dependent vegetation communities.*
- 2:50 PM COS 35-5 Raabe, TK¹, JT Baccus¹, TW Schwertner² and TR Simpson¹, (1)Texas State University, (2)Bio-West, Inc.. *Habitat associations of desert small mammal communities at Ash Meadows National Wildlife Refuge, Nye County, Nevada.*
- 3:10 PM Break
- 3:20 PM COS 35-6 DeFalco, LA and SJ Scoles-Sciulla, US Geological Survey, Western Ecological Research Center. *The role of a pre-emergent herbicide to suppress non-native annuals and facilitate the recovery of a burned Mojave Desert shrubland.*
- 3:40 PM COS 35-7 Martinez-Berdeja, A, University of California, Riverside. *Ecological significance of serotiny and timing of seed dispersal in desert regions with varying seasonal rainfall distribution.*
- 4:00 PM COS 35-8 Thomey, ML, SL Collins, WT Pockman, MT Friggens and RF Brown, University of New Mexico. *Monsoon precipitation extremes and the response of two dominant grassland species across an arid-semiarid ecotone.*
- 4:20 PM COS 35-9 Petrie, MD, SL Collins and D Gutzler, University of New Mexico. *Heterogeneity in monsoon precipitation across space and time: An analysis of the northern Chihuahuan Desert, USA.*
- 4:40 PM COS 35-10 Perez-Quezada, JF¹, PMS Jara¹, R Fuster¹, N Franck¹, KA Snyder² and DA Johnson³, (1)Universidad de Chile, (2)USDA Agricultural Research Service, (3) USDA-ARS Forage and Range Research Lab. *Ecosystem water use efficiency in an arid shrubland in Chile under natural and afforested conditions.*

COS 36 - Mutualism and Facilitation I

4, Austin Convention Center

- 1:30 PM COS 36-1 Crowley, PH, JJ Cox and DS Tedder, University of Kentucky. *Modular Mutualism.*
- 1:50 PM COS 36-2 Encinas-Viso, F¹, TA Revilla², D Alonso³ and RS Etienne³, (1)Community and Conservation Ecology Group, (2)Instituto de Zoología y Ecología Tropical, Universidad Central de Venezuela, Facultad de Ciencias, (3)University of Groningen. *Phenology drives mutualistic network structure and diversity.*
- 2:10 PM COS 36-3 Bruna, III, EM¹, T Izzo², BD Inouye³, M Uriarte⁴ and HL Vasconcelos⁵, (1)University of Florida, (2)Universidade Federal de Mato Grosso, (3)Florida State University, (4)Columbia University, (5)Universidade Federal de Uberlândia. *Assymetric dispersal capability of Amazonian plant-ant queens: Are there consequences for host plant demography?*
- 2:30 PM COS 36-4 Morales, MA, Williams College. *Phenology of mutualism: Altitudinal variation in survival and benefit of an ant-tended treehopper.*
- 2:50 PM COS 36-5 Fitzpatrick, GM, TE Huxman and JL Bronstein, University of Arizona. *Thermal tolerance affects mutualist attendance in an ant-plant interaction.*
- 3:10 PM Break
- 3:20 PM COS 36-6 Palmer, TM¹ and M Stanton², (1)University of Florida, (2)University of California Davis. *The high cost of mutualism: effects of four species of East African ant symbionts on their myrmecophyte host tree.*
- 3:40 PM COS 36-7 Johnson, CA and P Amarasekare, University of California, Los Angeles. *Ecological determinants of specialization and generalization in mutualistic interactions.*
- 4:00 PM COS 36-8 Keller, KR, Michigan State University. *The effects of intraspecific diversity and resource mutualisms on community dynamics.*
- 4:20 PM COS 36-9 Xie, J, B Tiner, N Silva, L Guenther and M Mateos, Texas A&M University. *Defensive mutualism: The effects of Spiroplasma and Wolbachia, two endosymbiotic bacteria of Drosophila melanogaster, on fly survival upon attack by two parasitoid wasps.*
- 4:40 PM COS 36-10 Frederickson, ME¹, A Ravenscraft², G Miller³, LMA Hernandez¹, G Booth¹ and NE Pierce³, (1)University of Toronto, (2)Stanford University, (3)Harvard University. *The direct and ecological costs of an ant-plant mutualism.*

COS 37 - Biodiversity I

5, Austin Convention Center

- 1:30 PM COS 37-1 Soininen, J¹ and J Wang², (1)University of Helsinki, (2)Nanjing Institute of Geography & Limnology. *It is lonely at the top – patterns in elevational diversity among micro- and macroorganisms.*
- 1:50 PM COS 37-2 Massad, TJ¹, JK Balch², S Aparecida Vieira³, PM Brando⁴ and SE Trumbore¹, (1)Max Planck Institute

1:30 pm-5 pm

- for Biogeochemistry, (2)National Center for Ecological Analysis & Synthesis, (3)Universidade Estadual de Campinas, (4)Instituto de Pesquisa Ambiental da Amazônia. *Interacting effects of fire, nutrients, and herbivores on the diversity of forest regeneration in the southern Amazon.*
- 2:10 PM COS 37-3 Leibold, MA¹, BL Brown² and AL Downing³, (1)University of Texas at Austin, (2)Clemson University, (3)Ohio Wesleyan University. *Effects of biodiversity and environmental forcing on compensatory dynamics in zooplankton.*
- 2:30 PM COS 37-4 Brophy, C¹, J Connolly², L Kirwan³, R Collins⁴, JA Finn⁵, Á Helgadóttir⁶, A Lüscher⁷, C Porqueddu⁸ and MT Sebastià⁹, (1)National University of Ireland Maynooth, (2)University College Dublin, (3)Waterford Institute of Technology, (4)IGER, (5)Teagasc, (6)Agricultural University of Iceland, (7)Agroscope Reckenholz-Tänikon Research Station ART, (8)CNR-ISPAAM, (9)Forest Technology Centre of Catalonia. *Climatic effects on the composition of four-species agronomic grassland systems at 32 sites over three years.*
- 2:50 PM COS 37-5 Gross, KL¹, L Gough², KN Suding³ and E Cleland⁴, (1)Michigan State University, (2)University of Texas at Arlington, (3)University of California at Berkeley, (4)University of California – San Diego. *Moving beyond growth form: Predicting species responses to nutrient addition.*
- 3:10 PM Break
- 3:20 PM COS 37-6 Stephens, PR, S Huang and JL Gittleman, University of Georgia. *Traits, trees, and taxa: Dimensions of biodiversity in terrestrial mammals.*
- 3:40 PM COS 37-7 Rudolf, VH and NL Rasmussen, Rice University. *From individuals to ecosystems: Consequences of ontogenetic niche shifts for community structure and ecosystem functioning.*
- 4:00 PM COS 37-8 Niu, SQ and JH Knouft, Saint Louis University. *The relationship between regional species richness, local hydrologic characteristics, and local species richness in North American freshwater fishes.*
- 4:20 PM COS 37-9 Anacker, BL, SP Harrison and BM Going, University of California, Davis. *The relationship of productivity, beta diversity, and phylogenetic beta diversity in the California flora.*
- 4:40 PM COS 37-10 Downing, AS¹, EH van Nes¹, WM Mooij² and M Scheffer¹, (1)Wageningen University, (2)Netherlands Institute of Ecology (NIOO-KNAW). *When diversity loss leads to a critical transition.*

COS 38 - Biogeochemistry

6A, Austin Convention Center

- 1:30 PM COS 38-1 Lucas, JM¹, NA Clay², M Kaspari² and AD Kay¹, (1)University of St. Thomas, (2)University of Oklahoma. *Azteca ants connect aboveground and belowground processes in a wet tropical forest.*
- 1:50 PM COS 38-2 Donoso, DA¹, MK Johnston², N Clay¹ and M Kaspari¹, (1)University of Oklahoma, (2)University of Texas at Austin. *Trees construct but seasonality deconstruct trophic structure of tropical litter arthropod communities.*
- 2:10 PM COS 38-3 Trahan, NA¹, DJP Moore², DR Bowling³ and RK Monson¹, (1)University of Colorado, Boulder, (2)King's College London, (3)University of Utah. *Mountain Pine beetle disturbance effects on Colorado subalpine forest carbon cycling.*
- 2:30 PM COS 38-4 Monger, C and Y Feng, New Mexico State University. *Soil carbonate: Its biological formation as a*

complex adaptive system.

- 2:50 PM COS 38-5 Homyak, PM¹ and JO Sickman², (1)University of California, Riverside, (2)UC Riverside. *Pulses of NO and N₂O in Mediterranean ecosystems of the Sierra Nevada (California): importance of gaseous fluxes in annual N budgets.*
- 3:10 PM Break
- 3:20 PM COS 38-6 Boggs, JL and SG McNulty, USDA Forest Service. *Experimentally applied nitrogen successfully induced nitrogen saturation: A 22-year case study in red spruce forest.*
- 3:40 PM COS 38-7 Smith, KR¹, B Hedin², BP Breslow¹, B McNeil¹, WT Peterjohn¹ and RB Thomas¹, (1)West Virginia University, (2)Allegheny College. *Changes in soil respiration along a nitrogen availability gradient in high-elevation red spruce forests.*
- 4:00 PM COS 38-8 Whittinghill, KA, WS Currie and DR Zak, University of Michigan. *Using an ecosystem process model to examine effects of increased nitrogen deposition on soil carbon storage through decreased decomposition.*
- 4:20 PM COS 38-9 Procter, A¹, RA Gill², HW Polley³ and RB Jackson¹, (1)Duke University, (2)Brigham Young University, (3)USDA, Agricultural Research Service. *Soil type modifies response of soil carbon pools to an atmospheric CO₂ gradient.*
- 4:40 PM COS 38-10 Yanai, RD¹, EB Rastetter², MC Fisk³, TJ Fahey⁴, RQ Thomas⁴ and MA Vadeboncoeur⁵, (1)SUNY College of Environmental Science and Forestry, (2)Marine Biological Lab, (3)Miami University of Ohio, (4)Cornell University, (5)University of New Hampshire. *Multi-element limitation: Simulation and measurements suggest that P is more limiting than N in young northern hardwood ecosystems.*

COS 39 - Climate Change I

8, Austin Convention Center

- 1:30 PM COS 39-1 Sandel, B¹, B Dalsgaard², L Arge¹ and JC Svenning¹, (1)Aarhus University, (2)University of Cambridge. *Late Quaternary climate-change velocity: Implications for modern distributions and communities.*
- 1:50 PM COS 39-2 Cuddington, K, University of Waterloo. *Minimum temperature data of eastern North America: Significant changes in variance and autocorrelation over a period of 64 years.*
- 2:10 PM COS 39-3 Mohan, J¹, PT Frankson¹, KJ Bridges¹, F Lehman¹, SI Khan¹, CF Salk², AW Stine², JS Clark² and JM Melillo³, (1)University of Georgia, (2)Duke University, (3)Marine Biological Laboratory. *Forest composition in a warmer world: Results from across the eastern deciduous forest biome highlighting impacts of light and mycorrhizae.*
- 2:30 PM COS 39-4 Rodríguez-Castañeda, G and R Jansson, Umeå University. *Did climatic stability allow for the evolution of toxic plants, voracious specialist herbivores and fierce predators in the tropics?.*
- 2:50 PM COS 39-5 Dybala, KE, University of California, Davis. *Demography matters: adult and juvenile survival rates will respond differently to a changing climate.*
- 3:10 PM Break
- 3:20 PM COS 39-6 Wiederholt, RP¹ and EHC Grant², (1)USGS Patuxent Wildlife Research Center, (2)US Geological Survey, Patuxent Wildlife Research Center/ MEES Program, University of Maryland, College Park. *Managing for climate change in the mountains, the Shenandoah salamander *Plethodon shenandoah*.*
- 3:40 PM COS 39-7 Lowe, WH, University of Montana. *Climate change and long-term trends in a stream salamander*

population.

- 4:00 PM COS 39-8 Elderd, BD and JR Reilly, Louisiana State University. *The effects of global warming on disease transmission in the fall armyworm Spodoptera frugiperda.*
- 4:20 PM COS 39-9 Bonebrake, TC and CA Deutsch, University of California, Los Angeles. *Global insect warming responses driven by temporal and spatial thermal heterogeneity.*
- 4:40 PM COS 39-10 Godsoe, W¹, P James², B Bentz³, T Ives⁴, C Cobbold⁵ and M pineda-Krch², (1)University of Tennessee, (2)University of Alberta, (3)USDA Forest Service, (4)University of Wisconsin, (5)University of Glasgow. *Does the evolution of cold tolerance contribute to insect outbreaks?*

COS 40 - Community Assembly and Neutral Theory III

9AB, Austin Convention Center

- 1:30 PM COS 40-1 Brandt, AJ¹, EW Seabloom² and MW Cadotte³, (1)Oregon State University, (2)University of Minnesota, (3)University of Toronto - Scarborough. *Disturbance and resource supply affect species and phylogenetic diversity in invaded California grasslands.*
- 1:50 PM COS 40-2 Schechter, SP¹ and TD Bruns², (1)USDA Forest Service, (2)University of California. *Distinction between serpentine and non-serpentine AMF indicates role for edaphic selection in community assembly.*
- 2:10 PM COS 40-3 Andersen, KM¹, BL Turner¹ and JW Dalling², (1)Smithsonian Tropical Research Institute, (2)University of Illinois. *Predicting seedling performance along a soil nutrient gradient: Shifts in the relative importance of pest pressure on functional traits.*
- 2:30 PM COS 40-4 McGlenn, DJ and AH Hurlbert, University of North Carolina. *Disentangling within- and between-species components of spatial community variation reveals processes driving community assembly.*
- 2:50 PM COS 40-5 Shaw, RW and MA Leibold, University of Texas at Austin. *Unpredictable community composition of adult dragonflies (Odonata: Anisoptera) in a pond metacommunity.*
- 3:10 PM Break
- 3:40 PM COS 40-6 Davies, KF¹, BA Melbourne¹, CR Margules² and JF Lawrence², (1)University of Colorado, (2)CSIRO Ecosystem Science. *Habitat fragmentation reduces the importance of stochastic processes as beetle communities disassemble.*
- 4:00 PM COS 40-7 Butterfield, B¹, LA Cavieres², RM Callaway³, RW Brooker⁴, BJ Cook⁵, Z Kikvidze⁶, CLortie⁷, R Michalet⁸, FIPugnaire⁹, C Schoeb¹⁰, A Valiente-Banuet¹¹ and S Xiao¹², (1)Northern Arizona University, (2)Universidad de Concepción, Instituto de Ecología y Biodiversidad (IEB), (3)University of Montana, (4)The Macaulay Institute, (5)Minnesota State University, Mankato, (6)University of Tokyo, (7)York University, (8)BIOGECO laboratory, (9)Consejo Superior de Investigaciones Científicas, (10)Consejo Superior de Investigaciones Científicas, (11)UNAM, (12)Lanzhou University. *Evolutionary and biogeographic history constrain ecological convergence in alpine plant communities: A global comparison.*
- 4:20 PM COS 40-8 Baraloto, C¹, C Fortunel¹ and PVA Fine², (1)INRA, (2)University of California, Berkeley. *Contrasting tissue strategies explain functional beta diversity in Amazonian trees.*
- 4:40 PM COS 40-9 Edwards, KF¹, C Klausmeier² and E Litchman², (1)W. K. Kellogg Biological Station, Michigan State University, (2)Michigan State University. *Evidence for a three-way tradeoff between nitrogen and phosphorus*

competitive abilities and cell size in phytoplankton.

COS 41 - Community Pattern and Dynamics I

9C, Austin Convention Center

- 1:30 PM COS 41-1 Lasky, JR¹, IF Sun² and TH Keitt¹, (1)The University of Texas at Austin, (2)Tunghai University. *The role of functional traits in tree community dynamics of Fushan subtropical rainforest, Taiwan.*
- 1:50 PM COS 41-2 Boukili, VKS¹, RL Chazdon¹ and CJ Peterson², (1)University of Connecticut, (2)University of Georgia. *Functional trait characterization of tropical premontane old-field succession.*
- 2:10 PM COS 41-3 Sonnier, G¹, A Jamoneau² and G Decocq², (1)University of Wisconsin-Madison, (2)University of Picardie Jules Verne. *Evidence for a direct effect of forest age and forest isolation on herbs functional diversity.*
- 2:30 PM COS 41-4 Russo, SE¹, S Tan², L Zhang³ and SJ Davies², (1)University of Nebraska-Lincoln, (2)Center for Tropical Forest Science, (3)University of Nebraska. *Duration versus rate of return on investment: The importance of leaf lifespan to tree species distributions on edaphic gradients.*
- 2:50 PM COS 41-5 Lake, JK¹, JC Svenning², MD Weiser³, S Normand⁴, I Aranda⁵, M Araújo⁶, JAF Diniz-filho⁷, R Garcia-Valdes⁸, J Kollmann⁹, D Nogues-Bravo¹⁰, F Pulido¹¹, MA Rodriguez¹², F Valladares¹³, MA Zavala¹⁴ and NG Swenson¹, (1)Michigan State University, (2)University of Aarhus, (3)North Carolina State University, (4)Swiss Federal Research Institute WSL, (5)INIA, (6)Museo Nacional de Ciencias Naturales, (7)Universidade Federal de Goias, (8)University of Alcalá, (9)Technical University Munich, (10)University of Copenhagen, (11)University of Extremadura, (12)Universidad de Alcalá de Henares, (13)The Macaulay Institute, (14)Universidad de Alcalá. *Distribution of functional traits in trees of Europe and eastern North America.*
- 3:10 PM Break
- 3:20 PM COS 41-6 Siefert, AC, Syracuse University. *Spatial patterns of functional diversity in old-field plant communities.*
- 3:40 PM COS 41-7 Feng, X and M Dietze, University of Illinois. *Effects of photosynthesis capacity on community structure in tallgrass prairie.*
- 4:00 PM COS 41-8 García-Baquero, G¹, J Silvertown², D Gowing² and CJ Valle³, (1)University of the Basque Country, (2)The Open University, (3)University of Salamanca. *Dissecting the hydrological niche: Soil moisture, space and lifespan.*
- 4:20 PM COS 41-9 Violle, C¹, I Simova², NG Swenson³, B Boyle¹ and BJ Enquist⁴, (1)University of Arizona, (2)Charles University, Prague, (3)Michigan State University, (4)University of Arizona and The Santa Fe Institute. *Change in plant biodiversity along a latitudinal gradient: Insights from functional diversity.*
- 4:40 PM COS 41-10 Pendergast, IV, TH¹, AJ Baumert² and WP Carson¹, (1)University of Pittsburgh, (2)GAI Consulting. *Evidence of a super species; lack of functional tradeoffs predict dominance.*

COS 42 - Plant-Insect Interactions I

10A, Austin Convention Center

- 1:30 PM COS 42-1 Gomez, S¹, CM Orians² and E Preisser¹, (1)University of Rhode Island, (2)Tufts University. *Effects of individual and multiple invasive herbivores on nutritional chemistry in eastern hemlock foliage.*
- 1:50 PM COS 42-2 Ott, JR¹, SP Egan² and GR Hood³, (1)Texas State University-San Marcos, (2)University of Notre Dame, (3)The University of Notre Dame. *Selection on*

1:30 pm-5 pm

insect herbivore traits at the level of individual host plants within natural populations.

- 2:10 PM COS 42-3 Buchanan, AL and NC Underwood, Florida State University. *Pollination and herbivory influence plant allocation pattern: Within- and among-year effects in *Chamerion angustifolium*.*
- 2:30 PM COS 42-4 Soper Gorden, NL and LS Adler, University of Massachusetts. *Artificial florivory decreases floral attractiveness and increases natural florivory.*
- 2:50 PM COS 42-5 McArt, SH and JS Thaler, Cornell University. *Induced resistance to seed predators via leaf herbivory: Implications for individual plants and genotypically diverse patches.*
- 3:10 PM Break
- 3:20 PM COS 42-6 Singer, MS¹, TE Farkas², CM Skorik¹ and KA Mooney³, (1)Wesleyan University, (2)University of Colorado at Boulder, (3)University of California at Irvine. *Community-wide plant modification of herbivore suppression by birds.*
- 3:40 PM COS 42-7 Phillips, MR and SA Heckathorn, University of Toledo. *Effects of heat waves on plant-insect herbivore interactions.*
- 4:00 PM COS 42-8 Petry, WK and KA Mooney, University of California, Irvine. *Sex-biased and variable herbivory parallel clinal variation in plant sex ratios along an elevational gradient.*
- 4:20 PM COS 42-9 Faeth, SH¹, A Jani² and E Shochat³, (1) The University of North Carolina at Greensboro, (2) University of California - Santa Barbara, (3)Arizona State University. *Inherited microbial symbionts in two native grasses increase herbivore abundances and richness.*
- 4:40 PM COS 42-10 Salazar, D, University of Missouri in Saint Louis. *Large scale latitudinal changes in herbivore diversity and herbivore pressure on two widely distributed neotropical *Piper* species.*

COS 43 - Invasion: Species Interactions I

19A, Austin Convention Center

- 1:30 PM COS 43-1 Radtke, TM and SD Wilson, University of Regina. *Effects of small consumers on *Agropyron cristatum* stands and native grasslands in the northern Great Plains.*
- 1:50 PM COS 43-2 Schafer, JL¹, EL Mudrak², C Holzapfel¹, CE Haines¹, HA Parag¹, DC Housman³ and KA Moloney², (1) Rutgers University, (2)Iowa State University, (3)CALIBRE. *Patterns of annual plant seedling recruitment differ between creosote dominated sites in the Mojave and Sonoran deserts.*
- 2:10 PM COS 43-3 Shannon, SM, JT Bauer and HL Reynolds, Indiana University. *Amur honeysuckle's allelopathic effects on native plant germination are context-dependent.*
- 2:30 PM COS 43-4 Beckstead, J¹, KT Merrill², SE Meyer³ and PS Allen², (1)Gonzaga University, (2)Brigham Young University, (3)USDA Forest Service, Rocky Mountain Research Station. *Cheatgrass effects on native grass seed and seedling fate: Competition, facilitation, and indirect effects of a shared seed bank pathogen.*
- 2:50 PM COS 43-5 Hulvey, KB¹ and ES Zavaleta², (1)University of Western Australia, (2)University of California, Santa Cruz. *Site conditions determine a native species' contribution to invasion resistance in California grasslands.*
- 3:10 PM Break
- 3:20 PM COS 43-6 Zaya, DN¹, SA Leicht-Young², NB Pavlovic² and MV Ashley¹, (1)University of Illinois at Chicago, (2)US Geological Survey. *Using hand-crosses and field observation to investigate pollen flow between American bittersweet (*Celastrus scandens*) and Oriental bittersweet*

(*C. orbiculatus*).

- 3:40 PM COS 43-7 Cummings, JA¹, IM Parker² and GS Gilbert¹, (1)University of California Santa Cruz, (2)University of California, Santa Cruz. *Above ground factors mediate the suppression of an invasive grass in tropical reforestation.*
- 4:00 PM COS 43-8 Hale, AN and S Kalisz, University of Pittsburgh. *Experimental investigation on the long-term impacts of garlic mustard-mediated mutualism disruption in a native forest herb-AMF system.*
- 4:20 PM COS 43-9 Graebner, RC, RM Callaway and DM Montesinos, University of Montana. **Centaurea solstitialis* from a non-native range are better competitors than conspecifics in the native range.*
- 4:40 PM COS 43-10 Grove, SE¹, IM Parker² and KA Haubensak³, (1)University of California Santa Cruz, (2)University of California, Santa Cruz, (3)Northern Arizona University. *Soil legacy effects of Scotch broom invasion on Douglas-fir mycorrhizae.*

COS 44 - Invasion: Prevention and Management

12B, Austin Convention Center

- 1:30 PM COS 44-1 Rauschert, ESJ and DA Mortensen, The Pennsylvania State University. *Human-mediated spread of invasive plants across a landscape.*
- 1:50 PM COS 44-2 Wang, H¹, WE Grant¹, TM Swannack¹, J Gan¹, WE Rogers¹, TE Koralewski¹, JH Miller² and JW Taylor Jr.², (1)Texas A&M University, (2)US Forest Service. *Predicted range expansion of Chinese tallow tree (*Triadica sebifera*) in forestlands of the southern United States.*
- 2:10 PM COS 44-3 Paudel, S¹ and L Battaglia², (1)Southern Illinois University, (2)Southern Illinois University - Carbondale. *Response of native and invasive species to canopy openness and storm surge in different habitats in coastal Mississippi.*
- 2:30 PM COS 44-4 Williams, JR and LD Dimov, Alabama A&M University. *Effect of high-intensity directed fire in different seasons on survival of the invasive species *Lonicera* (bush honeysuckle).*
- 2:50 PM COS 44-5 Carmichael, BJ¹ and WJ Platt III², (1) Louisiana State University, (2)Louisiana State University. *Does variation in fire intensity affect survival and regrowth of Japanese climbing fern (*Lygodium japonicum*) invading a longleaf pine savanna?*
- 3:10 PM Break
- 3:20 PM COS 44-6 Post, AR¹, JB Willis² and SD Askew¹, (1) Virginia Tech, (2)Monsanto. *Japanese stiltgrass seedhead suppression with plant growth regulators and glyphosate.*
- 3:40 PM COS 44-7 Douglass, CH and SJ Nissen, Colorado State University. *Impacts of Tamarisk (*Tamarix* spp.) Removal and Control Methods on Passive Re-Vegetation and Secondary Plant Invasions.*
- 4:00 PM COS 44-8 Kalnicky, EA, KH Beard and MW Brunson, Utah State University. *Resource availability and invasive coqui frog (*Eleutherodactylus coqui*) density in Hawaii.*
- 4:20 PM COS 44-9 Anderson, CB¹, PK Wallem², MP Simanonok¹, G Martinez Pastur³ and MV Lencinas³, (1)University of North Texas and Universidad de Magallanes, (2)Pontificia Universidad Catolica de Chile, (3)Centro Austral de Investigaciones Cientificas. *Landscape-level effects of North American beavers in the Fuegian Archipelago: Is the introduction of beaver the largest threat to South America's sub-Antarctic forest in the Holocene?*
- 4:40 PM COS 44-10 Valenzuela, AE, AN Raya Rey and ACM Schiavini, Centro Austral de Investigaciones Cientificas. *Native southern river otter (*Lontra provocax*) versus*

invasive American mink (Neovison vison) in the Beagle Channel, Tierra del Fuego Island.

COS 45 - Microbial Ecology

13, Austin Convention Center

- 1:30 PM COS 45-1 Frey, SD¹, J Lee² and J Six³, (1)University of New Hampshire, (2)University of California - Davis, (3) University of California-Davis. *Temperature sensitivity of microbial efficiency and implications for soil carbon storage.*
- 1:50 PM COS 45-2 Zimmerman, AE, AC Martiny and SD Allison, University of California, Irvine. *Cellular stoichiometry of the marine Roseobacter lineage.*
- 2:10 PM COS 45-3 Dooley, SR and KK Treseder, University of California, Irvine. *Fire and fungi: Changes in soil fungal abundance and community composition across a fire chronosequence in an Alaskan boreal forest.*
- 2:30 PM COS 45-4 Sullivan-Guest, T¹, CW Schadt¹, N Basta² and P Jardine³, (1)Oak Ridge National Laboratory, (2)The Ohio State University, (3)University of Tennessee. *Firing range soils yield a diverse fungal community capable of pb-mineral solubilization and organic acid secretion.*
- 2:50 PM COS 45-5 Minocha, R, USDA Forest Service, NRS. *Watershed-scale calcium supplementation alters soil bacterial community composition at Hubbard Brook Experimental Forest (HBEF), New Hampshire, USA.*
- 3:10 PM Break
- 3:20 PM COS 45-6 Larsen, ML¹, S Wilhelm² and JT Lennon¹, (1) Michigan State University, (2)University of Tennessee. *Eco-evolutionary dynamics of bacteria and phage in contrasting resource environments.*
- 3:40 PM COS 45-7 Moitra, M¹, S Ghosh¹, LT Johnson², TV Royer² and LG Leff¹, (1)Kent State University, (2)Indiana University. *Effect of quality and diversity of dissolved organic carbon on community structure and denitrification potential of stream bacteria.*
- 4:00 PM COS 45-8 Shelef, KM¹, P Loomer², G Armitage² and DA Relman³, (1)Stanford University, (2)University of California, San Francisco, (3)Stanford School of Medicine. *Ecology in the dentist's chair: Teeth cleaning and the human subgingival ecosystem.*
- 4:20 PM COS 45-9 Hanson, CA¹, JL Clasen², AP Ho¹, MD Wilson³, SS Chen¹, C Weihe¹ and JBH Martiny¹, (1)University of California, Irvine, (2)University of British Columbia, (3) University of California, Davis. *Seasonality of marine virus communities.*
- 4:40 PM COS 45-10 Waring, BG and CV Hawkes, University of Texas at Austin. *Water availability is the primary driver of microbial function in a tropical rainforest soil.*

COS 46 - Modeling: Populations

16A, Austin Convention Center

- 1:30 PM COS 46-1 Riede, JO and U Brose, University of Göttingen. *Stepping in Eltons footprints: a general scaling model for body masses and trophic levels across ecosystems.*
- 1:50 PM COS 46-2 Reynolds, SA¹ and CE Brassil², (1)University of Nebraska-Lincoln, (2)University of Nebraska. *When can a single species, density dependent model capture the dynamics of a consumer-resource system?.*
- 2:10 PM COS 46-3 Shyu, E¹, EA Pardini², TM Knight² and H Caswell¹, (1)Woods Hole Oceanographic Institution, (2)Washington University in St. Louis. *A seasonal, density-dependent, stage-structured harvest model for the management of an invasive weed.*
- 2:30 PM COS 46-4 Haynes, KJ¹ and AM Liebhold², (1)University of Virginia, (2)USDA Forest Service. *Spatial synchrony of gypsy*

moth outbreaks affected by structure of forest food webs.

- 2:50 PM COS 46-5 McKelvey, M and PM Dixon, Iowa State University. *Incorporating imperfect detection into a classification and regression tree model of occupancy.*
- 3:10 PM Break
- 3:20 PM COS 46-6 Taylor, CM, Tulane University. *Metapopulation models for seasonally migratory animals.*
- 3:40 PM COS 46-7 Peterman, WE¹, JE Earl¹, TAG Rittenhouse² and RD Semlitsch¹, (1)University of Missouri, (2)University of Wisconsin-Madison. *Patterns in time and space: Using graph theory and occupancy modeling to assess population connectivity and persistence of Missouri wood frogs.*
- 4:00 PM COS 46-8 Gil-Weir, K and EH Weir, Ecosystems Advisors LP. *Whooping crane migration and stopover decision, a conceptual model.*
- 4:20 PM COS 46-9 Westhus, EJ and GR Camilo, Saint Louis University. *Developing a scale transition model for Missouri's mosquito populations.*
- 4:40 PM COS 46-10 Nelis, LC, Stanford University. *Do population dynamic parameters differ between native and exotic grassland species?.*

COS 47 - Reptiles and Amphibians

18A, Austin Convention Center

- 1:30 PM COS 47-1 Fields, WR, C Frock, NM Haddad and N Thurgate, North Carolina State University. *Testing assumptions about amphibian movement behavior with field experiments.*
- 1:50 PM COS 47-2 Liang, CT, Pacific Southwest Research Station, USDA Forest Service. *Movement and habitat use of the Yosemite toad (Anaxyrus canorus) in the Sierra Nevada mountains, California.*
- 2:10 PM COS 47-3 Bendik, NF¹, MA Turner¹, M Sanders¹ and AG Gluesenkamp², (1)City of Austin, (2)Texas Parks and Wildlife. *Shrinking salamanders, reproducing refugees, and pliable populations: Drought response of a neotenic amphibian, the Jollyville Plateau salamander (Eurycea tonkawae).*
- 2:30 PM COS 47-4 Searcy, CA¹, E Gabbai-Saldate² and HB Shaffer¹, (1)University of California - Davis, (2)Dartmouth College. *Problematic generalizations: variation across time, space, and taxa shows amphibian landscape ecology requires a closer look.*
- 2:50 PM COS 47-5 Leavitt, DJ and LA Fitzgerald, Texas A&M University. *Landscape fragmentation disrupts lizard metacommunity structure in a sand-dune ecosystem.*
- 3:10 PM Break
- 3:20 PM COS 47-6 Cox, CL¹ and AR Davis², (1)The University of Texas-Arlington, (2)University of California-Berkeley. *Landscape genetics of the ground snake, Sonora semiannulata.*
- 3:40 PM COS 47-7 Scholl, JP¹, L Calle², EM Frazier³ and T Hindle³, (1)Florida Atlantic University (SEEDS Student), (2)Florida Atlantic University (SEEDS student), (3) Florida Atlantic University. *Distribution and habitat use of the gopher tortoise (Gopherus polyphemus) in a declining southeast Florida conservation area.*
- 4:00 PM COS 47-8 Castellon, TD and BB Rothermel, Archbold Biological Station. *Gopher Tortoise burrow distribution and densities in sub-optimal habitats of peninsular Florida.*
- 4:20 PM COS 47-9 Banka, MN, University of Michigan. *Individual and climatic variation: Predicting nesting phenology in a population of painted turtles (Chrysemys picta).*
- 4:40 PM COS 47-10 Hoverman, JT, KL Dosch, E Kellermanns, BE LaFonte, DL Preston and PT Johnson, University of Colorado.

1:30 pm-5 pm

Co-infecting parasites: How parasite assemblages and timing of exposure affect host pathology and parasite loads.

COS 48 - Evolution: Selection and Adaptation II

18B, Austin Convention Center

- 1:30 PM COS 48-1 Kandur, AS, University of Chicago. *Adaptation at a range limit in the mussel *Mytilus californianus*.*
- 1:50 PM COS 48-2 Singer, MC, University of Texas. *Butterflies fall off anthropogenic adaptive peak and meet their doom in anthropogenic ecological trap.*
- 2:10 PM COS 48-3 Smith, HA and TW Snell, Georgia Institute of Technology. *Hydroperiod correlates with sexual reproduction and life history traits in brachionid rotifers.*
- 2:30 PM COS 48-4 Touchon, JC, Smithsonian Tropical Research Institute. *Measuring selective pressures on aquatic and terrestrial reproduction using a vertebrate with reproductive mode plasticity.*
- 2:50 PM COS 48-5 Bahn, V, JH Miller and JL Peters, Wright State University. *Independent estimates of population history help unlock the genetic signatures in duck populations.*
- 3:10 PM Break
- 3:20 PM COS 48-6 Egan, SP¹, GR Hood¹ and JR Ott², (1)University of Notre Dame, (2)Texas State University-San Marcos. *Divergent host plant adaptation promotes reproductive isolation among cynipid gall wasp populations.*
- 3:40 PM COS 48-7 Tonsor, SJ, A Montesinos Navarro and MD Wolfe, University of Pittsburgh. *Adaptation to temperature and moisture regimes in *Arabidopsis thaliana*.*
- 4:00 PM COS 48-8 Moran, EV¹ and ME Kubiske², (1)NIMBioS, (2)USDA Forest Service, Northern Research Station. *Selective forces of CO₂ and ozone on a forest tree.*
- 4:20 PM COS 48-9 Richardson, JL, Yale University. *Fine-scale adaptive divergence of amphibian populations in response to habitat-mediated selection.*

COS 49 - Fisheries Management and Models

18C, Austin Convention Center

- 1:30 PM COS 49-1 Pease, AA¹, KO Winemiller², JM Taylor³ and RS King³, (1)University of Missouri, (2)Texas A&M University, (3)Baylor University. *Functional trait diversity and trait-environment relationships in Central Texas stream-fish assemblages: Implications for biomonitoring.*
- 1:50 PM COS 49-2 Ward, EJ and EE Holmes, Northwest Fisheries Science Center. *Linking genetic and time series data to reveal spatial structure in Chinook salmon.*
- 2:10 PM COS 49-3 Iacchei, M, CE Bird, MJ Donahue, KY Conklin and RJ Toonen, Hawaii Institute of Marine Biology. *Can harvesting regulations drive ecological community change? Effects of limpet (*Cellana sandwicensis*) size and density on intertidal algal communities.*
- 2:30 PM COS 49-4 Langebrake, JB¹, L Riotte-Lambert², CW Osenberg¹ and P DeLeenheer¹, (1)University of Florida, (2)Ecole Normale Supérieure. *Differential movement and movement bias models for marine protected areas.*
- 2:50 PM COS 49-5 Peña, TS, LI Gonzalez-Guzman and TH Keitt, The University of Texas at Austin. *Consequences of complex connectivity, fishing pressure, and Allee effects in marine metapopulations.*
- 3:10 PM Break
- 3:20 PM COS 49-6 Gregory, N¹, R Sensenig² and DS Wilcove³, (1)Institute for Wildlife Studies, (2)Goshen College, (3)Princeton University. *Savanna home companions: Fire, pastoralism, drought, and birds in East Africa.*
- 3:40 PM COS 49-7 Curtis, JM¹, GW Stunz¹, MW Johnson¹ and SL Diamond², (1)Texas A&M University-Corpus Christi, (2)

Texas Tech University. *The fate of regulatory discarded red snapper in the Gulf of Mexico: Insights into delayed post-release mortality and behavior.*

- 4:00 PM COS 49-8 Aalto, EA, University of California, Davis. *Effects of bycatch mortality on population dynamics in model food webs.*
- 4:20 PM COS 49-9 Stevens, ML¹ and EM Zelazo², (1)CSUS, (2)CSU Sacramento. *Fire, floodplains, and fish: The historic ecology of the lower Cosumnes river watershed.*

COS 50 - Conservation Ecology

18D, Austin Convention Center

- 1:30 PM COS 50-1 Sewald, J and KV Root, Bowling Green State University. *The importance of heterogeneity in protected areas for bat species.*
- 1:50 PM COS 50-2 Peterson, BJ and WR Graves, Iowa State University. *Recruitment of *Dirca palustris* L. (Thymelaeaceae) in five habitats from Florida to North Dakota.*
- 2:10 PM COS 50-3 Stewart, LR, Texas A&M University. *The impact of a forest pathogen: Response of golden-cheeked warblers to oak wilt induced tree mortality in Texas.*
- 2:30 PM COS 50-4 Wonkka, CL, WE Rogers, FE Smeins and D Twidwell, Texas A&M University. *Fire-induced divergence of the lifecycle of an endangered terrestrial orchid (*Spiranthes parksii* Correll).*
- 2:50 PM COS 50-5 Moskwik, MP¹ and T Thom², (1)University of Texas, (2)National Park Service. *Three years of search effort for Ivory-billed Woodpecker (*Campephilus principalis*) in South Carolina, USA.*
- 3:10 PM Break
- 3:20 PM COS 50-6 Richards-Dimitrie, TM and RA Seigel, Towson University. *Spatial ecology of Northern Map Turtles (*Graptemys geographica*) in an altered river system.*
- 3:40 PM COS 50-7 Gotlieb, A¹, Y Hollender¹ and Y Mandelik², (1)Tel Aviv University, (2)The Hebrew University of Jerusalem. *Gardening in the desert changes bee communities and pollination network characteristics.*
- 4:00 PM COS 50-8 Matthies, D¹, T Sandner² and A Ensslin³, (1)Philipps-University Marburg, (2)Philipps-University Marburg, (3)University of Bern. *Genetic diversity, fitness and adaptation of the monocarpic plant *Cynoglossum officinale* in botanic gardens.*
- 4:20 PM COS 50-9 Morrison, TA and DT Bolger, Dartmouth College. *Reproductive costs in wildebeest (*Connochaetes taurinus*).*

4 pm-6 pm

ESA Ecological Applications Editorial Board Meeting

1, Austin Convention Center

4 pm-8:30 pm

FT 18 - Ecology & Conservation Of The Endangered Barton Springs Salamander & Swimming at Barton Springs Pool

Trinity Street Lobby Field Trip Pick Up, Austin Convention Center

Organized by: JH Gillespie (hayleygillespie@gmail.com)

4:30 pm-6:30 pm

Royal Society Publishing Event (booth 210)

Exhibit Hall 3, Austin Convention Center

PS 15 - Climate Change

Exhibit Hall 3, Austin Convention Center

- PS 15-1 Grant, K, J Kreyling, LFH Dienstbach, C Beierkuhnlein and A Jentsch, University of Bayreuth. *Increased intra-annual precipitation variability affect biomass production and forage quality.*
- PS 15-2 Barta, C, JH Gramann, SL White and GW Schade, Texas A&M University. *Variations in the photosynthetic carbon assimilation and isoprene emission capacities of Texas oak species during the exceptional spring 2011 drought.*
- PS 15-3 Taylor, TC, MN Smith, B Boyle, SR Saleska, J van Haren and R Rosolem, University of Arizona. *Enhanced thermal tolerance of the Biosphere 2 tropical rainforest in response to long-term warming.*
- PS 15-4 Lepczyk, CA, R Bergstrom, MW Chynoweth, LM Ellsworth, S Henly-Shepard, DK Iwashita, K Miller and R Rhodes, University of Hawaii at Manoa. *Solutions and challenges to addressing human population growth and global climate change.*
- PS 15-5 Sokolow, SH, University of California Santa Barbara. *Climate and the dynamics of coral infectious disease.*
- PS 15-6 Fashu-Kanu, S, Syracuse University. *Experimentally induced soil freezing on soil biogeochemical processes across an elevation gradient at Hubbard Brook Experimental Forest.*
- PS 15-7 Colón-Rivera, RJ, RA Feagin and JB West, Texas A&M University. *Effects of sea level rise on a rare Pterocarpus forested wetland in Puerto Rico.*
- PS 15-8 Stork, RJ, The University of Texas at Arlington. *Thermal ecology and intra-specific variation in Rabidosa rabida (Araneae: Lycosidae) from the mountains of Arkansas.*
- PS 15-9 Stine, AW¹, CF Salk¹, J Mohan², JM Melillo³ and JS Clark¹, (1)Duke University, (2)University of Georgia, (3)Marine Biological Laboratory. *Leaf senescence phenology: Interactions with warming and light habitat.*
- PS 15-10 Tysor, CS, PL Heinrich and AV Whipple, Northern Arizona University. *Testing climate WNA modeled climate data against independent weather station records.*
- PS 15-11 Zhu, K¹, JS Clark¹ and CW Woodall², (1)Duke University, (2)USDA Forest Service, Northern Research Station. *Evidence for range contraction of eastern North American trees.*
- PS 15-12 Rosemartin, A¹, RL Marsh², EG Denny³ and BE Wilson⁴, (1)USA National Phenological Network & University of Arizona, (2)USA National Phenology Network, (3) Northeast Regional Phenology Network, (4)Oak Ridge National Laboratory. *The USA National Phenology Network's model for managing diverse data through space and time to inform phenology research and applications.*
- PS 15-13 Boehm, EM and S Travers, North Dakota State University. *Global climate change effects upon prairie plant pollination.*
- PS 15-14 Xi, W¹, DJ Mladenoff¹, RM Scheller², SD Pratt¹, LR Parker³ and CW Swanston⁴, (1)University of Wisconsin-Madison, (2)Portland State University, (3)U. S. Forest Service, (4) US Forest Service, Northern Research Station. *Simulating the impacts of climate change, land use and mitigation strategies on forest biomass in northern Wisconsin, USA.*
- PS 15-15 Center, AE and J Cavender-Bares, University of Minnesota. *Consequences of the seed production timing on germination rates and seedling survival in highly seasonal environments: A case study of an evergreen live oak species (Quercus oleoides) in tropical dry forests of Northwest Costa Rica*

PS 16 - Climate Change: Biogeochem Cycles

Exhibit Hall 3, Austin Convention Center

- PS 16-16 Brownlee, AH, LM Lynch, SN Schmidt and JD Schade, St. Olaf College. *Effect of snowpack on plant nitrogen dynamics in restored prairie ecosystems in southeastern Minnesota.*
- PS 16-17 Ladwig, LM, RL Sinsabaugh, ML Thomey and SL Collins, University of New Mexico. *Soil enzyme stability response to precipitation variability in a semiarid grassland.*
- PS 16-18 Campbell, JL¹, GE Likens², DC Buso² and SD Sebestyen¹, (1)USDA Forest Service, (2)Cary Institute of Ecosystem Studies. *Climate-induced changes in the timing of streamwater nutrient export at the Hubbard Brook Experimental Forest, New Hampshire, USA.*
- PS 16-19 Gallas, G, K Dontsova, J Chorover, E Hunt and S Ravi, University of Arizona. *Nutrient uptake and carbon release by exotic and native Arizona grass species under different temperature conditions.*
- PS 16-20 Vaness, BM¹, P Convey², HE Epstein³, R Aerts⁴, S Bokhorst⁵, A Huiskes⁵ and AM Kelley⁶, (1)Western Ag Innovations, Inc., (2)British Antarctic Survey, (3) University of Virginia, (4)Vrije University, (5)Netherlands Institute of Ecology (NIOO-KNAW), (6)North Carolina State University. *Integrating Plant Root Simulator (PRSTTM)-Probe soil sampling and conventional soil tests to examine Arctic and Antarctic plant ecosystem responses to nitrogen addition and warming.*
- PS 16-21 Kratz, CJ¹, AJ Burton¹ and EA Lilleskov², (1)Michigan Technological University, (2)US Forest Service, Northern Research Station. *Microbial metabolic responses to short-term soil warming in a temperate deciduous forest.*
- PS 16-22 Litton, CM¹, CP Giardina² and SE Crow¹, (1)University of Hawaii at Manoa, (2)USDA Forest Service. *Soil carbon storage does not vary with temperature along a 5°C mean annual temperature gradient in Hawaiian tropical montane wet forests.*
- PS 16-23 Smith, S¹, J Cherrier² and J Caffrey³, (1)Delaware State University, (2)Florida A&M University, (3)University of West Florida. *Dissolved inorganic carbon dynamics in two subtropical estuaries: Apalachicola Bay, FL, and St. Joseph Bay, FL.*
- PS 16-24 Iwashita, DK¹, CM Litton¹ and C Giardina², (1)University of Hawaii at Manoa, (2)USDA Forest Service. *Coarse woody debris biomass does not vary with mean annual temperature in Hawaiian tropical montane wet forests.*

PS 17 - Climate Change: Communities

Exhibit Hall 3, Austin Convention Center

- PS 17-25 Marvin, DC¹, K Winter², SA Schnitzer³ and RJ Burnham¹, (1)University of Michigan, (2)Smithsonian Tropical Research Institute, (3)University of Wisconsin - Milwaukee. *Tropical lianas and trees under elevated CO₂: Growth and physiological response.*
- PS 17-26 Dhungana, N¹, N vanGestel¹, J Moore-Kucera¹, V Acosta-Martinez² and JC Zak¹, (1)Texas Tech University, (2) USDA-ARS. *Responses of a soil microbial community to reduced daily soil temperature variability: A field study in the Chihuahuan Desert.*
- PS 17-27 Stuble, KL¹, DA Fowler¹, R Dunn² and NJ Sanders¹, (1) University of Tennessee, (2)NCSU. *Experimental warming of entire assemblages alters foraging behavior in ants.*
- PS 17-28 Ernest, SM¹, TJ Valone² and JH Brown³, (1)Utah State University, (2)Saint Louis University, (3)University

of New Mexico. *Multi-decadal climate cycles and the dynamics of a Chihuahuan Desert ecosystem.*

- PS 17-29 Kelt, DA¹, PL Meserve², MA Previtali³, WB Milstead⁴ and JR Gutiérrez⁵, (1)University of California, (2)Northern Illinois University, (3)Cary Institute of Ecosystem Studies, (4)U.S. Environmental Protection Agency, (5) Universidad de La Serena. *Global climate change and small mammal populations in north-central Chile.*
- PS 17-30 Gasarch, EI¹ and TR Seastedt², (1)University of Colorado, (2) University of Colorado at Boulder. *Alpine plant community response to increased moisture and nitrogen accumulation along an elevational gradient, Niwot Ridge, CO.*
- PS 17-31 Ashbacher, AC, University of California San Diego. *Shifting trait composition of chaparral communities in response to altered rainfall regimes.*
- PS 17-32 Lubetkin, KC¹, EL Berlow², A Westerling³ and LM Kueppers³, (1)University of California at Merced, (2) University of California at Merced, (3)University of California, Merced. *Extent and timing of conifer encroachment into subalpine meadows in the central Sierra Nevada, California.*
- PS 17-33 Smith, CD, AH Baldwin, JH Sullivan and PT Leisnham, University of Maryland. *Higher larval mortality and delayed development of the mosquitoes *Aedes albopictus* and *A. triseriatus* in container habitats with leaf litter grown in elevated atmospheric CO₂.*
- PS 17-34 Mulder, C¹ and BA Roy², (1)University of Alaska Fairbanks, (2)University of Oregon. *Direct and indirect impacts of environmental conditions on leaf consumers of boreal shrubs in interior Alaska, and implications for climate change.*

PS 18 - Climate Change: Plants

Exhibit Hall 3, Austin Convention Center

- PS 18-35 Chamorro, D, B Luna and JM Moreno, University of Castilla-La Mancha. *Germination response of four weed species to different thermal regimes, collected along a European latitudinal gradient.*
- PS 18-36 Cheesman, AW, K Winter, A Virgo and MN Garcia, Smithsonian Tropical Research Institute. *Photosynthetic adaptation and thermal tolerance in tropical tree species.*
- PS 18-37 Mycka, UK, Poison Ivy Horticulturist. *Has increased CO₂ impacted the northerly limit of Eastern Climbing Poison Ivy over the last 50 years?*
- PS 18-38 Watrud, L¹, G King², M Bollman¹, JR Reichman¹, BM Smith¹, CA Burdick¹ and EH Lee¹, (1)US Environmental Protection Agency/NHEERL, (2)Dynamac Corporation. *Feral biofuel crop effects in constructed oak savannah and wet prairie communities.*
- PS 18-39 Yin, J and RO Teskey, University of Georgia. *Fine root anatomy and hydraulic conductance of one-year-old loblolly pine seedlings under different levels of [CO₂], fertility, and water availability.*
- PS 18-40 Tetreault, H¹, C Rodewald², S Baer³, BR Maricle⁴, T Morgan¹, RK Goad³, J Olsen⁴ and L Johnson¹, (1) Kansas State University, (2)Minnesota State University-Mankato, (3)Southern Illinois University Carbondale, (4)Fort Hays State University. *Local drought adaptation of the ecologically dominant prairie grass big bluestem *andropogon gerardii*: Contribution of genotype and environment to phenotypic variation.*
- PS 18-41 Brenberg, TC, AN Colaco, SJ Emrich, ST O'Neil and JS McLachlan, University of Notre Dame. *New genetic tools for estimating long term changes in forest composition.*
- PS 18-42 Rich, R, RA Montgomery, SE Hobbie and PB Reich, University of Minnesota. *Boreal forest warming at an*

ecotone in danger (B4warmed): Climate change impacts at the temperate-boreal ecotone—An overview of initial results from a concurrent above and belowground warming experiment.

- PS 18-43 Rosenstein, RW, TW Boutton, MG Tjoelker, A Volder and DD Briske, Texas A&M University. *Root dynamics in response to elevated temperatures and altered rainfall regimes in oak savanna: A global change experiment.*
- PS 18-44 Smith, RA¹, JD Lewis², O Ghannoum¹ and DT Tissue¹, (1) University of Western Sydney, (2)Fordham University. *Recent and projected changes in atmospheric [CO₂] and temperature differentially affect leaf structure and function in *Eucalyptus sideroxylon*.*
- PS 18-45 Loik, ME, AL Concilio, C Wade, SJ Martinson and H Alpert, University of California. *Snow depth effects on seedling recruitment at the Great Basin Desert, Sierra Nevada ecotone.*
- PS 18-46 McMunn, MS, University of Michigan. *Growth rate-longevity tradeoffs in northern conifers.*
- PS 18-47 Locke, AM¹, L Sack² and DR Ort³, (1)University of Illinois, (2)UCLA, (3)USDA-ARS and University of Illinois. *Leaf hydraulic conductance in elevated atmospheric CO₂.*
- PS 18-48 MJ Abbott and LL Battaglia, Southern Illinois University. *Effects of experimental storm surge and sedimentation on pitcher plants (*Sarracenia*) in a coastal pine savanna.*
- PS 18-49 Flanagan, LB and AC Adkinson, University of Lethbridge. *Interacting controls on productivity in a northern Great Plains grassland, and implications for response to ENSO events.*
- PS 18-50 Dale, EM and EE Elton, University of Virginia. *The influence of stomatal morphology on gas-exchange processes of native and invasive mid-Atlantic tree species.*
- PS 18-51 Wines, AA¹, RM Marchin¹, RR Dunn² and WA Hoffmann¹, (1)North Carolina State University, (2)NCSU. *Deciphering the effects of temperature and vapor pressure deficit on plant carbon assimilation: Implications for plant productivity under global warming.*
- PS 18-52 Pritchard, SG¹, AE Strand¹, BN Taylor¹, ER Cooper¹, ML McCormack² and S Zhang¹, (1)College of Charleston, (2) Pennsylvania State University. *Effects of CO₂ and nitrogen enrichment on production, standing crop, and survivorship of mycorrhizal root tips in a loblolly pine FACE experiment over 12 years.*
- PS 18-53 Baguskas, SA¹ and CJ Still², (1)University of California-Santa Barbara, (2)University of California. *Tree mortality in a California coastal fog forest.*

PS 19 - Aquatic Ecology

Exhibit Hall 3, Austin Convention Center

- PS 19-54 Herron-Sweet, CR¹, G Gauthier Jr.² and SN Schmidt¹, (1) St. Olaf College, (2)College of Menominee Nation. *An analysis of allochthonous and autochthonous contributions to brook trout diet using hydrogen, nitrogen, and carbon stable isotopes.*
- PS 19-55 Koontz, MB¹, JM Koontz², R Pezeshki³ and MT Moore⁴, (1)The University of Memphis, (2)U.S. Army Corps of Engineers, (3)University of Memphis, (4)USDA-Agricultural Research Service. *Greenhouse study of nutrient and growth responses of a ditch plant, *Leersia oryzoides* (rice cutgrass), to varying degrees of soil saturation and water nitrogen concentration.*
- PS 19-56 Ishikawa, NF¹, M Uchida², Y Shibata² and I Tayasu¹, (1) Kyoto University, (2)National Institute for Environmental Studies. *Natural carbon-14 signature provides new data for stream food web studies.*
- PS 19-57 Sullivan, ML¹ and Y Zhang², (1)Texas State University, (2) Texas State University at San Marcos. *Terrestrial subsidies*

- in the diets of fishes: A comparison across climate regions.*
- PS 19-58 Virtanen, LK and J Soininen, University of Helsinki. *Are diatoms better reflectors of stream quality than water chemistry at regional scales?*
- PS 19-59 Ortiz, AC, R De La Torre-Roche, MB Cox and WY Lee, University of Texas at El Paso. *Multi-residue effects of 17-estradiol and bisphenol A with a chemi-luminescent assay on Saccharomyces cerevisiae.*
- PS 19-60 Pomeroy, JN, ZR Snobl, O Xiong, EC Merten and TA Wellnitz, University of Wisconsin - Eau Claire. *Phenology of aquatic insect emergence in a northern Minnesota stream.*
- PS 19-61 Wojan, CM, JN Pomeroy, AM Sasidharan, JP Schoen, ZR Snobl, SD Vinetas, O Xiong, EC Merten and TA Wellnitz, University of Wisconsin - Eau Claire. *Microhabitat-scale influences of environmental features on the benthic macroinvertebrate community in a northern Minnesota stream.*
- PS 19-62 Lear, SC, B Ondimu, L Lee and M Wu, Montclair State University. *Develop a rapid detection method for bloom-forming cyanobacteria and algae.*
- PS 19-63 Meza-Lopez, MM and E Siemann, Rice University. *Exotic invertebrate herbivores limit aquatic plants while nutrient enrichment increases exotic herbivore size.*
- PS 19-64 Henderson, BL¹, MM Chumchal¹, RW Drenner¹, P Diaz² and WH Nowlin², (1)Texas Christian University, (2)Texas State University. *Mercury contamination of macroinvertebrates from grassland ponds with and without fish.*
- PS 19-65 Bowles, BD, Missouri State University. *Building a community from scratch: Phytoplankton communities of reservoirs and natural lakes.*
- PS 19-66 Pauley, LR¹, JE Earl² and RD Semlitsch², (1)University of Missouri - Columbia, (2)University of Missouri. *Effects of predation and commercial mosquito insecticides on the gray treefrog tadpoles.*
- PS 19-67 Baca, S¹, DA Martinez Gomez¹ and EJ Walsh², (1) University of Texas at El Paso, (2)The University of Texas at El Paso. *Effects of Pharmaceuticals and Personal Care Products (PPCPs) on impacted and non-impacted populations of the freshwater rotifer Plationus patulus.*
- PS 19-68 Hinson, K¹ and EJ Walsh², (1)University of Texas at El Paso, (2)The University of Texas at El Paso. *Consequences of water quality on genetic variation on the brackish water rotifer Brachionus plicatilis.*
- PS 19-69 Johnston, GP¹, L Farnham², D Lineman³, JB Simeonsson² and CG Johnston², (1)Kent State University, (2) Youngstown State University, (3)Hickory High School. *Biogeochemical characterization of PAH contaminated river sediments: Harnessing microbes for remediation.*
- PS 19-70 Xiong, O, JN Pomeroy, AM Sasidharan, JP Schoen, ZR Snobl, SD Vinetas, CM Wojan, EC Merten and TA Wellnitz, University of Wisconsin - Eau Claire. *Reach-scale effects of a stream logjam on benthic macroinvertebrate richness, evenness, diversity, and feeding guilds.*
- PS 19-71 McLaughlin, C¹ and LA Kaplan², (1)University of Pennsylvania, (2)Stroud Water Research Center. *Hydrologic alterations of stream water dissolved organic carbon (DOC) and its constituent lability classes.*
- PS 19-72 Jackson, AT¹, KO Winemiller¹ and A Adite², (1)Texas A&M University, (2)Université d' Abomey-Calavi. *Food web structure in floodplain habitats of the Oueme River, Benin, West Africa.*
- PS 19-73 Wooster, DE¹, S Miller² and S DeBano¹, (1)Oregon State University, (2)Utah State University. *Impact of surface water withdrawal on macroinvertebrate drift.*
- PS 19-74 Dennis, MK, LF Altfeld and DS Austin, Wilson College. *Comparing vitellogenin induction by 17-estradiol in male Danio rerio through both a tritrophic bioaccumulation model and a bioconcentration model.*
- PS 19-75 Wellnitz, T¹ and WD Hintz², (1)University of Wisconsin - Eau Claire, (2)Southern Illinois University. *Do small-scale trophic cascades contribute to benthic heterogeneity in streams?*
- PS 19-76 Refsland, TK, Saint Olaf College. *Leaf processing in an impaired southeastern Minnesota stream: The impact of flow velocity on detritivores.*
- PS 19-77 Connelly, CK and C McNeely, Eastern Washington University. *Impacts of urbanization and aquifer recharge on Spokane river macroinvertebrates.*
- PS 19-78 Saha, AK¹, MB Gallagher¹, A Narducci¹, M Kobza², M Cook² and JS Rehage¹, (1)Florida International University, (2)South Florida Water Management District. *Quantifying the movement and habitat use of native sunfishes in response to seasonal hydrological variation in the Everglades.*
- PS 19-79 Matherne, BW¹, PM Holt², MM Chumchal², AP Roberts¹, DJ Hoeinghaus¹, AA Agostinho³ and LC Gomes³, (1) University of North Texas, (2)Texas Christian University, (3)Universidade Estadual de Maringá. *Distributions of mercury in fish of the Paraná River, Brazil.*
- PS 19-80 Paul, JS and JH Kennedy, University of North Texas. *Life and times of Chematopsyche lasia Ross (Trichoptera: Hydropsychidae) in an urban stream with respect to a municipal wastewater treatment facility.*
- PS 19-81 Dunithan, A¹, MG Williams², NB Ford¹ and LR Williams², (1)University of Texas at Tyler, (2)The University of Texas at Tyler. *Using MAXENT to predict the probability of occurrence of rare fish and mussel species in the Sabine River and Neches River in East Texas.*
- PS 20 - Riparian and Floodplain Habitats**
Exhibit Hall 3, Austin Convention Center
- PS 20-82 Lucas, CM¹, J Schöngart², P Sheikh³, F Wittmann² and M Piedade⁴, (1)University of Florida, (2)Max Planck Institute for Chemistry, (3)Congressional Research Service, (4)Instituto Nacional de Pesquisas da Amazônia. *Aboveground biomass and carbon sequestration in secondary floodplain forests of Eastern Amazonia.*
- PS 20-83 Zhang, Q, Wuhan Botanical Garden, the Chinese Academy of Sciences. *Assessing soil heavy metal pollution in the water-level-fluctuation zone of the Three Gorges Reservoir, China.*
- PS 20-84 Alldredge, BE, DD Nally and GW Moore, Texas A&M University. *Sabine River riparian vegetation assessment related to flow modifications.*
- PS 20-85 Robinson, AJ¹, C King², JA Hubbard² and RM Muzika², (1)University of Missouri - Columbia, (2)University of Missouri. *Vegetation and hydrologic characteristics of an urban riparian forest.*
- PS 20-86 Rehage, JS, JP Perea, MB Gallagher and J Chianesse, Florida International University. *Prevalence of a parasitic isopod, Probopyrus spp, on Palaemonid shrimp along a marsh estuarine gradient.*
- PS 21 - Wetlands**
Exhibit Hall 3, Austin Convention Center
- PS 21-87 Baquerizo, M¹, EM Barrows¹, S Droege² and A Han¹, (1)Georgetown University, (2)USGS. *Lasioglossum bee (Halictidae) diversity in a United States Mid-Atlantic national park.*
- PS 21-88 Smith, LL, Joseph W. Jones Ecological Research Center. *Amphibian persistence in isolated wetlands in an*

agricultural landscape.

- PS 21-89 Shange, R¹, R Ankumah¹, E Haugabrooks² and L Githinji¹, (1)Tuskegee University, (2)Iowa State University. *Assessing soil bacterial community composition and structure across wetland, transition zone, and upland ecosystem types along a single transect in Macon County, Alabama.*
- PS 21-90 Perez, RG¹ and T Heartsill Scalley², (1)East Los Angeles College, (2)International Institute of Tropical Forestry. *Root Nodulation in the wetland tree *Pterocarpus officinalis* along coastal and montane systems of northeast of Puerto Rico.*
- PS 21-91 Cipollini, KA¹, DJ Burks¹, D Cipollini², P Lavretsky², K Millam¹ and JL Peters², (1)Wilmington College, (2)Wright State University. *Comparison of genetic population structure of endangered *Scirpus ancistrochaetus* using two methods.*
- PS 21-92 Sherwood, NR and M Wu, Montclair State University. *Criteria for habitat selection by wood turtles (*Glyptemys insculpta*) in New Jersey.*
- PS 21-93 Rainford, S, B Blossey and LJ Martin, Cornell University. *Plant species effects override the effects of plant diversity and origin in determining tadpole performance.*
- PS 21-94 Yu, L¹, D Yu² and D Xie², (1)Peking University, (2)Wuhan University. *Plant zonation along a freshwater flooding gradient: The relative importance of flooding, competition, and grazing.*
- PS 21-95 Deemy, JB and ER Crawford, Virginia Commonwealth University. *Spatial patterns of herbaceous aquatic macrophyte recruitment in a naturally restored tidal and non-tidal freshwater wetland located within the Mid-Atlantic coastal plain.*
- PS 21-96 Joo, Y and EJ Lee, Seoul National University. *Effects of shading on demography and physiological changes of *Tamarix chinensis*: Outdoor and indoor respects.*
- PS 21-97 Martinez, JL, University of Texas at El Paso. *Assessment of water quality and benthic macroinvertebrate community at a wastewater receiving constructed wetland in El Paso, Texas.*

PS 22 - Coastal Habitats

Exhibit Hall 3, Austin Convention Center

- PS 22-98 Zayas-Santiago, CM¹, RJ Colón-Rivera² and RA Feagin², (1)University of Puerto Rico at Humacao, (2)Texas A&M University. *A new bio-bay: Bioluminescence in the Humacao Natural Reserve, Puerto Rico.*
- PS 22-99 Browne, JP, Stony Brook University. *Moving edges: What changing edges tells us about the causes of Salt Marsh loss.*
- PS 22-100 Awkerman, JA, S Raimondo and MG Barron, U. S. Environmental Protection Agency. *Incorporating ecologically relevant habitat and demographic data in assessment of contaminant risk to wildlife.*
- PS 22-101 Larcher, L, APL Martins, MRT Boeger, WA Boeger and A Ostrensky, Universidade Federal do Paraná. *Structural variation in two mangrove areas of the southern coast of Brazil.*
- PS 22-102 Tate, AS, L Battaglia and M Geisler, Southern Illinois University - Carbondale. *Comparing *Spartina alterniflora* ESTs to *Oryza sativa* and *Zea mays* gene sequences: Implications for cross-species hybridization microarrays.*
- PS 22-103 Daneshgar, PP¹, LS Wootton² and C Torres¹, (1) Monmouth University, (2)Georgian Court University. *The role of beach nourishment on the success of the invasive Asiatic sand sedge.*
- PS 22-104 Nims, MK and B Walther, The University of Texas at Austin. *The use of stable isotopes and trace element analysis to investigate freshwater residency patterns of southern flounder (*Paralichthys lethostigma*) in South Texas.*

PS 23 - Fish

Exhibit Hall 3, Austin Convention Center

- PS 23-105 Bayer, J¹, KA Thomas², T Iverson³, B Schmidt⁴ and L Sweeny⁵, (1)U.S. Geological Survey, (2)US Geological Survey, (3)Columbia Basin Fish and Wildlife Authority, (4)Pacific States Marine Fisheries Commission, (5)Ross and Associates. *Biological data sharing in the federal ESA listing environment: The Columbia Basin Coordinated Assessment Project.*
- PS 23-106 Flanagan, SD, J Burrows, P Bhuta and AR Black, Eastern Washington University. *Investigating host-specificity using microsatellites: A study of *Lepeophtheirus salmonis* infection on salmon (*Oncorhynchus spp.*) of the North Pacific.*
- PS 23-107 Montana, C and KO Winemiller, Texas A&M University. *Habitat-associated morphology of cichlid and centrarchid species assemblages: Tropical temperate convergence in percamorph fishes?.*
- PS 23-108 Teresa, FB and L Casatti, Sao Paulo State University. *The influence of deforestation on taxonomic and functional diversity of fish communities in Neotropical lowland streams.*
- PS 23-109 Love Stowell, SM, University of Colorado. *Predicting the genetic purity of Cutthroat trout in Rocky Mountain National Park.*
- PS 23-110 Smith, LL¹, J Buckler¹, D Papoulias² and D Tillitt², (1) University of Missouri, (2)USGS Columbia Environmental Research Center. *Morphological effects of selenium exposures on developing sturgeon species.*
- PS 23-111 Gandy, D, Florida International University. *Nonnative fishes in the freshwater marshes of the Florida Everglades, USA: How do canals function as key habitats?.*

PS 24 - Reptiles and Amphibians

Exhibit Hall 3, Austin Convention Center

- PS 24-112 Walls, SC, JH Waddle and SP Faulkner, U.S. Geological Survey. *Amphibian responses to wetland restoration in the Lower Mississippi Valley, USA.*
- PS 24-113 Ghose, SL¹ and S Whitfield², (1)Occidental College, (2) Florida International University. *Toxic effects of current-use pesticides in Costa Rica on amphibians: Acute toxicity assays and meta-analysis identify gaps in tropical ecotoxicology.*
- PS 24-114 Williams, CA and DR Chalcraft, East Carolina University. *Is predation by turtles sufficiently strong to affect invertebrate biodiversity?.*
- PS 24-115 Crawford, JA¹, WE Peterman² and AR Kuhns³, (1) Lindenwood University, (2)University of Missouri, (3)University of Illinois. *Population structure of state threatened Jefferson salamanders in an agricultural landscape.*
- PS 24-116 Homan, RN, Denison University. *Multiyear demographic study of three co-occurring pond-breeding amphibian species.*
- PS 24-117 Mann, DL¹, TM Mann², ML Thomas¹, MB Jourdan¹ and KL Foss¹, (1)Millsaps College, (2)Mississippi Museum of Natural Science. *The distribution of Webster's salamander, *Plethodon websteri*, in Mississippi in relation to local geology.*
- PS 24-118 Kuhns, AR¹, JA Crawford² and WE Peterman³, (1) University of Illinois, (2)Lindenwood University, (3) University of Missouri. *Occupancy estimates of spring breeding amphibians in a landscape fragmented by agriculture.*

PS 25 - Mammals

Exhibit Hall 3, Austin Convention Center

- PS 25-119 Weaver, SP, TR Simpson, JT Baccus and FW Weckerly, Texas State University. *Characteristics of overwintering Brazilian free-tailed bats in central Texas.*
- PS 25-120 Barr, BN, University of North Texas. *Effect of population density on juvenile growth rate in white-tailed deer (*Odocoileus virginianus*).*
- PS 25-121 Schaubert, EM¹, CK Nielsen², LJ Kjær¹ and C Anderson¹, (1)Southern Illinois University, (2)Southern Illinois University Carbondale. *Fluctuating social affinities of female and juvenile white-tailed deer at various time scales and impacts on disease transmission.*
- PS 25-122 Nicolay, CW¹ and JL Horton², (1)University of North Carolina Asheville, (2)University of North Carolina at Asheville. *Roost characteristics and thermal competition in bats in a high-temperature cave.*
- PS 25-123 Chappell, AR¹, YTK Lin², L Young³ and LD Hayes⁴, (1) University of Louisiana at Monroe, (2)National Taiwan University, (3)Emory University, (4)The University of Louisiana at Monroe. *Ecological and neuroanatomical correlates of mating system variation in the Taiwan field vole (*Microtus kikuchii*).*
- PS 25-124 Erb, PL¹, WJ McShea² and R Guralnick¹, (1)University of Colorado at Boulder, (2)Smithsonian Institution - National Zoological Park. *Anthropogenic influences on macro-level mammal occupancy in the Appalachian Trail corridor.*

PS 26 - Arctic, Alpine, Antarctic Systems

Exhibit Hall 3, Austin Convention Center

- PS 26-125 Miller, KE¹, DA Lipson¹, CT Lai¹ and RA Dahlgren², (1)San Diego State University, (2)University of California, Davis. *Anaerobic methane oxidation as a methane sink in Arctic wetlands.*
- PS 26-126 Reyes, Jr., FR and VL Loughheed, University of Texas at El Paso. *Are elevated nutrient levels in Arctic tundra ponds due to permafrost thaw.*
- PS 26-127 Stine, MB and DR Butler, Texas State University - San Marcos. *Site characteristics of burned krummholz at alpine treeline in the Northern Rocky Mountains, USA.*
- PS 26-128 Hudelson, KE¹, BD Barst², JD Smith¹ and AP Roberts¹, (1)University of North Texas, (2)Institut National de la Recherche Scientifique, Université du Québec. *Effects of carotenoprotein expression on UV tolerance in high elevation copepods.*
- PS 26-129 Zhang, L¹ and S Cheng², (1)The Ohio State University, (2) Chinese Academy of Sciences. *Carbon dynamics for alpine natural wetlands in the eastern Qinghai-Tibet Plateau.*

PS 27 - Arid and Semi-Arid Systems

Exhibit Hall 3, Austin Convention Center

- PS 27-130 Griffis-Kyle, KL¹ and J Jenness², (1)Texas Tech University, (2)Jenness Enterprises. *Landscape connectivity: Evaluation of four methods for estimating least-cost paths for desert anurans.*
- PS 27-131 Whitcomb, HL and MW Brunson, Utah State University. *Temperature increase effects on rangeland forbs: Experimental evidence and manager perspectives.*
- PS 27-132 Hoffmann, S, Utah State University. *Ecological effects of vehicle-generated particulate matter, and the use of magnesium chloride as a dust suppressant in Arches National Park, UT.*
- PS 27-133 Tobler, MA¹, MK Grabner¹, HL Throop², SR Archer³ and PW Barnes¹, (1)Loyola University, (2)New Mexico State University, (3)University of Arizona. *Interaction*

Earth Stewardship: Preserving and enhancing earth's life support systems

of soil deposition and UV radiation on dryland litter decomposition.

- PS 27-134 Zhu, J¹ and M Young², (1)Desert Research Institute, (2) University of Texas at Austin. *Evapotranspiration and groundwater system dynamics in arid riparian zone.*
- PS 27-135 Dugger, AL¹, C Tague², EQ Margolis³, CD Allen⁴ and T Ringer⁵, (1)University of California at Santa Barbara, (2)University of California, Santa Barbara, (3)University of Arizona, (4)Jemez Mountains Field Station, (5)Los Alamos National Laboratory. *Forest-hydrology interactions under a warmer climate: Effects of vegetation productivity dynamics and mortality on streamflow predictions in a semi-arid New Mexico mountain system.*
- PS 27-136 Wiemers, DW¹, TE Fulbright¹, A Ortega-Santos¹, DG Hewitt¹, GA Rasmussen¹ and MW Hellickson², (1) Texas A&M University-Kingsville, (2)Orion Wildlife Management Services. *Influence of thermal cover on habitat selection by male white-tailed deer.*
- PS 27-137 Hotchkiss, PE¹, J Herrera², R Worthington², VL Loughheed² and CE Tweedie², (1)The University of Texas at El Paso, (2)University of Texas at El Paso. *Plant community change in the Franklin Mountains, northern Chihuahuan Desert 1998-2008.*
- PS 27-138 Reynolds, MJB, LA DeFalco and TC Esque, US Geological Survey, Western Ecological Science Center. *Germination and establishment of the Joshua tree (*Yucca brevifolia*) in the northeast Mojave Desert: Implications for management of an iconic species.*
- PS 27-139 Zhou, L¹, G Yang¹ and Y Luo², (1)Cold and Arid Regions Environmental and Engineering Research Institute, Chinese Academy of Sciences, (2)University of Oklahoma. *Landscape change and human activity analysis on desertification process in northern China.*

PS 28 - Forest Habitats: Temperate

Exhibit Hall 3, Austin Convention Center

- PS 28-140 Nuttle, T¹ and TE Ristau², (1)Indiana University of Pennsylvania, (2)USDA Forest Service. *Long-term legacy of experimentally controlled deer density on understory vegetation in Pennsylvania.*
- PS 28-141 Li, B¹, Z Hao¹, Y Bin², J Zhang³ and M Wang¹, (1)Institute of Applied Ecology, Chinese Academy of Sciences, (2)South China Botanical Garden, Chinese Academy of Sciences, China, (3)Department of Renewable Resources, University of Alberta. *Seed rain dynamics reveals dispersal limitation, strategies of reducing risks and response to climate.*
- PS 28-142 Álvarez-Sánchez, J, E Baltazar-Ortega, M Martínez-Hurtado and GM Barajas-Guzmán, Universidad Nacional Autónoma de México. *Composition and distribution of soil fauna in a temperate forest of Central Mexico.*
- PS 28-143 Gacura, MD, B Heidenreich, DD Sprockett and CB Blackwood, Kent State University. *Characterization of the leaf litter degrading capabilities of saprotrophic fungal communities using pectinase specific primers.*
- PS 28-144 Kush, JS¹, DK Lauer², RJ Barlow¹ and JC Gilbert¹, (1) Auburn University, (2)Sylvics Analytic. *Miscommunication and confusion about longleaf pine growth: Using 40 years of real data to characterize long-term stand development.*
- PS 28-145 Brownstein, KJ, GE Rottinghaus and WR Folk, University of Missouri. *Comparative analyses of harpagoside concentration in Devil's Claw to Plantaginaceae and Scrophulariaceae species.*
- PS 28-146 Kaylor, SD and JA Franklin, University of Tennessee. *Recovery from large impact disturbance: Spruce-fir forests after invasive insect depredation.*

4:30 pm-6:30 pm

- PS 28-147 Ryee, E¹, MD Gacura¹, S Eisenlord², DR Zak² and CB Blackwood¹, (1)Kent State University, (2)University of Michigan. *Distribution of functional traits and taxonomic composition of leaf litter degrading fungal communities.*
- PS 28-148 Miller, JC¹, SW Choi² and JS An², (1)Oregon State University, (2)Mokpo National University. *A Pan-Pacific study of the macromoth species richness and abundance: Oregon and South Korea.*
- PS 28-149 Nyamai, PA¹, PC Goebel¹, DM Hix¹ and RG Corace III², (1)The Ohio State University, (2)USDI Fish and Wildlife Service. *Downed woody fuel dynamics of mixed-pine forest ecosystems in the eastern Upper Peninsula of Michigan, U.S.A.*
- PS 28-150 Adam, PM¹, LA Vierling¹, KT Vierling¹, E Strand¹ and A Hudak², (1)University of Idaho, (2)USDA Forest Service. *Assessing Pileated woodpecker habitat from space: Predicting presence from lidar derived forest structure.*
- PS 28-151 Hurtado, G¹ and LA Trulio², (1)New Mexico State University, (2)San Jose State University. *Black oak (Quercus kelloggii) multiple management release restoration in California.*
- PS 28-152 Fell, M¹, K Ogle¹ and I Ibanez², (1)Arizona State University, (2)University of Michigan. *Tree functional traits and their relationship to survival in seedlings of seven species from a latitudinal gradient.*
- PS 28-153 Del Valle, LA¹, MD Gacura², SA Vernon¹ and CB Blackwood², (1)Kent State University, (2)Kent State University. *Characterization and analysis of the succession of endophytes in decaying leaves in Manistee National Forest, MI.*
- PS 28-154 Celis-Diez, JL¹, M Carmona², A Gaxiola³, CB Anderson⁴, JR Gutierrez⁵, R Rozzi⁶ and JJ Armesto⁷, (1)Institute of Ecology and Biodiversity and Center for Advances Studies in Ecology and Biodiversity, (2)Institute of Ecology and Biodiversity and CASEB, Pontificia Universidad Católica de Chile, (3)Institute of Ecology and Biodiversity and Center for Advanced Studies in Ecology and Biodiversity, (4)Institute of Ecology and Biodiversity and Omora Park - University of Magallanes, (5)Universidad de Chile, (6)University of North Texas and University of Magallanes - Institute of Ecology and Biodiversity, Chile, (7)IEB, Universidad de Chile, CASEB, P. Universidad Católica de Chile. *Filling a gap in long-term ecological research and monitoring of terrestrial ecosystems in the southern hemisphere.*
- PS 28-155 Limm, EB¹, C Rico² and J Pittermann³, (1)Save The Redwoods League, (2)University of California, Santa Cruz, (3)University of California. *High resistance to drought-induced cavitation in ferns of the coast Redwood forest.*

PS 29 - Forests: Montane/Subalpine

Exhibit Hall 3, Austin Convention Center

- PS 29-156 Collins, BJ¹, CC Rhoades², RM Hubbard³, M Battaglia² and J Underhill⁴, (1)USDA Rocky Mountain Research Station, (2)USFS Rocky Mountain Research Station, (3)USDA Forest Service, (4)USFS Arapaho-Roosevelt National Forest. *Future stand development following mountain pine beetle and harvesting in Colorado lodgepole pine stands.*
- PS 29-157 Caldwell, MK, TJ Hawbaker, PW Cigan, S Stitt and JS Briggs, U.S. Geological Survey. *Changes in forest vegetation and carbon storage following mountain pine beetle disturbance in the Southern Rocky Mountains.*
- PS 29-158 Litong, Sr., C, Northwest Institute of Plateau Biology, Chinese Academy of Sciences. *Divergent patterns of ¹³C versus ¹⁵N in Quercus aquifolioides along an altitudinal gradient: An integrated study based on multiple foliar traits.*
- PS 29-159 Curtis, EEM¹, AK Ettinger², R Konrady² and J HilleRisLambers², (1)Swarthmore College, (2)University of Washington. *Decrease in growth preceding death in Abies amabilis (Pacific Silver Fir).*
- PS 29-160 Anderegg, LD, Stanford University. *Linking tree ecohydrology, drought seasonality, and forest mortality.*
- PS 29-161 Berry, ZC and WK Smith, Wake Forest University. *Cloud immersion impacts water relations in a relic spruce-fir community in the Southern Appalachian Mountains, USA.*
- PS 29-162 Kim, H and SW Choi, Mokpo National University. *The Beta diversity of vascular plants and their relationships with environmental factors along an altitudinal gradient in the Mt. Jiri National Park, Korea.*
- PS 29-163 Dugan, SC¹, BP Oswald¹, RG Balice² and DR Unger¹, (1)Stephen F. Austin State University, (2)Los Alamos National Laboratory. *Assessing recent drought response in northern New Mexico with respect to overstory tree mortality in the ponderosa pine ecosystem.*
- PS 29-164 Barbeito, I, MA Dawes, C Rixen, J Senn and P Bebi, WSL Institute for Forest, Snow and Landscape Research - SLF. *Factors driving survival and growth at treeline: A 30-year experiment of 92000 conifers.*
- PS 30 - Urban Ecosystems**
Exhibit Hall 3, Austin Convention Center
- PS 30-165 Stratford, JA, A Bartlow, N Lamoreaux, C Bartlow and P Payne, Wilkes University. *Blood parasite prevalence and health status of song sparrows (Melospiza melodia) along an urban-rural gradient in ne Pennsylvania.*
- PS 30-166 Wepprich, TM¹, M Maloley² and JE Grealey³, (1)North Carolina State University, (2)Natural Resources Canada, (3)Natural Resource Solutions, Inc.. *Butterfly flight phenology in response to urban heat island effects.*
- PS 30-167 Weller, NA, L Turnbull and DL Childers, Arizona State University. *The influence of storm characteristics and catchment structure on particulate organic matter transport in an arid city.*
- PS 30-168 Youth, MD¹, G Hess², MR McHale¹ and MN Peterson¹, (1) North Carolina State University, (2)NC State University. *Ecosystem services and equity: How do drinking water supply reservoirs shift local demographics?*
- PS 30-169 Watkins, CD, KO Winemiller and M Mora, Texas A&M University. *Do wastewater treatment plants cause abnormal effects in mosquitofish in the Houston bayous?.*
- PS 30-170 Carey, TS¹ and DW Katz², (1)University of Michigan, Ann Arbor, (2)University of Michigan. *Pollen and public health: A citizen science project.*
- PS 30-171 Bennett, AB and ST Lovell, University of Illinois. *Evaluating the impact of local and landscape scale variables on native pollinators in urban agricultural sites.*
- PS 30-172 Ksiazek, K, Northwestern University/Chicago Botanic Garden. *Sex in the city: An assessment of pollination services on green roofs in Chicago.*
- PS 30-173 Garcia, AM, MD Blackledge, CR Burt and GC Chang, Gonzaga University. *Dalmatian toadflax is larger and hosts fewer weevils when growing at urban sites.*
- PS 30-174 Torres, AO¹ and JH Sullivan², (1)University of Maryland, College Park, (2)University of Maryland. *Sustainability of urban tree planting programs: Using socioeconomic factors to predict tree mortality in urban ecosystems.*
- PS 30-175 Volder, A, B Viswanathan and TW Watson, Texas A&M University. *Effect of pervious pavement on soil CO₂ efflux, root growth and tree diameter growth.*
- PS 30-176 Stabler, LB¹, WL Johnson¹, KJ Locey² and PA Stone¹, (1) University of Central Oklahoma, (2)Utah State University. *Mediterranean geckos (Hemidactylus turcicus) in two*

temperate zone urban habitats.

- PS 30-177 Freeman, KE¹, SE Cutteridge¹, T Pucci² and BM Walton¹, (1)Cleveland State University, (2)Cleveland Museum of Natural History. *Urban hymenoptera: Diversity and abundance in vacant lots and community gardens in Cleveland, Ohio.*
- PS 30-178 Haines, CE¹, F Gallagher¹, J Grabosky¹ and KV Schafer², (1)Rutgers University, (2)Rutgers University Newark. *The impact of soil metal and water stress on leaf area in Betula populifolia: Implications for carbon modeling.*
- PS 30-179 Cucco, A, Fordham University. *Urbanization effects on nitrogen cycling and plant growth.*
- PS 30-180 Grimm, NB, DL Childers, S Earl, RL Hale and L Turnbull, Arizona State University. *The dynamics of water in arid cities, Part III: Stormwater-mediated transport and retention of dissolved nutrients in urban catchments: Effects of infrastructure design, catchment size, and storm characteristics.*

PS 31 - Fire

Exhibit Hall 3, Austin Convention Center

- PS 31-181 Kirkman, LK¹, K Hiers², A Barnett³ and R Mitchell¹, (1)Joseph W. Jones Ecological Research Center, (2) Jackson Guard, (3)The Nature Conservancy. *Restoration of a longleaf pine ecosystem: Defining components of a dynamic reference model.*
- PS 31-182 Sankey, JB¹, MJ Germino², TT Sankey² and AN Hoover², (1)USGS, (2)Idaho State University. *Meta-analysis of the interplay of soil resources affecting ecological condition and resistance to disturbance in the sagebrush steppe, USA.*
- PS 31-183 Burnett, SA¹, SL Collins², JA Hattey¹, JE Johnson² and AL Swann³, (1)Oklahoma State University, (2)University of New Mexico, (3)University of New Mexico, Sevilleta LTER. *Effects of fire on belowground biomass in a black grama grassland.*
- PS 31-184 Mola, JM¹, JM Varner², T Spector³, C Sullivan² and EA Engber², (1)Florida State University, (2)Humboldt State University, (3)Florida Park Service. *Contrasting flammability of adjacent plant communities: Florida's Apalachicola Bluffs and Ravines.*
- PS 31-185 Arizpe, AA and DA Falk, University of Arizona. *Fire history reconstruction in the sky islands of Northern Sonora.*

PS 32 - Fire Management

Exhibit Hall 3, Austin Convention Center

- PS 32-186 Plavsic, MJ¹, M Hein² and L Cassidy³, (1)University of New England, (2)University of Innsbruck, (3)University of Botswana. *Ecological and socioeconomic dimensions of anthropogenic fire in southern Africa: An interdisciplinary synthesis.*
- PS 32-187 Branson, DH and LT Vermeire, USDA-Agricultural Research Service. *Effects of patch burning season and livestock grazing on grasshopper populations in northern mixed prairie.*
- PS 32-188 Ellsworth, LM¹, CM Litton¹ and JB Kauffman², (1) University of Hawaii at Manoa, (2)USDA Forest Service, Northern Research Station. *A custom fuel model for improving wildfire prediction in nonnative guinea grasslands (Megathyrus maximus) in Hawaii.*
- PS 32-189 Arthur, MA¹, CE McMichael² and GC Sovkopl¹, (1) University of Kentucky, (2)Morehead State University. *Using remotely-sensed imagery to monitor post-fire forest dynamics on upland oak forests on the Cumberland Plateau, Kentucky.*

4:30 pm-11 pm; 5 pm-6:30 pm; 6:30 pm-8 pm

- PS 32-190 Terry, TN and C Kleier, Regis University. *Germination and growth of cheatgrass and blue grama in burned and unburned soils.*
- PS 32-191 Chatziefstratiou, EK¹, G Bohrer², WE Heilman³, S Garrity⁴ and MB Dickinson⁵, (1)The Ohio State University, (2)Ohio State University, (3)USDA, (4)OSU, (5)US Forest Service. *FireStem II: A 2-D heat transfer model for simulation of stem damage in prescribed fires.*
- PS 32-192 Narog, M¹ and RC Wilson², (1)Pacific Southwest Research Station, (2)California State University, San Bernardino. *Predicting long-term Saguaro (Carnegiea gigantea) survival following wildfire.*
- PS 32-193 Mori, AS, University of Calgary / Yokohama National University. *Climatic variability regulates the occurrence and extent of large fires in the subalpine forests of the Canadian Rockies.*
- PS 32-194 Hermann, SM¹, JS Kush¹, WD Boyer², RJ Barlow¹ and JC Gilbert¹, (1)Auburn University, (2)USDA Forest Service. *Effects of 25 years of different fire regimes on growth of young longleaf pine trees and encroaching hardwoods.*
- PS 32-195 Ali Eneayi Esther, AE, UNIVERSITY OF OKLAHOMA. *Effect of fire on soil carbon in tropical ecosystems: Meta analysis.*

4:30 pm-11 pm

FT 19 - Bracken Bat Cave Emergence

Trinity Street Lobby Field Trip Pick Up, Austin Convention Center

Organized by: EB Arnett

5 pm-6:30 pm

ESA Musicians Central

Registration Lobby, Austin Convention Center

6:30 pm-8 pm

All Tropical Biology Mixer Hosted by OTS

Lakeview, Radisson Hotel

Ecology Letters Drinks Reception

Ballroom G, Austin Convention Center

ESA Applied Ecology, Agroecology, Human Ecology, Urban Ecosystem Ecology, and Environmental Justice Joint Mixer

Travis III, Radisson Hotel

ESA Asian Ecology Section Business Meeting and Mixer

Austin I, Radisson Hotel

ESA Biogeosciences Mixer

Ballroom F, Austin Convention Center

ESA Education Section

Travis I, Radisson Hotel

ESA Fund for the Future Reception (by invitation only)

Victorian Room, Driskill Hotel

ESA Historical Records Committee Business Meeting

Austin Suite, Austin Convention Center

ESA Mid-Atlantic Chapter Business Meeting

1, Austin Convention Center

6:30 pm-8 pm; 8 pm-10 pm

ESA Statistical Ecology Section Business Meeting and Mixer

18D, Austin Convention Center

ESA Student Section Business Meeting and Awards Ceremony

7, Austin Convention Center

Michigan Ecology Mixer

19B, Austin Convention Center

NEON Meet & Greet

Ballroom C, Austin Convention Center

Oecologia Editorial Board Reception (by invitation only)

Skyline, Radisson Hotel

USGS Meet & Greet

Ballroom E, Austin Convention Center

8 pm-10 pm

SS 12 - Environmental Literacy For a Sustainable World: An Action Plan

6B, Austin Convention Center

Organized by: T Mourad (teresa@esa.org), M Lowman

This session will present the Decadal Action Plan developed at the Ecology and Education Summit led by ESA and its partners in 2010. We will discuss ways ESA members can contribute within the coordinated framework of priorities to accelerate environmental literacy. Gaps that need further attention will also be explored.

SS 13 - Introducing ESA's Guidebook on Effective Communication and Policy Engagement

18D, Austin Convention Center

Organized by: N Lynn (nadine@esa.org), K Kline, T Houston

This session will showcase ESA's new guidebook on opportunities for ecological scientists to engage in policy and effective communication. Following several presentations, participants will rotate tables to interact with speakers and other experts to gain additional insights. All will receive a copy of ESA's guidebook. Cash bar and snacks.

SS 14 - The Greening of Higher Education

16B, Austin Convention Center

Organized by: VJ Watson, M Tare

The past decade has seen many universities and colleges strive to become models of sustainability. A survey of their efforts will be presented, and a panel of university sustainability officers and ecologists will describe highlights from their schools. Audience members will be invited to describe efforts at their schools.

Speakers:

P Rowland, Association for the Advancement of Sustainability in Higher Education (AASHE)

D Orr, Oberlin College

WH McDowell, University of New Hampshire

J Grover, University of Texas at Arlington

TM Long, Michigan State University

SS 15 - Earth Stewardship in Latin America: Challenges and Opportunities

5, Austin Convention Center

Organized by: JJ Armesto, ME Lam, D Stanton, R Rozzi

Latin America houses both tremendous biocultural diversity and massive exploitation of natural resources. The special session will address the challenges and opportunities facing ecologists and institutions to achieve long-term sustainability and stewardship of Latin American ecosystems, integrating varied perspectives and experiences from across the region in a roundtable discussion.

Speakers:

ME Power, University of California, Berkeley

JP Rodriguez, Instituto Venezolano de Investigaciones Científicas

M Quesada, Universidad Nacional Autónoma de México

SS 16 - Ecology Meets Environmental Ethics: The Case of Three Gray Whales in Barrow, Alaska

4, Austin Convention Center

Organized by: IS Ng (ngi@uoguelph.ca)

The paradox of ecology is that many ecologists enter the field because they value nature, but then are expected to be "value-free" as scientists. How do we reconcile these (sometimes conflicting) parts of our selves? This session takes a philosophical approach to explore ecology's hidden dimensions and emerging richness.

WK 34 - Ecologists' Speaker's Bureau for Earth Stewardship Outreach to Faith Communities--FREE

19A, Austin Convention Center

Organized by: GE Hitzhusen (hitzhusen.3@osu.edu), LM Jablonski, JR Miesel, G Middendorf

Organizing session to establish a national ecologists' speaker's bureau to provide good science and timely ecological information to local communities and influential social organizations, including faith communities and EJ-impacted communities. National religion-environment leaders will provide mini-orientation and training to empower successful ecology education outreach. Participants will discuss and plan implementation.

Speakers:

FS Chapin, University of Alaska

CB DeWitt, University of Wisconsin

P Bakken, Wisconsin Council of Churches and Interfaith Power and Light

Wednesday, August 10

Field Trips, Business Meetings, and Receptions

7 am-9 am

ESA Development Business Meeting
ML 12-level 2, Austin Convention Center

**ESA Meetings
Committee Business Meeting**
Austin Suite, Austin Convention Center

**ESA Publications
Committee Business Meeting**
ML 13-level 2, Austin Convention Center

8 am-9 am

**ESA Education and Human Resources
Committee Business Meeting**
1, Austin Convention Center

11:30 am-12 pm

ESA Presider/AV Training
17A, Austin Convention Center

11:30 am-1:15 pm

ESA Agroecology Business Meeting
19B, Austin Convention Center

**ESA Environmental Justice Section
Meeting and Discussion**
18A, Austin Convention Center

**ESA Microbial Ecology Section
Business Meeting**
Ballroom F, Austin Convention Center

**ESA Urban Ecosystem Ecology
Business Meeting**
19A, Austin Convention Center

**National Phenology Network Brown
Bag Luncheon**
18B, Austin Convention Center

ESA Southeast Brown Bag Luncheon
Blrm C, Austin Convention Center

12 pm-1 pm

**Researchers at Undergraduate
Institutions Business Meeting**
Austin Suite, Austin Convention Center

12:15 pm-1:15 pm

PL 3 - ESA Recent Advances Lecture
Ballroom E, Austin Convention Center

Guest Lecturer: Camille Parmesan of the
University of Texas

5 pm-6:30 pm

ESA Musicians Central
Registration Lobby, Austin Convention
Center

6:30 pm-8 pm

**Bringing Athens, Georgia to Austin
(Odum School of Ecology)**
Ballroom C, Austin Convention Center

Colorado State University Ecologists
Travis III, Radisson Hotel

ESA Diversity Mixer
Ballroom F, Austin Convention Center

ESA Natural History Section Mixer
Old Pecan St, Radisson Hotel

**ESA Plant Population Ecology
Business Meeting**
Travis II, Radisson Hotel

**ESA Physiological Ecology Section
Mixer and Business Meeting**
Ballroom G, Austin Convention Center

**ESA South American Chapter Business
Meeting**
Austin Suite, Austin Convention Center

The Nature Conservancy Reception
18B, Austin Convention Center

WEDNESDAY

8 am-11:30am

Wednesday Sessions

7 am-9 am

ESA Development Business Meeting

ML 12-level 2, Austin Convention Center

ESA Meetings Committee Business Meeting

Austin Suite, Austin Convention Center

ESA Publications Committee Business Meeting

ML 13-level 2, Austin Convention Center

7:30 am-12:30 pm

CANCELED FT 20 - Hornsby Bend

Trinity Street Lobby Field Trip Pick Up, Austin Convention Center

Organized by: KM Anderson (kevin.anderson@ci.austin.tx.us)

8 am-9 am

ESA Education and Human Resources Committee Business Meeting

1, Austin Convention Center

8 am-11:30 am

SYMP 10 - From Sky-Islands to Sea-Mountains: The Ecology and Dynamics of Cornerstone Ecosystems In the Pacific Coastal Drylands

Ballroom E, Austin Convention Center

Organized by: E Ezcurra, S Vanderplank, B Wilder

Endorsed by: Former Chair, Mexico Chapter, Former Chair, Mexico Chapter

Moderator: E Ezcurra

Binational, regional session linking patterns in terrestrial and marine biodiversity to environmental pulses.

8:00 AM SYMP 10-1 Erisman, B¹, P Hastings¹, O Aburto-Oropeza¹, I Mascareñas-Osorio² and C González-Abraham³, (1) Scripps Institution of Oceanography, UCSD, (2)Centro para la Biodiversidad Marina y la Conservación, (3) CIBNOR. *Spatio-temporal heterogeneity and interactions of fishes, fisheries, and coastal ecosystems in the Gulf of California Region.*

8:15 AM SYMP 10-2 Aburto-Oropeza, O¹, B Erisman¹, I Mascareñas-Osorio², J Cota-Nieto² and E Ezcurra³, (1) Scripps Institution of Oceanography, (2)Centro para la Biodiversidad Marina y la Conservación, (3)University of California, Riverside. *Climate variability and environmental services of mangroves, sargassum beds, and reefs.*

8:30 AM SYMP 10-3 López-Medellín, X¹, E Ezcurra², C González-Abraham³, J Hak⁴, JO Sickman⁵ and LS Santiago⁶, (1) CIECO-UNAM, (2)University of California, Riverside, (3) San Diego Natural History Museum, (4)NatureServe, (5)UC Riverside, (6)University of California. *Mangrove ecology and sea-level changes in the Pacific coasts of Baja California Sur.*

8:45 AM SYMP 10-4 Velarde, E¹, E Ezcurra² and DW Anderson², (1)Instituto de Ciencias Marinas y Pesquerías, (2) University of California. *Seabird demographics, sardine cycles and oceanographic anomalies.*

9:00 AM SYMP 10-5 Sagarin, R, University of Arizona. *The microcosm and the macrocosm: Historical ecology and coastal change in the Gulf of California.*

9:15 AM Break

9:25 AM SYMP 10-6 Mellink, E¹ and M Riojas², (1)CICESE, (2) Universidad de Guadalajara. *Geography of ground-dwelling vertebrates in Baja California.*

9:40 AM SYMP 10-7 Wilder, B¹ and R Felger², (1)University of California, Riverside, (2)University of Arizona Herbarium. *Island biogeography, plant distribution, and origin of island floras.*

9:55 AM SYMP 10-8 Wehncke, E, San Diego Natural History Museum. *Insect herbivory impacts blue fan palm populations of northern Baja California: Revealing a new endemic interaction.*

10:10 AM SYMP 10-9 Vanderplank, S, Rancho Santa Ana Botanic Garden. *Where the Scrub Meets the Desert: Plant Ecology of the Transition Zone at the Southern Boundary of the California Floristic Province.*

10:25 AM SYMP 10-10 Garcillán, PP¹, C González-Abraham¹ and E Ezcurra², (1)CIBNOR, (2)University of California, Riverside. *Forrest Shreve revisited: The ecological regions of Baja California and the Sonoran Desert under large-scale environmental change.*

SYMP 11 - Stewardship of Urban Systems 1: Ecosystem Processes and Services in the ULTRA Network

Ballroom G, Austin Convention Center

Organized by: G Hess, PS Warren, M Katti

Endorsed by: Urban Ecosystems Ecology

Moderator: G Hess

This symposium features researchers, working with practitioners outside academia, from the nascent Urban Long Term Research Area (ULTRA) network who are using diverse, interdisciplinary approaches to study the flow of materials, organisms, and ecosystem services in cities across the nation.

8:00 AM SYMP 11-1 Grove, JM, U.S. Forest Service. *What a long strange trip it's been: Background and impulses for the development of the ULTRA program from the US Forest Service.*

8:15 AM SYMP 11-2 Phillips, N¹, L Hutyra¹, M Friedl¹, S Gopal¹, R Kaufmann¹, J Ferreira², P Furth³, DY Hollinger⁴, DR Foster⁵ and S Wofsy⁵, (1)Boston University, (2)Massachusetts Institute of Technology, (3)Northeastern University, (4) US Department of Agriculture Forest Service, (5)Harvard University. *The metabolism of Boston.*

8:30 AM SYMP 11-3 Pijanowski, B¹, A Durnbaugh², P Gobster³, SI Stewart⁴, L Heneghan⁵, J Hirsch⁶, E Lonsdorf⁷, E Minor⁸, DH Wise⁸, N Tuchman⁹ and L Westphal⁴, (1)Purdue University, (2)Chicago Department of the Environment, (3)United States Forest Service, (4)USDA Forest Service, (5)DePaul University, (6)The Field Museum, (7)Lincoln Park Zoo, (8)University of Illinois at Chicago, (9)Loyola University-Chicago. *Convergences and synergies between conserving biodiversity and the provisioning of ecosystem services to people: The Chicago ULTRA Project.*

8:45 AM SYMP 11-4 Griffin, KL, WR McGillis and DY Hsueh, Lamont Doherty Earth Observatory. *Human population impact on the atmospheric CO₂ levels of NYC over the last 180 years: Results from an urban to rural transect.*

9:00 AM SYMP 11-5 Walton, BM¹, T Schwarz², JJ Mack Jr.³, D Beach⁴, PS Grewal⁵, E Price⁶ and MM Gardiner⁷, (1) Cleveland State University, (2)Cleveland Urban Design Collaborative, Kent State University, (3)Cleveland MetroParks, (4)GreenCityBlueLake Institute, Cleveland Museum of Natural History, (5)Ohio State University, (6)

Cuyahoga County Planning Commission, (7)The Ohio State University OARDC (Wooster). *Re-purposing vacant lots for ecosystem services in urban communities.*

9:15 AM Discussion

9:35 AM Break

9:45 AM SYMP 11-6 Warren, PS¹, R Ryan¹, C Polsky², C Nicolson¹, E Strauss³ and M Strohbach¹, (1)University of Massachusetts, (2)Clark University, (3)Loyola-Marymount. *Urban greening and urban growth: Quantifying ecosystem service trade-offs for the greater Boston Metropolitan Area.*

10:00 AM SYMP 11-7 Katti, M¹, ST Reid¹, BW Schleder¹, JT Bushoven¹, AR Jones¹ and D Özgöç-Çalar², (1) California State University, Fresno, (2)Ankara Regional Development Agency. *Interactions between urban water policy, residential irrigation, and plant and bird diversity in Fresno-Clovis Metro Area.*

10:15 AM SYMP 11-8 Pataki, DE¹, C Boone², TS Hogue³, GD Jenerette¹, HR McCarthy¹, JP McFadden⁴, C Mini³ and S Pincetl³, (1)University of California, (2)Arizona State University, (3)UCLA, (4)University of California, Santa Barbara. *Where does all the water go? The ecohydrology of Los Angeles.*

10:30 AM SYMP 11-9 Chertow, M and K Seto, Yale University. *Materials flows and land use change in two urban areas of Hawai'i Island.*

10:45 AM SYMP 11-10 McHale, MR¹, LE Band², PR Berke², E Bernhardt³, K Bigsby¹, S Bruce⁴, G Hess⁵, D Urban³ and MD Youth¹, (1)North Carolina State University, (2)University of North Carolina, (3)Duke University, (4)Triangle J Council of Governments, (5)NC State University. *Equitable distribution of ecosystem services in the Triangle Region of North Carolina.*

11:00 AM Discussion

SYMP 12 - Micro-Managing the Planet: Integrating Microbial Ecology and Earth Stewardship

Ballroom F, Austin Convention Center

Organized by: JT Lennon (lennonja@msu.edu), A Kent

Endorsed by: Microbial Ecology

Moderator: JT Lennon

The proposed symposium will present interdisciplinary perspectives on microbial services to society, highlighting the contributions of microbial communities to maintenance, management, and restoration of ecosystem services, environmental quality, and sustainability.

8:00 AM Welcoming Remarks

8:05 AM SYMP 12-1 Ducklow, H, Marine Biological Laboratory. *Microbial services: Challenges for microbial ecologists in a changing world.*

8:40 AM SYMP 12-2 Smith, VH, University of Kansas. *Application of ecological principles to engineered biosystems.*

9:00 AM SYMP 12-3 Zilles, JL, L Rodríguez and A Kent, University of Illinois Urbana Champaign. *Engineering ecosystems for resilience and reliability of microbially-mediated nutrient removal.*

9:20 AM SYMP 12-4 Shurin, JB, University of California-San Diego. *Engineering phytoplankton communities for production and resilience in biofuels.*

9:40 AM Break

9:50 AM SYMP 12-5 Stuart, D, Michigan State University. *Bringing microbial ecology into the social sciences.*

10:10 AM SYMP 12-6 Bohannan, BJM, J Green, SW Kembel and GZ Brown, University of Oregon. *The impact of architectural design on the microbial diversity of built environments.*

10:30 AM SYMP 12-7 Fierer, N, University of Colorado. *A microbial perspective on air quality: How human activities influence bacterial diversity in the atmosphere.*

10:50 AM SYMP 12-8 Yannarell, AC, University of Illinois at Urbana-Champaign. *Microbial ecology in plant invasions: Considerations of scale.*

11:10 AM SYMP 12-9 Balsler, TC, University of Wisconsin-Madison. *Micro-managing the climate: Microbial communities and stewardship of soil carbon.*

OOS 20 - Plant Responses to Climate Change: Lessons from Invasions

16B, Austin Convention Center

Organized by: P Caplat (paul.caplat@gmail.com), YM Buckley

Moderator: P Caplat

This session aims to highlight the potential for invasion biology to help answer questions about how and how fast we might expect populations to move, re-assemble and adapt to climate change, and more generally offer ideas for new research directions in invasion and climate change ecology.

8:00 AM OOS 20-1 Richardson, DM¹, C Hui¹, JJ Le Roux¹ and JRU Wilson², (1)Stellenbosch University, (2)South African National Biodiversity Institute. *Australian acacias take on the world: Lessons for management from a global translocation experiment.*

8:20 AM OOS 20-2 Zhang, R¹, E Jongejans² and K Shea¹, (1)The Pennsylvania State University, (2)Radboud University Nijmegen. *Enhanced dispersal and spread of an invasive thistle under climate change.*

8:40 AM OOS 20-3 van Kleunen, M and W Dawson, University of Konstanz. *Plastic responses of alien plants to environmental change.*

9:00 AM OOS 20-4 Cheptou, P, CEFE-CNRS. *Rapid adaptations to novel environments: the example of dispersal in urban environment.*

9:20 AM OOS 20-5 Peltzer, DA¹, PJ Bellingham¹, LR Walker², H Kurokawa³, IA Dickie¹, MG St. John¹ and D Wardle⁴, (1) Landcare Research, (2)University of Nevada Las Vegas, (3) Tohoku University, (4)Department of Forest Ecology and Management, Swedish University of Agricultural Sciences. *Soil-plant interactions, invasives and climate change.*

9:40 AM Break

9:50 AM OOS 20-6 Diez, JM and I Ibanez, University of Michigan. *Invasive species as model organisms: integrating disparate data sources to predict species responses to climate change.*

10:10 AM OOS 20-7 Larson, B, University of Waterloo. *Stewarding the planet's plants: Human dimensions of the spread of plants in response to climate change.*

10:30 AM OOS 20-8 Zelikova, TJ, SC Reed and J Belnap, USGS. *Plant responses to experimental warming and modified precipitation in an arid ecosystem.*

10:50 AM OOS 20-9 Gornish, ES and TE Miller, Florida State University. *Quantifying the effects of global change on invasive species and invaded habitats.*

11:10 AM OOS 20-10 Von Holle, B, University of Central Florida. *Do native and nonnative species respond similarly to climate change?*

OOS 21 - Earth Stewardship: Communicating and Fostering Stewardship Behavior

17A, Austin Convention Center

Organized by: FS Chapin (terry.chapin@alaska.edu), D Carter

Moderator: FS Chapin

8 am-11:30am

This session brings together environmental psychologists, sociologists, landscape architects, religious scholars, environmental authors and ecologists seeking to improve understanding of the conditions under which people are motivated to be stewards of their communities and the broader world.

8:00 AM OOS 21-1 Jablonski, LM¹, AM Hruska², KE Bohrer³ and RW McEwan², (1)Marianist Environmental Education Center, (2)The University of Dayton, (3)University of Dayton. *Sustainability, Energy, Environment Initiative: Ecology learning in an interdisciplinary environment.*

8:20 AM OOS 21-2 Shanahan, SA, Southern Nevada Water Authority. *A dozen "plus one" years of ecosystem service enhancements in the Las Vegas Valley watershed, Nevada USA: A baker's perspective.*

8:40 AM OOS 21-3 Bixler, RP, Colorado State University. *"From my place to yours": Communities of open innovation as an approach to watershed stewardship transferability.*

9:00 AM OOS 21-4 Princen, T, University of Michigan. *Drivers of Overconsumption and Pathways to More Restrained Resource Use.*

9:20 AM OOS 21-5 Carter, DM, University of Pennsylvania. *Using positive psychology to foster social norms consistent with human well-being and earth stewardship.*

9:40 AM Break

9:50 AM OOS 21-6 Nassauer, JI, University of Michigan. *From place to planet: Can landscape care promote environmental stewardship?.*

10:10 AM OOS 21-7 DeWitt, CB, University of Wisconsin. *The moral ground: The role of faith and faith-based institutions in fostering stewardship.*

10:30 AM OOS 21-8 Steinwald, M¹ and SJ Tonsor², (1)Phipps Conservatory and Botanical Gardens, (2)University of Pittsburgh. *Training emerging ecologists in outreach through botanic gardens contributes to environmental stewardship and transformation of the culture of science.*

10:50 AM OOS 21-9 Fernandez, E, Stanford University. *From knowledge to action: Creating a social movement.*

11:10 AM OOS 21-10 Ogden, L, Florida International University. *Defining our place in the world: How ecology offers an ethics for land stewardship.*

OOS 22 - Mobile Devices for Enhancing Data Collection in Citizen Science Projects

17B, Austin Convention Center

Organized by: EA Graham (egraham@cens.ucla.edu), S Henderson

Moderator: EA Graham

Advances in mobile technologies and the current proliferation of citizen science programs have resulted in new collaborative methods for earth stewardship. This OOS brings together individuals using mobile devices for field data collection, sharing ideas and approaches to enhancing data collection and analysis in environmental and citizen science projects.

8:00 AM OOS 22-1 Estrin, D, University of California, Los Angeles. *Participatory Sensing: from ecosystems to human systems.*

8:20 AM OOS 22-2 Bartuska, A, USDA Research, Education and Economics. *From 4H to the Census of Agriculture: Increasing Public Participation in Science and Technology.*

8:40 AM OOS 22-3 Alaback, P¹, EA Graham² and S Henderson³, (1)University of Montana, (2)University of California, Los Angeles, (3)NEON, Inc.. *Project BudBurst Mobile.*

9:00 AM OOS 22-4 Ansari, Y, Networked Organisms. *Project Noah: Networked Organisms and Habitats.*

9:20 AM OOS 22-5 Schloss, A¹, J Beaudry², J Pickle³, F Carrera⁴

and S Guerin⁵, (1)University of New Hampshire, (2) University of Southern Maine, (3)Concord Academy, (4) Worcester Polytechnic Institute, (5)Santa Fe Complex. *How mobile picture posts will expand participation in the Digital Earth Watch and Picture Post citizen environmental monitoring network.*

9:40 AM Break

9:50 AM OOS 22-6 Klemow, KM, Wilkes University. *Can use of handhelds in citizen science programs spur public consensus on development of shale gas in northeastern Pennsylvania?.*

10:10 AM OOS 22-7 Stevenson, RD, University of Massachusetts. *Electronic Field Guides and Mobile Data Collection.*

10:30 AM OOS 22-8 Marsh, L¹, D Meredith² and A Rosemartin³, (1)USA National Phenology Network & University of Arizona, (2)USA National Phenology Network, (3)USA National Phenological Network & University of Arizona. *The needs of the many: Challenges and opportunities in mobile citizen science infrastructure at the USA-NPN.*

OOS 23 - Taking stock: The Role of Vegetation and Ecosystem Types in Guiding Ecological Assessments

12A, Austin Convention Center

Organized by: P Comer

Moderator: A Solomeshch

Stewardship of lands and waters requires ongoing assessments of their status. Information on ecosystem or vegetation types, their patterns, levels of protection, and current condition, and climate-induced stressors are core components of such assessments. We demonstrate ecological assessments for ecoregions and wetlands.

8:00 AM OOS 23-1 Rooney, R and SE Bayley, University of Alberta. *Cross-assembly concordance is lower in disturbed than in reference wetlands: implications for monitoring and assessment.*

8:20 AM OOS 23-2 Comer, PJ and MS Reid, NatureServe. *Gauging ecological integrity in Bureau of Land Management rapid ecoregional assessments.*

8:40 AM OOS 23-3 Unnasch, B¹ and J Hak², (1)Sound Science, (2)NatureServe. *Fire Regime Dynamics in BLM rapid ecological assessments.*

9:00 AM OOS 23-4 Jennings, M, University of Idaho. *Evaluating the influence of climate on the vegetation composition of ecological systems.*

9:20 AM OOS 23-5 Elliott, LF¹ and DD Diamond², (1)Missouri Resource Assessment Partnership, (2)University of Missouri. *The role of Ecological System mapping for assessment and stewardship applications in Texas.*

9:40 AM Break

9:50 AM OOS 23-6 Kittel, G and D Faber-Langendoen, NatureServe. *Wetland condition assessment and mitigation - guiding stewardship of wetlands.*

10:10 AM OOS 23-7 Muldavin, EH¹, E Milford¹, Y Chauvin¹, B Bader² and M McGraw³, (1)University of New Mexico, (2)SWCA Environmental Consultants, (3)New Mexico Environment Department. *Using a vegetation classification framework for rapid assessment measures of biodiversity: a case study from wetlands in the Southwest.*

10:30 AM OOS 23-8 Gould, WA and GS Potts, USDA Forest Service. *Integrating LiDAR and Advanced Land Imager (ALI) data in landcover mapping of the U.S. Virgin Islands (USVI) and using the U.S. National Vegetation Classification to integrate Puerto Rico and the USVI with national GAP landcover datasets.*

OOS 24 - From Projections to Decisions: Integrating Climate Change and Ecological Models to Inform Regional Conservation Strategies

14, Austin Convention Center

Organized by: JK Costanza (jennifer_costanza@ncsu.edu), M Post van der Burg

Moderator: S Jones

Our session features state-of-the-art techniques for integrating climate change projections and their associated uncertainties with ecosystem and species-level modeling into theoretical and applied studies that inform regional conservation actions.

- 8:00 AM OOS 24-1 Terando, A, Biodiversity and Spatial Information Center. *Developing downscaled probabilistic climate projections for regional integrated assessments.*
- 8:20 AM OOS 24-2 Costanza, JK¹, TS Earnhardt², A Terando² and A McKerrow³, (1)North Carolina State University, (2) Biodiversity and Spatial Information Center, (3)United States Geological Survey. *Modeling the impact of climate change on regional vegetation dynamics via effects on the fire regime.*
- 8:40 AM OOS 24-3 Hulcr, J, North Carolina State University. *Insect outbreaks are a significant factor in models of Southeastern vegetation dynamics under climate change.*
- 9:00 AM OOS 24-4 LaFontaine, JH, LE Hay, RJ Viger, SL Markstrom and RS Regan, USGS. *Simulation of hydrologic response to climate change using the Precipitation Runoff Modeling System in the Apalachicola-Chattahoochee-Flint River Basin in the Southeastern USA.*
- 9:20 AM OOS 24-5 Veran, S¹, JD Nichols¹ and JA Collazo², (1) USGS, (2)North Carolina State University. *Modeling habitat dynamics accounting for possible misclassification.*
- 9:40 AM Break
- 9:50 AM OOS 24-6 Post van der Burg, M¹ and JB Grand², (1) Auburn University, (2)USGS Alabama Cooperative Fisheries and Wildlife Research Unit. *Making robust landscape planning decisions under severe uncertainty due to climate change.*
- 10:10 AM OOS 24-7 Dubois, NS¹, A DeWan¹, JL Boshoven¹ and DC Parsons², (1)Defenders of Wildlife, (2)Florida Fish and Wildlife Conservation Commission. *Using species-level vulnerability assessments to inform conservation planning under climate change.*
- 10:30 AM OOS 24-8 Freeman, MC¹, JT Peterson², CM Elliott³, CP Shea⁴ and MM Hagler⁵, (1)USGS Patuxent Wildlife Research Center, (2)USGS GA Cooperative Fish and Wildlife Research Unit, (3)USGS Columbia Environmental Research Center, (4)University of Georgia, Warnell School of Forestry and Natural Resources, (5)University of Georgia, Odum School of Ecology. *Using species traits and geomorphic characteristics to condition coarse-resolution assessment of climate change effects on aquatic species.*
- 10:50 AM OOS 24-9 Wintle, BA¹, SA Bekessy², DA Keith³, B van Wilgen⁴ and HP Possingham⁵, (1)University of Melbourne, (2)RMIT University, (3)Department of Environment and Climate Change New South Wales, (4)CSIR South Africa, (5)University of Queensland. *From prediction to action: the science of saving species from climate change.*
- 11:10 AM OOS 24-10 Barrett, K¹, NP Nibbelink¹ and JC Maerz², (1)University of Georgia, (2)The University of Georgia. *Amphibian response to climate change in the southeastern US: A model for identifying priorities.*

OOS 25 - Trait Evolution and the Dynamics of Food Webs

15, Austin Convention Center

Organized by: F Massol (francois.massol@cemagref.fr), V Calcagno, JH Pantel

Moderator: F Massol

More than thirty years after van Valen's (1973) seminal paper on Red Queen dynamics, this session explores how traits evolve in food webs, which selective pressures arise in these systems, and how the evolution of species traits feed back on food web dynamics.

- 8:00 AM OOS 25-1 Pantel, JH¹ and N Loeuille², (1)University of Illinois at Urbana-Champaign, (2)Universite Paris 6. *Ecological and evolutionary contributions to community-wide trait change.*
- 8:20 AM OOS 25-2 Duffy, MA¹, JM Housley¹, RM Penczykowski¹, CA Klausmeier² and SR Hall³, (1)Georgia Institute of Technology, (2)Michigan State University, (3)Indiana University. *Ecological context influences parasite-driven evolution and host-parasite dynamics.*
- 8:40 AM OOS 25-3 Loeuille, N, Universite Paris 6. *Heterogeneity of prey/resource dispersal constrains the emergence and maintenance of diversity.*
- 9:00 AM OOS 25-4 Fellous, S¹ and BP Lazzaro², (1)Centre National de la Recherche Scientifique, (2)Cornell University. *A link between the communities of parasites of insect larvae and adults mediated by the host's immune system.*
- 9:20 AM OOS 25-5 Ferriere, R, University of Arizona. *Red Queen dynamics in three-species trophic chains.*
- 9:40 AM Break
- 9:50 AM OOS 25-6 Perez-Jvostsov, F, AP Hendry, GF Fussmann and ME Scott, McGill University. *A test for indirect effects of fish parasites on invertebrate communities.*
- 10:10 AM OOS 25-7 Pillai, P¹, A Gonzalez² and M Loreau², (1) McGill, (2)McGill University. *The evolution of omnivore and generalist feeding, and the emergence of network complexity in metacommunity food webs.*
- 10:30 AM OOS 25-8 Yeakel, JD¹, P Guimarães Jr.², L Rudolf³, T Gross³ and PL Koch¹, (1)University of California, Santa Cruz, (2)Universidade de São Paulo, (3)Max Planck Institute for the Physics of Complex Systems. *The structure and dynamics of Pleistocene food-webs in Beringia: Using stable isotopes to inform ecological networks across the last glacial period.*
- 10:50 AM OOS 25-9 Murall, CL, C Bauch and KS McCann, University of Guelph. *The food-webs inside the human body.*
- 11:10 AM OOS 25-10 Pawar, S¹, AI Dell² and VM Savage³, (1) University of California, Los Angeles, (2)University of California Los Angeles, (3)UCLA. *Consumption rates and trophic interaction strengths are constrained by dimensionality of consumer search space.*
- COS 51 - Wetlands**
Ballroom B, Austin Convention Center
- 8:00 AM COS 51-1 Parker, VT¹, JC Callaway², LM Schile³, MC Vasey¹ and ER Herbert¹, (1)San Francisco State University, (2)University of San Francisco, (3)UC Berkeley. *Vegetation structure in Mediterranean-climate brackish tidal wetlands and their sensitivity to climate change impacts.*
- 8:20 AM COS 51-2 Bernal, B and WJ Mitsch, Wilma H. Schiermer Olentangy River Wetland Research Park. *Carbon accumulation in forested and riverine wetlands.*
- 8:40 AM COS 51-3 Rigsby, CE, Reinhardt University. *Terrestrial habitat environmental influence on amphibian larvae and metamorphs within temporary wetlands.*

8 am-11:30am

- 9:00 AM COS 51-4 Baldwin, T, Alabama A&M University. *Survivorship and the influence of varying spatial environmental factors on Spotted Salamander, Ambystoma maculatum, egg masses in northern Alabama.*
- 9:20 AM COS 51-5 Plenzler, MA and HJ Michaels, Bowling Green State University. *The effects of canopy shading on the macroinvertebrate biodiversity and water quality of artificial wetlands.*
- 9:40 AM Break
- 9:50 AM COS 51-6 Langley, MR, K Stone and MM Carreiro, University of Louisville. *Effects of flooding duration, depth, and simulated canopy closure on the growth and survival of the invasive shrub Lonicera maackii (Rupr.) Herder.*
- 10:10 AM COS 51-7 Stefanik, KC¹ and WJ Mitsch², (1)The Ohio State University, (2)Wilma H. Schiermer Olentangy River Wetland Research Park. *Vegetation development and succession in mitigation wetlands of Ohio.*
- 10:30 AM COS 51-8 Leonard, PB¹, RF Baldwin¹ and JA Homyack², (1)Clemson University, (2)Weyerhaeuser NR Company. *Remote detection of ephemeral wetlands in the Atlantic coastal plain ecoregions of North America.*
- 10:50 AM COS 51-9 Bramburger, AJ, JC Trexler, JH Richards and EE Gaiser, Florida International University. *Baseline water quality and benthic community Characteristics of the tamiami trail pilot swales sites. (Northeast Shark River Slough, Everglades National Park, FL).*
- 11:10 AM COS 51-10 White, DA, Loyola University. *The Mississippi River: The ecological forcer in the marsh communities of its bird-foot delta, Louisiana, as illustrated over this 25+ year study by its impacts from both warming, likely from climate change, and also from its highly dynamic character.*

COS 52 - Foraging, Savannas, and Woodlands

Ballroom C, Austin Convention Center

- 8:00 AM COS 52-1 Belchior, C¹, K Del-Claro¹ and PS Oliveira², (1) Universidade Federal de Uberlândia, (2)State University of Campinas. *Ecology of the harvester ant Pogonomyrmex naegelii in the Brazilian tropical savanna.*
- 8:20 AM COS 52-2 Newbold, TAS¹ and EW Schupp², (1)Sheridan College, (2)Utah State University. *The role of harvester ant foraging behavior in the restoration of cheatgrass-degraded sagebrush-steppe rangelands.*
- 8:40 AM COS 52-3 Hebbelmann, L¹, D Ward¹, H Fritz² and AM Shrader¹, (1)University of KwaZulu-Natal, (2)Université de Lyon 1. *Quality is the key: Seasonal home range shifts of white rhinos are driven by food quality not availability.*
- 9:00 AM COS 52-4 Van Der Merwe, J¹ and JP Marshal², (1) Southern Illinois University, (2)University of the Witwatersrand. *Resource selection in a mixed feeder: Which factors drive switching between diets?*
- 9:20 AM COS 52-5 Joseph, GS¹, GS Cumming², DHM Cumming², Z Mahlangu³, R Altwegg⁴ and CL Seymour⁴, (1) PercyFitzpatrick Institute, DST/NRF Centre of Excellence, (2)University of Cape Town, (3)Tropical Resource Ecology Programme, (4)Applied Biodiversity Research Division. *Large termitaria act as refugia for tall trees, deadwood and cavity-using birds in a miombo woodland.*
- 9:40 AM Break
- 9:50 AM COS 52-6 Woolley, L¹, L Hedin², E February¹ and N Govender³, (1)University of Cape Town, (2)Princeton University, (3)Scientific Service Kruger National Park. *Ecosystem level N and P effects on carbon assimilation and growth by savanna shrubs.*
- 10:10 AM COS 52-7 Barger, NN¹, HS Guenther¹, JE Herrick² and ME Miller³, (1)University of Colorado, (2)USDA Agricultural Research Service, (3)National Park Service.

Soil erosion increases in response to fire mitigation in a piñon-juniper woodlad.

- 10:30 AM COS 52-8 Murray, DB and JD White, Baylor University. *Growth response of a deciduous oak species to fire, loss of neighbors, and climate within a juniper-dominated woodland ecosystem.*
- 10:50 AM COS 52-9 Lastra, RA and NC Kenkel, University of Manitoba. *Determining the consequences of clonal biology on the likelihood of trembling aspen (Populus tremuloides) encroachment.*

COS 53 - Mutualism and Facilitation II

4, Austin Convention Center

- 8:00 AM COS 53-1 Lau, JA¹, DJ Weese¹ and KD Heath², (1) Michigan State University, (2)University of Illinois, Urbana-Champaign. *Long-term nitrogen addition alters the ecology and evolution of legume-rhizobium resource mutualisms.*
- 8:20 AM COS 53-2 Akçay, E¹ and E Simms², (1)National Institute for Mathematical and Biological Synthesis (NIMBioS), (2) University of California Berkeley. *Negotiation, sanctions and context dependency in the legume-rhizobium mutualism.*
- 8:40 AM COS 53-3 Vick, JK and DR Young, Virginia Commonwealth University. *Proximity to a N-fixing shrub leads to additional N acquisition by a co-occurring non-N-fixing shrub.*
- 9:00 AM COS 53-4 Bauer, JT¹, NM Kleczewski², JD Bever¹, K Clay¹ and HL Reynolds¹, (1)Indiana University, (2) Purdue University. *Nitrogen-fixing bacteria, arbuscular mycorrhizal fungi, and the productivity and structure of prairie grassland communities.*
- 9:20 AM COS 53-5 Grman, E¹ and TMP Robinson², (1)Kellogg Biological Station, Michigan State University, (2)Michigan State University. *The availability and imbalance of nitrogen and phosphorus influence plant productivity, fitness, and allocation to roots and arbuscular mycorrhizal fungi.*
- 9:40 AM Break
- 9:50 AM COS 53-6 Afkhami, ME and SY Strauss, University of California, Davis. *Mutualistic endophyte may confer resistance to enemies resulting in niche expansion of its grass host.*
- 10:10 AM COS 53-7 Porter, S, University of California, Davis. *Adaptive divergence in serpentine tolerance for native and invasive rhizobial mutualists.*
- 10:30 AM COS 53-8 Moore, CM and SB Vander Wall, University of Nevada, Reno. *The little apple can fall far from the tree: Seed dispersal of greenleaf manzanita (Arctostaphylos patula).*
- 10:50 AM COS 53-9 Brown, BL¹, MW Turnbull¹, RP Creed Jr.² and J Skelton¹, (1)Clemson University, (2)Appalachian State University. *Surprising effects in a cleaning symbiosis: Down regulation of immune response in crayfish by ectosymbiotic annelids.*

COS 54 - Biodiversity II

5, Austin Convention Center

- 8:00 AM COS 54-1 Yuan, C and P Chesson, University of Arizona. *Asymmetric sensitivities in environmental responses: Its role in creating temporal niche partitioning for species coexistence.*
- 8:20 AM COS 54-2 Dooley, A¹, C Brophy², J Connolly³, L Kirwan⁴, T Bell⁵, A Weigelt⁶ and J Harndorf⁷, (1)National University of Ireland, Maynooth., (2)National University of Ireland Maynooth, (3)University College Dublin, (4)Waterford Institute of Technology, (5)University of Oxford, (6)Friedrich-Schiller University, Jena, (7) University of Kassel. *Assessing interactions among species*

in high richness communities using Diversity-Interaction modelling combined with random effects.

- 8:40 AM COS 54-3 Bugalho, MN¹, MC Caldeira², JS Pereira³, J Aronson⁴ and J Pausas⁵, (1)Technical University of Lisbon and WWF Mediterranean Program, (2) Technical University of Lisbon, (3)Instituto Superior de Agronomia, (4)Centre d'Ecologie Fonctionnelle et Evolutive, Montpellier, France, and Missouri Botanical Garden, St Louis, MO, (5)Centro de Investigación sobre Desertificación, Spanish National Research Council, Valencia, Spain. *Mediterranean cork oak savannas require human use to sustain biodiversity and ecosystem services.*
- 9:00 AM COS 54-4 Gallery, R¹, R Bagchi², S Gurr² and O Lewis², (1)National Ecological Observatory Network (NEON), (2) University of Oxford. *Host range and the diversity enhancing role of seedling pathogens in a neotropical forest.*
- 9:20 AM COS 54-5 Behrman, KD¹ and TH Keitt², (1)University of Texas at Austin, (2)The University of Texas at Austin. *Hierarchical decomposition of the species-energy relationship by scale.*
- 9:40 AM Break
- 9:50 AM COS 54-6 Franklin, KA, University of Arizona. *Primary productivity and the richness of ant assemblages in arid and semiarid ecosystems of Sonora, Mexico.*
- 10:10 AM COS 54-7 Smith, KG¹, K Lips², JM Chase¹ and AG Boyer³, (1)Washington University in St. Louis, (2)University of Maryland, (3)The University of Tennessee. *Occupancy and extinction probability: Are locally restricted species disproportionately extinction-prone?*
- 10:30 AM COS 54-8 Prevost, LB and CJ Peterson, University of Georgia. *Island biogeography theory as a predictor of species diversity in tropical premontane forest fragments.*
- 10:50 AM COS 54-9 Rominger, AJ¹, MA Fuentes² and PA Marquet³, (1)University of California, (2)Centro Atómico Bariloche, (3)Institute of Ecology and Biodiversity and Center for Advanced Studies in Ecology and Biodiversity. *Volatility of clade-specific random walks evolves across lineages and drives complex diversification patterns through geologic time.*
- 11:10 AM COS 54-10 Fotinos, TA and MA Huston, Texas State University. *Climatic regulation of environmental heterogeneity and its effects on plant beta diversity vary with scale.*

COS 55 - Biogeochemistry: Biogeo Patterns along Environmental Gradients I

6A, Austin Convention Center

- 8:00 AM COS 55-1 Reed, SC¹, CC Cleveland², EA Davidson³ and AR Townsend⁴, (1)USGS, (2)University of Montana, (3)The Woods Hole Research Center, Massachusetts, (4)University of Colorado, Boulder. *Patterns in foliar nutrient resorption at multiple scales: Driving factors and ecosystem consequences.*
- 8:20 AM COS 55-2 Groffman, PM¹, JM Duncan² and LE Band², (1)Cary Institute of Ecosystem Studies, (2)University of North Carolina. *Denitrification, riparian heterogeneity and nitrogen fluxes in a forested watershed.*
- 8:40 AM COS 55-3 Dunn, ST, KR Salk, LM Lynch, EE Daugherty, JD Schade, SN Schmidt, KE Lapo and KM Halvorson, St. Olaf College. *The effects of drying and re-wetting on methanogenesis in two midwestern wetlands.*
- 9:00 AM COS 55-4 Castle, SC¹, CC Cleveland¹, JW Lef¹, DR Nemergut² and SK Schmidt², (1)University of Montana, (2)University of Colorado. *Microbial functional diversity in glacial forelands: Are there general patterns.*
- 9:20 AM COS 55-5 Schade, JD¹, SA Thomas², EC Seybold¹ and KL MacNeill¹, (1)St. Olaf College, (2)University of

Nebraska-Lincoln. *Patterns in the coupling of N and P uptake in stream networks.*

- 9:40 AM Break
- 9:50 AM COS 55-6 Markewitz, D¹, RO Figueiredo², EA Davidson³ and DC Nepstad⁴, (1)The University of Georgia, (2)Embrapa Meio Ambiente, (3)The Woods Hole Research Center, Massachusetts, (4)Instituto de Pesquisa Ambiental da Amazônia (Amazon Institute of Environmental Research). *Simulated drought in the Amazon: Impacts on soil solution and nutrient fluxes.*
- 10:10 AM COS 55-7 Bier, RL, T Lindberg, SY Wang and ES Bernhardt, Duke University. *Effects of surface coal mine drainage on stream microbial communities.*
- 10:30 AM COS 55-8 Drenner, RW¹, MM Chumchal¹ and SP Went², (1)Texas Christian University, (2)Lake Hart Research. *Landscape-level patterns of mercury contamination of fish in the South Central United States.*
- 10:50 AM COS 55-9 Vitousek, PM¹, OA Chadwick², TN Ladefoged³ and CM Stevenson⁴, (1)Stanford University, (2)University of California, (3)Auckland University, (4) Virginia Department of Historic Resources. *Pre-contact intensive agriculture on Rapa Nui (Easter Island): Fine-scale biogeochemical sweet spots?*
- 11:10 AM COS 55-10 Hargreaves, SK¹, TB Parkin², LA Schulte-Moore¹ and KS Hofmocker¹, (1)Iowa State University, (2)USDA Agricultural Research Service. *The influence of landscape-scale soil processes on microbial activity associated with carbon and nitrogen cycling in agroecosystems.*

COS 56 - Climate Change II

6B, Austin Convention Center

- 8:00 AM COS 56-1 Niziolek, OK¹, CL Casteel² and EH DeLucia², (1)University of Illinois Urbana Champaign, (2)University of Illinois. *The impact of elevated CO₂ in combination with increased temperature on Japanese beetle herbivory.*
- 8:20 AM COS 56-2 Mainali, KP, University of Texas at Austin. *Growth characteristics of Rhododendron campanulatum above treeline in the Himalaya.*
- 8:40 AM COS 56-3 Foster, TE¹, PA Schmalzer¹ and GA Fox², (1) Innovative Health Applications, (2)University of South Florida. *Site differences in growth response of Quercus myrtifolia to climate.*
- 9:00 AM COS 56-4 Drake, JE and AC Finzi, Boston University. *Seasonal variation in the temperature sensitivity of soil nitrogen transformations in New England forests.*
- 9:20 AM COS 56-5 Tague, C¹, CD Allen² and N McDowell³, (1)University of California, Santa Barbara, (2)Jemez Mountains Field Station, (3)Los Alamos National Laboratory. *What do mechanistic models of carbon starvation tell us about spatial patterns of drought related forest mortality: A case study of Ponderosa Pine dieback in New Mexico. .*
- 9:40 AM Break
- 9:50 AM COS 56-6 Jarvi, MP and AJ Burton, Michigan Technological University. *Short-term metabolic response of sugar maple roots to soil warming.*
- 10:10 AM COS 56-7 Young, DR and D Resler, Virginia Commonwealth University. *A rules-based model to predict shrub thicket expansion on Atlantic coast barrier islands.*
- 10:30 AM COS 56-8 Neupane, RP, Baylor University. *Implications of climate-driven variability on some ecological issues of headwater watershed system in mountain regions.*
- 10:50 AM COS 56-9 Sengupta, N¹, ES Blumer² and D Wilhelm³, (1) Auroville, (2)Osomono Ltd, (3)New Harvest Ventures. *Earth Stewardship: An innovative and integrated approach*

8 am-11:30am

to regenerate land, support biodiversity, and generate multiple benefits from reclaimed mined or marginal lands.

COS 57 - Community Pattern and Dynamics II

8, Austin Convention Center

- 8:00 AM COS 57-1 Cowden, C and RP Shefferson, University of Georgia. *Microbial community succession in Estonian oil-shale ash hills.*
- 8:20 AM COS 57-2 Eisenlord, SD, DR Zak and RA UpChurch, University of Michigan. *Dispersal limitation and the assembly of soil Actinobacteria communities in a long-term chronosequence.*
- 8:40 AM COS 57-3 Kivlin, SN, GC Winston, M Goulden and KK Treseder, University of California, Irvine. *Spatial and temporal controllers of soil and airborne fungal assemblages.*
- 9:00 AM COS 57-4 Ferrier, GA, CA Zimmer and RK Zimmer, University of California Los Angeles. *Keystone molecules in the rocky intertidal: A multifunctional barnacle protein drives ecological interactions.*
- 9:20 AM COS 57-5 Fukami, T¹, K Peay² and M Belisle¹, (1) Stanford University, (2) University of Minnesota. *Phylogenetic relatedness and the strength of priority effects in nectar yeast communities.*
- 9:40 AM Break
- 9:50 AM COS 57-6 Paver, SF¹, KR Hayek¹, EW Triplett² and AD Kent¹, (1) University of Illinois at Urbana-Champaign, (2) University of Florida. *Phytoplankton succession and lake bacterial community dynamics.*
- 10:10 AM COS 57-7 Mordecai, EA, University of California-Santa Barbara. *Consequences of pathogen spillover for plant species diversity.*
- 10:30 AM COS 57-8 Pizano, C and K Kitajima, University of Florida. *Negative plant-soil feedback dominates degraded tropical forests and agricultural lands.*
- 10:50 AM COS 57-9 Mangan, SA, SA Schnitzer, A Yanazaki and CH Yang, University of Wisconsin - Milwaukee. *Oomycetes do not drive negative plant-soil feedback in a tropical forest in Panama.*
- 11:10 AM COS 57-10 Ong, TWY and JH Vandermeer, University of Michigan. *Predation-controlled infection: Coexistence in a multi-exploiter system.*

COS 58 - Trophic Dynamics and Interactions

9AB, Austin Convention Center

- 8:00 AM COS 58-1 Foufopoulos, J¹, P Pafilis² and E Valakos², (1) University of Michigan, (2) University of Athens. *Interactions between top-down and bottom-up processes in island reptile populations.*
- 8:20 AM COS 58-2 Wu, P and P.J.L. Shaner, National Taiwan Normal University. *Top-down trophic cascade in a willow (*Salix warburgii*) food web.*
- 8:40 AM COS 58-3 Castro-Escobar, BD¹, R Pickens², MV Price³, NM Waser³ and DT Blumstein⁴, (1) University of Puerto Rico, Rio Piedras Campus, (2) Furman University, (3) Rocky Mountain Biological Laboratory, (4) University of California, Los Angeles. *A possible trophic cascade involving humans, coyotes, mule deer, and native Colorado wildflowers.*
- 9:00 AM COS 58-4 Rogers, HS¹, J Hille Ris Lambers¹, R Miller² and JJ Tewksbury¹, (1) University of Washington, (2) University of Guam. *The island-wide loss of insectivorous birds initiates only a weak trophic cascade.*
- 9:20 AM COS 58-5 Raab, K¹, LAJ Nagelkerke¹, AD Rijnsdorp², A Temming³, M Llope⁴, P Licandro⁵ and M Dickey-Collas², (1) Wageningen University and Research Centre, (2) Wageningen IMARES (Institute for Marine Resources &

Ecosystem Studies), (3) Universität Hamburg, (4) Instituto Español de Oceanografía, (5) Sir Alister Hardy Foundation for Ocean Science. *Trophic interactions of anchovy with potential competitors and North Sea plankton.*

- 9:40 AM Break
- 9:50 AM COS 58-6 Roth, GA and U Shanas, University of Haifa. *Inter-trophic level interactions affect biodiversity across a political border in the salt flats of the Arava Desert, Israel.*
- 10:10 AM COS 58-7 Mitchell, SR¹, N Christensen¹, S Cohen² and JR Walters³, (1) Duke University, (2) Marine Corps Base Camp Lejeune, (3) Virginia Polytechnic Institute and State University. *Vegetative diversity and composition correlates with avifaunal diversity and composition in pine forests of the Atlantic coastal plain.*
- 10:30 AM COS 58-8 Reichstein, BS¹, L Persson¹, A Schröder² and KA Nilsson¹, (1) Umeå University, (2) University of Leeds. *Refuges randomize the invasion success of small and large predators in an intraguild predation system.*
- 10:50 AM COS 58-9 Michel, NL¹, TW Sherry¹ and WP Carson², (1) Tulane University, (2) University of Pittsburgh. *Vertebrates gone wild: Collared peccaries limit lianas and understory insectivorous birds in Central American rainforest fragments.*
- 11:10 AM COS 58-10 Vasseur, DA¹ and JW Fox², (1) Yale University, (2) University of Calgary. *Eco-evolutionary dynamics of competition for non-substitutable resources: Why and how stoichiometry matters.*

COS 59 - Habitat Structure, Fragmentation, Connectivity

9C, Austin Convention Center

- 8:00 AM COS 59-1 Sugiyama, A and CJ Peterson, University of Georgia. *Forest fragmentation impacts on multiple early regeneration components of a tropical non-pioneer tree species *Tapirira mexicana* (Anacardiaceae).*
- 8:20 AM COS 59-2 Rosenblatt, AE and MR Heithaus, Florida International University. *Variation in movement tactics and trophic interactions among American alligators creates unexpected habitat linkages.*
- 8:40 AM COS 59-3 Rempel, JM and HB Lynch, Stanford University. *Edge effects on epiphyll cover and composition in a neotropical rainforest.*
- 9:00 AM COS 59-4 Floyd, KW and CS Lieb, University of Texas at El Paso. *How roads affect population demography in two lizard species in the Northern Chihuahuan Desert.*
- 9:20 AM COS 59-5 McCulloch, ES, RD Stevens and A Whitehead, Louisiana State University. *Population genetic structure of the great fruit-eating bat (*Artibeus lituratus*) in Atlantic forest remnants in South America.*
- 9:40 AM Break
- 9:50 AM COS 59-6 Macedo, MN¹, MT Coe², RS DeFries¹, M Uriarte¹ and PA Lefebvre², (1) Columbia University, (2) Woods Hole Research Center. *Impacts of agricultural development on headwater stream temperature and connectivity in southeastern Amazonia.*
- 10:10 AM COS 59-7 Cortes, MC¹, EM Bruna III², WJ Kress³ and M Uriarte¹, (1) Columbia University, (2) University of Florida, (3) Smithsonian Institution. *Fine-scale spatial genetic structure of an Amazonian herb across a fragmented landscape.*
- 10:30 AM COS 59-8 Rayfield, B and A Gonzalez, McGill University. *Dispersal network structure shapes spatial dynamics and synchrony in an experimental metacommunity.*
- 10:50 AM COS 59-9 Bowman-Prideaux, CM and P Schiffman, CSU, Northridge. *Rising from the ashes: Determining local adaptation in an endangered plant.*

11:10 AM COS 59-10 Rusak, JA¹, FC Jones¹, AM Paterson¹, R Reid¹, SA Sinclair¹, KM Somers¹ and ND Yan², (1) Ontario Ministry of the Environment, (2)York University. *Indirect effects of a pelagic invasive zooplankton on littoral macroinvertebrate community structure in a north-temperate lake: The role of habitat-coupling.*

COS 60 - Invasion: Species Interactions II

10A, Austin Convention Center

8:00 AM COS 60-1 Racelis, AE, P Moran, J Goolsby and C Yang, United States Department of Agriculture. *Plant level impacts of the arundo scale (Rhizaspidiotus donacis) on growth and eco-physiology of the invasive giant reed.*

8:20 AM COS 60-2 Gawel, AM, University of Guam. *Ecology of introduced ungulates in limestone forests of Guam.*

8:40 AM COS 60-3 Pauchard, A¹, B Langdon¹, LA Cavieres¹, E Peña², J Esquivel¹, A Jiménez¹ and J Urrutia¹, (1) Universidad de Concepción, Instituto de Ecología y Biodiversidad (IEB), (2)Universidad de Concepción. *Pinus contorta invasion in the Chilean Patagonia: Insights from spatial patterns.*

9:00 AM COS 60-4 Garnas, J, D Chungu, B Hurley and B Slippers, University of Pretoria. *Cryptic diversity in the Eucalyptus snout beetle swamps that of its biocontrol agent, Anaphes nitens, in South Africa.*

9:20 AM COS 60-5 Zarnetske, PL¹, SD Hacker¹, EW Seabloom², P Ruggiero¹ and J Mull¹, (1)Oregon State University, (2) University of Minnesota. *Connecting process with pattern: Towards a mechanistic understanding of invasions' impacts on coastal dune ecology and geomorphology.*

9:40 AM Break

9:50 AM COS 60-6 Jezorek, HA and P Stiling, University of South Florida. *Effects of Cactoblastis cactorum on native Florida Opuntia: Results from a six year study.*

10:10 AM COS 60-7 Bohl Stricker, K and P Stiling, University of South Florida. *Lack of evidence for enemy release and its implications for population growth of Eugenia uniflora: Invasional conflict?*

10:30 AM COS 60-8 Recart, W, JD Ackerman and AA Cuevas, University of Puerto Rico, Rio Piedras Campus. *There goes the neighborhood: apparent competition between invasive, and native orchids.*

10:50 AM COS 60-9 Siemann, E¹, J Carrillo¹, C Gabler¹, J Ding², W Huang², Y Wang², J Zou³, Z Ling³, B Li⁴, Q Yang⁴, Z Yang⁵, H Shen⁵ and S Fu⁵, (1)Rice University, (2)Wuhan Botanical Garden, (3)Nanjing Agricultural University, (4)Fudan University, (5)South China Botanical Garden. *Aboveground and belowground enemies and the invasion success of plants: Experimental tests in the US and China.*

11:10 AM COS 60-10 Ding, J¹, W Huang¹, Y Wang¹, GS Wheeler², JA Carrillo³ and E Siemann³, (1)Wuhan Botanical Garden, (2) USDA Agricultural Research Service, (3)Rice University. *Evolved resistance to specialist and generalist herbivory as revealed by quantitative and qualitative defence in the invasive tallow tree.*

COS 61 - Disease and Epidemiology II

10B, Austin Convention Center

8:00 AM COS 61-1 Orlofske, SA, RC Jadin, DL Preston and PT Johnson, University of Colorado. *Predators and alternative hosts reduce parasite transmission to larval amphibian hosts.*

8:20 AM COS 61-2 Auld, SKJR¹ and T Little², (1)Georgia Institute of Technology, (2)University of Edinburgh. *Parasite evolution associated with decreasing host availability in*

the Daphnia-Pasteuria host-parasite system.

8:40 AM COS 61-3 Luong, L¹, EG Chapman², JD Harwood² and PJ Hudson³, (1)Pennsylvania State University, (2) University of Kentucky, (3)Penn State University. *Linking predator-prey interactions with exposure to a trophically transmitted parasite.*

9:00 AM COS 61-4 Paull, SH and PT Johnson, University of Colorado. *Disease as a moving target: Factors influencing infection 'hotspots' of a multi-host parasite across space and time.*

9:20 AM COS 61-5 Hernandez, AD¹, B Boag² and IM Cattadori¹, (1)The Pennsylvania State University, (2)Birch Brae. *Experimental climate warming affects the emergence of free-living stages in wildlife parasites.*

9:40 AM Break

9:50 AM COS 61-6 Koprivnikar, J and CH Gibson, Brandon University. *Infectious personalities: Behavioral ecology and risk of parasitism in larval amphibians.*

10:10 AM COS 61-7 Artzy-Randrup, Y¹, C Buckee², AP Dobson³ and M Pascual¹, (1)University of Michigan AND Howard Hughes Medical Institute, (2)Harvard School of Public Health, (3)Princeton University. *Emergence and maintenance of limited diversity in malaria parasite population structure.*

10:30 AM COS 61-8 Huang, S and S Altizer, University of Georgia. *Estimating parasite diversity using non-parametric methods.*

10:50 AM COS 61-9 Halstead, NT¹, SA Johnson², TA McMahon¹, K Parker¹, TR Raffel¹ and JR Rohr¹, (1)University of South Florida, (2)University of Florida Institute of Food and Agricultural Sciences. *Agrochemicals increase risk of human schistosomiasis.*

11:10 AM COS 61-10 Hosseini, P and P Daszak, EcoHealth Alliance (formerly Wildlife Trust). *The effect of population structure on Avian Influenza outbreaks in wild and domestic birds.*

COS 62 - Landscape Ecology and Analysis

12B, Austin Convention Center

8:00 AM COS 62-1 Kuntz, AR and KV Root, Bowling Green State University. *Assessing the spatial distribution and diversity of three focal species in a mixed disturbance landscape.*

8:20 AM COS 62-2 Convertino, M¹, JB Elsner², GA Kiker¹, R Munoz-Carpena¹, JF Donoghue², RA Fischer³ and I Linkov³, (1)University of Florida, (2)Florida State University, (3)USA Engineering and Development Center. *Bayesian inference for assessing feedbacks among species, anthropogenic and climate forcings: Shorebirds in Florida.*

8:40 AM COS 62-3 Galpern, P¹, M Manseau¹ and P Wilson², (1)University of Manitoba, (2)Trent University. *Recent habitat fragmentation creates fine-scale genetic structure: A multiscaled landscape genetics approach.*

9:00 AM COS 62-4 Becker, JC, WH Nowlin, B Labay and KJ Rodibaugh, Texas State University. *Influence of land use at multiple spatial scales on nutrient concentration and ecosystem function in a large river system.*

9:20 AM COS 62-5 Dunn, WC and BT Milne, University of New Mexico. *Spatial renormalization as a multiscale approach to determining the security of landscapes.*

9:40 AM Break

9:50 AM COS 62-6 Brudvig, LA¹, CW Habeck² and J Ledvina², (1)Michigan State University, (2)Washington University. *Patterns and controls over biodiversity spillover around remnant longleaf pine woodland patches.*

10:10 AM COS 62-7 Resasco, J¹, DJ Levey¹ and EI Damschen², (1)University of Florida, (2)University of Wisconsin-

8 am-11:30am

Madison. *An experimental test of corridor and edge effects on the trophic ecology of a generalist ant.*

10:30 AM COS 62-8 Hickey, J, N Nibbelink and J Carroll, University of Georgia. *Modeling bonobo (*Pan paniscus*) occupancy in relation to bushmeat hunting, slash-and-burn agriculture, and timber harvest.*

10:50 AM COS 62-9 Porensky, LM¹, KE Veblen² and TP Young¹, (1)University of California, Davis, (2)U.S. Geological Survey. *Grasses and large herbivores enhance landscape heterogeneity by excluding a savanna tree from ecosystem hotspots.*

11:10 AM COS 62-10 Madronich, MB¹, CA Wessman² and A Guenther³, (1)University Of Colorado, (2)University of Colorado, (3)National Center for Atmospheric Research. *Influence of landscape configuration on monoterpene emissions from a Ponderosa Pine forest.*

COS 63 - Forest Habitats: Temperate

13, Austin Convention Center

8:00 AM COS 63-1 Szlavecz, K¹, MK McCormick², DF Whigham², L Xia¹, S Pitz¹, CH Chang¹, MJ Bernard¹ and J O'Neill², (1) Johns Hopkins University, (2)Smithsonian Environmental Research Center. *Combined effects of earthworms and forest age on below- and aboveground processes in the Mid-Atlantic region.*

8:20 AM COS 63-2 D'Souza, LE¹, LJ Six¹, JD Bakker² and RE Bilby¹, (1)Weyerhaeuser NR Company, (2)University of Washington. *Plant diversity and effects of harvesting on riparian reserves in forested landscapes.*

8:40 AM COS 63-3 Ting, T, University of Illinois at Springfield. *Woody composition and structure of upland forest at carpenter park nature preserve: Implications for management.*

9:00 AM COS 63-4 Halman, JM¹, PG Schaberg², GJ Hawley¹, CF Hansen¹ and TJ Fahey³, (1)University of Vermont, (2)USDA Forest Service, (3)Cornell University. *Growth dynamics of American beech and sugar maple trees exposed to long-term calcium and aluminum additions.*

9:20 AM COS 63-5 Kroll, AJ¹, J Giovanini¹, J Jones¹, EB Arnett² and B Altman³, (1)Weyerhaeuser, (2)Bat Conservation International, (3)American Bird Conservancy. *Cumulative effects of natural and anthropogenic stressors on avian populations.*

9:40 AM Break

9:50 AM COS 63-6 Díaz, IA¹ and JJ Armesto², (1)Universidad Austral de Chile, (2)IEB, Universidad de Chile, CASEB, P. Universidad Católica de Chile. *Life history and habitat use characterization of temperate forest birds from Chiloe Island, southern Chile: Implications for research and conservation in a changing landscape.*

10:10 AM COS 63-7 Brown, S¹, IC Burke¹, PM Brown², WK Lauenroth¹ and DR Schlaepfer¹, (1)University of Wyoming, (2)Rocky Mountain Tree-ring Research, Inc.. *Comparing pre-European and contemporary carbon emissions from wildfire in the montane forest of the Colorado Front Range, USA.*

10:30 AM COS 63-8 St. John, MG¹, RB Allen¹, F Carswell¹, S Husheer², SJ Richardson¹ and D Wardle³, (1)Landcare Research, (2)Lincoln University, (3)Department of Forest Ecology and Management, Swedish University of Agricultural Sciences. *No detectable ecosystem carbon changes despite community-level impacts of invasive deer in New Zealand conifer-hardwood forests.*

10:50 AM COS 63-9 Santos, MJ¹, JH Thorne² and C Moritz³, (1) University of California, Berkeley, (2)University of California, Davis, (3)Museum of Vertebrate Zoology, University of California, Berkeley. *Do changes in habitat*

predict observed changes in small mammals in Yosemite National Park?.

11:10 AM COS 63-10 Rosson, Jr., JF and AK Rose, USDA Forest Service, Southern Research Station. *Using stand-structure data from older protected forests to validate models for identifying late-successional and older forests in large-scale surveys.*

COS 64 - Evolution: Genetic Isolation and Differentiation

16A, Austin Convention Center

8:00 AM COS 64-1 Vaupel, A and D Matthies, Philipps-University Marburg. *Population structure and genetic diversity of central and peripheral populations of *Carduus defloratus*.*

8:20 AM COS 64-2 Suni, S¹ and BJ Brosi², (1)University of Arizona, (2)Emory University. *Landscape genetics of orchid bees in a fragmented tropical landscape.*

8:40 AM COS 64-3 Barman, AK¹, RF Medina¹, MN Parajulee² and CG Sansone³, (1)Texas A&M University, (2)Texas AgriLife Research, (3)Texas AgriLife Research and Extension Center. *Genetic population structure in *Pseudatomoscelis seriatius*: An agro-ecological perspective.*

9:00 AM COS 64-4 Fetcher, N¹, JB McGraw², CC Bennington³, MC Vavrek⁴, S Souther², ZK Fowler² and GR Shaver⁵, (1)Wilkes University, (2)West Virginia University, (3) Stetson University, (4)Glennville State College, (5)Marine Biological Laboratory. *Ecotypic variation in an arctic plant, *Eriophorum vaginatum*: A thirty-year experiment.*

9:20 AM COS 64-5 Reyna, SM, RF Medina and JB Bernal, Texas A&M University. *Host-associated differentiation in a leafhopper specialist on *Zea*: Likely anthropogenic and ecological determinants of gene flow.*

9:40 AM Break

9:50 AM COS 64-6 Medina, RF, AM Dickey and C Tamborindeguy, Texas A&M University. *Host-associated differentiation of species of *Sternorrhyncha* in pecan and water hickory and its correspondence with bacterial diversity.*

10:10 AM COS 64-7 Gilman, RT¹ and JE Behm², (1)National Institute for Mathematical and Biological Synthesis, (2) University of Wisconsin- Madison. *Hybridization, species collapse, and species reemergence after disturbance to premating mechanisms of reproductive isolation.*

10:30 AM COS 64-8 Streicher, JW and EN Smith, The University of Texas at Arlington. *Niche partitioning in small direct-developing frogs from the highlands of central Mexico.*

10:50 AM COS 64-9 Ballare, KM¹, J Slothauber Galbreath², SAM Martin² and WC Jordan³, (1)Howard Hughes Medical Institute, (2)University of Aberdeen, (3)Zoological Society of London. *Sympatric divergence in Arctic charr: Genetic and morphological evidence.*

11:10 AM COS 64-10 Jiang, Y, University of Texas at Austin. *The maintaining of individual specialization and its effects on predator-prey dynamics.*

COS 65 - Population Dynamics and Regulation I

18A, Austin Convention Center

8:00 AM COS 65-1 Davis, MJ¹, NT Hobbs¹, MW Miller², SK Thokala³, X Xing³, R Han³ and S Mishra³, (1)Colorado State University, (2)Colorado Division of Wildlife, (3)University of Colorado. *Testing the data transfer capabilities of WildSense: A GPS-based wildlife tracking network.*

8:20 AM COS 65-2 Li, Q¹, L Feng¹, Y Tian¹, H Wang¹, X Li¹, S Mou¹, L Zhang¹, T Wang¹, P Mou¹, J Wu², X Kou¹ and J Ge¹, (1)Beijing Normal University, (2)Arizona State University. *Density estimation on preys of Amur tiger (wild boar and Siberian roe deer) using camera traps.*

- 8:40 AM COS 65-3 Gross, K¹ and JA Rosenheim², (1)North Carolina State University, (2)University of California, Davis. *Quantifying secondary pest outbreaks in cotton and their monetary cost with causal inference statistics.*
- 9:00 AM COS 65-4 Wall, WA¹, WA Hoffmann¹, TR Wentworth¹, JB Gray² and MG Hohmann³, (1)North Carolina State University, (2)Fort Bragg, (3)US Army Corps of Engineers ERDC - CERL. *The paradox of a fire-sensitive species in a fire-dependent ecosystem: Habitat specialist or anachronism?*
- 9:20 AM COS 65-5 Tenhumberg, B¹, T Suwa², FL Russell³ and S Louda¹, (1)University of Nebraska, (2)Michigan State University and W.K. Kellogg Biological Station, (3)Wichita State University. *Combined effects of competition and herbivory limit population growth and spread of *Cirsium vulgare*: Demographic comparison of an introduced thistle with its native congener.*
- 9:40 AM Break
- 9:50 AM COS 65-6 Dochtermann, NA and MM Peacock, University of Nevada, Reno. *The additive contributions of density-dependence and density-independence to population dynamics.*
- 10:10 AM COS 65-7 Inouye, DW, University of Maryland. *Summer precipitation synchronizes mast flowering with a four-year lag in a long-lived monocarpic gentian.*
- 10:30 AM COS 65-8 Inouye, BD¹, TEX Miller² and T McDevitt-Galles¹, (1)Florida State University, (2)Rice University. *Mating functions for 2 sex population dynamics: Effects of density and genetic diversity.*
- 10:50 AM COS 65-9 Zhou, C¹, Q Zhu², M Fujiwara¹ and H Liu³, (1)Texas A&M University, (2)Shandong University at Weihai, (3)Institute of Hydrobiology, CAS. *Population characteristics of *Coreius guichenoti* (Sawage et Dabry) in the upper reaches of Yangtze River.*
- 11:10 AM COS 65-10 Fox, GA and KL Haymes, University of South Florida. *Ecological sources of variation among individuals in cone production in *Pinus palustris* Mill. (Pinaceae).*

COS 66 - Mycorrhizae

18B, Austin Convention Center

- 8:00 AM COS 66-1 Fernandez, C¹ and RT Koide², (1)The Pennsylvania State University, (2)Pennsylvania State University. *The role of chitin in the decomposition of ectomycorrhizal fungal litter.*
- 8:20 AM COS 66-2 Cheeke, TE, T Rosenstiel and M Cruzan, Portland State University. *A field evaluation of arbuscular mycorrhizal fungal colonization in multiple transgenic Bt maize lines.*
- 8:40 AM COS 66-3 Cheng, L¹, C Tu¹, F Booker², K Burkey² and S Hu¹, (1)North Carolina State University, (2)USDA, Plant Science Research Unit. *Do arbuscular mycorrhizal fungi inhibit or stimulate organic C decomposition in soil?*
- 9:00 AM COS 66-4 Barto, K¹, M Hilker¹, F Mueller¹, BK Mohney², JD Weidenhamer² and MC Rillig¹, (1)Freie Universitaet Berlin, (2)Ashland University. *The fungal fast lane: Common mycorrhizal networks extend bioactive zones of allelochemicals in soils.*
- 9:20 AM COS 66-5 Steidinger, BS, University of Illinois Urbana-Champaign. *Resource partitioning of soil organic phosphorus: Investigations from a tropical montane forest.*
- 9:40 AM Break
- 9:50 AM COS 66-6 Vannette, RL and MD Hunter, University of Michigan. *Mycorrhizal abundance nonlinearly affects plant growth, plant defense and caterpillar performance.*
- 10:10 AM COS 66-7 Clark, AL and SB St. Clair, Brigham Young University. *Mycorrhizas and secondary succession in*

aspen-conifer forests: Light limitation differentially affects a dominant early and late successional species.

10:30 AM COS 66-8 Middleton, EL and JD Bever, Indiana University. *Plant community composition is influenced by successional stage of the soil community.*

10:50 AM COS 66-9 Hall, SL¹, RL McCulley¹, K Clay² and E Koziol², (1)University of Kentucky, (2)Indiana University. *Does endophyte status of tall fescue impact mycorrhizal colonization of native species commonly planted in grassland restorations?.*

11:10 AM COS 66-10 Williams, GC, Duke University. *From pine to oak: Ectomycorrhizal host preference facilitates succession.*

COS 67 - Agroecology

18C, Austin Convention Center

8:00 AM COS 67-1 Wanger, TC¹, T Tschardt², AM Klein³ and NS Sodhi⁴, (1)Stanford University, Stanford, CA, USA, (2)Georg August University, (3)Leuphana University of Lüneburg, (4)National University of Singapore. *Pesticides and tropical biodiversity.*

8:20 AM COS 67-2 Gaines, HR and C Gratton, University of Wisconsin - Madison. *Response of native bees to landscape structure in a perennial agroecosystem.*

8:40 AM COS 67-3 Stringfellow, WT, R Jain and ME Karpuzcu, University of the Pacific. *Incorporation of engineered ecosystem services into regions with highly modified hydrologic cycles.*

9:00 AM COS 67-4 Egan, JF and D Mortensen, The Pennsylvania State University. *A comparison of land-sharing and land-sparing plant conservation strategies in agricultural landscapes.*

9:20 AM COS 67-5 Marin, L¹, A De La Mora Rodriguez², SM Philpott³ and I Perfecto¹, (1)University of Michigan, (2)El Colegio de la Frontera Sur, (3)University of Toledo. *Leaf litter spider diversity in coffee landscapes: The influence of management type.*

9:40 AM Break

9:50 AM COS 67-6 Ryals, R¹ and W Silver², (1)University of California, Berkeley, (2)University of California. *Changes to grassland carbon pools and fluxes three years after organic matter amendment.*

10:10 AM COS 67-7 Riskin, SH¹, S Porder¹, ME Schipanski², EM Bennett³ and C Neill⁴, (1)Brown University, (2)The Pennsylvania State University, (3)McGill University, (4)Marine Biological Laboratory. *The role of phosphorus in intensive soybean agriculture.*

10:30 AM COS 67-8 Garbach, K¹, A Martínez-Salinas², VT Eviner¹, M Lubell¹ and F DeClerck², (1)University of California Davis, (2)CATIE. *Live fence complexity and the conservation of avian biodiversity in a pasture-dominated agricultural ecosystem.*

10:50 AM COS 67-9 Corkidi, L¹, DJ Merhaut¹, EB Allen¹, J Downer², J Bohn³ and M Evans³, (1)University of California, (2)University of California Cooperative Extension, (3)Tree of Life Nursery. *Use of mycorrhizal colonization to reduce nitrogen and phosphorus leaching from nursery containers.*

11:10 AM COS 67-10 Maier, CM and RD Jackson, University of Wisconsin-Madison. *Dominance by grazing-tolerant species limits plant community change in rotationally-grazed reconstructed mesic tallgrass prairie in southern Wisconsin.*

COS 68 - Amphibian Decline and Chytridiomycosis

18D, Austin Convention Center

8:00 AM COS 68-1 Piovio-Scott, J¹, KL Pope², SP Lawler¹ and JE Foley¹, (1)University of California, Davis, (2)USDA Forest

Earth Stewardship: Preserving and enhancing earth's life support systems

WEDNESDAY

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8 am-11:30 am; 9 am-2:30 pm; 1:30 pm-5 pm

Service, Pacific Southwest Research station. *Evaluating the impact of a fungal pathogen on the Cascades frog (*Rana cascadae*) in the mountains of northern California.*

- 8:20 AM COS 68-2 McMahon, TA¹, JR Rohr¹ and XE Bernal², (1) University of South Florida, (2) Texas Tech University. *Investigation of crayfish (*Procambarus*), mosquito fish (*Gambusia*) and frog-biting midges (*Corethrella*) as potential hosts for *Batrachochytrium dendrobatidis*.*
- 8:40 AM COS 68-3 Biga, LM and AR Blaustein, Oregon State University. *Effects of a pyrethroid insecticide in an aquatic community.*
- 9:00 AM COS 68-4 Talley, BL¹, K Lips² and VT Vredenburg³, (1) Southern Illinois University, (2) University of Maryland, (3) San Francisco State University. *High levels of disease prevalence and intensity in Illinois amphibians: Rethinking enzootic infections.*
- 9:20 AM COS 68-5 Briggs, CJ¹, VT Vredenburg², RA Knapp³, M Toothman¹ and E Rosenblum⁴, (1) University of California, Santa Barbara, (2) San Francisco State University, (3) Sierra Nevada Aquatic Research Laboratory, University of California, (4) University of Idaho. *The amphibian chytrid fungus: Investigating the mechanisms resulting in frog population persistence versus extinction.*
- 9:40 AM Break
- 9:50 AM COS 68-6 Raffel, TR, TA McMahon, NT Halstead and JR Rohr, University of South Florida. *Interactive effects of temperature, moisture, and thermal acclimation on neot susceptibility to chytrid infection.*
- 10:10 AM COS 68-7 Becker, SN¹, BL Talley² and K Lips³, (1) University of Nebraska - Lincoln, (2) Southern Illinois University - Carbondale, (3) University of Maryland. *Impacts of environmental factors on anuran body temperature and repercussions for disease dynamics.*
- 10:30 AM COS 68-8 Searle, CL, LM Biga and AR Blaustein, Oregon State University. *Evidence for a dilution effect in an emerging amphibian pathogen, *Batrachochytrium dendrobatidis*.*
- 10:50 AM COS 68-9 McKenzie, V¹, R Bowers², R Knight¹ and N Fierer¹, (1) University of Colorado, (2) University of Colorado-Boulder. *Co-habiting amphibian species harbor unique skin bacterial communities in wild populations.*
- 11:10 AM COS 68-10 Skelly, DK, A Smits and SR Bolden, Yale University. *The landscape ecology of amphibian intersex.*

8:30 am-1:30 pm**FT 21 - Lady Bird Johnson Wildflower Center**

Trinity Street Lobby Field Trip Pick Up, Austin Convention Center

Organized by: M Simmons

9 am-2:30 pm**FT 22 - Toxic Tour of East Austin with PODER (People Organized in the Defense of Earth and her Resources)**

Trinity Street Lobby Field Trip Pick Up, Austin Convention Center

Organized by: KA Marshall (kmarsh9@uic.edu)

11:30 am-12 pm**ESA Presider/AV Training**

17A, Austin Convention Center

11:30 am-1:15 pm**ESA Agroecology Business Meeting**

19B, Austin Convention Center

ESA Environmental Justice Section Meeting and Discussion

18A, Austin Convention Center

ESA Microbial Ecology Section Business Meeting

Ballroom F, Austin Convention Center

ESA SEEDS Meeting

6B, Austin Convention Center

ESA Urban Ecosystem Ecology Business Meeting

19A, Austin Convention Center

National Phenology Network Brown Bag Luncheon

18B, Austin Convention Center

ESA Southeast Brown Bag Luncheon

Blrm C, Austin Convention Center

12 pm-1 pm**Researchers at Undergraduate Institutions Business Meeting**

Austin Suite, Austin Convention Center

12:15 pm-1:15 pm**PL 3 - ESA Recent Advances Lecture**

Ballroom E, Austin Convention Center

1:30 pm-5 pm**SYMP 13 - A Natural History Initiative for Ecology, Stewardship, and Sustainability**

Ballroom E, Austin Convention Center

Organized by: JJ Tewksbury (tewksjj@gmail.com), SC Trombulak, K Rowell

Endorsed by: Natural History Section, Traditional Ecological Knowledge Section

Moderator: SC Trombulak

Greater emphasis on the collection, synthesis, dissemination, and appreciation of natural history knowledge will be essential for effective planetary stewardship. Here we present findings from the Natural History Initiative in an interactive forward-looking series of panels examining Natural History in society, education, and ecological research, conservation and land management.

1:30 PM SYMP 13-1 Tewksbury, JJ, University of Washington. *The Natural History Initiative: An introduction.*

1:45 PM SYMP 13-2 Greene, H, Cornell University. *Why research and higher education need natural history.*

2:00 PM SYMP 13-3 Fleishman, E¹, B Dickson², J Thomson³, EC Hansen⁴ and DS Dobkin⁵, (1) University of California, (2) Northern Arizona University, (3) School of Biological Sciences, (4) Eric C. Hansen Consulting, (5) High Desert Ecological Research Institute. *Incorporating natural history into models of occupancy and connectivity.*

2:15 PM SYMP 13-4 Hawley, N, Department of the Interior. *Stewardship, youth, and nature.*

2:30 PM SYMP 13-5 Sewall, L, Bates College. *Natural history, ecopsychology and perception.*

2:45 PM Panel: Tewksbury, Greene, Fleischman, Hawley and Sewall

- 3:10 PM Break
- 3:20 PM SYMP 13-6 Lam, ME, University of British Columbia. *Valuing natural and cultural history in earth stewardship.*
- 3:35 PM SYMP 13-7 Fleischner, TL, Prescott College. *Why the world needs natural history: Attentiveness to nature as an integrative basis for earth stewardship.*
- 3:50 PM SYMP 13-8 Gross, KL, Michigan State University. *Biological field stations, stewardship and natural history: Building bridges between research and public outreach.*
- 4:05 PM SYMP 13-9 Wheeler, TA, McGill University. *Museums and collections as libraries of natural history data.*
- 4:20 PM SYMP 13-10 Rowell, K¹ and AK Salomon², (1) University of Washington, (2)Simon Fraser University. *Why we are naturalists: Capturing the passion of natural history through conversation.*
- 4:35 PM Panel: Fleischner, Lam, Gross, Wheeler, Rowell

SYMP 14 - Stewardship of Urban Systems 2: Socio-ecology, Governance, and Equity in the ULTRA Network

Ballroom G, Austin Convention Center

Organized by: PS Warren, G Hess, M Katti

Endorsed by: Urban Ecosystems Ecology

Moderator: PS Warren

This symposium features researchers, working with practitioners outside academia, from the nascent Urban Long Term Research Area (ULTRA) network who are using diverse, interdisciplinary approaches to study cities and develop strategies to enhance ecological and social equity.

- 1:30 PM SYMP 14-1 Boone, C, Arizona State University. *Normative frames for the ULTRA network: Exploring the merits of environmental justice, vulnerability, and sustainability.*
- 1:45 PM SYMP 14-2 Whitmer, A¹, JM Grove², M Galvin³, C Boone⁴ and G Buckley⁵, (1)Georgetown University, (2)U.S. Forest Service, (3)Casey Trees, (4)Arizona State University, (5) Ohio University. *A tale of two cities: Understanding the social and ecological causes and consequences of urban change in Washington DC & Baltimore City.*
- 2:00 PM SYMP 14-3 Robbins, P, University of Arizona. *Ecological hazards in southwestern metropolises: Integrating modeling, participation, and political ecology.*
- 2:15 PM SYMP 14-4 Meentemeyer, RK¹, JC Thill¹, T BenDor², V Bott¹, B Ribarsky¹, DA Shoemaker¹ and C Wang¹, (1) University of North Carolina at Charlotte, (2)University of North Carolina at Chapel Hill. *Hierarchical analysis of socio-ecological interactions in the Charlotte metropolitan region: Can urbanization, forests, and working lands coexist?.*
- 2:30 PM SYMP 14-5 Hall, MH, N Sun and CM Foley, SUNY College of Environmental Science and Forestry. *Analysis of the socio-ecological constraints and implications for stewardship of a rust belt urban watershed, USA.*
- 2:45 PM Discussion
- 3:00 PM Break
- 3:10 PM SYMP 14-6 Lugo, AE and TA Munoz-Erickson, USDA Forest Service. *Socio-ecological system change, vulnerability, and the future of a tropical city.*
- 3:25 PM SYMP 14-7 Blum, MJ¹, K Gotham¹, J McLachlan¹, W Zipperer² and R Campanella¹, (1)Tulane University, (2) USDA Forest Service. *Reconsidering the new normal: Trauma, vulnerability, and resilience in post-Katrina new orleans.*
- 3:40 PM SYMP 14-8 Hollander, G, L Ogden, MS Ross, K Zhang, J Heffernan, M Feldman, E Eisenhauer and P Harlem, Florida International University. *Double exposures: Exploring*

Earth Stewardship: Preserving and enhancing earth's life support systems

- vulnerability and resilience in the Miami-Dade urban region.*
- 3:55 PM SYMP 14-9 Lewis, DB¹, RK Zarger¹, SM Landry¹, FA Akiwumi¹, MC Rains¹, KA Nilsson¹, CO Adjei¹, SJ Feit¹, GM Larsen¹, RB Perkerson¹, PE Thurman¹, TL Crisman¹, SS Bell¹ and CC Trettin², (1)University of South Florida, (2)USDA Forest Service. *Urban development, power relations, and water redistribution as drivers of wetland change in the Tampa Bay region socioecosystem.*
- 4:10 PM SYMP 14-10 Yeakley, JA¹, SM Bollens², S Duncan³, CP Ozawa¹ and V Shandas¹, (1)Portland State University, (2) Washington State University Vancouver, (3)Oregon State University. *Evaluating the role of governance in building resilient urban ecosystems in Portland-Vancouver.*
- 4:25 PM Discussion

SYMP 15 - Theory and Dynamics of Savanna Systems

Ballroom C, Austin Convention Center

Organized by: B Beckage (Brian.Beckage@uvm.edu)

Endorsed by: Theory Section

Moderator: LJ Gross

We propose to explore the theory underlying the dynamics of diverse savanna systems in order to identify commonalities and suggest directions for development and synthesis of existing savanna theory.

- 1:30 PM Introductory Remarks
- 1:35 PM SYMP 15-1 Beckage, B, University of Vermont. *Vegetation-fire feedbacks as savanna determinants.*
- 1:55 PM SYMP 15-2 Hoffmann, WA, North Carolina State University. *Critical thresholds governing the distribution of savanna and forest in tropical landscapes.*
- 2:15 PM SYMP 15-3 Anderson, TM¹ and RM Holdo², (1)Wake Forest University, (2)University of Missouri. *What can spatial relationships between trees and seedlings tell us about recruitment mechanisms in African savannas? Insights from the Serengeti rainfall gradient.*
- 2:35 PM SYMP 15-4 Higgins, S, Goethe University. *Inverse fitting of heuristic savanna models: An inter-continental and inter-model comparison.*
- 2:55 PM Break
- 3:05 PM SYMP 15-5 Fowler, NL and AV González, University of Texas at Austin. *Dynamics of the encroachment process: Biologically-based models of aerial image data give surprisingly simple results.*
- 3:25 PM SYMP 15-6 Staver, AC and SA Levin, Princeton University. *Resources and disturbance predict sapling growth strategies in savannas.*
- 3:45 PM SYMP 15-7 Scheiter, S¹ and SI Higgins², (1)Biodiversity and Climate Research Centre (LOEWE-BiK-F), (2) Universität Frankfurt A.M.. *Using adaptive vegetation modelling to forecast the global potential for the savanna biome on paleo-ecological time scales.*
- 4:05 PM SYMP 15-8 Platt, III, WJ and KE Harms, Louisiana State University. *Engineering of fire by savanna trees can facilitate high plant species biodiversity.*
- 4:25 PM Panel Discussion

OOS 26 - Emerging Issues in Earth Stewardship: An Intersection between Science and Society

16B, Austin Convention Center

Organized by: STA Pickett (picketts@caryinstitute.org), ME Power, FS Chapin

Moderator: STA Pickett

This session presents emerging issues that can help clarify the

1:30 pm-5 pm

nature of the Earth Stewardship Initiative of ESA.

- 1:30 PM OOS 26-1 Hiding, LA, Arizona State University. *Creating science that makes a difference.*
- 1:50 PM OOS 26-2 Bernhardt, ES, Duke University. *Managing aquatic systems for ecosystem resilience and human well-being.*
- 2:10 PM OOS 26-3 Schoennagel, T¹, CR Nelson² and MA Moritz³, (1)University of Colorado-Boulder, (2)University of Montana, (3)University of California, Berkeley. *Managing human-wildfire interactions in a changing climate.*
- 2:30 PM OOS 26-4 Steiner, F, University of Texas. *Earth stewardship in an urbanized world.*
- 2:50 PM OOS 26-5 Mohrig, D and PB Flemings, The University of Texas at Austin. *Overpressure, fluid venting and sub-seafloor drilling: How can we preserve and build required expertise to respond to large oil vents in U.S. waters?.*
- 3:10 PM Break
- 3:20 PM OOS 26-6 Patzek, TW, University of Texas, Austin. *Sustainability: Just how far are we from you?.*
- 3:40 PM OOS 26-7 Cadenasso, ML, University of California, Davis. *Ecosystem services in urban landscapes: who benefits?.*
- 4:00 PM OOS 26-8 Pawlitz, RJ, U.S. Geological Survey. *Communication for Sustainable Watershed Governance: Understanding the Four Key Ways That Adaptive Ecosystem Management Can Enhance Communication of Ecology to Decision-makers.*
- 4:20 PM OOS 26-9 Bekessy, SA¹, B Wintle², DB Lindenmayer³, MA McCarthy⁴, MC Colyvan⁵, MA Burgman² and HP Possingham⁶, (1)RMIT University, (2)University of Melbourne, (3)Australian National University, (4)The University of Melbourne, (5)University of Sydney, (6) University of Queensland. *The biodiversity bank cannot be a lending bank.*
- 4:40 PM OOS 26-10 Balian, EV and A Berhault, Royal Belgian Institute of Natural Sciences. *Positive Visions for Biodiversity: an innovative approach to mainstream biodiversity.*

OOS 27 - Interface of Ecology and Policy: How Is Ecological Research Incorporated into Air Quality Policy to Protect Ecosystems in the United States?

17A, Austin Convention Center

Organized by: JD Herrick (herrick.jeffrey@epa.gov), TL Greaver, K Novak, L Liu

Moderator: K Novak

This session seeks to foster communication between ecological researchers and policy-makers through an extended case study of the role of ecological science in the process of setting National Ambient Air Quality Standards in the U.S. and the innovative approaches considered in evaluating effects of airborne pollutants on ecosystems.

- 1:30 PM OOS 27-1 Herrick, JD and K Novak, US Environmental Protection Agency. *Where does ecological research fit into the process of setting air quality standards? An overview of the role of ecological data in the ozone rulemaking.*
- 1:50 PM OOS 27-2 Talhelm, AF¹, CE Campany¹, KS Pregitzer¹, DR Zak² and ME Kubiske³, (1)University of Idaho, (2)University of Michigan, (3)USDA Forest Service, Northern Research Station. *Ozone at AspenFACE: Effects on plant productivity and ecosystem carbon storage.*
- 2:10 PM OOS 27-3 Dubois, J and JD Herrick, US Environmental Protection Agency. *Prediction models for policy: Comparison of recent FACE observations of plant responses to ozone with predictions based on open-top chamber data.*
- 2:30 PM OOS 27-4 Liu, L¹, JD Herrick¹, Q Li² and JJ Dubois¹, (1)US Environmental Protection Agency, (2)U.S. Environmental Protection Agency. *Effects of ozone exposure on community composition.*

- 2:50 PM OOS 27-5 Greaver, TL, L Liu, JD Herrick, JJ Dubois and K Novak, US Environmental Protection Agency. *How ecological data were used in reviewing a national standard for acidification and nutrient enrichment effects of oxides of nitrogen and oxides of sulfur.*
- 3:10 PM Break
- 3:20 PM OOS 27-6 Pardo, LH¹, L Geiser¹, J Lynch² and ME Fenn¹, (1)USDA Forest Service, (2)US Environmental Protection Agency. *Assessment of N deposition effects across ecoregions of the U.S. and critical load considerations.*
- 3:40 PM OOS 27-7 Tian, H, C Lu and W Ren, Auburn University. *Effects of nitrogen deposition and ozone exposure on terrestrial productivity and GHG balance in US.*
- 4:00 PM OOS 27-8 Porter, E¹, TJ Sullivan², TC McDonnell² and R Kohut³, (1)National Park Service, (2)E&S Environmental Chemistry, Inc, (3)Boyce Thompson Institute, Cornell University. *Protecting National Parks From Air Pollution: What's In Our Toolbox? .*

OOS 28 - Infectious disease dynamics in migratory species 17B, Austin Convention Center

Organized by: RJ Hall (rjhall@uga.edu), RA Bartel, BA Han

Moderator: BA Han

Despite the pervasiveness of animal migrations and their often-spectacular nature, their effects on host-pathogen dynamics remain largely unknown. This session presents cross-disciplinary research on disease in migratory animals, with particular focus on species of conservation or economic importance, and species implicated in the spread of pathogens of public health concern.

- 1:30 PM OOS 28-1 Bartel, RA, S Altizer and BA Han, University of Georgia. *Catching the travel bug: new perspectives on disease dynamics in migratory animals.*
- 1:50 PM OOS 28-2 Krkosek, M, University of Otago. *Sea lice and salmon population dynamics: migration, domestication, and conservation.*
- 2:10 PM OOS 28-3 Altizer, S, University of Georgia. *Migratory immunity: parasite infection, host defense and fitness costs in monarch butterflies.*
- 2:30 PM OOS 28-4 Plowright, RK¹, F Cassirer², PC Cross³, K Manlove¹ and PJ Hudson⁴, (1)Pennsylvania State University, (2)Idaho Dept. of Fish and Game, (3)US Geological Survey, (4)Penn State University. *Connectivity and the spread of infectious diseases in wildlife.*
- 2:50 PM OOS 28-5 Hall, RJ, University of Georgia. *Sick moves: modeling disease-induced changes to migration patterns.*
- 3:10 PM Break
- 3:20 PM OOS 28-6 Owen, JC and D Arnsnoe, Michigan State University. *Role of migrating birds in the movement of zoonotic pathogens.*
- 3:40 PM OOS 28-7 Lebarbenchon, C, University of Georgia. *Avian influenza virus exchanges in the Mississippi flyway.*
- 4:00 PM OOS 28-8 Ezenwa, VO, University of Georgia. *Host movement behavior and infection risk in ungulates.*
- 4:20 PM OOS 28-9 Wilson, K¹, RI Graham¹, W Mushobozi², J Cory³ and D Grzywacz⁴, (1)Lancaster University, (2) Eco Agri Consult Ltd., (3)Simon Fraser University, (4) University of Greenwich. *Dynamics of baculovirus infections in migratory populations of the African armyworm (Spodoptera exempta) in Tanzania.*
- 4:40 PM OOS 28-10 Ashander, J¹, M Krkosek² and MA Lewis³, (1) University of California, Davis, (2)University of Otago, (3)University of Alberta. *Aquaculture-induced changes to dynamics of a migratory host and specialist parasite: a case study of pink salmon and sea lice.*

OOS 29 - From Visible Next Steps to a Visionary Future: How Can Different Approaches to Agriculture Reduce Nitrogen and Phosphorus Losses Over a Decade or a Century?

12A, Austin Convention Center

Organized by: N Gurwick (ngurwick@ucsusa.org), KP Stillerman

Moderator: S Tartowski

This session will assess the potential to reduce nutrient export from agriculture, including field-based and hydroponic systems, by using best practices in the current food production system and by making longer-term transformative changes to agroecosystem management.

- 1:30 PM OOS 29-1 Ruffo, M, MOSAIC. *Current and Future Best Management Practices for Nitrogen and Phosphorus Fertilizer Application.*
- 1:50 PM OOS 29-2 Castellano, M¹, P Kleinman² and AN Sharpley³, (1)Iowa State University, (2)USDA Agricultural Research Service, (3)University of Arkansas. *Managing agricultural P to protect water quality - obvious priorities and obscure necessities.*
- 2:10 PM OOS 29-3 Parr, M¹, S Snapp² and J Grossman¹, (1) NCSU, (2)Michigan State University. *Sustainable nutrient management and agrobiodiversity in Africa.*
- 2:30 PM OOS 29-4 Schipanski, ME¹ and JB Gardner², (1)The Pennsylvania State University, (2)Cornell University. *Nutrient loss from agricultural systems employing ecological approaches.*
- 2:50 PM OOS 29-5 Fredrickson, E¹ and S Tartowski², (1)USDA Agricultural Research Service, (2)USDA-ARS. *Rising nutrient exports from U.S. livestock production and opportunities for reducing losses.*
- 3:10 PM Break
- 3:20 PM OOS 29-6 Jaynes, DB, USDA Agricultural Research Service. *Beyond fertilizer management for reducing nitrogen losses to surface waters in the corn belt of United States.*
- 3:40 PM OOS 29-7 Harwood, E, AeroFarm. *The Future of Protected Agriculture: Hydroponic Systems and Nutrient Conservation.*
- 4:00 PM OOS 29-8 Morris, T¹, S Friedman² and T Blackmer³, (1)University of Connecticut, (2)Environmental Defense Fund, (3)Iowa Soybean Association. *Adaptive Management and Other Lessons from the On-Farm Network.*
- 4:20 PM OOS 29-9 Gurwick, NP, Union of Concerned Scientists. *Policy opportunities for reducing nutrient losses from agriculture.*

OOS 30 - We are all Connected: From Environmental Justice Education and Local Community Involvement to Earth Stewardship

14, Austin Convention Center

Organized by: LM Jablonski (jablonski@udayton.edu), AE Pérez-Quintero

Moderator: LM Jablonski

Engaging, educating and partnering with diverse local communities (urban, rural, cultural, religious, indigenous) for environmental justice, active eco-citizenship and earth stewardship will foster improved policies for earth stewardship.

- 1:30 PM OOS 30-1 Pérez-Quintero, AE¹ and LM Jablonski², (1) University of Puerto Rico, (2)Marianist Environmental Education Center. *Thinking globally, acting locally - what does this mean for today's ecologists?.*
- 1:50 PM OOS 30-2 Hitzhusen, GF, The Ohio State University. *Stewardship: Best practices and stumbling blocks for connecting faith communities to local and global environmental issues.*

- 2:10 PM OOS 30-3 Moorhead, B, Texas Impact. *Sustainable communities, sustainable faith: Challenges and opportunities in engaging the general public through religious environmental programs.*
- 2:30 PM OOS 30-4 Bakken, P¹, J Wild², B Shaw³ and JM Seifert³, (1)Wisconsin Council of Churches and Interfaith Power and Light, (2)Advent Lutheran Church, (3)University of Wisconsin - Madison. *Cultivating a Sense of Place: Congregations Caring for Land and People.*
- 2:50 PM OOS 30-5 Miesel, JR¹, LM Jablonski², GA Middendorf³ and CH Nilon⁴, (1)University of Wisconsin-Madison, (2)Marianist Environmental Education Center, (3) Howard University, (4)University of Missouri. *Making the connections through curriculum changes: Developing environmental justice courses for graduate students in ecology & environmental sciences.*
- 3:10 PM Break
- 3:20 PM OOS 30-6 Marshall, K¹, TS Chan² and M Gonzalez-Meler³, (1)University of Illinois at Chicago, (2)Eden Place Nature Center, (3)University of Illinois - Chicago. *From Chicago's Urban Ecosystems to a Global Vision.*
- 3:40 PM OOS 30-7 Waffenschmidt, JG, Covanta Energy Corporation. *Energy stewardship: from local environmental to global justice.*
- 4:00 PM OOS 30-8 Figueroa, RM, University of North Texas. *Moving health science and ecology towards environmental justice by concerns for participation, heritage, and reconciliation: A multi-case, multi-scalar, and transdisciplinary education approach.*
- 4:20 PM OOS 30-9 Sanfiorenzo-Barnhard, C, University of Puerto Rico- Río Piedras Campus. *An unconventional academic experience: Redefining Research, Education and Community Involvement.*
- 4:40 PM OOS 30-10 Williams, Y, University of Maryland Baltimore County. *Comparing vegetation diversity for vacant lot systems in Southwest Baltimore City neighborhoods.*

OOS 31 - Measuring and Modeling Roots, the Rhizosphere, and Microbial Processes Belowground

15, Austin Convention Center

Organized by: ML McCormack (mlm572@psu.edu), DM Eissenstat

Moderator: R Norby

By presenting both field based and modeling research across disciplines this session aims to broaden the dialogue between belowground field ecologists and ecological modelers; strengthening the connection between belowground processes and their descriptions or treatments within ecosystem and landscape scale models.

- 1:30 PM OOS 31-1 Hobbie, EA¹, A Ouimette², EAG Schuur³, JM Trappe⁴, K Bendiksen⁵ and E Ohenoja⁶, (1)Complex Systems Research Center, (2)University of New Hampshire, (3)University of Florida, (4)Oregon State University, (5)University of Oslo, (6)University of Oulu. *Radiocarbon evidence for the mining of organic nitrogen from soil by mycorrhizal fungi.*
- 1:50 PM OOS 31-2 Hobbie, JE, Marine Biological Laboratory. *The free-living microbial biomass in soil is unsupported by the measured inputs of carbon: How do microbes survive and why should ecologists care.*
- 2:10 PM OOS 31-3 Hofmockel, KS¹ and DR Zak², (1)Iowa State University, (2)University of Michigan. *Soil organic N cycling under elevated CO₂ and O₃: Relationships among functional gene abundance, enzyme activity, and substrate concentration.*
- 2:30 PM OOS 31-4 Adair, EC¹ and WJ Parton², (1)National Center

1:30 pm-5 pm

- for Ecological Analysis and Synthesis, (2)Colorado State University. *Using global data to test microbial activity in litter decomposition models.*
- 2:50 PM OOS 31-5 Phillips, RP¹, AC Finzi², IC Meier¹ and ES Bernhardt³, (1)Indiana University, (2)Boston University, (3)Duke University. *Fungi decrease the sequestration of root-derived C under elevated CO₂.*
- 3:10 PM Break
- 3:20 PM OOS 31-6 Fisher, JB¹, S Sitch², Y Malhi³, RA Fisher⁴, C Huntingford⁵ and SY Tan⁶, (1)California Institute of Technology, (2)University of Leeds, (3)Oxford University, (4)Los Alamos National Laboratory, (5)Centre for Ecology and Hydrology, (6)University of Waterloo. *Global modeling of plant N uptake and C allocation.*
- 3:40 PM OOS 31-7 Guo, D, Peking University. *Linking root traits with ecosystem processes.*
- 4:00 PM OOS 31-8 Iversen, CM¹, JK Keller² and CT Garten Jr.¹, (1) Oak Ridge National Laboratory, (2)Chapman University. *The consequences of deeper rooting distributions under elevated [CO₂]: Testing a conceptual model.*
- 4:20 PM OOS 31-9 McCormack, ML¹, TS Adams² and D Eissenstat², (1)Pennsylvania State University, (2)The Pennsylvania State University. *Patterns of fine root turnover in temperate trees.*
- 4:40 PM OOS 31-10 Dybzinski, R, CE Farrior and SW Pacala, Princeton University. *Roots are weapons: Game theory of fine-root investment from a whole-plant perspective; theoretical predictions and empirical challenges.*

OOS 32 - Evolutionary Processes in Ecological Networks

16A, Austin Convention Center

Organized by: JA Dunne (jdunne@santafe.edu), ND Martinez

Moderator: AI Dell

This session presents research that integrates evolutionary processes and concepts into the study of the structure and dynamics of complex ecological networks, with topics that span multiple scales of analysis, a variety of methods, and empirically-based as well as theoretical approaches.

- 1:30 PM OOS 32-1 Dunne, JA¹, CC Labandeira² and RJ Williams³, (1)Santa Fe Institute, (2)Smithsonian Institution, (3)Microsoft Research Ltd.. *The organization of highly resolved, multi-habitat species interactions in an Eocene paleo-food web.*
- 1:50 PM OOS 32-2 Melian, CJ¹ and JJ Rodriguez², (1)Swiss Federal Institute of Science and Technology, (2)National Center for Ecological Analysis and Synthesis. *Testing adaptive and non-adaptive radiations and biodiversity in supernetworks.*
- 2:10 PM OOS 32-3 Morlon, H¹ and ND Martinez², (1)CNRS, Ecole Polytechnique, (2)Pacific Ecoinformatics and Computational Ecology Lab. *Phylogenetic tools elucidate effects of trophic interactions on community assembly.*
- 2:30 PM OOS 32-4 Staniczenko, PPA, University of Chicago. *Active reallocation of food-web interactions under environmental change.*
- 2:50 PM OOS 32-5 Valdovinos, FS¹, JD Flores² and R Ramos-Jiliberto¹, (1)Centro Nacional del Medio Ambiente, Universidad de Chile, (2)The University of South Dakota. *Adaptive behavior in pollination networks: Relevance for network robustness against species extinctions.*
- 3:10 PM Break
- 3:20 PM OOS 32-6 Romanuk, TN, Dalhousie University. *Assembly of complex ecological networks by species invasion.*
- 3:40 PM OOS 32-7 Martinez, ND¹ and RC Rael², (1)Pacific Ecoinformatics and Computational Ecology Lab, (2)

University of Michigan. *Evolution of and in complex ecological networks.*

- 4:00 PM OOS 32-8 Guill, C, University of Göttingen. *Network structure and extinction statistics of evolving ecological networks.*
- 4:20 PM OOS 32-9 Poisot, T¹, M Lounnas¹, PH Thrall² and M Hochberg¹, (1)Université Montpellier 2, (2)CSIRO Plant Industry. *Emerging complexity: Evolutionary and ecological processes shaping interaction networks.*
- 4:40 PM OOS 32-10 Saavedra, S¹, DB Stouffer², B Uzzi¹ and J Bascompte², (1)Northwestern Institute on Complex Systems, (2)Estación Biológica de Doñana, CSIC. *From species survival to community persistence in mutualistic networks.*

COS 69 - Aquatic Ecology III

Ballroom B, Austin Convention Center

- 1:30 PM COS 69-1 Julian, JP¹, AJ Elmore² and SM Guinn², (1) University of Oklahoma, (2)University of Maryland Center for Environmental Science. *Where do streams really begin? An ecoregion perspective in the Mid-Atlantic US.*
- 1:50 PM COS 69-2 Schmitz, JE¹, JA Rusak² and SC Hotchkiss³, (1)University of Wisconsin - Madison, (2)Dorset Environmental Science Centre, (3)University of Wisconsin. *Differential responses of north-temperate lake phytoplankton communities to multiple stressors are mediated by landscape position.*
- 2:10 PM COS 69-3 Zhang, Y¹, JS Richardson², D Dudgeon³ and M Scoggins⁴, (1)Texas State University at San Marcos, (2)University of British Columbia, (3)The University of Hong Kong, (4)City of Austin. *Anthropogenic land-use disturbances impact on aquatic biodiversity in lotic ecosystems across geographic regions.*
- 2:30 PM COS 69-4 Snobl, ZR, JN Pomeroy, AM Sasidharan, JP Schoen, SD Vinetas, CM Wojan, O Xiong, EC Merten and TA Wellnitz, University of Wisconsin - Eau Claire. *Stream macroinvertebrates and logjams in northern Minnesota.*
- 2:50 PM COS 69-5 Klinzing, DN, Eastern Washington University. *Assessment of Cow Creek following riparian restoration.*
- 3:10 PM Break
- 3:20 PM COS 69-6 Ulseth, AJ¹, RO Hall Jr.¹ and TA Kennedy², (1) University of Wyoming, (2)U.S. Geological Survey, Grand Canyon Monitoring and Research Center. *Modeling sources and fates of dissolved organic carbon.*
- 3:40 PM COS 69-7 Carey, CC¹, KL Cottingham², KC Weathers³, JA Brentrup², NM Ruppertsberger⁴, HA Ewing⁴ and NG Hairston Jr.¹, (1)Cornell University, (2)Dartmouth College, (3)Cary Institute of Ecosystem Studies, (4) Bates College. *Cyanobacteria are not all bad: Gloeotrichia echinulata may stimulate plankton food webs in nutrient-limited freshwater ecosystems.*
- 4:00 PM COS 69-8 Scarbrough, B¹, JP Grover¹, BW Brooks², DL Roelke³ and KN Prosser², (1)University of Texas at Arlington, (2)Baylor University, (3)Texas A&M University. *The role of life history of the golden alga *Prymnesium parvum* on acute toxicity to fish (*Pimephales promelas*).*
- 4:20 PM COS 69-9 Stone, AG¹, PC Hanson², L Winslow² and S Carpenter², (1)University of Wisconsin-Madison, (2) University of Wisconsin. *Spatial and temporal variability of algal fluorescence in eutrophic Lake Mendota.*
- 4:40 PM COS 69-10 Miller, TR¹, KD McMahon² and S Deuschaston³, (1)University of Wisconsin - Milwaukee, (2) University of Wisconsin - Madison, (3)University of Wisconsin. *Freshwater harmful algal blooms: Beyond biomass as a predictor of toxicity.*

COS 70 - Behavior: Foraging and Diet I

4, Austin Convention Center

- 1:30 PM COS 70-1 Donaldson-Matasci, MC and A Dornhaus, University of Arizona. *The benefits of communication in honeybees depend on ecological context.*
- 1:50 PM COS 70-2 Lichtenberg, EM and JC Nieh, University of California, San Diego. *Cost-effective eavesdropping between competing bee species: Empirical and theoretical support.*
- 2:10 PM COS 70-3 Yanoviak, S¹, N Clay², C Silveri³ and S King¹, (1)University of Arkansas at Little Rock, (2)University of Oklahoma, (3)University of Arkansas. *Canopy substrates influence foraging patterns in arboreal ant communities.*
- 2:30 PM COS 70-4 Lanan, MC, A Dornhaus, GM Fitzpatrick and JL Bronstein, University of Arizona. *Foraging strategy, community structure, and symmetry breaking in desert ants.*
- 2:50 PM COS 70-5 Bockoven, AA and MD Eubanks, Texas A&M University. *Potential causes and consequences of colony-level variation in foraging behavior of the red imported fire ant (*Solenopsis invicta*).*
- 3:10 PM Break
- 3:20 PM COS 70-6 Guevara, J and L Avilés, University of British Columbia. *Sociality and resource use: Insights from a community of social spiders in Brazil.*
- 3:40 PM COS 70-7 Sword, GA¹, J Buhl², MJ Hansen², S Bazazi³, I Couzin⁴ and SJ Simpson², (1)Texas A&M University, (2)The University of Sydney, (3)Oxford University, (4) Princeton University. *Locust cannibalism: Group dynamics and individual benefits.*
- 4:00 PM COS 70-8 Moore, M, CR Burt, SA Hastings, TD Whitney and GC Chang, Gonzaga University. *Does being part of a group improve the survival of larval lady beetles?.*
- 4:20 PM COS 70-9 Kummel, M, D Brown, A Tom, D Kidney and S Tsocanos, Colorado College. *Self-aggregation in *Hippodamia convergens* foraging within a spatially structured *Aphis helianthi* population.*
- 4:40 PM COS 70-10 Clissold, FJ, N Coggan and SJ Simpson, The University of Sydney. *Reversing the temperature-size rule: Herbivore use dynamic thermoregulatory behaviour to alter host plant quality.*

COS 71 - Predation and Predator-Prey Interactions I

5, Austin Convention Center

- 1:30 PM COS 71-1 Sargent, LW and DM Lodge, University of Notre Dame. *A novel environment drives modification of predator avoidance behavior in invasive rusty crayfish (*Orconectes rusticus*).*
- 1:50 PM COS 71-2 Bartholomew, A and K Ebeid, American University of Sharjah. *Space-size relative to prey width (Sp/P_y) and total cover in an area (Ct/At) influence the habitat choices of desert beetles in the field and laboratory freshwater angelfish *Pterophyllum scalare* in a similar manner.*
- 2:10 PM COS 71-3 Wilder, SM¹ and SJ Simpson², (1)University of Sydney, (2)The University of Sydney. *Manipulating the nutrient content of prey for carnivorous arthropods.*
- 2:30 PM COS 71-4 Benincà, E¹, V Dakos², EH van Nes², J Huisman¹ and M Scheffer², (1)University of Amsterdam, (2)Wageningen University. *Resonance of plankton communities with temperature fluctuations.*
- 2:50 PM COS 71-5 Middleton, AD¹, MJ Kauffman², DE McWhirter³, JG Cook⁴, RC Cook⁴, AA Nelson⁵ and MD Jimenez⁶, (1)University of Wyoming, (2)United States Geological Survey, Wyoming Cooperative Fish and Wildlife Research Unit, (3)Wyoming Game and Fish Department, (4)National Council for Air and Stream Improvement, Forestry and Range Sciences Laboratory,

(5)Cooperative Fish and Wildlife Research Unit, (6)U.S. Fish and Wildlife Service. *Evaluating the nonconsumptive effects of predation among large mammals: Wolves and elk in the Greater Yellowstone area.*

- 3:10 PM Break
- 3:20 PM COS 71-6 Zanette, LY¹, AF White¹, MC Allen¹ and M Clinchy², (1)University of Western Ontario, (2)University of Victoria. *Predation risk independent of direct killing reduces the number of offspring songbirds produce per year.*
- 3:40 PM COS 71-7 Yamamichi, M¹, T Yoshida² and A Sasaki¹, (1)The Graduate University for Advanced Studies, (2)University of Tokyo. *Invasion timing determines settlement success in an endogenously oscillating system.*
- 4:00 PM COS 71-8 Peacor, S¹, KL Pangle², L Schiesari³ and EE Werner⁴, (1)Michigan State University, (2)The Ohio State University, (3)University of São Paulo (EACH-USP), (4) University of Michigan. *Scaling up phenotypic responses of prey to predators: Impacts over multiple generations in a complex aquatic community.*
- 4:20 PM COS 71-9 Jönsson, M, L Ranåker, PA Nilsson and C Brönmark, Lund University. *Differential effects of clay turbid and brown colored water on foraging in a visual piscivore.*
- 4:40 PM COS 71-10 Visco, DM, Tulane University. *Nest predation may be responsible for declines of understory insectivores in fragmented Neotropical rainforest.*

COS 72 - Biodiversity: Effects of Global Change

6A, Austin Convention Center

- 1:30 PM COS 72-1 Clark, JS, Duke University. *Why the explanation for diversity lies at the individual scale, and why it is relevant for global change.*
- 1:50 PM COS 72-2 Bogich, TL¹, GM Barker², K Mahlfeld³, F Climo³, R Green⁴ and A Balmford⁴, (1)EcoHealth Alliance, (2)Landcare Research, (3)5 Imlay Crescent, (4) University of Cambridge. *Fragmentation, grazing, and the species-area relationship.*
- 2:10 PM COS 72-3 Fitzpatrick, MC, University of Maryland Center for Environmental Science. *Modeling the impacts of 120,000 years of climate change on global biodiversity hotspots.*
- 2:30 PM COS 72-4 Morelli, TL, University of California. *Meadows and mammals: The effect of a century of change on Belding's ground squirrels in California.*
- 2:50 PM COS 72-5 Winfree, R¹, C Kremen², J Dushoff³ and NM Williams⁴, (1)Rutgers University, (2)University of California, Berkeley, (3)McMaster University, (4) University of California-Davis. *Pollinator community disassembly across land use gradients.*
- 3:10 PM Break
- 3:20 PM COS 72-6 Badik, KJ¹, A Shapiro², MM Bonilla¹, JP Jahner¹ and M Forister¹, (1)University of Nevada, Reno, (2)University of California, Davis. *Butterfly richness predicted by temporal patterns of precipitation in California.*
- 3:40 PM COS 72-7 Cariveau, DP and R Winfree, Rutgers University. *Response diversity as a mechanism for stabilizing pollinator communities and pollination function against land-use change.*
- 4:00 PM COS 72-8 Sylvain, ZA and DH Wall, Colorado State University. *Scale-dependent responses of soil invertebrate communities to altered soil moisture regimes across a regional precipitation gradient.*
- 4:20 PM COS 72-9 Verspagen, JMH¹, DB van de Waal¹, JF Finke¹, V Vournazou¹, AK Immers¹, WEA Kardinaal¹, L Tonk¹, S Becker², PM Visser¹, E van Donk² and J Huisman¹, (1) Universiteit van Amsterdam, (2)Netherlands Institute

1:30 pm-5 pm

of Ecology (NIOO-KNAW). *Reversal in competitive dominance of a toxic versus nontoxic cyanobacterium in response to rising CO₂*.

4:40 PM COS 72-10 Donohue, I¹, NE O'Connor² and MC Emmerson², (1)Trinity College Dublin, (2)Queen's University Belfast. *Species loss initiates multifaceted and cascading instability in a natural food web*.

COS 73 - Biogeochemistry: Biogeo Patterns along Environmental Gradients II

6B, Austin Convention Center

1:30 PM COS 73-1 Hinckley, ES¹, RT Barnes², M Williams¹ and SP Anderson¹, (1)University of Colorado, (2)Rice University. *The fate of reactive nitrogen differs by hillslope aspect in montane forests of the Colorado Front Range, U.S.*

1:50 PM COS 73-2 Yelenik, SG¹, SS Perakis² and DE Hibbs³, (1) Oregon State University, (2)US Geological Survey, (3) Department of Forest Ecosystems and Society. *Regional constraints to N₂-fixation in post-fire forest succession*.

2:10 PM COS 73-3 Sullivan, BW¹, MK Nasto¹, SC Hart², BA Hungate¹ and RA Parnell¹, (1)Northern Arizona University, (2)University of California, Merced. *Soil fluxes of CO₂, CH₄, and N₂O after fertilization across a three million year old soil age gradient*.

2:30 PM COS 73-4 Vincent, AG, J Schleucher, G Gröbner, J Vestergren, P Persson, M Jansson and R Giesler, Umeå University. *Molecular-level composition of phosphorus in boreal forest soils: Its relationship with edaphic factors and vegetation*.

2:50 PM COS 73-5 Perakis, S¹ and ER Sinkhorn², (1)US Geological Survey, (2)Oregon State University. *Biogeochemistry of a temperate forest nitrogen gradient*.

3:10 PM Break

3:20 PM COS 73-6 Castro, S¹, MW Chandler², N Ureña³ and TV Dietsch², (1)University of Vermont, (2)Earthwatch Institute, (3)Earthwatch Institute, Costa Rica. *Nitrogen -based fertilizer application on coffee agroecosystems: Effect on soil nutrients and possible long term impact on productivity*.

3:40 PM COS 73-7 Colgan, MS¹ and GP Asner², (1)Stanford University, (2)Carnegie Institution. *Topo-edaphic controls over woody biomass in South African savannas*.

4:00 PM COS 73-8 Clay, NA, DA Donoso and M Kaspari, University of Oklahoma. *Urine as an important sodium source increases decomposition in a Na-poor but not Na-rich tropical forest*.

4:20 PM COS 73-9 von Haden, AC and ME Dornbush, University of Wisconsin-Green Bay. *Above- and below-ground partitioning in tallgrass prairie along a landscape-scale soil moisture continuum: Implications for carbon sequestration*.

4:40 PM COS 73-10 Blankinship, JC and SC Hart, University of California, Merced. *Soil greenhouse gas fluxes in the High Sierra: Lessons from a hydrological gradient in a subalpine meadow in Yosemite National Park*.

COS 74 - Climate Change: Ranges and Phenology

8, Austin Convention Center

1:30 PM COS 74-1 McKellar, AE¹, P Marra², SJ Hannon³, CE Studds² and LM Ratcliffe¹, (1)Queen's University, (2) Smithsonian Migratory Bird Center, (3)University of Alberta. *Winter rainfall predicts phenology on an east-west axis in widely separated populations of a migrant songbird*.

1:50 PM COS 74-2 Hille Ris Lambers, J and KR Ford, University of Washington. *Transient dynamics during climate change induced range shifts*.

2:10 PM COS 74-3 Courter, JR¹, RJ Johnson¹, KG Hubbard² and

WC Bridges¹, (1)Clemson University, (2)University of Nebraska-Lincoln. *Assessing the effects of climate change on bird phenology at broad temporal and spatial scales*.

2:30 PM COS 74-4 Erb, LP, C Ray and R Guralnick, University of Colorado at Boulder. *Climatic drivers of pika population density in the Southern Rocky Mountains*.

2:50 PM COS 74-5 Ellwood, ER¹, RB Primack¹ and JS Dukes², (1)Boston University, (2)Purdue University. *Measuring the effect of climate change on fern phenology and ecophysiology using historical and experimental methods*.

3:10 PM Break

3:20 PM COS 74-6 Ettinger, AK, KR Ford and J HilleRisLambers, University of Washington. *Impacts of climate and competition on altitudinal range limits of Pacific Northwestern conifers*.

3:40 PM COS 74-7 Record, S¹, MC Fitzpatrick², AM Ellison³ and AO Finley⁴, (1)Harvard Forest, Harvard University, (2)University of Maryland Center for Environmental Science, (3)Harvard University, (4)Michigan State University. *Exploring spatial autocorrelation and spatial random effects in tree species distribution models with the forest inventory and analysis data*.

4:00 PM COS 74-8 Nagy, L, University of Bayreuth. *Extreme weather events alter leaf phenology and growth of different *Fagus sylvatica* provenances*.

4:20 PM COS 74-9 Robertson, A¹, N Takebayashi² and MS Olson³, (1)University of Alaska, (2)University of Alaska Fairbanks, (3)Texas Tech University. *Migration potential of a North-American boreal forest tree species, *Populus balsamifera*, in a changing climate*.

4:40 PM COS 74-10 Hurlbert, AH and LZ Liang, University of North Carolina. *Using citizen science efforts to examine spatiotemporal variation in avian migration phenology*.

COS 75 - Community Pattern and Dynamics III

9AB, Austin Convention Center

1:30 PM COS 75-1 Bell, DM and JS Clark, Duke University. *The continuum of masting behavior and its relation to seed predation and survival in temperate trees*.

1:50 PM COS 75-2 Hayden, MK¹, JJ Battles¹ and JC Stella², (1) University of California, Berkeley, (2)State University of New York College of Environmental Science and Forestry. *Experimental evidence of interacting drivers controlling pioneer riparian tree establishment in floodplain refugia*.

2:10 PM COS 75-3 Coop, JD, Western State College of Colorado. *Accelerating aspen dieback and understory community dynamics in the upper Gunnison Basin, Colorado*.

2:30 PM COS 75-4 Rozendaal, DM and RK Kobe, Michigan State University. *Canopy defoliation by forest tent caterpillar strongly increased resource availability and seedling growth in northern hardwood forests of Michigan*.

2:50 PM COS 75-5 McMahon, S, Smithsonian Institution Global Earth Observatory. *Near-term projections of long-lived forest systems: Using integral projection models to predict demographic change in dynamic environments*.

3:10 PM Break

3:20 PM COS 75-6 Messier, C, Université du Québec à Montréal. *Interannual variation in competitive interactions from natural and anthropogenic disturbances in a temperate forest tree species: Implications for ecological interpretation*.

3:40 PM COS 75-7 Chisholm, RA, Smithsonian Tropical Research Institute. *Theoretical models of forest communities: Neutral theory plus*.

4:00 PM COS 75-8 Ayal, Y, Ben Gurion University of the Negev.

Productivity, organism size, and the structure of the major terrestrial biomes: The role of emergent properties.

- 4:20 PM COS 75-9 Baldeck, CA and JW Dalling, University of Illinois. *The effects of soil resources and topography on local tree community structure of tropical forests.*
- 4:40 PM COS 75-10 Drus, GM¹, TL Dudley¹, ML Brooks², JR Matchett² and TJ Even¹, (1)University of California, Santa Barbara, (2)USGS Western Ecological Research Center. *Tamarisk invasion and fire in southwestern desert ecosystems.*

COS 76 - Community Disturbance and Recovery I

9C, Austin Convention Center

- 1:30 PM COS 76-1 Buzzard, VR¹, C Violle¹, CM Hulshof¹, TA Birt¹ and BJ Enquist², (1)University of Arizona, (2)University of Arizona and The Santa Fe Institute. *Trait-based community assembly along a secondary succession in a tropical dry forest.*
- 1:50 PM COS 76-2 Márquez, JC and J Kolasa, McMaster University. *Are local processes really deterministic?.*
- 2:10 PM COS 76-3 Murphy, GE and TN Romanuk, Dalhousie University. *A meta-analysis of predictability of community responses to anthropogenic disturbance.*
- 2:30 PM COS 76-4 Tucker, C¹ and MW Cadotte², (1)University of Toronto, (2)University of Toronto - Scarborough. *Species trade-offs explain more than just intermediate disturbance patterns.*
- 2:50 PM COS 76-5 Mayor, SJ, JF Cahill Jr., S Boutin and F He, University of Alberta. *Large scale field test supports intermediate disturbance hypothesis of species diversity – but only for native species.*
- 3:10 PM Break
- 3:20 PM COS 76-6 Gray, DK¹, RD Linley², ND Yan², WB Keller³ and S Arnott¹, (1)Queen's University, (2)York University, (3)Ontario Ministry of the Environment. *Using two-phased species-time relationships to separate ecological dynamics from census error in the assessment of stressed communities.*
- 3:40 PM COS 76-7 Racke, DM and AJ Meier, Western Kentucky University. *Environmental factors that differentially affect the life stages of small forest herbaceous populations.*
- 4:00 PM COS 76-8 Hua, J and RA Relyea, University of Pittsburgh. *Bouncing Back: The resistance and resilience of aquatic organisms to multiple insecticides.*
- 4:20 PM COS 76-9 Brogan, III, WR and RA Relyea, University of Pittsburgh. *Using the traits of submersed macrophytes to predict the effects of insecticides in aquatic communities.*
- 4:40 PM COS 76-10 Meldrum, GE and DS Srivastava, University of British Columbia. *Spatial insurance in a moss-microarthropod ecosystem.*

COS 77 - Ecosystem Stability and Resilience

10A, Austin Convention Center

- 1:30 PM COS 77-1 Tang, S and S Allesina, University of Chicago. *Stability criteria for complex ecosystems.*
- 1:50 PM COS 77-2 Livingston, GF¹ and Y Jiang², (1)University of Texas, (2)University of Texas at Austin. *The dynamics of community assembly under sudden mixing.*
- 2:10 PM COS 77-3 Hammond, MP and J Kolasa, McMaster University. *Does connectivity enhance or decrease stability? Effects of system size and scales of dynamics on variability in aquatic microcosms.*
- 2:30 PM COS 77-4 Downing, AL¹, BL Brown² and MA Leibold³, (1)Ohio Wesleyan University, (2)Clemson University, (3)

University of Texas at Austin. *Multiple diversity-stability mechanisms enhance population and community stability in aquatic ecosystems.*

- 2:50 PM COS 77-5 Corcoran, AA and WJ Boeing, New Mexico State University. *Biodiversity increases productivity and stability of algal communities subject to predation by the rotifer *Brachionus*.*
- 3:10 PM Break
- 3:20 PM COS 77-6 Karp, DS, Stanford University. *Resilience and stability in bird guilds across tropical countryside.*
- 3:40 PM COS 77-7 Curtis, PS¹, CM Gough², LE Nave³, BS Hardiman⁴, G Bohrer⁴, A Halperin⁵, CS Vogel⁶, KD Maurer⁴, K Nadelhoffer⁶ and J Le Moine⁶, (1)The Ohio State University, (2)Virginia Commonwealth University, (3)University of Michigan Biological Station, (4)Ohio State University, (5)Oberlin College, (6)University of Michigan. *Disturbance dynamics and the maintenance of sustained carbon storage in aging forests of the upper Great Lakes region.*
- 4:00 PM COS 77-8 Nave, LE¹, K Nadelhoffer², J Le Moine², B Hardiman³, JP Sparks⁴, B Strahm⁵, A Munoz⁶, CM Gough⁷, CS Vogel² and PS Curtis⁸, (1)University of Michigan Biological Station, (2)University of Michigan, (3)Ohio State University, (4)Cornell University, (5) Virginia Polytechnic Institute and State University, (6) New York University School of Medicine, (7)Virginia Commonwealth University, (8)The Ohio State University. *Disturbance and decoupling of belowground carbon and nitrogen cycles in a northern temperate forest.*
- 4:20 PM COS 77-9 Martin, KL and PC Goebel, The Ohio State University. *Alternate community states in hemlock-dominated riparian forests following the invasion of Hemlock Woolly Adelgid.*
- 4:40 PM COS 77-10 Metzger, K¹, ARE Sinclair¹, JM Fryxell², C Packer³ and A Byrom⁴, (1)University of British Columbia, (2)University of Guelph, (3)University of Minnesota, (4) Manaaki Whenua - Landcare Research. *Multiple effects of the El Niño Southern oscillation on Serengeti ecosystem dynamics.*

COS 78 - Invasion: Dynamics, Population Processes

10B, Austin Convention Center

- 1:30 PM COS 78-1 Parker, JD¹, M Torchin² and RA Hufbauer³, (1) Smithsonian Institution, (2)Smithsonian Tropical Research Institute, (3)Colorado State University. *Are invaders different: comparing performance metrics among some of the world's worst invaders in their home and away range.*
- 1:50 PM COS 78-2 Eppinga, MB¹ and J Molofsky², (1)Utrecht University, (2)University of Vermont. *The ecology and evolution of reed canarygrass.*
- 2:10 PM COS 78-3 Blair, AC¹, DM Blumenthal² and RA Hufbauer³, (1)St. Ambrose University, (2)USDA-ARS, (3) Colorado State University. *An experimental test of the role of hybridization in the invasion of diffuse knapweed (*Centaurea diffusa* Lam.).*
- 2:30 PM COS 78-4 Marchetto, KM¹, K Shea², D Kelly³, R Groenteman⁴, Z Sezen⁵ and E Jongejans⁶, (1)Cornell University, (2)The Pennsylvania State University, (3) University of Canterbury, (4)Landcare Research, (5) University of Minnesota, (6)Institute for Water and Wetlands Research, Radboud University Nijmegen. *Titrating local and spatial impacts of a biocontrol agent.*
- 2:50 PM COS 78-5 Nuñez, MA, The University of Tennessee. *Multiple hypotheses explain Pinaceae invasion on Isla Victoria, Argentina.*
- 3:10 PM Break

1:30 pm-5 pm

- 3:20 PM COS 78-6 Lucardi, RD¹, GN Ervin¹, LE Wallace¹ and CT Bryson², (1)Mississippi State University, (2)USDA-ARS. *Population genetic analysis of an invasive species: Cogongrass (Imperata cylindrica (L.) P. Beauv.) in Mississippi and Alabama.*
- 3:40 PM COS 78-7 Delgado, D, R Arce-Nazario and C Restrepo, University of Puerto Rico-Rio Piedras. *Understanding the large-scale pattern of exotic vine spread: Do power and telephone networks function as corridors aiding exotic vine invasion?.*
- 4:00 PM COS 78-8 Schmale, GD, LL Battaglia and DJ Gibson, Southern Illinois University. *Population persistence of non-native invasive plants.*
- 4:20 PM COS 78-9 Felker-Quinn, E¹, JK Bailey² and J Schweitzer³, (1)University of Tennessee - Knoxville, (2)University of Tasmania, (3)University of Tennessee, Knoxville. *Invasive Ailanthus altissima displays population and family level differentiation, but no latitudinal cline, for performance traits.*
- 4:40 PM COS 78-10 Bhagat, Y, A Koster and CR Ruetz III, Grand Valley State University. *Differential habitat use by two Ponto-Caspian invaders in coastal areas of the Laurentian Great Lakes.*

COS 79 - Physiological Ecology II

12B, Austin Convention Center

- 1:30 PM COS 79-1 Sword Sayer, MA, SJ Zarnoch and JD Haywood, USDA Forest Service. *Physiological mechanisms of sustained growth despite crown scorch in a young longleaf pine plantation.*
- 1:50 PM COS 79-2 Palow, DT¹, K Nolting² and K Kitajima¹, (1) University of Florida, (2)Michigan State University. *Soil type specialization and functional traits in Inga (Fabaceae): Comparison between sapling and adult stages.*
- 2:10 PM COS 79-3 Pangle, RE¹, JM Limousin¹, N Gehres¹, PJ Hudson¹, AL Boutz¹, WT Pockman¹ and NG McDowell², (1)University of New Mexico, (2)Los Alamos National Laboratory. *Variation in canopy gas exchange and hydraulic conductance following three years of experimental rainfall manipulation in a piñon-juniper woodland.*
- 2:30 PM COS 79-4 Hudson, PJ and WT Pockman, University of New Mexico. *Comparative hydraulic performance of piñon and juniper in a rainfall manipulation experiment.*
- 2:50 PM COS 79-5 Plaut, JA¹, NG McDowell² and WT Pockman¹, (1)University of New Mexico, (2)Los Alamos National Laboratory. *The implications of isohydric and anisohydric regulation of leaf water potential under current and future precipitation regimes.*
- 3:10 PM Break
- 3:20 PM COS 79-6 Schafer, KV, Rutgers University Newark. *Canopy stomatal conductance under drought, disturbance and death.*
- 3:40 PM COS 79-7 Lachenbruch, B¹, DM Barnard², FC Meinzer³ and K McCulloh⁴, (1)Oregon State University Dept, (2) Colorado State University, (3)USDA Forest Service, (4) Oregon State University. *Coordinated adjustments in Douglas-fir and ponderosa pine xylem efficiency, safety, and capacitance along a gradient of increasing aridity in Oregon.*
- 4:00 PM COS 79-8 Jaikumar, NS and S Snapp, Michigan State University. *Photosynthesis in Perennial Cereals: How do perennial cereals balance seed production and long term survival?*
- 4:20 PM COS 79-9 Shiflett, SA and DR Young, Virginia Commonwealth University. *Light use and water relations of three evergreen shrubs in an eastern temperate forest understory.*

COS 80 - Fire

13, Austin Convention Center

- 1:30 PM COS 80-1 Cansler, CA and D McKenzie, University of Washington. *Drivers of Burn Severity Patterns in the Northern Cascade Range, Washington, USA.*
- 1:50 PM COS 80-2 Dewar, JJ¹, DA Falk¹, CD Allen², RR Parmenter³, TW Swetnam¹ and CH Baisan¹, (1)University of Arizona, (2)Jemez Mountains Field Station, (3)Valles Caldera Trust. *Top-down and bottom-up control of fire regimes in montane grasslands of the Valles Caldera, New Mexico, USA.*
- 2:10 PM COS 80-3 Higuera, PE¹, M Chipman², J Barnes³, P Duffy⁴ and FS Hu⁵, (1)University of Idaho, (2)University of Illinois, (3)National Park Service, (4)Neptune and Company, Inc, (5)University of Illinois, Urbana-Champaign. *Interannual- to millennial-scale interactions among climate, vegetation, and fire in tundra ecosystems of Alaska, USA.*
- 2:30 PM COS 80-4 Menges, ES¹, J Olano² and K Main¹, (1) Archbold Biological Station, (2)Universidad de Valladolid. *Frequent fire or mowing inhibits resprouting vigor in dominant shrubs of Florida scrub.*
- 2:50 PM COS 80-5 Horn, KJ¹, J Wilkinson¹, RS White¹ and SB St. Clair², (1)Brigham Young University - Provo, (2)Brigham Young University. *Fire results in increased physiological vigor for surviving Joshua trees (Yucca brevifolia) and creosote bushes (Larrea tridentata) in the Mojave Desert.*
- 3:10 PM Break
- 3:20 PM COS 80-6 Ellair, DP and WJ Platt, Louisiana State University. *Fuel composition influences fire temperature, residence time, and understory hardwood survival in pine savannas.*
- 3:40 PM COS 80-7 Quinones-Magalhaes, RM and D Schwilk, Texas Tech University. *Leaf traits and litter flammability: Understanding multi-species mixtures.*
- 4:00 PM COS 80-8 Alexander, HD¹, MC Mack¹, S Goetz², MM Loranty², PSA Beck² and K Earl¹, (1)University of Florida, (2)Woods Hole Research Center. *Stand age and tree density effects on carbon accumulation patterns in post-fire Cajander larch (Larix cajanderi) forests of Far Northeastern Siberia.*
- 4:20 PM COS 80-9 Pearce-Duvel, JM¹, X Arnan², A Rodrigo², R Boulay¹ and X Cerdá¹, (1)Estación Biológica de Doñana - CSIC, (2)Centre de Recerca Ecològica i Aplicacions Forestals (CREAF). *The effect of fire on resource discovery in Mediterranean ant communities.*
- 4:40 PM COS 80-10 Knops, J(MH)¹, W Li² and X Zuo³, (1)University of Nebraska, (2)Lanzhou University, (3)Cold and Arid Regions of Environmental and Engineering Research Institute, Chinese Academy of Sciences. *Vegetation changes in infertile grasslands occur only after decades of fire frequency differences.*

COS 81 - Spatial Analysis and GIS

18A, Austin Convention Center

- 1:30 PM COS 81-1 Watling, JI¹, Y Escribano¹, LA Brandt², SS Romañach³, LG Pearlstine⁴, RJ Fletcher Jr.¹ and FJ Mazzotti¹, (1)University of Florida, (2)U.S. Fish and Wildlife Service, (3)US Geological Survey, (4)National Park Service. *Alternative climate inputs can change the spatial signature of predictions in climate envelope models.*
- 1:50 PM COS 81-2 Roll, U¹, L Stone¹ and A Solow², (1)Tel-Aviv University, (2)Woods Hole Oceanographic Institution. *Analyzing climate-change induced range shifts by modeling range boundaries of British birds.*

- 2:10 PM COS 81-3 Cheleuitte-Nieves, C¹, H Perotto-Baldivieso², B Wu¹, SM Cooper³ and JW Holloway³, (1)Texas A&M University, (2)Cranfield University, (3)Texas AgriLife Research. *Seasonal and diurnal patterns of spatial spread and the influence of resources on a free-ranging cattle herd in a semi-arid rangeland in South Texas, USA.*
- 2:30 PM COS 81-4 Angelo, JJ and JF Weishampel, University of Central Florida. *Capturing vertical structural dynamics with lidar remote sensing from chronosequences of coastal Florida shrubland and forest communities recovering from prescribed fire.*
- 2:50 PM COS 81-5 Coops, N¹ and R Waring², (1)University of British Columbia, (2)Oregon State University. *Assessing the occurrence, vulnerability and expansion of forests of the Pacific Northwest in response to recent climate variation.*
- 3:10 PM Break
- 3:20 PM COS 81-6 Warren, D, University of Texas, Austin. *Environmental niche modeling in Maxent: The importance of model complexity and the performance of model selection criteria.*
- 3:40 PM COS 81-7 Mudrak, EL¹, KA Moloney¹, A Fuentes Ramirez¹, JL Schafer², CE Haines² and C Holzapfel², (1) Iowa State University, (2)Rutgers University. *Spatial patterns in the distribution of creosote (*Larrea tridentata*) and burrobush (*Ambrosia dumosa*) in the Mojave and Sonoran deserts: A template for fire risk.*
- 4:00 PM COS 81-8 Mittanck, CM, Utah State University. *Modeling aspen community types using a remote sensing and GIS-based approach.*
- 4:20 PM COS 81-9 Bolker, BM¹, GI Herrick² and GA Fox², (1) McMaster University, (2)University of South Florida. *Infer the spatial scale and pattern of environmental variation in seed-to-sapling survival from seeds and saplings of *Pinus elliotti* (slash pine).*
- 4:40 PM COS 81-10 Peres-Neto, PR, University of Quebec at Montreal. *Old trends and alternative views on spatial analyses in ecology.*

COS 82 - Life History Theory and Evolution

18B, Austin Convention Center

- 1:30 PM COS 82-1 Larios, E and DL Venable, University of Arizona. *Natural selection on seed size in a desert annual plant: The role of water availability and plant competition.*
- 1:50 PM COS 82-2 Ledder, G, University of Nebraska-Lincoln. *A theoretical investigation of masting as a response to seed herbivory.*
- 2:10 PM COS 82-3 McKinney, AM and DW Inouye, University of Maryland. *Flowering decisions in *Veratrum tenuipetalum*: A clonal mast-flowering herb with monocarpic ramets.*
- 2:30 PM COS 82-4 Park, AW, Odum School of Ecology, University of Georgia. *Sex in an uncertain world: Unpredictable environments restore competitive balance between sexually and asexually reproducing populations.*
- 2:50 PM COS 82-5 Adams, BJ¹, BN Adhikari¹, BL Simmons², BA Ball³, DH Wall² and RA Virginia⁴, (1)Brigham Young University, (2)Colorado State University, (3)Arizona State University at the West Campus, (4)Dartmouth College. *Evolutionary and ecological stoichiometry link nutrient availability to nematode life history and genome evolution.*
- 3:10 PM Break
- 3:20 PM COS 82-6 Scharf, I¹, B Kramer² and S Foitzik¹, (1) Johannes Gutenberg University Mainz, (2)Max Planck Institute for Demographic Research. *The evolution of colony size in cavity-dwelling ants: The interplay between colony size and different life-history traits.*

- 3:40 PM COS 82-7 Matz, MV, University of Texas at Austin. *Coral bleaching as an adaptive mechanism: Another testable hypothesis.*
- 4:00 PM COS 82-8 Pérez Mendoza, HA, JJ Zúñiga Vega, I Solano Savaleta, YH Zurita Gutiérrez, AL Hernández Rosas and A Molina Motezuma, Universidad Nacional Autónoma de México. *Life history characters and their relationship with survival rates in *Sceloporus grammicus*.*
- 4:20 PM COS 82-9 Brown, JL and MW Collopy, University of Nevada, Reno. *Consequences of food supplementation on multi-year survival of American kestrel nestlings.*

COS 83 - Population Dynamics: Modeling

18C, Austin Convention Center

- 1:30 PM COS 83-1 Polivka, KM¹, G Dwyer², KM Sirianni¹, JL Novak¹ and CJ Mehmehl¹, (1)PNW Research Station USDA Forest Service, (2)University of Chicago. *Models and experiments suggest that pre-outbreak infection rate, population size, and temperature affect the efficacy of pesticide delivery of nucleopolyhedrovirus.*
- 1:50 PM COS 83-2 Chirakkal, HV¹, HR Prendeville², D Pilson² and B Tenhumberg², (1)University of Nebraska, (2) University of Nebraska-Lincoln. *Response of population size to changing vital rates in random environments.*
- 2:10 PM COS 83-3 Vindenes, Y, S Engen and BE Saether, Norwegian University of Science and Technology. *Stochastic integral projection models for finite populations: Key population parameters and consequences for extinction risk.*
- 2:30 PM COS 83-4 Jiao, Y, Virginia Tech. *Detect temporal variations of population growth rate: A time varying population growth model for Atlantic weakfish and an exploration of the possible driving factors on the population dynamic variation.*
- 2:50 PM COS 83-5 Hastings, A, University of California, Davis. *Subsidies primarily affect transient responses, not equilibrium behavior.*
- 3:10 PM Break
- 3:20 PM COS 83-6 Rebarber, R¹, EA Eager², SB Townley³ and B Tenhumberg², (1)University of Nebraska-Lincoln, (2)University of Nebraska, (3)University of Exeter. *Asymptotic stability properties of density dependent population models.*
- 3:40 PM COS 83-7 Sun, M, Texas A&M University. *Application of matrix methods to climate effect on duck breeding populations.*
- 4:00 PM COS 83-8 Jongejans, E¹, P Vergeer¹, H de Kroon¹, H Huber¹ and WE Kunin², (1)Radboud University Nijmegen, (2)University of Leeds. *Tracing the effects of environmental drivers and phenotypic plasticity with hierarchical population models.*
- 4:20 PM COS 83-9 Bento, AI¹, MJ Crawley² and T Coulson², (1) Imperial College London, (2)Imperial College, London. *The effects of local weather patterns on Soay sheep dynamics.*
- 4:40 PM COS 83-10 Beck-Johnson, LM¹, WA Nelson², AF Read³, MB Thomas³ and ON Bjornstad³, (1)Pennsylvania State University, (2)Queen's University, (3)Penn State University. *Modeling *Anopheles* mosquito population dynamics, and forecasting malaria vector capacity in the face of global warming.*

COS 84 - Sustainability

18D, Austin Convention Center

- 1:30 PM COS 84-1 Wolf, AA¹ and SC Reed², (1)USGS/Carnegie Institution, (2)USGS. *Biofuel production potential in the southwestern U.S.*

1:30 pm-5 pm; 4:30 pm-6:30 pm

- 1:50 PM COS 84-2 Mali, I, MRJ Forstner and DJ Brown, Texas State University-San Marcos. *Conservation and sustainable use of turtle populations worldwide: Past, present, and future strategies.*
- 2:10 PM COS 84-3 Whittinghill, LJ and B Rowe, Michigan State University. *The role of green roof technology in urban agriculture.*
- 2:30 PM COS 84-4 Wilberding, S, Pennsylvania State University. *Green infrastructure: Assessing a novel method to reducing urban flood susceptibility and pollution.*
- 2:50 PM COS 84-5 Mokry, LE, Alan Plummer Associates, Inc.. *North Texas municipal water district's east fork wetland: Initial operational issues and performance evaluation.*
- 3:10 PM Break
- 3:20 PM COS 84-6 Schoenbaechler, CA and CG Guthrie, Texas Water Development Board. *Environmental flows in Texas: Senate Bill 3 intent and practice.*
- 3:40 PM COS 84-7 Guthrie, CG and CA Schoenbaechler, Texas Water Development Board. *Texas Senate Bill 3 approaches to determining freshwater inflow recommendations for Texas estuaries.*
- 4:00 PM COS 84-8 Brauman, KA and J Foley, University of Minnesota. *Assessing local benefits and impacts from global patterns in agricultural water use.*
- 4:20 PM COS 84-9 Best, EP, CT Nietch and HW Thurston, U.S. Environmental Protection Agency, National Risk Management Laboratory. *Sustainable water management in the Ohio River Basin taking ecosystem services into consideration.*

COS 85 - Conservation Planning, Policy, and Theory I

19A, Austin Convention Center

- 1:30 PM COS 85-1 Conlisk, EE¹, D Lawson², A Syphard³, J Franklin⁴ and HM Regan⁵, (1)University of California, Riverside, (2)San Diego State University, (3)San Diego State University and Conservation Biology Institute, (4) Arizona State University, (5)University of California. *The roles of climate change, land use, dispersal, masting, fire, and predation on the viability of Quercus engelmannii (Engelmann Oak).*
- 1:50 PM COS 85-2 Baldridge, E¹ and R Channell², (1)Utah State University, (2)Fort Hays State University. *Testing the assumptions of the nested subset pattern.*
- 2:10 PM COS 85-3 Boettiger, C¹ and A Hastings², (1)UC Davis, (2)University of California, Davis. *Limits to the detection of early warning signals of population collapse.*
- 2:30 PM COS 85-4 Baskett, ML¹ and RS Waples², (1)University of California, Davis, (2)NOAA Fisheries. *Gene flow and local adaptation given assortative mating: An application to captive breeding management in salmon.*
- 2:50 PM COS 85-5 Teller, BJ¹, AD Miller² and K Shea², (1) Pennsylvania State University, (2)The Pennsylvania State University. *Population persistence in the face of anthropogenic change.*
- 3:10 PM Break
- 3:20 PM COS 85-6 Johnson, CA, Environment Canada. *Scientific assessment of critical habitat for woodland caribou (Rangifer tarandus caribou), boreal population, in Canada.*
- 3:40 PM COS 85-7 Kenney, MA¹, D Mohrig², BF Hobbs¹, J Buttles² and JB Shaw², (1)Johns Hopkins University, (2)The University of Texas at Austin. *Integrating delta building physics and economics: Optimizing the scale of engineered avulsions in the Mississippi River delta.*
- 4:00 PM COS 85-8 Moody, AT¹ and JB Grand², (1)Auburn University, (2)USGS Alabama Cooperative Fisheries and

Wildlife Research Unit. *Large-scale conservation planning: Trading meadowlarks for woodpeckers.*

4:20 PM COS 85-9 Gotelli, NJ¹, A Chao², RK Colwell³, WH Hwang⁴ and GR Graves⁵, (1)University of Vermont, (2)National Tsing Hua University, (3)University of Connecticut, (4) National Chung Hsing University, (5)National Museum of Natural History. *Specimen-based modeling, stopping rules, and the extinction of the the ivory-billed woodpecker (Campephilus principalis).*

4:40 PM COS 85-10 Aukema, J¹, DG McCullough², B Leung³, T Holmes⁴, B Von Holle⁵, K Kovacs⁶, AM Liebhold⁴, C Chivers³, RG Haight⁴, K Britton⁴, J Englin⁷ and S Frankel⁴, (1)National Center for Ecological Analysis and Synthesis, (2)Michigan State University, (3)McGill University, (4) USDA Forest Service, (5)University of Central Florida, (6) University of Minnesota, (7)University of Nevada, Reno. *Forest Pest Invasions: Trends and Impacts.*

4:30 pm-6:30 pm

PS 33 - Habitat Structure, Fragmentation, Connectivity

Exhibit Hall 3, Austin Convention Center

PS 33-1 Grimsley, AA and GR Huxel, University of Arkansas. *Correlation of habitat factors and presence or absence of eastern collared lizards.*

PS 33-2 Murphy, ML¹, MF Allen² and CW Barrows³, (1)University of California Riverside, (2)University of California, Riverside, (3)University of California at Riverside. *Evaluating wildlife corridor linkages: Do freeway underpasses connect the Peninsular and Transverse mountain ranges?*

PS 33-3 Tarsi, K¹, KF Davies², S Sarre³, C Margules⁴ and J Meyers⁴, (1)University of Colorado at Boulder, (2)University of Colorado, (3)University of Canberra, (4)CSIRO. *Does dispersal drive extinction risk for lizards in a 25 year fragmentation experiment?*

PS 33-4 Fagan, ME and RS DeFries, Columbia University. *The effect of tree plantation structure and composition on matrix permeability for tropical forest understory birds: Are native tree species always better?*

PS 33-5 Baczynski, KP and KV Root, Bowling Green State University. *Assessing amphibian species in wetlands in an urban-rural matrix.*

PS 33-6 Warchola, N, Harvard Forest. *Measuring matrix conductance using static trap arrays: A study of fruit-feeding nymphalids in a post agricultural landscape.*

PS 34 - Behavior

Exhibit Hall 3, Austin Convention Center

PS 34-7 Locklin, JL¹ and SJ Trumble², (1)Temple College, (2) Baylor University. *A preliminary assessment of lipid content and body mass of the monarch butterfly (Danaus plexippus) (Lepidoptera: Danaidae) during the fall migration in Texas.*

PS 34-8 Brazil-Sousa, C¹, MP Albrecht¹, R Iglesias-Rios¹ and R Svanbäck², (1)Universidade Federal do Rio de Janeiro, (2)Limnology. *Individual foraging specialization in tropical fishes is affected by niche breadth, trophic position, and dominance of food items.*

PS 34-9 Arcila Hernandez, LM¹, A Ravenscraft², G Miller³ and M Frederickson¹, (1)University of Toronto, (2)Stanford University, (3)Harvard University. *The macronutrient requirements of a tropical arboreal ant.*

PS 34-10 Harris, CJ¹, MO Lammers² and LM Munger², (1)University of Hawaii, Honolulu, HI, (2)University of Hawaii. *Acoustic*

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- monitoring of Hawaiian spinner dolphins (*Stenella Longirostris*) in West Oahu, Hawaii.
- PS 34-11 Brown, H, JD Fore and DB Noltie, University of Missouri. *How pebble size affects logperch (*Percina caprodes*) foraging behavior.*
- PS 34-12 Levine, TD¹, GW Gerald² and HB Hansen², (1)Murray State University, (2)Nebraska Wesleyan University. *Effect of enhanced shell structure on functional burrowing traits and dislodgement force in *Potamilus alatus*.*
- PS 34-13 Belinsky, KL and KA Schmidt, Texas Tech University. *Voices in the dark: Predation risk as a cost of dusk singing in a songbird.*
- PS 34-14 Bush, MR and JC Trexler, Florida International University. *Effects of canals and levees on fish movement in a seasonal wetland.*
- PS 34-15 Harwood, GP and L Avilés, University of British Columbia. *Comparing cooperative hunting capabilities of social and sub-social spiders.*
- PS 34-16 Day, RE, AV Greene and PA Saunders, Ashland University. *Rapid assessment method for density of green fluorescent protein-labeled *Escherichia coli* important to observing small *Daphnia*.*
- PS 34-17 Glover, RE and PASaunders, Ashland University. *Assessing the seasonal onset of daily horizontal migration behavior of *Daphnia dentifera* in Sites Lake, OH.*
- PS 34-18 Weyland, DM¹, D Minier² and HB Shaffer³, (1)Texas State University, (2)University of California, Davis, (3)University of California - Davis. *Impacts of an invasive turtle species (*Trachemys scripta*) on basking behavior of the western pond turtle (*Emys marmorata*) in an urban waterway.*
- PS 34-19 Furusawa, H¹, Y Ihara¹, A Soemantri² and T Ishida¹, (1)The University of Tokyo, (2)Diponegoro University. *Effects of consanguineous marriages on offspring survival among Sumbanese in Indonesia.*
- PS 34-20 Block, JE¹, TD Levine² and G Gerald³, (1)Murray State University, (2)Murray State University, (3)Nebraska Wesleyan University. *Temperature effects on burrowing behavior of *Potamalis alatus*, the Pinkheelsplitter, a freshwater mussel abundant in Kentucky Lake.*
- PS 34-21 Swatek, CA, JS Gibson and RB Cocroft, University of Missouri. *Use of an amplitude gradient during vibration localization by a small plant-dwelling insect.*
- PS 34-22 Campomizzi, AJ, Texas A&M University. *Influence of personal information, public information, and extra-pair paternity on breeding site fidelity in a songbird.*
- PS 34-23 Stewart, ML¹, LD Hayes², RA Vasquez³ and M Soto Gamboa⁴, (1)University of Louisiana at Monroe, (2) The University of Louisiana at Monroe, (3)Instituto de Ecología y Biodiversidad, (4)Instituto de Ecología y Evolución. *Intraspecific variation in alarm calls of a social subterranean rodent, *Spalacopus cyanus*.*
- PS 34-24 Grotte, R, University of Texas at San Antonio. *Spatial differences in worker behaviors within nest for *S. invicta*.*
- PS 34-25 Utsumi, SA¹ and AF Cibils², (1)Michigan State University, (2)New Mexico State University. *Behavioral syndromes of dairy cattle (*Bos taurus*) across familiar and unfamiliar foraging environments.*
- PS 35-27 Truong, TN, University of Texas at Arlington. *Conceiving innate immunity as a predator-prey system with a refuge: Modeling and simulation.*
- PS 35-28 Moyer, AT and B Luttbeg, Oklahoma State University. *The effects of short term, and long term exposure to elevated cadmium levels on predator avoidance behavior in southern leopard frog (*Rana sphenoccephala*) tadpoles.*
- PS 35-29 Patten, MV, EA Pardini and TM Knight, Washington University in St. Louis. *Escape in space: Effects of density and distance from invasive vegetation on post-dispersal seed-consumption of congeneric lupines.*
- PS 35-30 Mattson, EE, VHW Rudolf and CJ Dibble, Rice University. *Ontogenetic niche shifts, juvenile bottlenecks, and the dynamics of predator-prey systems.*
- PS 35-31 Hijuelos, AC and JC Trexler, Florida International University. *Assessing relative predation risk for small fish in dry-season refuges of a freshwater oligotrophic wetland.*

PS 36 - Species Interactions

Exhibit Hall 3, Austin Convention Center

- PS 36-32 Caruso, T¹, K Barto¹, F Buscot², M Fischer³, C Herbst⁴, TS Maier⁵, T Meiners¹, C Mueller⁵, E Obermaier⁴, D Prati³, S Socher³, I Sonnemann¹, N Waeschke¹, T Wubet², S Wurst¹ and MC Rillig¹, (1)Freie Universitaet Berlin, (2)Helmholtz Centre for Environmental Research, (3) University of Bern, (4)University of Wuerzburg, (5) Bielefeld University. *Choosing and using diversity indices: perspectives for ecological applications from a large scale field experiment.*
- PS 36-33 Costa, ZJ and JR Vonesh, Virginia Commonwealth University. *Non-lethal effects of dragonfly predators on interactions between the tadpoles of two Neotropical hybrid frogs.*
- PS 36-34 Horner, JD, JC Steele, C Underwood and D Lingamfelter, TCU. *Age-related changes in pitcher characteristics and prey capture of seasonal cohorts of *Sarracenia alata*.*
- PS 36-35 Joffe, N, Rider University. *An investigation of *Ambystoma maculatum* within *Oophila ambystomatis* as a possible unique species.*
- PS 36-36 Rutishauser, S¹, SA Schnitzer¹, J Mascaro², S Letcher³ and WP Carson⁴, (1)University of Wisconsin-Milwaukee, (2)Carnegie Institution for Science, (3)Organization of Tropical Studies, (4)University of Pittsburgh. *Does vegetative colonization contribute to increasing liana abundance and biomass in tropical forests?.*
- PS 36-37 Ponisio, LC and CL Boggs, Stanford University. *Disturbance-mediated changes in nectar availability alter pollinator population and foraging dynamics.*

PS 37 - Mutualism and Facilitation

Exhibit Hall 3, Austin Convention Center

- PS 37-38 Styrsky, JD and K Marvin, Lynchburg College. *Ant-acacia-inhabiting *Eustala* spiders (Aranaeidae) potentially employ chemical camouflage to avoid ant aggression.*
- PS 37-39 Turner, KM and ME Frederickson, University of Toronto. *Partner benefits and partner choice in a temperate ant-seed interaction.*
- PS 37-40 Fleming-Davies, AE, University of Chicago. *Benefits of extrafloral nectar to ants in a facultative ant-plant mutualism.*
- PS 37-41 Poulos, JM¹, EW Schupp¹ and SM Ostoja², (1)Utah State University, (2)United States Geological Survey. *Life-stage conflicts and the shifting balance between interference and facilitation: A case study with *Penstemon palmeri* and shrubs.*
- PS 37-42 Goergen, EM, University of Nevada - Reno. *Abundance*

PS 35 - Predation and Predator-Prey Interactions

Exhibit Hall 3, Austin Convention Center

- PS 35-26 Romeu-Dalmau, C, J Piñol and X Espadaler, Universitat Autònoma de Barcelona. *Phenology, coexistence and potential role as pest predators of *Forficula auricularia* and *Forficula pubescens* (Dermaptera: Forficulidae) in Mediterranean organic citrus trees.*

4:30 pm-6:30 pm

- of fungal endophytes in two common perennial grasses of the semiarid sagebrush steppe.
- PS 37-43 Creed, Jr., RP¹, KJ Farrell¹, BL Brown², DA Young¹ and JD Lomonaco¹, (1)Appalachian State University, (2)Clemson University. *Preventing overexploitation in a mutualism: Partner control in the crayfish-branchiobdellid symbiosis.*
- PS 37-44 Frater, PN and WS Harpole, Iowa State University. *Plant-mycorrhizal relationships and the influence of resource stoichiometry.*

PS 38 - Plant-Insect Interactions

Exhibit Hall 3, Austin Convention Center

- PS 38-45 Yang, LH and ML Censer, University of California, Davis. *Phenology, ontogeny, and the timing of species interactions: Windows of opportunity in milkweed-monarch interactions.*
- PS 38-46 Yule, K, TEX Miller and JA Rudgers, Rice University. *A vertically transmitted symbiont affects host population dynamics.*
- PS 38-47 Bultman, TL¹, A Aguilar² and T Sullivan³, (1)Hope College, (2)Richard Daley College, (3)Indiana University - Kokomo. *Influence of fungal isolates infecting tall fescue on multitrophic interactions.*
- PS 38-48 Mason, PA and MS Singer, Wesleyan University. *Caterpillars optimize defense via host plant mixing.*
- PS 38-49 Vore, CM, HM Appel, CH Lin and JC Schultz, University of Missouri. *Sniffing danger: Volatile profiling of insect herbivory on Arabidopsis.*
- PS 38-50 Zemenick, KA, University of Michigan. *The indirect effects of a keystone ant-hemipteran mutualism on coffee berry load.*
- PS 38-51 Garcia, LC and MD Eubanks, Texas A&M University. *The effect of ethylene in developing fruit on herbivore performance.*
- PS 38-52 Bernardo, M, Wesleyan University. *Dietary anti-oxidants as a first line of defense against parasitoid infection in Grammia incorrupta.*
- PS 38-53 Huot, OB, MF Kersch-Becker and JS Thaler, Cornell University. *Potato virus Y induces ephemeral resistance in Solanum Lycopersicum to Trichoplusia ni.*
- PS 38-54 Kula, A, MR Dudash and CB Fenster, University of Maryland. *Temporal synchrony of Silene stellata and its pollinating seed predator, Hadenia ectypa, over three years.*

PS 39 - Pollination

Exhibit Hall 3, Austin Convention Center

- PS 39-55 Lin, W¹, H Liu¹, X Ma², T Ying³, Y Luo², Z Wang³ and S Liu⁴, (1)Florida International University and Fairchild Tropical Botanic Garden, (2)Institute of Botany, Chinese Academy of Sciences, (3)Nanjing University, (4)Yachang Orchid Nature Preserve. *Comparative reproductive biology of a narrowly endemic orchid geodorum eulophioides, and its sympatric congeners in southwestern China.*
- PS 39-56 Kimoto, C¹, SJ DeBano¹, H Schmalz², RV Taylor³, PL Kennedy¹, T DelCurto¹, S Wyffels¹ and T Johnson¹, (1) Oregon State University, (2)University of Idaho, (3) The Nature Conservancy. *Effect of livestock grazing intensity on native bee communities of a Pacific Northwest Bunchgrass Prairie.*
- PS 39-57 Hannon Williams, LE and DL Finke, University of Missouri. *Breeding system and potential pollinators of the desert shrub Krameria erecta (Krameriaceae).*
- PS 39-58 Waters, SM, S Eshe and J HilleRisLambers, University of Washington. *Floral neighborhood and pollinator functional group affect the outcome of pollinator-mediated interactions between native and exotic plants.*

- PS 39-59 Gonzalez, N¹, SJ DeBano², C Kimoto², RV Taylor³, C Tubbesing⁴ and C Strohm⁵, (1)Texas State University, (2)Oregon State University, (3)The Nature Conservancy, (4)Brown University, (5)Mercyhurst College. *Native bee communities associated with isolated aspen stands in the Pacific Northwest Bunchgrass Prairie.*
- PS 39-60 Tubbesing, C¹, C Strohm², SJ DeBano³, N Gonzalez⁴, C Kimoto³ and RV Taylor⁵, (1)Brown University, (2) Mercyhurst College, (3)Oregon State University, (4)Texas State University, (5)The Nature Conservancy. *All bees, no flies for Spalding's catchfly: Bumble bee pollination of a threatened plant.*
- PS 39-61 Goodell, K¹, CH Lin¹, AM McKinney², SM Byrd³ and ND Cavender³, (1)The Ohio State University, (2)Rocky Mountain Biological Laboratory, (3)The Wilds. *Floral diversity rescues pollination services in constructed prairie patches on a reclaimed mine site.*
- PS 39-62 Stefanovich, LY, C Kremen and S Jha, University of California, Berkeley. *Effects of floral resource quality on Bombus vosnesenskii forage.*
- PS 39-63 Geib, JC, Appalachian State University. *Habitat-scale relationships between nest abundance of bumblebees and reproductive success of their host plants.*

PS 40 - Herbivory

Exhibit Hall 3, Austin Convention Center

- PS 40-64 Schmoker, MK¹, EM Cook¹, SL Collins² and S Hall¹, (1) Arizona State University, (2)University of New Mexico. *Impacts of urban soil nitrogen availability and herbivory on primary production of herbaceous annual plants in an arid ecosystem.*
- PS 40-65 Hahn, PG and JL Orrock, University of Wisconsin - Madison. *Anthropogenic legacies mediate contemporary plant-herbivore interactions.*
- PS 40-66 Jenkins, LH¹, MA Jenkins¹, CR Webster², PA Zollner¹ and JM Shields¹, (1)Purdue University, (2)Michigan Technological University. *Evaluating the recovery of vegetation communities in Indiana state parks after over a decade of white-tailed deer population reduction.*
- PS 40-67 Meyer, AA, ER Leichty and WJ Platt, Louisiana State University. *Recovery of groundcover bunchgrasses during pine savanna restoration: Roles of prescribed fire and mammalian herbivores.*
- PS 40-68 Moir, CA, KE Fisher, AL Jones, KL Hy, KR Goodrich and JL Krumm, Widener University. *Impact of host plant species on larval success of Epimecis hortaria.*
- PS 40-69 Doyle, KF and NL Fowler, University of Texas at Austin. *The joint effects of deer herbivory and fire on hardwood regeneration on the eastern Edwards Plateau.*
- PS 40-70 Cozort, JLM, FA Martinez and JK Bush, University of Texas at San Antonio. *An analysis of nitrogen content in central Texas Quercus species as a function of herbivory.*
- PS 40-71 Milano, NJ¹, NA Barber² and LS Adler³, (1)University of Massachusetts, Amherst, (2)University of Massachusetts - Amherst, (3)University of Massachusetts. *The role of aboveground herbivory on belowground preference of striped cucumber beetle root-feeding larvae.*

PS 41 - Herbivory: Plant Defenses

Exhibit Hall 3, Austin Convention Center

- PS 41-72 Latteman, TA, JE Mead, MA DuVall and JM Bevington, Moravian College. *Differences in herbivore defense in myrmecophyte and non-myrmecophyte species of Cecropia trees from Peru.*
- PS 41-73 Radville, L, A Chaves and E Preisser, University of Rhode Island. *Variation in plant defense against invasive*

herbivores: Evidence for a hypersensitive response in eastern hemlocks.

- PS 41-74 Soltau, KA¹ and AM Jarosz², (1)University of Wisconsin-LaCrosse, (2)Michigan State University. *Sprout dynamics of American Chestnut trees.*
- PS 41-75 Mundim, FM¹, HL Vasconcelos², EM Bruna¹ and EHM Vieira-Neto¹, (1)University of Florida, (2)Universidade Federal de Uberlândia. *Effects of attack frequency on the tolerance to herbivory of Neotropical savanna trees.*
- PS 41-76 Wason, EL¹, AA Agrawal² and MD Hunter¹, (1)University of Michigan, (2)Cornell University. *Plants make scents: Latitudinal and intraspecific variation in plant volatile organic chemical emission.*
- PS 41-77 Heath, JJ¹, D Cipollini¹, A Kessler² and JO Stireman III¹, (1)Wright State University, (2)Cornell University. *Testing optimal defense theory in *Solidago altissima*.*

PS 42 - Physiological Ecology

Exhibit Hall 3, Austin Convention Center

- PS 42-78 Mack, L, U Chung and SH Kim, University of Washington. *Two cherry cultivars' response to changes in temperature in Washington D.C.'s Tidal Basin.*
- PS 42-79 Sloat, LL¹, CA Lamanna¹, G Aldridge², BJ Enquist³, AN Henderson⁴, DW Inouye², MJ Stansberry⁵, KD Whitney⁵ and I Billick⁶, (1)University of Arizona, (2)University of Maryland, (3)University of Arizona and The Santa Fe Institute, (4)Kenyon College, (5)Rice University, (6)Rocky Mountain Biological Laboratory. *A comprehensive functional trait database for the plants of the Rocky Mountain Biological Laboratory.*
- PS 42-80 Wilczek, A, A Crawford, E Heberlein, T Henderson, C Malle-Barlow, T Mathew, K Morrell, E Pimentel, B Shaver and M Stoltz, Deep Springs College. *Understanding range limits of a vulnerable desert amphibian (*Anaxyrus exsul*) with a severely restricted habitat.*
- PS 42-81 Lunch, CK¹, AM LaFountain², HA Frank² and ZG Cardon¹, (1)Marine Biological Laboratory, (2)University of Connecticut. *Photosynthesis on land: Photoprotection in terrestrial and aquatic green algae.*
- PS 42-82 Weisenhorn, P, University of Minnesota. *Comparison of metabolic capabilities across life history strategies of soil bacteria.*
- PS 42-83 Renninger, HJ¹ and KV Schafer², (1)Rutgers University, (2)Rutgers University Newark. *Comparison of heat balance (*Cermak*) and thermal dissipation (*Granier*) sap flow measurements in ring-porous oaks and a pine species.*
- PS 42-84 Meinzer, FC¹, K McCulloh², J Sperry³, B Lachenbruch², SL Voelker², DR Woodruff¹ and JC Domec⁴, (1)USDA Forest Service, (2)Oregon State University, (3)University of Utah, (4)North Carolina State University. *Comparative hydraulic architecture of early and late successional tropical tree species.*
- PS 42-85 Woodruff, DR¹, FC Meinzer¹ and DM Johnson², (1)USDA Forest Service, (2)Ohio University. *Temporal variation in storage of nonstructural carbohydrates along a height gradient in Douglas-fir trees.*
- PS 42-86 Bretfeld, M¹, SB Franklin¹, D Beverly¹ and RM Hubbard², (1)University of Northern Colorado, (2)USDA Forest Service. *Quantifying clonal integration in *Populus tremuloides* via root sap flow.*
- PS 42-87 Thomas, SM¹, MM Enriquez², CK Lunch¹, AM LaFountain², HA Frank², LA Lewis² and ZG Cardon¹, (1)Marine Biological Laboratory, (2)University of Connecticut. *Comparative photophysiology of green algae isolated from desert microbiotic crusts and their close aquatic relatives.*
- PS 42-88 Krysinisky, LS¹, JG Boyles², RO Teskey³ and DP Aubrey³, *Earth Stewardship: Preserving and enhancing earth's life support systems*

(1)USDA Forest Service, (2)Department of Zoology and Entomology, (3)University of Georgia. *Spatial and temporal patterns of xylem sap pH derived from stems and twigs of *Populus deltoides* L.*

- PS 42-89 Grisé, DJ¹ and CT Lee², (1)Texas A&M-Corpus Christi, (2)Texas A&M-Galveston. *Differences in photosynthetic rates of between winter-active and summer-active *Helianthus annuus* on the Gulf Coast.*
- PS 42-90 Matzner, SL¹, EJ Richards² and JP Sparks³, (1)Augustana College, (2)Boyce Thompson Institute, (3)Cornell University. *Investigating epigenetic regulation of water-use related genes in tomato.*
- PS 42-91 Hesselink, RM¹, RA Koch¹, RM McCormack¹, EW James¹, JS McLachlan¹ and MJ Blum², (1)University of Notre Dame, (2)Tulane University. *Variation in physiological response of *Schoenoplectus americanus* populations to salt stress across space and time.*
- PS 42-92 Yang, J¹, RO Teskey² and C Wang¹, (1)Northeast Forestry University, (2)University of Georgia. *Stem CO₂ efflux of ten species in temperate forests in northeastern China.*
- PS 42-93 Mitchell, RJ¹, B Mortazavi², JJ O'Brien³, JD McGee¹, JJ Hendricks⁴, KA Kuehn⁵, RO Teskey⁶ and DP Aubrey⁶, (1)Joseph W. Jones Ecological Research Center, (2)University of Alabama and Dauphin Island Sea Lab, (3)USDA Forest Service, (4)University of West Georgia, (5)University of Southern Mississippi, (6)University of Georgia. *Stored carbohydrates decouple current photosynthate from soil CO₂ efflux in frequently disturbed ecosystems.*
- PS 42-94 Boyce, RL, J Shouse and RD Durtsche, Northern Kentucky University. *Response of daily transpiration of woody plants to soil water availability and vapor pressure deficit.*
- PS 42-95 Pivovarovoff, A and L Santiago, University of California, Riverside. *Decoupled stem and leaf hydraulic conductance in California chaparral and coastal sage scrub plant species.*
- PS 42-96 Duarte, A, RS Luna and FW Weckerly, Texas State University - San Marcos. *Rumen-reticulum capacity and fill in female white-tailed deer: Meeting demands in a stochastic environment.*
- PS 42-97 Dell, AI, S Pawar and VM Savage, UCLA. *Understanding variation in the temperature dependence of physiological and ecological traits.*
- PS 42-98 Mollik, MAH, Peoples Integrated Alliance. *Observations on the traditional phytotherapy among the inhabitants of Betagi upazila in Barguna district, Bangladesh.*

PS 43 - Seed Production, Dispersal, and Predation

Exhibit Hall 3, Austin Convention Center

- PS 43-99 Noss, CF and DJ Levey, University of Florida. *Does gut passage affect seed predation in wild chilies (*Capsicum annuum*)?*
- PS 43-100 Minor, DM and RK Kobe, Michigan State University. *Soil nutrient influence on tropical palm reproduction.*
- PS 43-101 Kuprewicz, EK, Organization for Tropical Studies. *Scatter-hoarding by Central American agoutis (*Dasyprocta punctata*) differentially affects large seed survival, germination, and seedling growth.*
- PS 43-102 Dalgleish, HJ, JT Shukle and RK Swihart, Purdue University. *The effects of weevil seed damage on germination, seedling vigor, and population growth of pure and hybrid American chestnut.*

PS 44 - Disease and Epidemiology

Exhibit Hall 3, Austin Convention Center

- PS 44-103 Czarnecki, C¹, M Palace¹, E Linder¹, P Ingraham², W Salas², C Yuan¹, M Routhier¹, N Torbick², D Bartlett¹, R

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Caron¹, X Xiao³ and B Braswell⁴, (1)University of New Hampshire, (2)Applied GeoSolutions, (3)University of Oklahoma, (4)Atmospheric Environmental Research. *Spatial and temporal analysis of vector-borne Lyme disease in New Hampshire.*

PS 44-104 Castorena, C¹ and K Koelle², (1)Duke, (2)Duke University. *The implications of social contact structure for the economics of disease control.*

PS 44-105 Scholle, SO and K Koelle, Duke University. *The effect of disease dynamics on viral evolutionary rates: A modeling study to consider ecological determinants of substitution rate variation in chikungunya virus.*

PS 44-106 Goodman, R¹, YT Ararso¹ and DL Miller², (1)Hampden-Sydney College, (2)University of Georgia. *Presence of Ranavirus and the fungus Batrachochytrium dendrobatidis in reptiles and amphibians sharing three water bodies in Virginia.*

PS 44-107 Korfel, CA and TE Hetherington, The Ohio State University. *Studies of Batrachochytrium dendrobatidis in amphibian populations in central Ohio 2010: Seasonal patterns, taxonomic distribution, and habitat.*

PS 44-108 Hyman, O and JP Collins, Arizona State University. *Batrachochytrium dendrobatidis in boreal chorus frogs: Life stage and seasonal variation in the prevalence of an endemic pathogen.*

PS 44-109 Parks, AM¹, MA Jenkins¹, KE Woeste² and ME Ostry³, (1)Purdue University, (2)USDA Forest Service, North Central Research Station, Hardwood Tree Improvement and Regeneration Center, (3)USDA Forest Service. *Recruitment history, mortality, and contemporary health of butternut Juglans cinerea populations in Great Smoky Mountains National Park.*

PS 44-110 Rúa, MA¹, RL McCulley² and CE Mitchell³, (1)University of North Carolina, Chapel Hill, (2)University of Kentucky, (3)University of North Carolina. *Host genotype alters endophyte effects in viral infected grasses.*

PS 44-111 Holme, P¹, S Lee¹, LE Rocha¹ and F Liljeros², (1)Umeå University, (2)Stockholm University. *Temporal network structure and its implication for disease dynamics and control.*

PS 44-112 Sieracki, JL and JM Bossenbroek, University of Toledo. *Modeling the spread of viral hemorrhagic septicemia virus (VHSV) via Great Lakes shipping.*

PS 44-113 Heckman, RW¹, JP Wright² and CE Mitchell¹, (1) University of North Carolina, (2)Duke University. *The effects of soil nutrients on foliar herbivory and disease on native and exotic old field species.*

PS 45 - Microbial Ecology

Exhibit Hall 3, Austin Convention Center

PS 45-114 Moorhead, DL¹, I Bertrand², G Lashermes² and S Recous², (1)University of Toledo, (2)Institut National de la Recherche Agronomique. *A modeling analysis of the transition between microbial and litter quality controls on decomposition.*

PS 45-115 Kisselle, KW, KE Reed, AJ Horton, L St. Clair and R Stone, Austin College. *Effects of plant species and soil characteristics on rhizosphere microbial community structure in North Texas prairies.*

PS 45-116 Carrino-Kyker, SR¹, KA Smemo² and DJ Burke², (1)Case Western Reserve University, (2)The Holden Arboretum. *Metagenomic analysis of microbial community structure and metabolic diversity in experimental vernal pools with and without NO₃ addition.*

PS 45-117 Kluber, LA¹, DJ Burke², SR Carrino-Kyker¹, JL DeForest³,

HL Elliot³, CR Hewins², AN Shaw² and KA Smemo², (1)Case Western Reserve University, (2)The Holden Arboretum, (3)Ohio University. *What's P got to do with it? Mycorrhizal and biochemical response to P and lime additions in acidic hardwood forests.*

PS 45-118 Hiripitiyage, YD, S Hsu, AN Golphin, LG Leff and CB Blackwood, Kent State University. *Bacterial cheaters, and investors: Non-polymer degraders, extracellular enzyme producers, and their roles in leaf decomposition.*

PS 45-119 McAllister, SA, BJ Bohannon, SD Bridgham and Q Jin, University of Oregon. *Microbial community structure and ecosystem function: Linking methane production rate to methanogen community structure in wetland soils.*

PS 45-120 Manis, EE¹, S Ghosh¹, LT Johnson², TV Royer² and LG Leff¹, (1)Kent State University, (2)Indiana University. *Temporal variations in the denitrifying community of agriculturally impacted streams.*

PS 45-121 Gsell, TC and JA Yunger, Governors State University. *Patterns of microbes within caves and across regions: Similarities where microbes are most stable deep in the aphotic zone.*

PS 46 - Soil Ecology

Exhibit Hall 3, Austin Convention Center

PS 46-122 Alster, C¹, E Esch¹, DL Hernandez¹, MJ McKone¹ and P Camill², (1)Carleton College, (2)Bowdoin College. *Soil carbon and nitrogen accumulation in a 15-year prairie restoration experiment.*

PS 46-123 Li, Y and X Zhao, Cold and Arid Regions of Environmental and Engineering Research Institute, Chinese Academy of Sciences. *Soil carbon sequestration in sand-fixation plantation of Pinus sylvestris var. Mongolica and response of soil respiration to drought and wet conditions.*

PS 46-124 Chen, Y¹ and Y Li², (1)Lanzhou Jiaotong University, (2) Cold and Arid Regions of Environmental and Engineering Research Institute, Chinese Academy of Sciences. *Light fraction and total organic carbon and nitrogen stores in desertified sandy grassland soil as affected by grazing and livestock exclusion.*

PS 46-125 Sucre, EB and ZH Leggett, Weyerhaeuser Company. *Impacts of managing loblolly pine plantations for biofuels production on site productivity and sustainability.*

PS 46-126 Fruchter, J¹ and LL Battaglia², (1)Southern Illinois University at Carbondale, (2)Southern Illinois University. *Do peat accumulation and loss rates within soil profiles vary across depths in floating marshes?*

PS 46-127 Levi, EM¹, SR Archer¹, C Rasmussen¹, HL Throop² and DB Hewins², (1)University of Arizona, (2)New Mexico State University. *Decomposition and soil aggregate formation in a shrub-invaded Sonoran Desert grassland.*

PS 46-128 Sun, D¹ and J Zhu², (1)University of Houston, Clear Lake, (2)Desert Research Institute. *Evapotranspiration: An Multi-Dimensionality Approach.*

PS 46-129 Bernard, MJ¹, K Szlavecz¹, S Pitz¹, L Xia¹, CH Chang¹, MK McCormick², J O'Neill² and DF Whigham², (1)Johns Hopkins University, (2)Smithsonian Environmental Research Center. *Effectiveness of electroshocking and subsurface barriers when manipulating earthworm populations.*

PS 46-130 Park, BB¹, J Eo² and KC Park², (1)Korea Forest Research Institute, (2)Rural Development Administration. *Short-term effects of organic waste amendments on the food web in soils under eggplant cultivation.*

PS 46-131 Dang, Y¹, W Ren², B Tao², C Lu² and H Tian², (1) Auburn University, Northwest Agriculture and Forestry University, (2)Auburn University. *Changes in terrestrial productivity and soil carbon storage induced by climate*

variability and land use in China's Loess Plateau during 1950-2008.

PS 47 - Mycorrhizae

Exhibit Hall 3, Austin Convention Center

- PS 47-132 Martell-Pina, E¹, J O'Shaughnessy² and L Egerton-Warburton², (1)University of Texas El Paso, (2)Chicago Botanic Garden. *Plant protection from soil pathogens by arbuscular mycorrhizal fungal communities.*
- PS 47-133 Bunch, WD and RP Shefferson, University of Georgia. *Physiographic links in the mycorrhizal host specialization of a rare orchid, *Cypripedium acaule*.*
- PS 47-134 Kartzinel, TR, WD Bunch, C Cowden, DW Trapnell and RP Shefferson, University of Georgia. *Diverse suites of mycorrhizal fungi vary among populations of the rare Neotropical lady's slipper orchid, *Phragmipedium longifolium*.*
- PS 47-135 Burke, DJ, The Holden Arboretum. *Plants and parenthood: Do plants facilitate the success of their own offspring through a shared mycorrhizal network?*
- PS 47-136 Twanabasu, BR¹, K Stevens¹, D Kandalepas² and GP Shaffer³, (1)University of North Texas, (2)Louisiana State University, (3)Southeastern Louisiana University. *Effects of water quality, hydrology, sedimentation, and simulated hurricane on Arbuscular Mycorrhiza (AM) and Dark Septate Endophyte (DSE) colonization in wetland plants of coastal marsh.*

PS 48 - Ecoinformatics

Exhibit Hall 3, Austin Convention Center

- PS 48-137 Power, JH, U.S. EPA. *Functional data analysis: An approach for environmental ordination and matching discrete with continuous observations.*
- PS 48-138 Tawa, R, NEON, Inc. (National Ecological Observatory Network). *The NEON Cyberinfrastructure: Enabling continental-scale ecological science.*
- PS 48-139 White, EP¹, B Morris¹, SKM Ernest¹, KM Thibault¹, AH Hurlbert² and AJ Kerkhoff³, (1)Utah State University, (2)University of North Carolina, (3)Kenyon College. *EcologicalData.org: Ecoinformatics tools for finding and using ecological data.*
- PS 48-140 Berukoff, S, NEON Inc.. *NEON ecological data products.*
- PS 48-141 Spiess, D, NEON, Inc. (National Ecological Observatory Network). *How NEON is integrating the use of PDAs in collecting ecological field data.*

PS 49 - Environmental Gradients

Exhibit Hall 3, Austin Convention Center

- PS 49-142 Goad, RK¹, SG Baer¹, L Johnson² and BR Maricle³, (1) Southern Illinois University Carbondale, (2)Kansas State University, (3)Fort Hays State University. *Patterns in aboveground net primary productivity in prairie reciprocally restored with dominant grasses from across a precipitation gradient.*
- PS 49-143 Boughton, EH¹, PF Quintana-Ascencio², PJ Bohlen² and H Swain¹, (1)Archbold Biological Station, (2)University of Central Florida. *Assessing trade-offs among ecosystem services in a payment-for-water services program on Florida ranchlands.*
- PS 49-144 Koepke, DF and TE Kolb, Northern Arizona University. *Inter- and intra-specific variation in vulnerability to cavitation of northern Arizona conifers along an elevation gradient.*
- PS 49-145 Del Toro, I¹ and AM Ellison², (1)University of Massachusetts at Amherst, (2)Harvard Forest (Harvard University). *Ant species diversity along an elevation gradient in the Northeastern United States can be used to*

predict species diversity across a latitudinal gradient.

- PS 49-146 Anning, AK¹, DL Rubino², EK Sutherland³ and BC McCarthy¹, (1)Ohio University, (2)Hanover College,, (3) USDA Forest Service. *Dendrochronological analysis of white oak growth patterns across a topographic moisture gradient in southern Ohio.*

PS 50 - Evolution

Exhibit Hall 3, Austin Convention Center

- PS 50-147 Carlson, BE, KH Brossman, LN Swierk and T Langkilde, Penn State University. *A tail of two newts: Aquatic tail size carries over but does not impair terrestrial locomotion in eastern newts (*Notophthalmus v. viridescens*).*
- PS 50-148 Boeger, MRT, L Larcher and MM Marques, Universidade Federal do Paraná. *Biomass allocation and shade tolerance in seedlings tree species in a subtropical forest.*
- PS 50-149 Ivey, CT, California State University, Chico. *Selection for mating system, flowering time, and antiherbivore defense traits in *Mimulus guttatus*.*
- PS 50-150 Huang, Y¹, K Krakos¹ and PC Hoch², (1)Washington University in Saint Louis, (2)Missouri Botanical Garden. *Comparative Reproductive Biology of *Oenothera suffulta* subsp. *suffulta*, and *O. suffulta* subsp. *nealleyi*.*
- PS 50-151 Farallo, VR¹ and MRJ Forstner², (1)Ohio University, (2) Texas State University-San Marcos. *Predation and the maintenance of color polymorphism in a habitat specialist squamate.*
- PS 50-152 Heiling, JM, CE Parent, J Falk and DI Bolnick, University of Texas at Austin. *Ecological history and adaptive future: A study of adaptation to stress in *Tribolium castaneum*.*
- PS 50-153 De Hoyos, O¹, S van Nouhuys² and RF Medina¹, (1)Texas A&M University, (2)University of Helsinki. *Comparing population structures of a generalist and a specialist parasitoid in the Åland Islands, Finland.*
- PS 50-154 Feist, SM, WE Peterman, RD Semlitsch and LS Eggert, University of Missouri. *Connecting the dots: Genetic differentiation among conservation areas.*
- PS 50-155 Guo, W, Shandong University. *Genetic Diversity of *Lilium tsingtauense* in China and Korea Assessed with ISSR Markers and Morphological Characters.*
- PS 50-156 Boeger, WA, RO Ribeiro, R Baggio, F Marteleto, L Zagonel, M Tschá, L Patella, RP de Azambuja and A Ostrensky, Universidade Federal do Paraná. *Fish genetics and hydroelectrical powerplants in large Neotropical rivers.*
- PS 50-157 Ramos-Chavez, JC¹, L Hamdan² and EJ Walsh², (1) University of Texas at El Paso, (2)The University of Texas at El Paso. *Cosmopolitanism in asexuals? An ecological and phylogenetic investigation of populations of the bdelloid rotifer *Philodina megalotrocha* found in freshwater habitats in the Chihuahuan Desert.*
- PS 50-158 Sneck, ME¹, DD Murphy², JS Wilson³ and M Forister⁴, (1)University Nevada Reno, (2)University of Nevada, (3)University of Nevada Reno, (4)University of Nevada, Reno. *Isolation in the Desert: A Phylogenetic Study of the Pallid Dotted-Blue (*Euphilotes pallescens*).*
- PS 50-159 Reyes, D¹ and EJ Walsh², (1)University of Texas at El Paso, (2)The University of Texas at El Paso. *Cryptic speciation and co-occurrence of lineages in the monogonont rotifer *Epiphanes chihuahuensis*.*
- PS 50-160 Falk, JJ¹, CE Parent¹, DA Agashe² and DI Bolnick¹, (1) University of Texas at Austin, (2)Harvard University. *Adaptation to a novel food resource fails to initiate reproductive isolation in laboratory populations of *Tribolium castaneum*.*

PS 51 - Population Biology

4:30 pm-6:30 pm

Exhibit Hall 3, Austin Convention Center

- PS 51-161 Botts, Jr., EC, University of Texas at San Antonio. *Comparing competition and solar radiation exposure as restricting factors in the growth of an understory plant.*
- PS 51-162 Taylor, AJ, TM Gelderman, PL Yates and MJ McKone, Carleton College. *Local population size and short-term dispersal distance in an orchid bee (Hymenoptera: Euglossini) community in Costa Rican wet forest.*
- PS 51-163 McKone, MJ¹, IC Holmen¹, HC Lyons¹, KM Nachbor¹, GR Wheeler¹, JW Moore², CW Harbison³ and M Neiman⁴, (1) Carleton College, (2) Simon Fraser University, (3) Siena College, (4) University of Iowa. *Decline in abundance of a Costa Rican poison-dart frog (Oophaga pumilio) following rapid loss of an understory plant (Araceae: Dieffenbachia sp.) used for tadpole rearing.*
- PS 51-164 Rivera, M, RK Taylor, LC Barrett, C Speights, JN Hunt and DJ Gris , Texas A&M-Corpus Christi. *Life history characteristics of two Gulf Coast Helianthus species restricted to soil types.*

PS 52 - Population Dynamics

Exhibit Hall 3, Austin Convention Center

- PS 52-165 Williams, JL¹ and TEX Miller², (1) National Center for Ecological Analysis and Synthesis, (2) Rice University. *To flower or not to flower: Optimal reproductive strategies in perennial plants.*
- PS 52-166 Nonaka, E¹ and SM White², (1) Umea University, (2) Centre for Ecology & Hydrology. *Spatial patterns of host-parasitoid coevolution on environmental gradients.*
- PS 52-167 Strahan, RT, DC Laughlin and MM Moore, Northern Arizona University. *Using functional traits to predict demographic parameters of herbaceous perennial plants.*
- PS 52-168 Hakes, AS¹, N Underwood¹, SL Halpern² and B Inouye¹, (1) Florida State University, (2) Pacific University. *Effects of insect damage and plant density on the spatial patterns of plant populations.*
- PS 52-169 Vieira-Neto, EHM¹, HL Vasconcelos², EM Bruna¹, AN Costa² and FM Mundim¹, (1) University of Florida, (2) Universidade Federal de Uberl ndia. *How proximity to roads influence the local spatial dynamics and population growth rates of a Neotropical herbivore?.*
- PS 52-170 Dumoulin, CE, Northwestern University and Chicago Botanic Garden (currently at the University of Tennessee). *Nine out of ten breeding systems agree: Self-incompatible strategies are disadvantageous in fragmented habitats.*
- PS 52-171 Stieha, CR, A Bowman, PH Crowley and DN McLetchie, University of Kentucky. *Effects of population size and spatial configuration on the maintenance of the sexes in a clonal organism.*
- PS 52-172 Cochran-Stafira, DL and T Tatum Parker, Saint Xavier University. *Genetic variation and environmental heterogeneity: Studies on a metapopulation of the bdelloid rotifer Habrotrocha rosa.*

PS 53 - Remote Sensing and Image Analysis

Exhibit Hall 3, Austin Convention Center

- PS 53-173 Marin, RA¹ and CE Tweedie², (1) University of Texas El Paso, (2) University of Texas at El Paso. *Land cover classification of a northern Chihuahuan Desert mountain ecosystem using Ikonos satellite imagery.*
- PS 53-174 Souther, TJ¹, RG Kreza¹, MC Mentzer¹, BD Kloeppel¹ and RE Emanuel², (1) Western Carolina University, (2) North Carolina State University. *Secondary forest succession quantification using LIDAR analysis in the southern Appalachians.*

PS 53-175 Helmer, EH¹, TS Ruzycski², JM Wunderle Jr.¹, C Kwit³, DN Ewert⁴ and S Voggeser², (1) USDA Forest Service, (2) Colorado State University, (3) Miami University, (4) The Nature Conservancy. *Mapping forest vertical structure and disturbance characteristics with time series of gap-filled Landsat imagery.*

PS 53-176 Emanuel, RE¹, ZE Barthel², J Jackson³, M Jackson³, J Johnson⁴, RG Kreza⁵, MC Mentzer⁵, E Mutai⁴, DA Smith², TJ Souther⁵, R Sue³, CJ Sutton², M Talley³, A West⁴, J Fail Jr.³, LS Jernigan², BD Kloeppel⁵ and S Sabaratnam⁴, (1) North Carolina State University, (2) University of North Carolina at Pembroke, (3) Johnson C. Smith University, (4) Livingstone College, (5) Western Carolina University. *Assessment of secondary succession in North Carolina: Advancing understanding of successional vegetation through coupled field and remote sensing studies.*

PS 53-177 Kulawardhana, RW¹, RA Washington-Allen¹, E Schall², MA Austin¹, SC Popescu¹ and MC Reeves³, (1) Texas A & M University, (2) Texas A & M University, (3) USFS Rocky Mountain Research Station - LANDFIRE. *A 28-year dataset to characterize the vegetation productivity of US rangelands.*

PS 53-178 Gomezdelcampo, E and LM Bartholomew, Bowling Green State University. *Detecting terrestrial cyanobacteria using Landsat imagery and the Phycocyanin Content algorithm.*

PS 53-179 Leasure, DR, University of Arkansas. *Remote sensing and GIS to model endangered American burying beetle abundance across a landscape and to determine the optimal spatial scale for habitat samples.*

PS 53-180 Delgado, A, Texas A&M University. *Characterizing the effects of wind erosion on vegetation and microtopography in the Chihuahuan Desert.*

PS 53-181 KU, N, S Popescu, R Sheridan, RA Washington-Allen and M Agca, Texas A&M University. *Estimating available rangeland woody plant biomass with Terrestrial Lidar remote sensing.*

PS 54 - Sampling

Exhibit Hall 3, Austin Convention Center

PS 54-182 Dur n, J, JL Morse, RMSchmidt, J Burtis and PM Groffman, Cary Institute of Ecosystem Studies. *Comparison of in situ incubation methods to estimate N mineralization rates in a northern hardwood forest.*

PS 54-183 Bilka, RH¹, AC Krist² and EP Levri¹, (1) Penn State Altoona, (2) University of Wyoming. *Mass-length regressions for different clones of the New Zealand mud snail (Potamopyrgus antipodarum).*

PS 54-184 Girdler, EB¹ and NB Pavlovic², (1) Kalamazoo College, (2) US Geological Survey. *Nested species-area data sets reveal "breaks" in slope which may indicate scale of heterogeneity perceived by plant communities.*

PS 54-185 Donatelli, JM¹, DJ Gibson², SG Baer¹ and A AbuGhazaleh¹, (1) Southern Illinois University Carbondale, (2) Southern Illinois University. *Forage quality of Andropogon gerardii across a precipitation gradient.*

PS 54-186 Francisco, LB¹, TD Levine² and DS White¹, (1) Murray State University, (2) Murray State University. *Comparing two zooplankton sampling methods for long-term community and population monitoring.*

PS 55 - Stable Isotope Applications

Exhibit Hall 3, Austin Convention Center

PS 55-187 Reams, EJ and C McNeely, Eastern Washington University. *Carbon turnover rate of Gammarus tissue.*

PS 55-188 Benson, BE and K Vulinec, Delaware State University. *The bats of the Delmarva Peninsula: Refining the technique of stable hydrogen isotope analysis to determine bat origin and movement.*

- PS 55-189 Kui, L, F Li, JB West and GW Moore, Texas A&M University. *Clonal intergration of Arundo donax in the riparian zone.*
- PS 55-190 Sullivan, A, J Bump, L Kruger and RO Peterson, Michigan Technological University. *A stable isotope method to delineate bat hibernacula catchment areas.*
- PS 55-191 Li, F, L Kui, JB West and GW Moore, Texas A&M University. *Causes and consequences of variable access to shallow groundwater by Arundo donax in a Rio Grande riparian zone.*
- PS 55-192 Baker, LF¹, CB Edge¹, JF Mudge¹, D Thompson², J Houlahan¹ and KA Kidd¹, (1)University of New Brunswick, (2)Canadian Forest Service. *Resilience of wetland food webs to the effects of agricultural contaminants.*

5 pm-6:30 pm**ESA Musicians Central**

Registration Lobby, Austin Convention Center

6:30 pm-8 pm**Bringing Athens, Georgia to Austin (Odum School of Ecology)**

Ballroom C, Austin Convention Center

Colorado State University Ecologists

Travis III, Radisson Hotel

ESA Diversity Mixer

Ballroom F, Austin Convention Center

ESA Natural History Section Mixer

Old Pecan St, Radisson Hotel

ESA Plant Population Ecology Business Meeting

Travis II, Radisson Hotel

ESA Physiological Ecology Section Mixer and Business Meeting

Ballroom G, Austin Convention Center

ESA South American Chapter Business Meeting

Austin Suite, Austin Convention Center

The Nature Conservancy Reception

18B, Austin Convention Center

8 pm-10 pm**SS 17 - Town Hall Meeting with the US Department of Energy-Office of Biological and Environmental Research**
4, Austin Convention Center

Organized by: D Stover, P Horan

The result of this Town Hall meeting is to engage the ESA community in DOE's new Terrestrial Ecosystem Science program activities and new program vision while highlighting new program efforts such as the Next Generation Ecosystem Experiment in the Arctic, Ameriflux, and proposed activities in the Amazon.

SS 18 - PALEON - A Paleoecological Observatory Network to Assess Terrestrial Ecosystem Models

5, Austin Convention Center

This special session will provide background on current activities in PALEON, then open a conversation about how we might engage the broader communities in paleoecological, statistical, and ecosystem modeling research.

WK 35 - Stewardship of Urban Systems: ULTRA Workshop
19B, Austin Convention Center

Organized by: G Hess, PS Warren, M Katti

This two-hour, evening workshop follows a full day of presentations from the Urban Ecosystems Long Term Research Area program established by the National Science Foundation and the US Forest Service. ULTRA participants, and other interested parties, will discuss potential collaboration and cross-fertilization of research in preparation for long-term opportunities.

WK 36 - The active ecologist: Developing a Guide For How Ecologists And Communities Can Best Collaborate For A Healthier Environment

19A, Austin Convention Center

Organized by: AE Pérez-Quintero (anaelisa@comunidadesgaia.org), KA Marshall-Gillespie, S Gabrielson

Moderator: LB Lastra-Díaz

The active ecologist collaborates and incorporates local community concerns and ideas in determining how they do research and communicate scientific knowledge. Panel presentations followed by interactive discussion as we identify best practises for working with communities impacted by environmental injustice and give feedback on a draft guide for ecologists.

S Almanza, PODER—*Honoring our Ancestors: a discussion of our relationships to nature*R Nicholas, University of Michigan—*Ecological & Human Dimensions of Tribal and State Natural Resource Management*K Ozer, National Family Farm Coalition—*Organizing for food sovereignty within the US bringing in models/experiences within communities in North America (US/Canada/Mexico)*KA Marshall-Gillespie, Chicago State University—*Urban ecosystem ecology in Chicago: collaborations for social justice & sustainability*

Thursday, August 11

Field Trips, Business Meetings, and Receptions

7 am-8 am

ESA Awards Committee Business Meeting

Austin Suite, Austin Convention Center

8 am-9 am

Discovering NEON Science and Education in Collaboration with Minority-serving Institutions. Part 2 (by invitation only)

ML 12-level 2, Austin Convention Center

11:30 am-1:15 pm

ESA Diversity Luncheon

Ballroom F, Austin Convention Center

Careers in Ecology: The Glass Ceiling and Other Challenges—Carreras en Ecología: El Techo de Cristal y Otros Desafíos
Ticket \$25 includes lunch

Join us for the 7th ESA Diversity Luncheon featuring the Summary of the WAMIE Report by Meg Lowman. Also included will be a panel of Latina Scientists to discuss their challenges as women in ecology. The women on the panel are: Sonia Ortega, Colibrí Sanfiorenzo-Barnhard, Ana Elisa Perez, and Erica Fernandez.

4 pm-5 pm

ESA SEEDS Closing

19B, Austin Convention Center

5 pm-6:30 pm

Musicians Central

Registration Lobby, Austin Convention Center

8 pm-10 pm

An Austin Night for Nature

ACL Moody Theater

Thursday Sessions

7 am-8 am

ESA Awards Committee Business Meeting

Austin Suite, Austin Convention Center

8 am-9 am

Discovering NEON Science and Education in Collaboration with Minority-serving Institutions. Part 2 (by invitation only)

ML 12-level 2, Austin Convention Center

8 am-11:30 am

SYMP 16 - Invasive Species with Cross-Border Spread: Negotiating the International Divide

Ballroom C, Austin Convention Center

Organized by: K Cuddington, JL Lockwood, MF Hoopes

Endorsed by: Canada Chapter

Moderator: K Cuddington

There are unique difficulties associated with the detection, prediction and management of cross-border invasive species. Speakers from both sides of the US/Canadian border will address aspects of species invasion from their particular national perspective. The goal of the symposium is to identify common issues related to international politics and economics.

8:00 AM SYMP 16-1 Stohlgren, TJ¹, C Jarnevich² and JT Morisette³, (1)US Geological Survey, Fort Collins Science Center, (2)United States Geological Survey, (3)USGS Fort Collins Science Center. *Predicting kudzu in the US and Canada in response to climate change and other factors.*

8:20 AM SYMP 16-2 Sage, RF and HA Coiner, University of Toronto. *Physiological controls over the northern range limit of kudzu (Pueraria montana var. lobata): Implications for predicting its future spread.*

8:40 AM SYMP 16-3 Grosholz, T, University of California. *Coastal marine invasions spanning the US/Canada border.*

9:00 AM SYMP 16-4 Byers, JE, University of Georgia. *Retention, range limits, and invasions in advective environments: Is Atlantic Canada naturally better protected from marine invasions?*

9:40 AM Break

9:50 AM SYMP 16-5 Tharayil, N¹ and P Alpert², (1)Clemson University, (2)University of Massachusetts. *Does plant invasion result in convergence of soil chemistries across ecosystems: A case study with Japanese knotweed invasion in eastern United States.*

10:10 AM SYMP 16-6 Bouchier, RS and BH Van Hezewijk, Agriculture and AgriFood Canada. *Chasing after the world's largest female on both sides of the border, Polygonum cuspidatum/Fallopia japonica.*

10:30 AM SYMP 16-7 Colunga-Garcia, M¹, F Koch², RA Haack³ and RA Magarey², (1)Michigan State University, (2)North Carolina State University, (3)US Forest Service, Northern Research Station. *US imports, trade regulations, and the emerald ash borer.*

10:50 AM SYMP 16-8 Yemshanov, D¹, F Koch², B Lyons¹, MJ Ducey³ and K Koehler⁴, (1)Canadian Forest Service, (2) North Carolina State University, (3)The University of New Hampshire, (4)Canadian Food Inspection Agency. *Pathways and vectors of human-mediated spread of emerald ash borer in Canada.*

11:10 AM Discussion

SYMP 17 - Revolutionary Ecology: Defining and Conducting Stewardship and Action as Ecologists and Global Citizens

Ballroom G, Austin Convention Center

Organized by: MJ Chappell (m.jahi.chappell@vancouver.wsu.edu), C Sanfiorenzo-Barnhard, M Armstrong

Endorsed by: Student Section, R-PUI section, Environmental Justice, Agroecology Section, Applied Ecology Section, Human Ecology

Moderator: RJ Colón-Rivera

THURSDAY

If ecologists are to use our expertise for stewardship, we must embrace action ecology, which means collectively defining and taking appropriate collaborative actions, and also questioning ourselves as researchers and stewards in the iterative process of action research: "Research that produces nothing but books will not suffice" (Lewin, 1946).

8:00 AM Introductory Remarks

8:05 AM SYMP 17-1 Chappell, MJ, Washington State University Vancouver. *Revolutionary action ecology: Concepts, challenges and actions for a new generation of ecological citizen-scientists.*

8:30 AM SYMP 17-2 Bezner-Kerr, R¹, S Snapp², L Shumba³, Z Nkhonya³, R Msachi³ and E Chione³, (1)University of Western Ontario, (2)Michigan State University, (3) Ekwendeni Hospital. *The challenges of promoting agrodiversity during a new Green Revolution: Learning from and working with farming communities in northern Malawi.*

8:55 AM SYMP 17-3 Ozer, K¹ and D Hoff², (1)National Family Farm Coalition, (2)Montana farmer & Via Campesina. *The approaches being undertaken to promote food sovereignty in the US and within the North American region of Via Campesina (Mexico and Canada).*

9:20 AM Break

9:30 AM SYMP 17-4 Ehrlich, PR, Stanford University. *Research and policy impact: Synergisms in action-oriented ecology.*

9:55 AM SYMP 17-5 Ramos, Jr., J, Arizona State University. *Chutes and ladders on students' pathways for to planetary stewardship.*

10:20 AM SYMP 17-6 Hargrove, EC, University of North Texas. *Stewardship vs. citizenship.*

10:45 AM Panel Discussion

11:20 AM Concluding Remarks

SYMP 18 - The Ecological Consequences of Intraspecific Variation

Ballroom E, Austin Convention Center

Organized by: M Novak (mnovak1@ucsc.edu), DI Bolnick

Endorsed by: Theoretical Ecology Section

Moderator: M Novak

No population is homogeneous. Can ecologists safely ignore intraspecific variation? This symposium will synthesize recent conceptual advances in the study of individual variation, highlight the novel insights of recent empirical experiments and observations, and help translate newly developed mathematical theory into testable hypotheses for future empirical study.

8:00 AM Introductory Remarks

8:10 AM SYMP 18-1 Lankau, RA, University of Georgia. *Intraspecific trade-offs in competitive ability and the coexistence of competitors.*

8:30 AM SYMP 18-2 Vasseur, DA¹, P Amarasekare², VHW Rudolf³ and J Levine⁴, (1)Yale University, (2)University of California, Los Angeles, (3)Rice University, (4)University of California, Santa Barbara. *Eco-evolutionary dynamics of coexistence via neighbor-dependent selection.*

8:50 AM SYMP 18-3 Hughes, AR¹, JJ Stachowicz², S Kamel³ and R Grosberg³, (1)Florida State University, (2)University of California, Davis, (3)Department of Ecology and Evolution, University of California, Davis. *Population and community effects of marine plant genetic diversity.*

9:10 AM SYMP 18-4 Ellner, SP, MA Geber and NG Hairston Jr., Cornell University. *Does rapid evolution matter? Measuring the ecological impacts of heritable and plastic trait dynamics.*

9:30 AM Break

9:45 AM SYMP 18-5 Meyers, LA, The University of Texas at Austin. *Contact networks and the spread of disease: The epidemiological consequences of individual variation in movement and behavior.*

10:05 AM SYMP 18-6 Tinker, MT¹, P Guimarães Jr.² and M Novak³, (1)Center for Ocean Health, (2)Universidade de São Paulo, (3)University of California, Santa Cruz. *The structure and mechanisms of intraspecific diet polymorphism.*

10:25 AM SYMP 18-7 Schreiber, S¹, R Buerger² and DI Bolnick³, (1) University of California, Davis, (2)University of Vienna, (3)University of Texas at Austin. *The community effects of phenotypic and genetic variation within a predator population.*

10:45 AM SYMP 18-8 Bolnick, DI¹, P Amarasekare², MS Araújo³, R Bürger⁴, J Levine⁵, M Novak⁶, VHW Rudolf⁷, S Schreiber⁸, MC Urban⁹ and DA Vasseur¹⁰, (1)University of Texas at Austin, (2)University of California, Los Angeles, (3) Universidade Estadual de Campinas, (4)University of Vienna, (5)University of California, Santa Barbara, (6) University of California, Santa Cruz, (7)Rice University, (8)University of California, Davis, (9)University of Connecticut, (10)Yale University. *Why does intraspecific trait variation matter in ecology?.*

11:05 AM Panel Discussion

OOS 33 - Sustaining Rangelands in the Southern Great Plains: Adapting to and Mitigating for Climate Change

16B, Austin Convention Center

Organized by: WE Rogers (wer@tam.u.edu)

Moderator: WE Rogers

Because sustainability of the U.S. Southern Great Plains rangeland ecosystems is threatened by woody encroachment and is further complicated by predicted climate change scenarios that potentially have tremendous ecological, economic, and social consequences, this session examines the capacity for agricultural production to plan for and adapt to ecological change.

8:00 AM OOS 33-1 Wilcox, B, Texas A& M University. *Sustaining the Southern Great Plains Rangelands in the face of changing climatic conditions: an overview of the problem.*

8:20 AM OOS 33-2 Schwinning, S and KD Eggemeyer, Texas State University. *Soil depth changes everything: How limitations of ecosystem water storage govern the ecology of trees in grassland.*

8:40 AM OOS 33-3 Engle, D, SD Fuhlendorf, BW Allred, D Elmore and CB Zou, Oklahoma State University. *Recoupling fire and grazing interactions to restore rangelands degraded by woody plant encroachment and climate change: a patch-burning approach to management.*

9:00 AM OOS 33-4 Briggs, JM and JM Blair, Kansas State University. *Assessing the ecological impacts of changing climate and land-cover in tallgrass prairie.*

9:20 AM OOS 33-5 Fay, PA¹, WH Polley¹, VL Jin², RA Gill³, RB Jackson⁴ and DA Way⁴, (1)USDA, Agricultural Research Service, (2)Agroecosystem Management Research, (3)Brigham Young University, (4)Duke University. *Rising atmospheric CO₂ effects on productivity and plant composition differs among soils in Southern Plains tallgrass prairie.*

9:40 AM Break

9:50 AM OOS 33-6 Jackson, RB and JH Kim, Duke University. *How climate change and climate policy could alter rangeland ecosystems.*

10:10 AM OOS 33-7 Luo, Y, University of Oklahoma. *Predicting future states of ecosystems in the southern Great Plains.*

10:30 AM OOS 33-8 Huber-Sannwald, E¹, M Ribeiro Palacios², RM

8 am-11:30 am

Martínez Peña¹ and T Arredondo Moreno¹, (1)Instituto Potosino de Investigación Científica y Tecnológica, (2) Instituto Potosino de Investigación Científica y Tecnológica. *Sustainable development in semiarid ecosystems of Mexico - the challenge of mapping human wellbeing on rangeland landscapes considering ecosystem services.*

- 10:50 AM OOS 33-9 Twidwell, D¹, WE Rogers² and CA Taylor Jr.³, (1)Texas A&M University, (2)Texas A & M University, (3) Texas A&M AgriLIFE Research Center. *Applying prescribed extreme fire within a resilience framework to help stakeholders adapt to changing rangeland environments.*

OOS 34 - Microbial Ecology Using Metagenomics

17A, Austin Convention Center

Organized by: EL Aronson (emmala@sas.upenn.edu), N Zimmerman

Moderator: A Macrae-Crerar

This Session Explores How the Field of Microbial Ecology is Benefiting from the Advent of Metagenomics, the Study of the Genetic and/or Phenotypic Characteristics of an Entire Environmental Sample.

- 8:00 AM OOS 34-1 Klatt, CG¹, MN Parenteau², SM Boomer³, Z Jay¹, SR Miller⁴, JM Wood¹, DA Bryant⁵, WP Inskeep¹ and DM Ward¹, (1)Montana State University, (2)NASA Ames Research Center, (3)Western Oregon University, (4)University of Montana, (5)The Pennsylvania State University. *Linking the microbial community structures and functions of hot spring phototrophic bacterial mats with comparative metagenomics.*

- 8:20 AM OOS 34-2 Lennon, JT¹ and SE Jones², (1)Michigan State University, (2)University of Notre Dame. *Metagenomics of dormancy and implications for the maintenance of microbial diversity.*

- 8:40 AM OOS 34-3 Izard, J, The Forsyth Institute. *Human oral microbiota as an example of microbiota diversity associated with tissue characteristics.*

- 9:00 AM OOS 34-4 Daly, RA¹, DC Bradbury¹, HC Lim², P Zhang³, CA Osborne¹, J Wan², TK Tokunaga², Z He³, J Zhou³, EL Brodie² and MK Firestone¹, (1)University of California, Berkeley, (2)Lawrence Berkeley National Laboratory, (3)University of Oklahoma. *Cross-site comparison of three terrestrial-subsurface bacterial assemblages using PhyloChip and GeoChip microarrays.*

- 9:20 AM OOS 34-5 Aronson, EL¹, EA Dubinsky², GL Andersen² and B Helliker¹, (1)University of Pennsylvania, (2) Lawrence Berkeley National Laboratory. *Investigation of the microbial community and methane cycle of a pine forest soil using Phylochips and qPCR.*

9:40 AM Break

- 9:50 AM OOS 34-6 Zimmerman, N and PM Vitousek, Stanford University. *Fungals in the Jungles: Endophytic fungal diversity at the landscape scale.*

- 10:10 AM OOS 34-7 Zhou, J, University of Oklahoma. *Tracking ecosystem functions with GeoChip: Current status, challenges and future perspectives.*

- 10:30 AM OOS 34-8 Firestone, MK¹, DC Bradbury², R Daly¹, K DeAngelis³ and SA Placella⁴, (1)University of California, Berkeley, (2)University of California at Berkeley, (3) Lawrence Berkeley National Laboratory, (4)University of California. *How will expanding taxonomic and functional molecular characterization of complex soil microbial assemblages advance our understanding of microbial ecology?*

- 10:50 AM OOS 34-9 Kang, S¹, B Liu², F Louws² and J Zhou³, (1) University of Houston, Clear Lake, (2)North Carolina State University, (3)University of Oklahoma. *Response of nutrient cycle functional nutrient genes to prolonged*

no-till practices and crop rotations in a farming system experiment in North Carolina.

- 11:10 AM OOS 34-10 Ladau, J¹, TJ Sharpton¹, G Jospin², SW Kembel³, J O'Dwyer⁴, A Koepfel⁵, JL Green³ and KS Pollard¹, (1)Gladstone Institutes, (2)UC Davis Genome Center, (3)University of Oregon, (4)Santa Fe Institute, (5)University of Virginia. *Global biodiversity and biogeography of marine bacteria.*

OOS 35 - Forest Migration and Expansion in an Era of Global Change: Integrating Predictions and Observations.

17B, Austin Convention Center

Organized by: M Anand

Moderator: M Anand

We examine the rate and extent of forest migration and expansion due to global ecological changes.

- 8:00 AM OOS 35-1 Beckage, B¹, L Gross² and S Kauffman¹, (1) University of Vermont, (2)University of Tennessee. *Inherent limits to prediction and implications for projecting forest response to climate change.*

- 8:20 AM OOS 35-2 Silva, LC¹ and M Anand², (1)University of California, (2)University of Guelph. *Forest expansion across biomes: The role of climate change and related forces.*

- 8:40 AM OOS 35-3 Ibanez, I and S Neumann, University of Michigan. *Life on the frontier: Assessing tree competitive interactions at their migratory front.*

- 9:00 AM OOS 35-4 Caplat, P¹, R Nathan² and YM Buckley³, (1) CSIRO, (2)The Hebrew University of Jerusalem, (3) University of Queensland. *The relative contribution of wind, seed traits and demography to the spread of an invasive conifer: Results from high-resolution modelling.*

- 9:20 AM OOS 35-5 Oswalt, CM¹, CW Woodall², JA Westfall³, CH Perry³, M Nelson³, AO Finley⁴, D Nowak³ and G Liknes³, (1)USDA Forest Service - Southern Research Station, (2) USDA Forest Service, Northern Research Station, (3) USDA Forest Service, (4)Michigan State University. *Using forest inventories to assess tree range shifts in the eastern United States.*

9:40 AM Break

- 9:50 AM OOS 35-6 Hayashi, K, JR Malcolm, D Kramm, D Puric-Mladenovic and H Shi, University of Toronto. *Climate-induced tree migration in southern Ontario: Pathways and source populations.*

- 10:10 AM OOS 35-7 Saltré, F¹, C Gauchere², R Saint-Amant³, S Brewer⁴ and I Chuine⁵, (1)Centre for Bio-Archaeology and Ecology - EPHE, (2)French Institute of Pondicherry, (3) Centre de foresterie des Laurentides, (4)University of Wyoming, (5)CNRS. *Impacts of climate, dispersal and refugia locations on the European Beech postglacial colonisation.*

- 10:30 AM OOS 35-8 Scheller, RM¹, JR Thompson², MA White³, C Ravenscroft⁴, M Duveneck¹ and DJ Mladenoff⁵, (1)Portland State University, (2)Smithsonian Institution, (3)The Nature Conservancy, (4)Syracuse University, (5)University of Wisconsin-Madison. *Tree species migration in Wisconsin, Minnesota, and Massachusetts: A model comparison of potential limiting factors under climate change.*

- 10:50 AM OOS 35-9 Henne, PD, C Calò and W Tinner, University of Bern. *Forest expansion and collapse on the Mediterranean coast: Combining paleoecology and dynamic modeling to understand past change and predict future impacts.*

- 11:10 AM OOS 35-10 Fisichelli, N, L Frelich and PB Reich, University of Minnesota. *Climate, environment, and biotic interactions drive tree regeneration abundance trends in ecotonal temperate-boreal forests.*

OOS 36 - Large-Scale Manipulative Experiments in the Tropics: Population, Community, and Ecosystem Level Responses

12A, Austin Convention Center

Organized by: DC Garcia-Montiel (dgarcia@ites.upr.edu)

Moderator: DC Garcia-Montiel

This symposium brings together ecologists to synthesize current status and challenges of large-scale manipulative experiments in the tropics from a broad range of perspectives, with especial emphasis on their role establishing basic understanding of mechanisms underlying patterns of ecosystem dynamics

8:00 AM OOS 36-1 Harms, KE¹, JB Yavitt², MN Garcia³, M Kaspari⁴ and SJ Wright³, (1)Louisiana State University, (2)Cornell University, (3)Smithsonian Tropical Research Institute, (4)University of Oklahoma. *Limitation by multiple nutrients revealed by a long-term, large-scale nutrient augmentation experiment in lowland Panama.*

8:20 AM OOS 36-2 Meir, P¹, RA Fisher², A da Costa³, D Galbraith¹, S Almeida⁴, CJRD Carvalho⁵, D Metcalfe⁶ and E Sotta⁷, (1)University of Edinburgh, (2)Los Alamos National Laboratory, (3)Federal University of Para, (4) Museu Paraense Emilio Goeldi, (5)Embrapa Amazônia Oriental, Brazil, (6)Swedish University of Agricultural Sciences, (7)Silvicultura e Ecologia Florestal, Embrapa. *Drought impacts on physiology and mortality in rain forest: Results from a large scale rainfall exclusion experiment in Amazonia and their wider applicability.*

8:40 AM OOS 36-3 Brando, PM¹, DC Nepstad¹, SL Lewis², O Phillips², EA Davidson³ and GMFVD Heijden⁴, (1)Instituto de Pesquisa Ambiental da Amazônia (Amazon Institute of Environmental Research), (2)University of Leeds, (3)The Woods Hole Research Center, Massachusetts, (4)University of Sheffield. *Local and regional carbon consequences of severe droughts in Amazonia: Results from a large-scale partial throughfall experiment and field-plots experiencing droughts.*

9:00 AM OOS 36-4 Balch, JK¹, DC Nepstad², LM Curran³, PM Brando², O Portela², PGP dos Santos⁴, JD Reuning-Scherer⁵ and O Carvalho², (1)National Center for Ecological Analysis & Synthesis, (2)Instituto de Pesquisa Ambiental da Amazônia (Amazon Institute of Environmental Research), (3)Stanford University, (4) Universidade Federal do Pará, (5)Yale University. *Size, species, and fire behaviour predict tree and liana mortality from experimental burns in the Brazilian Amazon.*

9:20 AM OOS 36-5 Shiels, A¹, JK Zimmerman², DC Garcia-Montiel², I Jonckheere³, JA Holm⁴, D Horton⁵ and N Brokaw⁶, (1)University of Hawaii, (2)University of Puerto Rico, (3)Katholieke Universiteit Leuven, (4)University of Virginia, (5)Washington University in St. Louis, (6) University of Puerto Rico-Río Piedras. *Vegetation dynamics after large-scale artificial canopy opening and detritus deposition in a tropical forest in Puerto Rico.*

9:40 AM Break

9:50 AM OOS 36-6 Silver, W¹ and T CTE Team², (1)University of California, (2)Luquillo LTER. *Long term biogeochemical dynamics following a hurricane manipulation experiment in a humid tropical forest in Puerto Rico.*

10:10 AM OOS 36-7 González, G¹, DJ Lodge², SA Cantrell³ and B Richardson⁴, (1)USDA -Forest Service, (2) USDA-Forest Service, (3)Universidad del Turabo, (4) Luquillo Experimental Forest LTER, Puerto Rico. *A canopy trimming experiment in Puerto Rico: Effects on invertebrates, microbes and decay.*

10:30 AM OOS 36-8 Willig, MR¹, CP Bloch² and SJ Presley¹, (1)

University of Connecticut, (2)Bridgewater State College. *Experimental decoupling of the effects of hurricane disturbance on tropical gastropod populations and communities.*

10:50 AM OOS 36-9 McDowell, WH¹, DF Cusack², D Figueroa-Nieves¹ and JD Potter¹, (1)University of New Hampshire, (2)UC - Los Angeles. *Forest nitrogen saturation and stream nitrogen enrichment: Are there landscape-scale responses to increased N levels in the tropics?*

11:10 AM OOS 36-10 Muthukrishnan, R and P Fong, UCLA. *Tropical coral reefs shift to greater algal abundance in response to multiple anthropogenic stresses but show resilience when environmental conditions recover.*

OOS 37 - Droughts and Downpours: The Effect of Experimentally Altered Precipitation Patterns on Plant Function and Community Structure

14, Austin Convention Center

Organized by: V Rodgers (vroddgers@babson.edu), SS Hoepfner

Moderator: V Rodgers

In this session, we will present findings from several rainfall manipulation experiments to evaluate the sensitivity of plant functions and plant community composition to altered precipitation regimes and other climate change factors to draw inferences about future challenges in ecosystem management.

8:00 AM OOS 37-1 Avolio, ML and MD Smith, Yale University. *Genotypes of a dominant tallgrass species vary in their response to changes in precipitation means and variability.*

8:20 AM OOS 37-2 Smith, NG and JS Dukes, Purdue University. *The interactive effect of precipitation on photosynthetic response and acclimation to temperature in two deciduous tree seedlings at the Boston Area Climate Experiment (BACE).*

8:40 AM OOS 37-3 Hoepfner, SS¹, G Pold² and JS Dukes³, (1)Purdue University, West Lafayette, IN, (2)McGill University, (3)Purdue University. *Mortality, leaf drop, and growth: Tree seedling drought stress and warming responses in the Boston Area Climate Experiment.*

9:00 AM OOS 37-4 Wagner, R¹, MW Kaye¹, J Kaye¹ and M Abrams², (1)Pennsylvania State University, (2)The Pennsylvania State University. *Growth and physiological responses of deciduous tree seedlings to three years of increased temperature and precipitation treatments.*

9:20 AM OOS 37-5 Jentsch, A, J Walter, K Grant, L Nagy, J Kreyling and C Beierkuhnlein, University of Bayreuth. *Sensitivity of plant functions (i.e. growth, photosynthesis, phenology) and community composition in temperate grassland to severe drought.*

9:40 AM Break

9:50 AM OOS 37-6 Koerner, SE and SL Collins, University of New Mexico. *Interactive effects of drought grazing and fire on grasslands community dynamics: a cross-continental comparison.*

10:10 AM OOS 37-7 Heisler-White, JL¹, JA Morgan², EG Pendall¹, D Blumenthal² and DG Williams¹, (1)University of Wyoming, (2)USDA-ARS. *Precipitation dynamics in a mixed grass prairie: Manipulations and interactions with warming and CO₂.*

10:30 AM OOS 37-8 Miglietta, F¹, G Alberti², MF Cotrufo³, I Inglima⁴, H Marjanovi⁵, DR LeCain⁶, A Zaldei¹ and A Peressotti², (1)CNR-IBIMET, (2)University of Udine, (3)Colorado State University, (4)Second University of Naples, (5)Forest Research Institute Jastrebarsko, (6) USDA-ARS. *Linking water and carbon in Mediterranean ecosystems: The MIND project and beyond.*

8 am-11:30 am

- 10:50 AM OOS 37-9 Pockman, WT¹, J Plaut¹, RE Pangle¹, JM Limousin¹, PJ Hudson², EA Yepez³, N Gehres¹, AL Boutz¹, SL Collins¹ and N McDowell⁴, (1)University of New Mexico, (2)University of New Mexico- Albuquerque, (3) Instituto Tecnológico de Sonora, (4)Los Alamos National Laboratory. *Differential responses of pinon and juniper in a rainfall manipulation experiment in central New Mexico, USA.*
- 11:10 AM OOS 37-10 Beard, KH¹ and A Kulmatiski², (1)Utah State University, (2)University of Alaska Anchorage. *Fewer larger precipitation events increase infiltration and root growth but not aboveground production of trees or grasses in a subtropical savanna.*

OOS 38 - Holistic Invasion Ecology: Moving Beyond Reductionism

15, Austin Convention Center

Organized by: JN Barney (jnbarney@vt.edu)

Moderator: TH Whitlow

This session will critically examine the conceptual foundation of invasion ecology by evaluating the historical context, identifying current misdirection, and offering novel solutions.

- 8:00 AM OOS 38-1 Davis, MA, Macalester College. *The historical landscape of invasion ecology.*
- 8:20 AM OOS 38-2 Dukes, JS, Purdue University. *Plant invasion across space and time: Factors affecting success and impacts of invasive plants.*
- 8:40 AM OOS 38-3 Blossey, B, Cornell University. *The status of explaining plant invasions: Hypothesis overload.*
- 9:00 AM OOS 38-4 Pysek, P, Institute of Botany, Academy of Sciences of the Czech Republic. *Species invasiveness and community invasibility: Can they be reconciled?*
- 9:20 AM OOS 38-5 Barney, JN, Virginia Polytechnic Institute and State University. *A phast-er framework for integrating invasions: The state factor model.*
- 9:40 AM Break
- 9:50 AM OOS 38-6 Catford, JA¹, R Jansson² and C Nilsson², (1) University of Melbourne, (2)Umeå University. *Integrating hypotheses of invasion ecology into a single theoretical framework.*
- 10:10 AM OOS 38-7 Milbau, A¹, JC Stout², BJ Graae³ and I Nijs⁴, (1)Umeå University, (2)Trinity College, (3)Norwegian University of Science and Technology, (4)University of Antwerpen. *A framework for hierarchical integration of invasibility factors.*
- 10:30 AM OOS 38-8 van Kleunen, M¹, W Dawson¹, DR Schlaepfer², JM Jeschke³ and M Fischer⁴, (1)University of Konstanz, (2)University of Wyoming, (3)Ludwig-Maximilians-Univ. Munich, (4)University of Bern. *Are invaders different? Comparative approaches for assessing determinants of invasiveness.*
- 10:50 AM OOS 38-9 Gurevitch, J, E Lowry, E Rollinson, A Laybourn, SM Gray, T Scott, M Aiello-Lammens and J Mickley, Stony Brook University. *A systematic review and database of the literature on biological invasions.*
- 11:10 AM OOS 38-10 Fridley, J¹ and DF Sax², (1)Syracuse University, (2)Brown University. *Revisiting a Darwinian framework for invasion biology: Global invasion patterns and the evolutionary sophistication of regional biotas.*

COS 86 - Urban Ecosystems I

Ballroom B, Austin Convention Center

- 8:00 AM COS 86-1 Rondon, J¹, M Newhouse² and C Holzapfel¹, (1)Rutgers University Newark, (2)NJ Meadowlands

Commission. *Urban green spaces: Traps or havens for migratory birds?*

- 8:20 AM COS 86-2 Auwae, R, University of Hawaii at Manoa. *Why are total soil respiration measurements higher in urban forests than rural forests.*
- 8:40 AM COS 86-3 Scott, B, AH Baldwin and PT Leisnham, University of Maryland. *Wetland detritus effects survival, development and overall population performance of the northern house mosquito Culex pipiens.*
- 9:00 AM COS 86-4 Gardiner, MM and SP Prajzner, The Ohio State University OARDC (Wooster). *Arthropod communities and arthropod-mediated ecosystem services in urban vacant lands.*
- 9:20 AM COS 86-5 Tenneson, KR, University of Washington. *Understanding urban forest structure of residential landscapes in the Seattle metropolitan urban(izing) region.*
- 9:40 AM Break
- 9:50 AM COS 86-6 Hubbard, JA, University of Missouri. *Improving Process Understanding of Urban Bottomland Hardwood Forests, and Contemporary Floodplain Management.*
- 10:10 AM COS 86-7 Lerman, SB¹, PS Warren¹ and E Shochat², (1)University of Massachusetts, (2)Arizona State University. *Foraging decisions, bird community structure, and residential landscapes: A mechanistic approach to explain the decline of urban bird diversity.*
- 10:30 AM COS 86-8 Raciti, SM, LR Hutyrá, P Rao and AC Finzi, Boston University. *The importance of definition and scale: Soil and vegetation carbon across an urban to rural gradient.*
- 10:50 AM COS 86-9 Clock, ME¹, P Weis², C Holzapfel³ and FJ Gallagher⁴, (1)Rutgers University, Newark, (2)UMDNJ - New Jersey Medical School, (3)Rutgers University Newark, (4)Rutgers University. *Trophic transfer of heavy metals and avian feeding ecology in an urban brownfield.*
- 11:10 AM COS 86-10 Magle, SB¹, K Salamack², KR Crooks³ and R Reading⁴, (1)Lincoln Park Zoo, (2)Wildlife Habitat Council, (3)Colorado State University, (4)Denver Zoological Foundation. *Effects of a highly interactive species, the black-tailed prairie dog, on urban avian diversity.*

COS 87 - Soil Ecology

Ballroom F, Austin Convention Center

- 8:00 AM COS 87-1 Piñeiro, G¹, S Manzonei², JH Kim², EG Jobbagy³, MS Torn⁴, WJ Riley⁴, A Porporato² and RB, Jackson², (1)Universidad de Buenos Aires/CONICET, (2) Duke University, (3)Universidad Nacional de San Luis, (4)Lawrence Berkeley National Laboratory. *Power laws are better than exponential decay models for representing litter and soil organic matter decomposition.*
- 8:20 AM COS 87-2 Smith, JG¹, HL Throop¹, TJ Valone², SKM Ernest³ and JH Brown⁴, (1)New Mexico State University, (2)Saint Louis University, (3)Utah State University, (4) University of New Mexico. *Small mammal activities decrease soil organic carbon storage in dryland ecosystems.*
- 8:40 AM COS 87-3 Ernakovich, JG¹, FJ Calderon² and MD Wallenstein¹, (1)Colorado State University, (2)USDA-ARS Central Great Plains Research Station. *Assessing the vulnerability of permafrost carbon stocks: The importance of considering soil organic matter chemistry and microbial community traits.*
- 9:00 AM COS 87-4 Bach, EM and KS Hofmockel, Iowa State University. *Consideration of soil aggregate habitat on extracellular enzyme activity in prairie and conventional agriculture.*
- 9:20 AM COS 87-5 Leggett, ZH¹, EB Sucre¹ and F Sanchez²,

- (1)Weyerhaeuser Company, (2)USDA Forest Service. *Organic matter management effects on soil carbon fractionation in a loblolly pine (Pinus taeda L.) plantation.*
- 9:40 AM Break
- 9:50 AM COS 87-6 Campos-Herrera, R¹, E Pathak¹, FE El-Borai², RJ Stuart¹, C Gutiérrez³, JH Graham¹ and LW Duncan¹, (1) University of Florida, (2)Faculty of Agriculture, Zagazig University, (3)Consejo Superior de Investigaciones Cientificas (CSIC), Instituto de Ciencias Agrarias (ICA). *Entomopathogenic nematodes and the molecular assessment of soil food webs in space and time.*
- 10:10 AM COS 87-7 Hartsough, PC¹, A Malazian¹, E Roudneva¹, R Storesund² and JW Hopmans¹, (1)University of California, Davis, (2)Storesund Consulting. *Whole tree root excavation to learn about root water extraction.*
- 10:30 AM COS 87-8 Moradi, AB¹, A Dara² and JW Hopmans³, (1) University of California Davis, (2)University of Potsdam, (3)University of California, Davis. *Water dynamics in the root-zone of plants using neutron imaging.*
- 10:50 AM COS 87-9 Neumann, RB¹, MA Zwieniecki², ZG Cardon³ and NM Holbrook², (1)University of Washington, (2) Harvard University, (3)Marine Biological Laboratory. *The magnitude of hydraulic redistribution by plants: A laboratory and modeling investigation.*
- 11:10 AM COS 87-10 Appling, A¹, ES Bernhardt¹ and JA Stanford², (1)Duke University, (2)The University of Montana. *Patterns and drivers of nitrogen availability in floodplain soils.*

COS 88 - Predation and Predator-Prey Interactions II

4, Austin Convention Center

- 8:00 AM COS 88-1 Bourdeau, PE¹, KL Pangle² and SD Peacor¹, (1)Michigan State University, (2)The Ohio State University. *Non-consumptive predator effects in a pelagic food-web: Species- and developmental stage-level variation in behavioral responses to an invasive predator within a zooplankton assemblage.*
- 8:20 AM COS 88-2 Messinger, SM and AM Ostling, University of Michigan. *The evolutionary effects of spatial structure and its impact on predator-prey persistence.*
- 8:40 AM COS 88-3 Hatton, I, McGill University. *The predator-prey power law of African ecosystems.*
- 9:00 AM COS 88-4 Zanette, LY¹, MC Allen¹, AF White¹ and M Clinchy², (1)University of Western Ontario, (2) University of Victoria. *Fear kills: Anti-predator behavioural responses reduce the number of offspring songbirds produce per year.*
- 9:20 AM COS 88-5 Stier, A¹ and M Leray², (1)University of Florida, (2)University of Paris 6 Pierre & Marie Curie. *Whole community response to multiple predator effects.*
- 9:40 AM Break
- 9:50 AM COS 88-6 Ryberg, WA¹, AR Templeton² and J Chase³, (1)Texas A&M University, (2)Washington University, (3)Washington University in St. Louis. *Predation, community assembly, and the scaling of prey diversity in Ozark glade metacommunities.*
- 10:10 AM COS 88-7 Luttbeg, B¹, GC Trussell² and CM Matassa², (1)Oklahoma State University, (2)Northeastern University. *How do marine snails (Nucella lapillus) respond to the frequency of high predation risk and how should we expect them respond?.*
- 10:30 AM COS 88-8 Montgomery, RA¹, G Roloff¹, JA Vucetich², KF Millenbah¹ and RO Peterson², (1)Michigan State University, (2)Michigan Technological University. *Selecting substandard prey in spatial dimensions.*
- 10:50 AM COS 88-9 DeLong, JP and DA Vasseur, Yale University.

A mechanistic explanation of size-density scaling in consumers.

- 11:10 AM COS 88-10 Eklöv, P¹ and R Svanbäck², (1)Uppsala University, (2)Department of Ecology and Genetics/Limnology. *Size-related competition and predation risk drive shifts in trophic traits.*

COS 89 - Biogeochemistry: Experimental Climate Change Effects on Biogeo Processes

5, Austin Convention Center

- 8:00 AM COS 89-1 Masiello, CA¹, ME Gallagher² and WC Hockaday³, (1)Rice University, Houston, TX, (2)Rice University, (3)Baylor University. *Making and interpreting high precision ecosystem oxidative ratio measurements.*
- 8:20 AM COS 89-2 Mayer, P¹, C Cooper², KJ Forshay¹, SS Kaushal³, D Merritts⁴, G Sviridich³ and R Walter⁴, (1) United States Environmental Protection Agency, (2) U.S. Environmental Protection Agency, (3)University of Maryland, (4)Franklin and Marshall College. *Sampling slam: High spatial-resolution surface-water sampling in streams reveals patterns in groundwater chemistry and hydrology.*
- 8:40 AM COS 89-3 Barthel, M¹, A Hammerle¹, P Sturm¹, L Gentsch¹ and A Knohl², (1)ETH Zurich, (2)Georg-August-University Göttingen. *Identifying mechanisms controlling the coupling between photosynthesis and soil respiration under control and drought conditions using a ¹³C₂ canopy pulse labeling.*
- 9:00 AM COS 89-4 Reinmann, AB and PH Templer, Boston University. *The impacts of a reduced winter snowpack on soil respiration in a mixed-deciduous northern forest.*
- 9:20 AM COS 89-5 Hall, SJ¹ and W Silver², (1)University of California-Berkeley, (2)University of California. *When wet gets wetter: Soil moisture and decreased redox potential constrain greenhouse gas fluxes from a humid tropical forest soil.*
- 9:40 AM Break
- 9:50 AM COS 89-6 Zeppel, M¹, JD Lewis², B Chazsar³, R Smith⁴ and DT Tissue⁴, (1)Macquarie University, (2)Fordham University, (3)University of Arizona, (4)University of Western Sydney. *Is drought mortality in Eucalypts caused by carbon starvation or hydraulic failure: the influence of elevated CO₂ and temperature.*
- 10:10 AM COS 89-7 Ball, BA¹, RA Virginia², BJ Adams³, JE Barrett⁴ and DH Wall⁵, (1)Arizona State University at the West Campus, (2)Dartmouth College, (3)Brigham Young University, (4)Virginia Tech, (5)Colorado State University. *Extreme stoichiometry: Nutrient limitation and fertilization in polar desert soils.*
- 10:30 AM COS 89-8 Marfo, J and Q Dang, Lakehead University. *Effects of soil warming, nutrient supply, and inter-specific interaction on physiological traits of black spruce, and white spruce under current, and doubled atmospheric CO₂ concentration.*
- 10:50 AM COS 89-9 Limousin, J¹, RE Pangle¹, EA Yopez², KE Coombs³, LT Hill³, AL Boutz¹, N Gehres¹, NG McDowell³ and WT Pockman¹, (1)University of New Mexico, (2)Instituto Tecnológico de Sonora, (3)Los Alamos National Laboratory. *Drought constraint on leaf gas-exchange in co-occurring Juniperus monosperma and Pinus edulis facing three different precipitation regimes.*
- 11:10 AM COS 89-10 Lara, M¹, S Villarreal¹, DR Johnson¹, PJ Webber² and CE Tweedie¹, (1)University of Texas at El Paso, (2)Michigan State University. *Impact of decade-time scale plant community change on tundra ecosystem function near Barrow Alaska.*

8 am-11:30 am

COS 90 - Biogeochemistry: Linking Community Structure and Ecosystem Function

6A, Austin Convention Center

- 8:00 AM COS 90-1 Todd-Brown, KE¹ and SD Allison², (1) University of California, Irvine, (2)University of California. *Microbial cost of carbon degrading extracellular enzymes: A microcosm and mechanistic modeling approach.*
- 8:20 AM COS 90-2 Beversdorf, LJ¹, TR Miller² and KD McMahon¹, (1)University of Wisconsin - Madison, (2) University of Wisconsin - Milwaukee. *Identifying linkages between the nitrogen cycle, cyanobacterial community structure, and cyanotoxin production in a eutrophic lake.*
- 8:40 AM COS 90-3 Brower, SC, LG Leff and X Mou, Kent State University. *The role of gene diversity in the function of denitrifying assemblages in freshwater wetlands.*
- 9:00 AM COS 90-4 Mehring, AS¹, DW Kemp¹, DD Bosch², R Lowrance², G Vellidis¹ and CM Pringle¹, (1)University of Georgia, (2)USDA Agricultural Research Service. *Another function for cypress knees?: Extension of oxic periods in blackwater swamps by bryophytes growing on bald cypress (*Taxodium distichum*).*
- 9:20 AM COS 90-5 Moura, C¹, TE Dawson² and JS Pereira³, (1) Instituto Superior de Agronomia - Technical University of Lisbon, (2)UC Berkeley, (3)Instituto Superior de Agronomia. *Potential effects of sowed, biodiverse pastures in the understory of an LTER Montado system: 15N and 13C in Cork Oak leaves.*
- 9:40 AM Break
- 9:50 AM COS 90-6 Mullin, LP, GW Koch and TE Kolb, Northern Arizona University. *The interaction of tree size and restoration thinning on growth and use of winter versus summer precipitation in northern Arizona ponderosa pines.*
- 10:10 AM COS 90-7 Oberle, B¹ and A Zanne², (1)University of Missouri St. Louis, (2)University of Missouri, St. Louis. *Plant traits and decomposition rates: Potential influences for forest carbon flux and fungal communities.*
- 10:30 AM COS 90-8 Lemos, PC and AC Finzi, Boston University. *The decline of a northeastern foundation species (*Tsuga canadensis*) and its implications for forest carbon storage capacity.*
- 10:50 AM COS 90-9 Wu, J, BJ Enquist and SR Saleska, University of Arizona. *Ecosystem allometry: The scaling of aboveground biomass and carbon flux through canopy height across plant communities.*
- 11:10 AM COS 90-10 Graham, SE, J O'Brien, AR McIntosh, T Burrell and JS Harding, University of Canterbury. *Nutrient-enriched food webs have more competition and less diversity.*

COS 91 - Climate Change: Plants I

6B, Austin Convention Center

- 8:00 AM COS 91-1 Adams, HD¹, DD Breshears², MJ Germino³, GA Barron-Gafford¹, CB Zou⁴ and TE Huxman¹, (1) University of Arizona, (2)The University of Arizona, (3) Idaho State University, (4)Oklahoma State University. *Experimental evaluation of interrelated physiological mechanisms of tree drought mortality: Reduced non-structural carbohydrates with drought-induced tree death.*
- 8:20 AM COS 91-2 Sevanto, S¹, NG McDowell¹, LT Dickman¹, CW Meyer¹, RE Pangle², KC Hirth³ and W Pockman², (1) Los Alamos National Laboratory, (2)University of New Mexico, (3)US Forest Service. *How do trees die? Insights into hydraulic failure and carbon starvation hypotheses.*
- 8:40 AM COS 91-3 Marchin, RM¹, LE Bostic¹, AA Wines¹, RR Dunn² and WA Hoffmann¹, (1)North Carolina State University, (2)NCSU. *Experimental warming alters vapor*

pressure deficit: Quantifying the direct and indirect effects of warming on trees.

- 9:00 AM COS 91-4 Kane, JM and TE Kolb, Northern Arizona University. *Site and species differences in tree mortality in southwestern mixed-conifer forests of northern Arizona.*
- 9:20 AM COS 91-5 McKenzie, DA, University of Wyoming. *Growth of western red cedar (*Thuja plicata*) in relation to past climate and topographic variability.*
- 9:40 AM Break
- 9:50 AM COS 91-6 Adhikari, A, Baylor University. *Inter-specific differences in eco-physiological characters of coexisting shrub species in a semi-humid woodland ecosystem.*
- 10:10 AM COS 91-7 Grulke, NE¹ and M Tausz², (1)USDA Forest Service, (2)University of Melbourne. *Interactive effects of N deposition, O₃ uptake, and drought on canopy health of mature Jeffrey pine.*
- 10:30 AM COS 91-8 Boutz, AL¹, WT Pockman¹ and NG McDowell², (1)University of New Mexico, (2)Los Alamos National Laboratory. *Responses of twig growth and canopy leaf area in *Pinus edulis* to experimental manipulations of water availability.*
- 10:50 AM COS 91-9 Warren, JM, J Childs, C Gunderson, PJ Hanson and SD Wullschlegler, Oak Ridge National Laboratory. *Ecophysiology of woody plants in an ombrotrophic spruce bog – potential impacts with climate change.*
- 11:10 AM COS 91-10 Anderegg, W, Stanford University. *Widespread forest die-off: Observational and experimental tests of carbon starvation and water stress.*

COS 92 - Community Pattern and Dynamics IV

8, Austin Convention Center

- 8:00 AM COS 92-1 Murrell, E and SA Juliano, Illinois State University. *Do tradeoffs among colonization ability, competitive ability, and predation resistance govern succession in an aquatic insect community?.*
- 8:20 AM COS 92-2 Schalk, CM, Texas A&M University. *Community structure of tadpoles along environmental gradients in the Bolivian Gran Chaco.*
- 8:40 AM COS 92-3 Kneitel, JM, RC Croel and H Blair, California State University, Sacramento. *Many paths to the Dark side: Context-dependent turbidity effects in California vernal pools.*
- 9:00 AM COS 92-4 Christensen, PJ and BJ Goodwin, University of North Dakota. *The relative impacts of the surrounding landscape and local variables on aquatic macroinvertebrate communities of the Prairie Pothole Region in North Dakota.*
- 9:20 AM COS 92-5 Michel, MJ and J Knouft, Saint Louis University. *Spatial and environmental determinants of the community-aggregated traits of a local stream fish assemblage.*
- 9:40 AM Break
- 9:50 AM COS 92-6 Provete, DB¹, T Gonçalves-Souza², DC Rossa-Feres² and IA Martins³, (1)Universidade Federal de Goiás, (2)State University of São Paulo, (3)Universidade de Taubaté. *Predaceous insects do not influence space use by anuran larvae in ponds: The role of environment and scale.*
- 10:10 AM COS 92-7 Richter, FA, City of Austin. *Correlations between hydrology, benthic macroinvertebrate, and diatom metrics for Central Texas streams.*
- 10:30 AM COS 92-8 McCall, BD and SC Pennings, University of Houston. *Geographic variation in the structure of salt marsh arthropod communities.*
- 10:50 AM COS 92-9 Miller, DA¹, CS Brehme², JE Hines³ and JD Nichols³, (1)USGS - Patuxent Wildlife Research Center, (2)Western Ecological Research Center, (3)USGS

Patuxent Wildlife Research Center. *Community ecology of southwest arroyo toads: Joint dynamics of toads, predators, and habitat.*

- 11:10 AM COS 92-10 Ryan, ME¹ and P Chesson², (1)Western Washington University, (2)University of Arizona. *Environment-competition interactions in an invaded amphibian assemblage.*

COS 93 - Community Disturbance and Recovery II

9AB, Austin Convention Center

- 8:00 AM COS 93-1 Mueller, RC¹, J Rodrigues², K Nusslein³, V Pellizari⁴, B Feigl⁴, J Tiedje⁵ and B Bohannon¹, (1) University of Oregon, (2)University of Texas, Arlington, (3)University of Massachusetts, Amherst, (4)University of Sao Paulo, Brazil, (5)Michigan State University. *Arbuscular mycorrhizal diversity along a deforestation gradient in the Amazon rainforest.*
- 8:20 AM COS 93-2 Buma, BJ¹ and CA Wessman², (1)University of Colorado, Boulder, (2)University of Colorado. *Compounding disturbances and their impact on regeneration of subalpine tree species.*
- 8:40 AM COS 93-3 Barker Plotkin, AA¹, DR Foster¹ and J Carlson², (1)Harvard University, (2)Fire Ecologist. *Forest development 20 years after simulated hurricane in central New England .*
- 9:00 AM COS 93-4 Dent, DH¹, SJ DeWalt² and JS Denslow³, (1) Smithsonian Tropical Research Institute, (2)Clemson University, (3)Institute of Pacific Island Forestry. *Successional trajectories of regenerating tropical forests in central Panama.*
- 9:20 AM COS 93-5 Dwyer, JM¹, RJ Hobbs² and MM Mayfield³, (1)The University of Western Australia, (2)University of Western Australia, (3)The University of Queensland. *Shifts in species and functional diversity along environmental gradients in a threatened Australian annual plant community.*
- 9:40 AM Break
- 9:50 AM COS 93-6 Bissett, SN¹, S Brantley², DR Young¹, CWV Wolner³ and LJ Moore⁴, (1)Virginia Commonwealth University, (2)Coweeta Hydrologic Lab, (3)University of Virginia, (4)University of North Carolina-Chapel Hill. *Plant community feedbacks on barrier island geomorphology in response to climate change.*
- 10:10 AM COS 93-7 Yao, J, JD White and DB Murray, Baylor University. *Fire disturbance impacts on woodland dynamics.*
- 10:30 AM COS 93-8 Metz, MR¹, MM Beh¹, KM Frangioso¹, RK Meentemeyer² and DM Rizzo¹, (1)University of California, Davis, (2)University of North Carolina, Charlotte. *Wildfire influences forest disease dynamics through selective host mortality and pathogen suppression: sudden oak death in Big Sur, CA.*
- 10:50 AM COS 93-9 Armesto, JJ¹, A Gaxiola¹, MA Bustamante-Sánchez², B Salgado¹ and F Pérez³, (1)IEB, Universidad de Chile, CASEB, P. Universidad Católica de Chile, (2) Universidad de Concepcion, (3)Pontificia Universidad Católica de Chile. *Shade tolerance patterns in Chilean trees: Relevance in the context of disturbance regimes and consequences for forest management.*
- 11:10 AM COS 93-10 Klooster, WS¹, CP Herms², KS Knight³, DA Herms⁴ and J Cardina¹, (1)The Ohio State University/OARDC, (2)Ohio State University/OARDC, (3)USDA Forest Service, (4)The Ohio State University / OARDC. *Characterizing canopy gap dynamics using hemispherical photography in emerald ash borer-impacted forests.*

COS 94 - Herbivory: Plant Defenses

9C, Austin Convention Center

- 8:00 AM COS 94-1 McCall, AC, KM Espy and G Adams, Denison University. *Can inducible changes in flowers deter florivores and is this dependent on petal color?.*
- 8:20 AM COS 94-2 Whitehead, SR and MD Bowers, University of Colorado at Boulder. *Are ripe fruit secondary compounds a consequence of foliar defense? Patterns of intraspecific chemical variation in *Lonicera x bella* (Caprifoliaceae).*
- 8:40 AM COS 94-3 Chislock, MF¹, O Sarnelle² and AE Wilson¹, (1)Auburn University, (2)Michigan State University. *Are cyanobacteria-tolerant *Daphnia pulicaria* genotypes functionally redundant?.*
- 9:00 AM COS 94-4 Nability, PD¹, JA Zavala² and EH DeLucia¹, (1) University of Illinois, (2)Facultad de Agronomia, UBA-CONICET. *Herbivore induction of jasmonate-dependent defenses reduces photosynthesis in *Nicotiana attenuata*.*
- 9:20 AM COS 94-5 Wieski, K and S Pennings, University of Houston. *Induced resistance but not tolerance to herbivory of a saltmarsh shrub changes along a latitudinal gradient.*
- 9:40 AM Break
- 9:50 AM COS 94-6 Trowbridge, AM¹, RW Daly¹, D Helmig¹, HD Adams², DD Breshears³ and RK Monson⁴, (1)University of Colorado, (2)University of Arizona, (3)The University of Arizona, (4)University of Colorado, Boulder. *Abiotic and biotic controls over monoterpene concentrations and emissions: Potential in facilitating herbivore-parasitoid interactions in a pinyon-juniper forest.*
- 10:10 AM COS 94-7 Turley, NE¹, WC Odell¹, H Schaefer², G Everwand³, MJ Crawley⁴ and M Johnson¹, (1)North Carolina State University, (2)Harvard University, (3) Georg-August University Göttingen, (4)Imperial College, London. *Rapid evolution in plants following experimental removal of herbivores.*
- 10:30 AM COS 94-8 Pearse, IS¹, AL Hipp² and R Karban³, (1)University of California - Davis, (2)The Morton Arboretum, (3)University of California at Davis. *Global patterns of leaf defenses in oak species: Herbivores, leaf phenology, and climate.*
- 10:50 AM COS 94-9 Haak, DC and LC Moyle, Indiana University. *Biogeography and the evolution of inducible plant defenses in wild tomatoes.*
- 11:10 AM COS 94-10 Fine, PV¹, GPA Lamarre² and C Baraloto³, (1) University of California, Berkeley, (2)Université Antilles Guyane, (3)UMR EcoFoG. *Herbivory, growth strategies and habitat specialization in tropical tree lineages: Implications for Amazonian beta-diversity.*

COS 95 - Invasion: Invasibility, Stability, and Diversity

10A, Austin Convention Center

- 8:00 AM COS 95-1 Questad, EJ¹, JM Thaxton² and S Cordell¹, (1)USDA Forest Service, (2)University of Puerto Rico. *Invasion and native species loss through local extinction.*
- 8:20 AM COS 95-2 Byun, C¹, S De Blois¹ and J Brisson², (1) McGill University, (2)Université de Montréal. *Can life history traits and community assembly predict biological resistance to invasion? An experiment with common reed.*
- 8:40 AM COS 95-3 Martin, PH¹ and CD Canham², (1)Colorado State University, (2)Cary Institute of Ecosystem Studies. *Life-histories, natural disturbance and human land use determine long-term invasion dynamics of forests by exotic invasive tree species.*
- 9:00 AM COS 95-4 Schneider, HE and EB Allen, University of California, Riverside. **Erodium cicutarium*, an invasive annual forb in the Colorado Desert, experiences increased*

8 am-11:30 am

- benefits of water and nitrogen over native annual forbs.*
- 9:20 AM COS 95-5 Bell, MD and EB Allen, University of California, Riverside. *The interaction of soil surface gravel content and nitrogen deposition on the competitiveness of the invasive grasses Schismus arabicus and Schismus barbatus in the northwest Sonoran Desert.*
- 9:40 AM Break
- 9:50 AM COS 95-6 Duncan, MB¹, RG Bramblett¹, AV Zale¹ and T Haddix², (1)Montana Cooperative Fishery Research Unit, (2)Montana Fish, Wildlife & Parks. *Structural differences between fish assemblages in natural and altered major rivers.*
- 10:10 AM COS 95-7 Alofs, KM and DA Jackson, University of Toronto. *Fish community composition influences the establishment of introduced species in Ontario lakes.*
- 10:30 AM COS 95-8 Tan, J and L Jiang, Georgia Institute of Technology. *Phylogenetic relatedness between resident and invading species, not phylogenetic diversity of resident communities, affects their invasibility.*
- 10:50 AM COS 95-9 González-Moreno, P¹, J Pino², D Carreras³, C Basnou² and M Vilà¹, (1)Estación Biológica de Doñana (EBD-CSIC), (2)Autonomous University of Barcelona, (3)Observatori Socioambiental de Menorca. *Coastal habitats in Islands are less invaded by alien plants than in their mainland counterpart.*
- 11:10 AM COS 95-10 Tea, K and WD Bowman, University of Colorado. *Plant invasion influenced by spatial heterogeneity of soil nutrients.*

COS 96 - Disease and Epidemiology III

10B, Austin Convention Center

- 8:00 AM COS 96-1 Moore, SM¹, RJ Eisen² and P Mead², (1) National Center for Atmospheric Research, (2)Centers for Disease Control and Prevention. *Climate variability and the seasonality of Lyme Disease.*
- 8:20 AM COS 96-2 Swei, A¹, CJ Briggs², RS Lane³ and RS Ostfeld¹, (1)Cary Institute of Ecosystem Studies, (2)University of California, Santa Barbara, (3)University of California - Berkeley. *The dual role of lizards in Lyme disease ecology in the far-western United States.*
- 8:40 AM COS 96-3 Koelle, K and DA Rasmussen, Duke University. *The effect of epidemiological model structure on patterns of viral diversity.*
- 9:00 AM COS 96-4 McCallum, HI¹, ME Jones², N Beeton², RK Hamede² and JD Bashford², (1)Griffith University, (2) University of Tasmania. *Modeling to evaluate management strategies for Tasmanian devil facial tumor disease.*
- 9:20 AM COS 96-5 Jones, ME¹, RK Hamede¹, A Kreiss², K Belov³, AM Pearse⁴ and HI McCallum⁵, (1)University of Tasmania, (2)Menzies Research Institute Tasmania, (3) The University of Sydney, (4)Tasmanian Department of Primary Industry, Parks, Water and Environment, (5) Griffith University. *Reduced impact of Tasmanian devil facial tumor disease at the current disease front.*
- 9:40 AM Break
- 9:50 AM COS 96-6 Hersh, MH¹, M Tibbetts², M Strauss², RS Ostfeld³ and F Keesing², (1)Bard College and Cary Institute of Ecosystem Studies, (2)Bard College, (3) Cary Institute of Ecosystem Studies. *The ecology of an emerging tick-borne pathogen, Babesia microti: How host quality affects disease risk.*
- 10:10 AM COS 96-7 Calabrese, JM¹, J Brunner² and RS Ostfeld³, (1)Smithsonian Conservation Biology Institute, (2) Institute of Ecosystem Studies, (3)Cary Institute of Ecosystem Studies. *Tick accumulation on vertebrate hosts: Differential susceptibility or just bad luck?*

- 10:30 AM COS 96-8 Luis, AD, Colorado State University. *A comparison of bats and rodents as hosts for zoonotic viruses: What characteristics make a good reservoir host?.*
- 10:50 AM COS 96-9 Pollina, EC, JP Sparks and AG Power, Cornell University. *Effects of elevated CO₂ and ozone on the spillover potential and dilution potential of an insect transmitted plant virus.*
- 11:10 AM COS 96-10 Mata, TM¹, BW Falk² and M Holyoak², (1) University of California, (2)University of California, Davis. *Barley yellow dwarf virus and its vectors differentially affect native and invasive perennial grasses in California's coastal prairie.*

COS 97 - Statistics

12B, Austin Convention Center

- 8:00 AM COS 97-1 Abadi, F, University of Cape Town. *Combining population counts and demographic data to estimate vital rates of wildlife populations.*
- 8:20 AM COS 97-2 Veech, JA, Texas State University. *Beyond randomization: A probabilistic model for analyzing species co-occurrence.*
- 8:40 AM COS 97-3 Cade, BS, U. S. Geological Survey. *Quantile equivalence for evaluating habitat management or restoration objectives.*
- 9:00 AM COS 97-4 Brooks, ME¹, M McCoy² and BM Bolker³, (1)University of Florida, (2)Virginia Commonwealth University and University of Florida, (3)McMaster University. *A method for detecting among-individual differences in growth rate without marking individuals.*
- 9:20 AM COS 97-5 Mudge, JF, TJ Barrett, KR Munkittrick and J Houlihan, University of New Brunswick. *Implications of using an optimal alpha approach for statistical hypothesis tests in ecology.*
- 9:40 AM Break
- 9:50 AM COS 97-6 Markewitz, D¹, ECLamon III², MMBustamante³, J Chaves⁴, RO Figueiredo⁵, MS Johnson⁶, AV Krusche⁷, C Neill⁸ and JSO Silva³, (1)The University of Georgia, (2) Statistical Ecology Associates LLC, (3)Universidade de Brasilia, (4)Brown University, (5)Embrapa Meio Ambiente, (6)University of British Columbia, (7)CENA/ USP, (8)Marine Biological Laboratory. *Discharge-calcium concentration relationships in streams of the Amazon and Cerrado of Brazil: Soil or land use controlled.*
- 10:10 AM COS 97-7 Knape, J¹ and P de Valpine², (1)University of California, Berkeley, (2)University of California - Berkeley. *Fitting complex population models by combining particle filters with markov chain Monte Carlo.*
- 10:30 AM COS 97-8 Minchin, PR¹ and J Oksanen², (1)Southern Illinois University Edwardsville, (2)University of Oulu. *When weakness is a strength: The importance of primary tie-treatment in nonmetric multidimensional scaling ordination of community data with high beta diversity.*
- 10:50 AM COS 97-9 Scranton, K and P de Valpine, University of California - Berkeley. *Modelling variable development using shared frailty models for interval-censored data.*
- 11:10 AM COS 97-10 Green, MB¹, DC Buso², JL Campbell³, CR Levine⁴, GE Likens² and RD Yanai⁴, (1)Plymouth State University, (2)Cary Institute of Ecosystem Studies, (3) USDA Forest Service, (4)SUNY College of Environmental Science and Forestry. *Long-term trends in uncertainty of element fluxes at the Hubbard Brook Experimental Forest.*

COS 98 - Population Dynamics and Regulation II

13, Austin Convention Center

- 8:00 AM COS 98-1 McCaffery, RM and K Lips, University of Maryland. *Survival in two neotropical frog species prior to a disease outbreak.*
- 8:20 AM COS 98-2 Brouwer, N¹ and S Kalisz², (1)University of Pittsburgh, (2)University of Pittsburgh. *Herbivory and dormancy generate cyclic dynamics in a population of perennial forest herbs.*
- 8:40 AM COS 98-3 Hultine, KR, Northern Arizona University. *Herbivory-induced mortality increases with radial growth in a dominant riparian phreatophyte.*
- 9:00 AM COS 98-4 Linnerud, M¹, BE Sæther¹, V Grøtan¹, DG Noble² and RP Freckleton³, (1)Norwegian University of Science and Technology, (2)British Trust for Ornithology, (3)University of Sheffield. *Interspecific differences in population dynamics produce Taylor's power law for the scaling of the variance to the mean population size of British birds.*
- 9:20 AM COS 98-5 Budy, P, C Luecke and GP Thiede, Utah State University. *Why does population structure fluctuate in lentic Arctic char populations while abundance remains stable?*
- 9:40 AM Break
- 9:50 AM COS 98-6 Schmidt, KA, Texas Tech University. *Prospecting and philopatry to safe sites produces site-dependent population regulation.*
- 10:10 AM COS 98-7 Ferguson, JM, University of Florida. *A new analysis on environmental autocorrelation values in animal populations.*
- 10:30 AM COS 98-8 Goodwin, BJ¹, E Schaubert², CG Jones³ and RS Ostfeld³, (1)University of North Dakota, (2)Southern Illinois University Carbondale, (3)Cary Institute of Ecosystem Studies. *Population persistence via spatial selection under dynamic patterns of risk.*
- 10:50 AM COS 98-9 Amarasekare, P, University of California, Los Angeles. *Predicting the risk of extinction due to climate warming in ectotherms.*
- 11:10 AM COS 98-10 Walsh, RP and HJ Michaels, Bowling Green State University. *Population Dynamics of the long-lived terrestrial Orchid, *Cypripedium candidum*.*

COS 99 - Ecosystem Function I

16A, Austin Convention Center

- 8:00 AM COS 99-1 Corman, J¹, E Carlson², S Chandra³, M Dix⁴, E Rejmánková², A Roegner², J Vésela⁵ and J Elser¹, (1) Arizona State University, (2)University of California, Davis, (3)University of Nevada, Reno, (4)Universidad del Valle de Guatemala, (5)University of South Bohemia. *Temporal dynamics of phytoplankton resource limitation, community composition, and toxin production in a large, deep, tropical lake.*
- 8:20 AM COS 99-2 Cable, JM¹, K Ogle², GA Barron-Gafford³, LP Bentley³, RL Scott⁴ and TE Huxman³, (1)University of Alaska, (2)Arizona State University, (3)University of Arizona, (4)USDA-ARS. *Shrub encroachment lengthens the memory of soil respiration to antecedent soil conditions.*
- 8:40 AM COS 99-3 Barron-Gafford, GA¹, JM Cable², LP Bentley¹, RL Scott³, TE Huxman¹ and K Ogle⁴, (1)University of Arizona, (2)University of Alaska, (3)USDA-ARS, (4) Arizona State University. *Quantifying endogenous and exogenous legacy effects (ecological memory) of soil respiratory efflux in response to abiotic and biotic drivers in a semiarid shrubland.*
- 9:00 AM COS 99-4 Gallagher, ME¹, CA Masiello¹, WC Hockaday², JA Baldock³, S Snapp⁴ and C McSwiney⁵, (1)Rice

University, (2)Baylor University, (3)CSIRO Land and Water, (4)Michigan State University, (5)Kellogg Biological Station. *Estimating oxidative ratio in US agricultural ecosystems.*

- 9:20 AM COS 99-5 Fox, RJ¹, TR Fisher¹, TM Kana¹, AB Gustafson¹ and TE Jordan², (1)Horn Point Laboratory, University of Maryland Center for Environmental Science, (2) Smithsonian Institution. *High-precision determination of the N⁺/Ar⁺ ratio in soil gases for measuring denitrification.*
- 9:40 AM Break
- 9:50 AM COS 99-6 Jordan, TE¹, AL Bullock¹, DC Brenner¹, TR Fisher², AB Gustafson², RJ Fox² and JJ Miklas¹, (1) Smithsonian Institution, (2)Horn Point Laboratory, University of Maryland Center for Environmental Science. *The search for the missing nitrogen: Estimating denitrification in whole watersheds from N₂ fluxes through agricultural drainage ditches.*
- 10:10 AM COS 99-7 Anderson-Teixeira, KJ¹, M Masters¹, M Zeri¹, CK Black² and EH DeLucia¹, (1)University of Illinois, (2) University of Illinois at Urbana-Champaign. *Enhanced belowground carbon cycling in perennial bioenergy crops.*
- 10:30 AM COS 99-8 Raich, JW, Iowa State University. *Temporal patterns of soil respiration in tropical forest plantations in lowland Costa Rica.*
- 10:50 AM COS 99-9 Stoy, PC¹, GG Katul², JY Juang³, KA Novick⁴, MBS Siqueira⁵, S Dore⁶, TE Kolb⁶, MC Montes-Helu⁶ and RL Scott⁷, (1)Montana State University, (2)Duke University, (3)National Taiwan University, (4)USDA-Forest Service, (5)Universidade de Brasília, (6)Northern Arizona University, (7)USDA-ARS. *Temperate forests tend to cool the land surface: Mechanisms controlling radiometric surface temperature change in managed ecosystems.*
- 11:10 AM COS 99-10 Schedlbauer, JL¹, SF Oberbauer², G Starr³ and KL Jimenez⁴, (1)West Chester University, (2)Florida International University, (3)University of Alabama, (4) University of Wisconsin. *Latent and sensible heat fluxes in a short hydroperiod Everglades wetland.*

COS 100 - Distributions and Range Limits

18A, Austin Convention Center

- 8:00 AM COS 100-1 Ries, L¹, JB Turner¹, K Oberhauser², R Betalden², T Mueller¹ and LG Crozier³, (1)University of Maryland, (2)University of Minnesota, (3)NOAA Fisheries. *The value of mechanistic models for understanding species' ranges.*
- 8:20 AM COS 100-2 McGill, BJ¹ and MM Humphries², (1) University of Maine, (2)McGill University. *Liebig's law meets species ranges - a new species distribution model.*
- 8:40 AM COS 100-3 Serra-Diaz, JM¹, T Keenan², M Ninyerola¹, F Lloret³, S Sabate⁴ and CA Gracia⁵, (1)Universitat Autònoma de Barcelona, (2)Harvard University, (3) CREA-F-Autonomous University of Barcelona, (4) Universitat de Barcelona, (5)Universidad de Barcelona. *Informative incongruences between niche based models and process based models.*
- 9:00 AM COS 100-4 Strauss, SY¹ and NI Cacho², (1)University of California, Davis, (2)UC Davis. *The role of enemies and conspicuousness in edaphic adaptation.*
- 9:20 AM COS 100-5 Cacho, NI¹ and SY Strauss², (1)UC Davis, (2) University of California, Davis. *The role of competition in serpentine specialization in a clade of Californian mustards.*
- 9:40 AM Break
- 9:50 AM COS 100-6 Prigge, BA¹, TR Huggins², R Sharif¹ and PW Rundel¹, (1)University of California, Los Angeles, (2) University of California Los Angeles. *Bottom-up effects of*

8 am-11:30 am

edaphics on adjacent Mojave Desert shrub communities, and the distribution of the edaphic endemic, Astragalus jaegerianus Munz.

- 10:10 AM COS 100-7 Duncan, AM, City of Austin. *Watershed scale predictors of freshwater mussel distribution in Austin, Texas.*
- 10:30 AM COS 100-8 Avilés, L, University of British Columbia. *Intrinsic and extrinsic factors in social evolution and the geographical distribution of spider sociality.*
- 10:50 AM COS 100-9 Gallice, GR, University of Florida. *The relationship between abundance and range-size in Neotropical butterflies (Nymphalidae: Ithomiini).*

COS 101 - Restoration Ecology I

18B, Austin Convention Center

- 8:00 AM COS 101-1 Espeland, EK¹, D Hammond², M Horning³ and R Johnson⁴, (1)USDA ARS PMRU, (2)Agnes Scott College, (3)USDA Forest Service, (4)USDA Agricultural Research Service. *Maternal effects in *Poa secunda*: Implications for the production of restoration seed.*
- 8:20 AM COS 101-2 Faist, AM, SK Collinge and C Ray, University of Colorado. *Characterization of soil seed banks in California vernal pools: Links to restoration success.*
- 8:40 AM COS 101-3 Willand, JE, SG Baer, DJ Gibson and RP Klopf, Southern Illinois University Carbondale. *Temporal changes in seed and bud banks as sources of new propagules during prairie restoration.*
- 9:00 AM COS 101-4 Baer, SG, DJ Gibson, RP Klopf, AM Lambert, LK Reed, JE Willand and BR Wodika, Southern Illinois University. *Hierarchical consequences of cultivar and local propagules on community assembly and ecosystem functioning in restoration.*
- 9:20 AM COS 101-5 Schaberg, PG¹, TM Saielli², GJ Hawley², JM Halman² and KM Gurney³, (1)USDA Forest Service, (2)University of Vermont, (3)The American Chestnut Foundation. *Nut cold hardiness as a factor influencing the restoration of American chestnut in the northeastern United States.*
- 9:40 AM Break
- 9:50 AM COS 101-6 Klopf, RP and SG Baer, Southern Illinois University Carbondale. *The effect of propagule source and diversity on restored prairie community structure across a precipitation gradient.*
- 10:10 AM COS 101-7 Reagan, KM, University of Washington. *Seed limitation and microsite limitation at Tenalquot Praire, in Western Washington.*
- 10:30 AM COS 101-8 Sworen, G, M Haas, A Cheehan and KM Klemow, Wilkes University. *Inhibition of woody colonization on a reclaimed anthracite mine: Seed rain and seed bank dynamics.*
- 10:50 AM COS 101-9 Hamman, ST¹, JD Bakker² and EG Delvin¹, (1) The Nature Conservancy, (2)University of Washington. *Determining the most efficient and effective large-scale native seeding techniques in degraded prairies.*
- 11:10 AM COS 101-10 Gabler, CA and E Siemann, Rice University. *Predicting variable reinvasion pressure in restorations of exotic-plant invaded ecosystems: Field-testing a new model emphasizing propagule pressure and abiotic variation.*

COS 102 - Conservation Planning, Policy, and Theory II

18C, Austin Convention Center

- 8:00 AM COS 102-1 Petersen, BC, Michigan State University. *Tradeoffs in incorporating conservation science into efforts advancing climate change adaptation: The case of Australia's Great Eastern Ranges Initiative.*

- 8:20 AM COS 102-2 Armsworth, PR¹, J Booth², L Cantu-Salazar³, ZG Davies⁴, M Parnell⁵ and R Stoneman⁶, (1)University of Tennessee, (2)Sheffield Hallam University, (3)University of Sheffield, (4)University of Kent, (5)En:Mapping, (6) Yorkshire Wildlife Trust. *Opportunities for cost-sharing in conservation: Spatial variation in volunteering effort on protected areas.*
- 8:40 AM COS 102-3 Carter, NH, J' Liu, SJ Riley, H Campa III and A Shortridge, Michigan State University. *Integrating natural and human dimensions to advance tiger conservation in South Asia.*
- 9:00 AM COS 102-4 Dorning, MA, DA Shoemaker, W Tang and RK Meentemeyer, University of North Carolina at Charlotte. *Simulating land change scenarios to resolve urbanization-conservation conflicts at the edge of metropolis.*
- 9:20 AM COS 102-5 Schloss, CA¹, M Case¹, J Delap¹, DM Evans¹, SA Hall², J Langdon², ER Larson¹, JJ Lawler¹, B McRae² and H Papendick¹, (1)University of Washington, (2)The Nature Conservancy. *Systematic conservation planning for an uncertain future: An evaluation of an abiotic facet-based approach in the Columbia Plateau Ecoregion.*
- 9:40 AM Break
- 9:50 AM COS 102-6 Brown, LB, LM da Rocha, LVB Maciel and MZ Cardoso, Federal University of Rio Grande do Norte. *Biological corridor analysis and Potential for Conservation in Brazil's northern Atlantic forest.*
- 10:10 AM COS 102-7 Rowland, J, University of North Texas. *Environmental values and assisted colonization: A reply to Sandler.*
- 10:30 AM COS 102-8 Tyre, AJ, S Michaels and R Rebarber, University of Nebraska-Lincoln. *Risk and uncertainty unplugged: Integrating perspectives from across disciplines.*
- 10:50 AM COS 102-9 Andersen, R, Fordham University. *Images and Narratives of Sustainable Travel: Communicating Ecotourism and Environmental Awareness.*
- 11:10 AM COS 102-10 Withey, JC¹, JJ Lawler¹, S Polasky², AJ Plantinga³, EJ Nelson⁴, VC Radeloff⁵, D Helmers⁵, CB Wilsey¹, CA Schloss¹, T Nogueira⁶, A Ruesch¹ and J Ramos Jr.⁷, (1)University of Washington, (2)University of Minnesota, (3)Oregon State University, (4)Bowdoin College, (5)University of Wisconsin-Madison, (6) University of California Santa Barbara, (7)Arizona State University. *Maximizing return on conservation investment in the conterminous U.S.*

COS 103 - Physiological Ecology III

18D, Austin Convention Center

- 8:00 AM COS 103-1 Posada, JM, AC Rey and R Fayad, University of El Rosario. *A simple theoretical framework to explain leaf acclimation to light availability: Implications for the evolution of plant form and function.*
- 8:20 AM COS 103-2 Pasquini, SC¹, SJ Wright² and LS Santiago¹, (1)University of California, (2)Smithsonian Tropical Research Institute. *Are lianas physiologically and morphologically different from trees at the seedling stage? An evaluation using a long-term nutrient enrichment study.*
- 8:40 AM COS 103-3 Poorter, L¹, L Markesteijn² and F Sterck¹, (1)Wageningen University, (2)University of Wisconsin. *Functional traits and tradeoffs determine drought tolerance and niche differentiation of tropical tree species.*
- 9:00 AM COS 103-4 Goldsmith, GR¹, KA Simonin² and TE Dawson³, (1)University of California, Berkeley, (2)The University of Sydney, (3)UC Berkeley. *Drought impacts tropical montane plant growth and physiology.*
- 9:20 AM COS 103-5 Zinnert, JC¹, J Nelson², JE Anderson¹ and DR Young³, (1)US Army Corps of Engineers, (2)US Army

Corps of Engineers -ERDC, (3)Virginia Commonwealth University. *Why plants are the bomb: Discriminating explosives from natural environmental stresses.*

9:40 AM Break

9:50 AM COS 103-6 Song, X and B Helliker, University of Pennsylvania. *Inter-specific variation in stable oxygen isotope ratios of tree-ring cellulose among co-occurring tree species in a temperate forest.*

10:10 AM COS 103-7 Williams, DG¹, D Bronson², N English³, H Powers³ and NG McDowell³, (1)University of Wyoming, (2)University of Pennsylvania, (3)Los Alamos National Laboratory. *Low internal CO₂ conductance increases carbon isotope discrimination during nighttime CO₂ fixation in columnar cacti.*

10:30 AM COS 103-8 Aubrey, DP¹, RO Teskey¹ and RJ Mitchell², (1)University of Georgia, (2)Joseph W. Jones Ecological Research Center. *Stored carbon decouples the linkage between recent photosynthate and soil CO₂ efflux in frequently disturbed ecosystems.*

10:50 AM COS 103-9 Gremer, JR¹, S Kimball¹, TE Huxman¹, AL Angert² and DL Venable¹, (1)University of Arizona, (2) Colorado State University. *Variation in photosynthetic response to temperature through time in a guild of winter annuals.*

11:30 am-1:15 pm

ESA Diversity Luncheon

Ballroom F, Austin Convention Center

WK 37 - Things They Don't Typically Teach You in Grad

School: Peer-Review Inside-Out--FREE

5, Austin Convention Center

Organized by: R Salguero-Gomez (salguero@sas.upenn.edu), N Zimmerman, J Ramos Jr., S Silver

Moderator: R Salguero-Gomez

Reviewing manuscripts is a crucial, but often untaught component of being a research scientist. In this workshop, the editors-in-chief of the most prestigious journals in ecology will provide insight into the review process and participants will gain techniques to objectively and efficiently review other papers and improve their own.

Speakers:

DR Strong, University of California, Davis

P Craze, University of Sussex

M Hutchings, University of Sussex

M Holyoak, University of California, Davis

AM Ellison, Harvard University

EA Johnson, University of Calgary

D Peters, USDA Agricultural Research Service

MA McPeck, Dartmouth College

CW Osenberg, University of Florida

WK 38 - Show me the money: How to write successful

student grant proposals--FREE

4, Austin Convention Center

Organized by: J Talbot, G Wang, SR Dooley

This workshop is designed for graduate students to learn techniques for writing successful research grant proposals in the ecological sciences. The workshop will feature a panel that includes a funding agency representative, proposal reviewers, and awardees who will discuss strategies for preparing an innovative, highly competitive, and complete proposal package.

Speakers:

S Twombly, National Science Foundation

Earth Stewardship: Preserving and enhancing earth's life support systems

8 am-11:30 am; 11:30 am-1:15 pm; 1:30 pm-5 pm

WK 39 - EcoSummit 2012

8, Austin Convention Center

Summary of EcoSummit.

1:30 pm-5 pm

SYMP 19 - Integrating Evolution into Policy: Improved Science-Based Decision-Making for Environmental Stewardship

Ballroom C, Austin Convention Center

Organized by: CE Ridley (ridley.caroline@epa.gov)

Moderator: CE Ridley

Evolutionary processes and paradigms are rarely explicitly accounted for or integrated into US environmental policy. This symposium addresses why and how evolution can inform policy to improve environmental stewardship.

1:30 PM SYMP 19-1 Donoghue, M, Yale University. *Can evolution contribute to better environmental management and stewardship?*

1:50 PM SYMP 19-2 Neel, MC¹, LG Campbell² and S Ziegler³, (1) University of Maryland, (2)Rice University, (3)University of Maryland, College Park. *Genetic risk and endangered species: Linking science and recovery.*

2:10 PM SYMP 19-3 Markert, J¹, CW Brown¹, M Bagley², DE Nacci³, JS Gear³ and RN Fisher¹, (1)US Department of the Interior, (2)US Environmental Protection Agency, (3) US EPA - Atlantic Ecology Division. *Genetic diversity and population resilience.*

2:30 PM SYMP 19-4 Lee, CE, University of Wisconsin. *Rapid evolution during habitat invasions.*

2:50 PM SYMP 19-5 Brunet, J, Dept. of Entomology. *Linking evolutionary research to policy decision-making: Examples from transgenic crops.*

3:10 PM Break

3:20 PM SYMP 19-6 Watson, CA, U.S. Fish and Wildlife Service. *Evolution and conservation: A case study of endangered karst invertebrates.*

3:40 PM SYMP 19-7 Linder, CR, University of Texas. *Trying to get it right without new laws: Problems and constraints on incorporating science into pre-existing regulatory frameworks.*

4:00 PM SYMP 19-8 Doremus, H, University of California Berkeley. *Institutional learning and regulatory evolution.*

4:20 PM Panel Discussion

SYMP 20 - Warfare Ecology: Impacts of Conflict on Environmental Security and Stewardship

Ballroom G, Austin Convention Center

Organized by: C Duke (csduke@esa.org), E Meléndez, J Porter

Endorsed by: Science Committee

Moderator: C Duke

This symposium explores the emerging field of warfare ecology, which seeks to understand the environmental origins and consequences of armed conflict, and apply this knowledge in ways that support peace, security, and sustainability.

1:30 PM SYMP 20-1 Machlis, G, University of Idaho. *Warfare ecology: An introduction.*

1:50 PM SYMP 20-2 Smallwood, PD, University of Richmond. *Warfare ecology: Lessons from Afghanistan.*

2:10 PM SYMP 20-3 Porter, JW¹ and JV Barton², (1)University of Georgia, (2)Underwater Ordnance Recovery, Inc.. *Sea-dumped munitions: A general problem and a case study on Vieques Island, Puerto Rico.*

1:30 pm-5 pm

- 2:30 PM SYMP 20-4 Rey, M, Michigan State University. *An overview of current US Department of Defense initiatives to reduce mission conflicts with endangered species conservation.*
- 2:50 PM Break
- 3:00 PM SYMP 20-5 Doe, W, Colorado State University. *The ecology of military lands in the US: Conflicts and collaboration in warfare preparations.*
- 3:20 PM SYMP 20-6 Hernandez-Delgado, EA¹, J Oms-Hernandez², AH Alvarado-Alvarado¹, R Hernandez-Pacheco¹, A Mercado-Molina¹, S Suleiman-Ramos³ and MA Lucking⁴, (1)University of Puerto Rico, (2)U.S. Geological Survey, (3)Sociedad Ambiente Marino, (4)CORALations, Inc.. *The fishy and untold stories of bomb-cratered coral reefs in Culebra Island, Puerto Rico: From social injustice and massive destruction, to community-based ecological rehabilitation.*
- 3:40 PM SYMP 20-7 Meléndez, E, University of Puerto Rico. *Professional training and graduate education needs for warfare ecology.*
- 4:00 PM SYMP 20-8 Liotta, PH, United States Military Academy. *Policy implications of warfare ecology.*
- 4:20 PM Discussion

SYMP 21 - Connecting the Dots from Polar and Hot Desert Ecosystems: What Climate Changes in Extreme Environments Tell Us

Ballroom E, Austin Convention Center

Organized by: UN Nielsen, DH Wall

Moderator: UN Nielsen

In extreme ecosystems, climate change impacts are magnified. Using knowledge gained from these rapidly changing ecosystems can prove valuable for predicting changes in other ecosystems. This symposium presents a synthesis integrating scientific disciplines across three ecosystems that have similarities in temperature and moisture effects.

- 1:30 PM Introductory Remarks
- 1:35 PM SYMP 21-1 Peters, D, USDA Agricultural Research Service. *Responses to climate change in hot desert ecosystems: Connecting local to global scales.*
- 2:05 PM SYMP 21-2 Convey, P, British Antarctic Survey. *Impacts of climate change on biota in the Arctic and Antarctic.*
- 2:25 PM SYMP 21-3 Welker, JM¹, PF Sullivan¹, C Czimczik², A Csank¹, S Cahoon³, E Sharp¹, M Rogers¹, L Ebbs¹, A Anderson-Smith¹ and E Post³, (1)University of Alaska Anchorage, (2)University of California, Irvine, (3) Pennsylvania State University. *Influence of experimental climate changes and herbivores on C & N processes in arctic Alaska and western Greenland.*
- 2:45 PM SYMP 21-4 Barrett, JE¹, BJ Adams², BA Ball³, UN Nielsen⁴, RA Virginia⁵ and DH Wall⁴, (1)Virginia Tech, (2)Brigham Young University, (3)Arizona State University at the West Campus, (4)Colorado State University, (5)Dartmouth College. *Influence of climate variation on soil ecosystems of the McMurdo Dry Valleys, Antarctica.*
- 3:05 PM Break
- 3:15 PM SYMP 21-5 Gooseff, MN, Pennsylvania State University. *How are polar ecosystems responding to changing climate? The role of hydrology in mediation and facilitation.*
- 3:35 PM SYMP 21-6 Wall, DH¹, BJ Adams², UN Nielsen¹ and RA Virginia³, (1)Colorado State University, (2)Brigham Young University, (3)Dartmouth College. *Can climate change in extreme ecosystems inform future scenarios of soil biodiversity.*
- 3:55 PM SYMP 21-7 Schlesinger, WH, Cary Institute of Ecosystem

Studies. *Summary and envoi: Why dry, low productivity systems matter?.*

4:15 PM Discussion

OOS 39 - Pair Power: Collaboration with ESA's Next Generation of Ecologists (i.e. undergraduates) as Evidence of Earth Stewardship

16B, Austin Convention Center

Organized by: R Burks (burksr@southwestern.edu)

Moderator: AC McCall

Organized by the Researchers at Primarily Undergraduate Institutions Section (R-PUJ), this novel session will feature pair presentations given by undergraduate researchers with their mentors that touch on multiple aspects of earth stewardship.

- 1:30 PM OOS 39-1 Avery, L and AC McCall, Denison University. *Do changes in temperature correlate with changes in butterfly communities over a 30-year period in California?.*
- 1:50 PM OOS 39-2 Davis, MA and A Colehour, Macalester College. *The role of dispersal limitation and site invasibility in the spread of garlic mustard.*
- 2:10 PM OOS 39-3 Herron, SM and J Byers, Ferris State University. *TEK combined with laboratory research on wild rice is driving the restoration of the wild rice culture and ecosystems.*
- 2:30 PM OOS 39-4 Burks, RL, AK Plantz, ME Rice and T Day, Southwestern University. *Living on the edge: Potential fates of apple snail (Pomacea insularum) eggs laid on emergent variation in riparian areas.*
- 2:50 PM OOS 39-5 Rettig, JE and JH Clemmer, Denison University. *An experimental analysis of foraging and aggressive behavior between mosquitofish and bluegill.*
- 3:10 PM Break
- 3:20 PM OOS 39-6 Haberman, KL and JD Lewis, Western Oregon University. *Response of invertebrate communities to dike removal in the Salmon River estuary: A model for undergraduate involvement in estuarine research.*
- 3:40 PM OOS 39-7 Itz, B and WJ Quinn, St. Edward's University. *Interactions between spotted knapweed (Centaurea stoebe), predatory biocontrol insects, and landscape effects in Boulder County, Colorado.*
- 4:00 PM OOS 39-8 Cromartie, WJ, Richard Stockton College. *Collaborative research on trends in biodiversity in the NJ Pine Barrens.*
- 4:20 PM OOS 39-9 Rhode Ward, J, JS Francis, JL Horton and HD Clarke, University of North Carolina at Asheville. *Creating a research-infused botanical curriculum at a public liberal arts university.*

OOS 40 - Nitrogen Deposition Alters Terrestrial Biodiversity: Patterns, Causes and Potential Consequences

17A, Austin Convention Center

Organized by: WD Bowman

Moderator: WD Bowman

This session will explore the patterns of changes in biodiversity in terrestrial ecosystems and the potential consequences for those changes, including ecosystem function, plant-consumer interactions, community invasibility, and disease dynamics.

- 1:30 PM OOS 40-1 Clark, C, AAAS. *Patterns of species loss associated with N deposition: Thresholds and reversibility.*
- 1:50 PM OOS 40-2 Nemergut, D¹, J Jennett¹, L Philippot², K Schimel¹, TR Seastedt³, PG Taylor⁴, AR Townsend⁵, C Washenberger¹, WR Wieder⁵ and DR Zak⁶, (1)University of Colorado, (2)INRA-Université de Bourgogne, (3)

- University of Colorado at Boulder, (4)Institute of Arctic and Alpine Research, University of Colorado at Boulder, (5)University of Colorado, Boulder, (6)University of Michigan. *Responses of soil microbes to N deposition: Implications for ecosystem function.*
- 2:10 PM OOS 40-3 Stevens, CJ, The Open University. *Ecosystem responses of European semi-natural habitats to nitrogen deposition.*
- 2:30 PM OOS 40-4 Suding, KN¹, EC Farrer², S Hicks³, A Porrás-Alfaro⁴ and MJ Spasojevic⁵, (1)University of California at Berkeley, (2)University of California, Berkeley, (3) University of New Mexico, (4)Western Illinois University, (5)University of California Davis. *Winners and losers in response to nitrogen deposition: The roles of resource competition, abundance, and microbial interactions in diversity decline.*
- 2:50 PM OOS 40-5 Throop, HL¹ and M Lerdau², (1)New Mexico State University, (2)University of Virginia. *Is nitrogen deposition manna for herbivores?.*
- 3:10 PM Break
- 3:20 PM OOS 40-6 Allen, EB¹, LE Rao² and RJ Steers², (1) University of California, Riverside, (2)University of California, Riverside. *Linking N deposition to invasive plant biomass, fires, and diversity loss in the California deserts.*
- 3:40 PM OOS 40-7 Johnson, PT¹ and AR Townsend², (1) University of Colorado, (2)University of Colorado, Boulder. *Understanding the link between changing nutrient cycles and the risk of infectious disease.*
- 4:00 PM OOS 40-8 Entwistle, EE and DR Zak, University of Michigan. *Elevated atmospheric N deposition alters composition of forest floor fungal communities.*
- 4:20 PM OOS 40-9 Tulloss, EM and ML Cadenasso, UC Davis. *Nitrogen deposition and early growth of native and exotic grasses of the California oak savanna.*
- 4:40 PM OOS 40-10 Gan, H, MD Hunter and DR Zak, University of Michigan. *Chronic atmospheric N deposition decreases microarthropod density in a northern hardwood ecosystem.*

OOS 41 - Ecological Applications of Machine Learning

17B, Austin Convention Center

Organized by: BA Han (han@uga.edu), JM Drake

Moderator: BA Han

This session comprises a series of sophisticated and complementary case studies illustrating how complex and previously intractable research questions in a variety of study systems were successfully investigated by applying machine learning tools to ecological data.

- 1:30 PM OOS 41-1 Maher, SP¹, JM Drake¹, A Guisan² and CF Randin³, (1)University of Georgia, (2)University of Lausanne, (3)University of Basel. *One-class and two-class classification as methods for ecological niche modeling.*
- 1:50 PM OOS 41-2 Freeman, R, Microsoft Research. *Predicting behavior at sea: Machine learning approaches to understanding the behavior of pelagic seabirds.*
- 2:10 PM OOS 41-3 Keller, RP¹, D Kocev² and S Džeroski², (1)University of Chicago, (2)Jožef Stefan Institute. *Trait-based risk assessment for invasive species: High performance across diverse taxonomic groups, geographic ranges, and machine learning/statistical tools.*
- 2:30 PM OOS 41-4 Drake, JM, University of Georgia. *Computational methods for identifying structure in ecological networks.*
- 2:50 PM OOS 41-5 Sheldon, D¹, E Goldman², E Childs³, O Poblacion¹, JC Miller¹, JA Jones¹ and TG Dietterich¹, (1)Oregon State University, (2)Boston University,

(3)Pomona College. *Inferring moth emergence from abundance data: A novel mathematical approach using birth-death contingency tables.*

- 3:10 PM Break
- 3:20 PM OOS 41-6 Vallejo, E, Instituto Tecnológico y de Estudios Superiores de Monterrey. *Sensor arrays for acoustic monitoring of bird behavior and diversity. Preliminary results on source identification using unsupervised learning methods.*
- 3:40 PM OOS 41-7 Schmidt, JP and JM Drake, University of Georgia. *Rare plant to pest plant: Can traits predict where vascular species fall along this continuum?.*
- 4:00 PM OOS 41-8 Langford, B, Royal Melbourne Institute of Technology. *Using machine learning to predict and reduce spatial error in systematic conservation planning under uncertainty.*
- 4:20 PM OOS 41-9 Davidson, AD, Universidad Nacional Autónoma de México. *Multiple ecological pathways to extinction in marine and terrestrial mammals.*

OOS 42 - Microbial Responses to Moisture Availability: Scaling up from Physiology to Ecosystem-Level Processes

12A, Austin Convention Center

Organized by: SN Kivlin, CM Boot, SM Schaeffer

Moderator: BG Waring

The overarching goal of this session is to synthesize knowledge gained from model simulations, laboratory incubation experiments, and field studies, to produce a more coherent framework with which to link moisture driven ecophysiology of soil microorganisms to ecosystem level processes.

- 1:30 PM OOS 42-1 Wallenstein, MD, S Evans and JM Steinweg, Colorado State University. *The surprising role of extracellular enzymes in soil microbial responses to altered precipitation patterns.*
- 1:50 PM OOS 42-2 German, DP and SD Allison, University of California. *The interaction of substrate concentration and moisture level in decomposition.*
- 2:10 PM OOS 42-3 Schaeffer, SM¹, CM Boot², D Roux-Micholett¹ and JP Schimel¹, (1)University of California Santa Barbara, (2)Colorado State University. *Seasonal drought, microbial threshold responses, and biogeochemical cycles in Mediterranean ecosystems.*
- 2:30 PM OOS 42-4 Manzoni, S¹, JP Schimel² and A Porporato¹, (1)Duke University, (2)University of California, Santa Barbara. *Physical vs. physiological controls on water-stress in soil microbial communities.*
- 2:50 PM OOS 42-5 Allen, MF, University of California, Riverside. *The role of hydraulic lift on mycorrhizal-mediated dynamics.*
- 3:10 PM Break
- 3:20 PM OOS 42-6 Bouskill, NJ, U Karaoz, B Bowen, R Baran, TR Northen and E Brodie, Lawrence Berkeley National Laboratory. *Uncovering the mechanistic basis for soil microbial community response to altered precipitation patterns.*
- 3:40 PM OOS 42-7 Williams, MA¹, M Kakumanu² and D Beard², (1)Virginia Tech University, (2)Mississippi State University. *Microorganisms, molecules, and moisture: Drought induced soil community dynamics and their impact on ecosystem function.*
- 4:00 PM OOS 42-8 Schimel, JP¹, CM Boot², C Lawrence³, X Li⁴, D Roux-Michollet⁵, SM Schaeffer⁶ and M Wetterstedt⁷, (1)University of California, Santa Barbara, (2)Colorado State University, (3)University of Colorado, (4)State Key Laboratory of Urban and Regional Ecology, (5)

1:30 pm-5 pm

Bren School, (6)University of California Santa Barbara, (7)Swedish University of Agricultural Sciences. *Effects of drying and rewetting cycles on microbial community composition and C and N mineralization.*

- 4:20 PM OOS 42-9 Peralta, AL¹, JW Matthews², E Johnston¹, S Ludmer¹ and AD Kent¹, (1)University of Illinois at Urbana-Champaign, (2)Illinois Natural History Survey. *Abiotic controls on community structure and function of nitrogen cycling microorganisms in wetland ecosystems.*
- 4:40 PM OOS 42-10 Stanish, LF¹ and D McKnight², (1)Colorado State University, (2)University of Colorado. *Hydrologic controls on diatom community composition in microbial mats in dry valley streams: responses to extreme flows and sustained dessication.*

OOS 43 - Novel Applications of High-Frequency Sensor Data in Aquatic Ecosystems: Discoveries from GLEON, the Global Lakes Ecological Observatory Network

14, Austin Convention Center

Organized by: CC Carey, PC Hanson

Moderator: CC Carey

Our session highlights novel approaches to integrate sensor data into ecological research to advance our understanding of aquatic ecosystems.

- 1:30 PM OOS 43-1 PC Hanson, University of Wisconsin. *Dissolved oxygen from 20 lake observatories: Changing drivers from minutes to months.*
- 1:50 PM OOS 43-2 Bertilsson, S, Uppsala University. *Finding and sensing environmental drivers of freshwater microbial communities.*
- 2:10 PM OOS 43-3 Smyth, RL, Smithsonian Environmental Research Center. *Diurnal mixed layer dynamics: Insights from high frequency sensor data.*
- 2:30 PM OOS 43-4 Rose, KC¹, CE Williamson¹, JE Saros² and CEH Kissman¹, (1)Miami University, (2)University of Maine. *Understanding allochthony: New techniques and tools.*
- 2:50 PM OOS 43-5 Bruesewitz, DA¹, DC Richardson², KC Rose³, CT Solomon⁴ and MC Van de Bogert⁵, (1)University of Texas at Austin, (2)SUNY New Paltz, (3)Miami University, (4)McGill University, (5)University of Wisconsin. *Drivers of pelagic metabolism: Evidence from high-frequency free-water measurements in lakes around the globe.*
- 3:10 PM Break
- 3:20 PM OOS 43-6 Holtgrieve, GW¹, S Sadro², CT Solomon³ and G Koch⁴, (1)University of Washington, (2)University of California, Santa Barbara, (3)McGill University, (4)Florida International University. *Intra-diel patterns in ecosystem respiration revealed using continuous oxygen data from lakes around the globe.*
- 3:40 PM OOS 43-7 Kara, EL¹, PC Hanson², DP Hamilton³, L Winslow², M Hipsey⁴, KC Rose⁵, J Read¹, CC Carey⁶, KD McMahon⁷, S Bertilsson⁸, D da Motta Marques⁹, E Gaiser¹⁰, TR Miller¹¹, L Beversdorf⁷, C Wu⁷, YF Hsieh⁷ and T Kratz², (1)University of Wisconsin-Madison, (2)University of Wisconsin, (3)University of Waikato, (4)University of Western Australia, (5)Miami University, (6)Cornell University, (7)University of Wisconsin - Madison, (8)Uppsala University, (9)Universidade Federal do Rio Grande do Sul, (10)Florida International University, (11)University of Wisconsin - Milwaukee. *Time scale dependence in numerical simulations: Predicting physical, chemical, and biological patterns in Lake Mendota, WI from hours to weeks.*
- 4:00 PM OOS 43-8 Weathers, KC¹, DC Richardson², BJ Benson³, K Chiu⁴, A Zimmerman⁵ and J Fichter⁶, (1)Cary Institute

of Ecosystem Studies, (2)State University of New York at New Paltz, (3)University of Wisconsin-Madison, (4)SUNY Binghamton, (5)University of Michigan, (6)Lake Sunapee Protective Association. *Enhancing human passion and curiosity about lake ecosystem function: A case study of sensors, citizens, and cyberinfrastructure from Lake Sunapee, NH.*

OOS 44 - Examining Bottom-up and Top-Down Forces: Bringing together Aquatic and Terrestrial Perspectives

15, Austin Convention Center

Organized by: TC Hanley (torrance.hanley@yale.edu), KJ La Pierre

Moderator: TC Hanley

We aim to bridge the gap between aquatic and terrestrial studies examining the interactive effects of bottom-up and top-down forces by discussing observational, experimental, and theoretical research conducted across a broad range of ecosystems, including grasslands, tundra, rivers, lakes, and salt marshes.

- 1:30 PM OOS 44-1 Flecker, AS¹ and PB McIntyre², (1)Cornell University, (2)University of Wisconsin. *Consumers as ecosystem engineers in freshwater ecosystems: Linking top-down and bottom-up forces.*
- 1:50 PM OOS 44-2 Eby, SL, Princeton University. *The impact of burning on herbivore distributions: Examining the roles of bottom-up and top-down processes.*
- 2:10 PM OOS 44-3 Hall, SR¹, MP Holland² and CE Cáceres³, (1)Indiana University, (2)University of Michigan, Ann Arbor, MI, (3)University of Illinois. *Culling the sick and the young: How predators, resources, and stage structure interact to spread disease in hosts.*
- 2:30 PM OOS 44-4 Mooney, KA, RT Pratt and V Hanna, University of California. *Plant mediation of tritrophic interactions.*
- 2:50 PM OOS 44-5 La Pierre, KJ and MD Smith, Yale University. *The interactive effects of bottom-up and top-down forces vary across a broad grassland productivity gradient.*
- 3:10 PM Break
- 3:20 PM OOS 44-6 Gough, L, University of Texas at Arlington. *Interactions between top-down and bottom-up factors in arctic tundra plant communities.*
- 3:40 PM OOS 44-7 Pennings, S¹ and BR Silliman², (1)University of Houston, (2)University of Florida. *Comparing aquatic and terrestrial top-down forces on a single intertidal plant.*
- 4:00 PM OOS 44-8 Bartels, P¹, J Cucherousset², K Steger¹, P Eklöv¹, LJ Tranvik¹ and H Hillebrand³, (1)Uppsala University, (2)CNRS, UPS, ENFA, (3)University of Oldenburg. *Ecology across boundaries: Reciprocal subsidies between aquatic and terrestrial ecosystems structure consumer-resource dynamics.*
- 4:20 PM OOS 44-9 Bracken, MES¹ and NHN Low², (1)Northeastern University, (2)Brown University. *Keystones from the bottom up: Loss of rare species disproportionately impacts higher trophic levels.*
- 4:40 PM OOS 44-10 Donihue, CM¹, RM Pringle², J Foufopoulos¹, LE McGeoch³ and C Riginos⁴, (1)University of Michigan, (2)Stanford University, (3)University of California, Davis, (4)University of California. *Interaction cascades in anthropogenic glades: Adding habitat heterogeneity in an otherwise homogenous landscape across multiple spatial scales and trophic levels.*

OOS 45 - Aeroecology: An Emerging Discipline

16A, Austin Convention Center

Organized by: TH Kunz (kunz@bu.edu)

Moderator: TH Kunz

This session explores the emerging discipline of aeroecology by reviewing and synthesizing the ecological dynamics of organisms that depend on the atmosphere and innovative technologies for studying volant animals at multiple spatial and temporal scales.

1:30 PM OOS 45-1 Arnett, E, Bat Conservation International. *Impacts of wind-energy development on bats: Challenges and solutions.*

1:50 PM OOS 45-2 Chapman, JW, Rothamsted Research. *Flight behaviors promote optimal migration trajectories in high-flying moths.*

2:10 PM OOS 45-3 Chilson, PB¹, WF Frick², JF Kelly³, K Howard⁴ and TH Kunz⁵, (1)University of Oklahoma, (2)University of California, Santa Cruz, (3)Oklahoma Biological Survey & University of Oklahoma, (4)NOAA-NWS-NSSL, (5) Boston University. *Radar aeroecology: The need for cohesive radar studies of organisms in the atmosphere.*

2:30 PM OOS 45-4 Frick, WF¹, PB Chilson², K Howard³, JF Kelly⁴ and TH Kunz⁵, (1)University of California, Santa Cruz, (2)University of Oklahoma, (3)NOAA-NWS-NSSL, (4) Oklahoma Biological Survey & University of Oklahoma, (5)Boston University. *Meteorological drivers of predator-prey interactions in the atmosphere.*

2:50 PM OOS 45-5 Hristov, N¹, S Swartz², M Betke³ and TH Kunz³, (1)Winston-Salem State University, (2)Brown University, (3)Boston University. *Integrating novel technologies to understand the flight behavior of bats at different temporal and spatial scales.*

3:10 PM Break

3:20 PM OOS 45-6 Kelly, JF¹, JR Shipley², WF Frick³, K Howard⁴, PB Chilson² and TH Kunz⁵, (1)Oklahoma Biological Survey & University of Oklahoma, (2)University of Oklahoma, (3)University of California, Santa Cruz, (4) NOAA-NWS-NSSL, (5)Boston University. *Quantifying animal phenology in the atmosphere.*

3:40 PM OOS 45-7 Ruegg, KC, Center for Tropical Research. *Connecting the dots in migratory songbird conservation using feathers, isotopes and genetic analysis.*

4:00 PM OOS 45-8 Ulanovsky, N¹, R Nathan², Y Bartan³, G Dell'Omo⁴, AL Vyssotski⁵, Y Yovel¹ and A Tsoar³, (1) Weizmann Institute of Science, (2)The Hebrew University of Jerusalem, (3)Hebrew University of Jerusalem, (4) Ornithologica, (5)ETH Zurich. *Large-scale navigational map in a flying mammal: Evidence from GPS tracking of Egyptian fruit bats.*

4:20 PM OOS 45-9 Jedlicka, JA¹, R Greenberg² and DK Letourneau³, (1)University of California Santa Cruz, (2)Smithsonian Migratory Bird Center, (3)University of California-Santa Cruz. *Avian conservation practices strengthen ecosystem services in California vineyards.*

4:40 PM OOS 45-10 Trakhtenbrot, A¹, GG Katul² and RNathan¹, (1) The Hebrew University of Jerusalem, (2)Duke University. *Mechanistic modeling of landscape heterogeneity effects on the dispersal of plant seeds by wind.*

COS 104 - Stewardship, Education, and Outreach

Ballroom B, Austin Convention Center

1:30 PM COS 104-1 Rivera, R¹, AE Pérez-Quintero², DK Guzmán³, LB Lastra-Díaz⁴, SB Ocasio⁵, C Guerrero⁶, R Salazar², BD Castro-Escobar⁴ and B Otero⁷, (1)Northwestern University, (2)University of Puerto Rico - Río Piedras and SEEDS, (3)Northeastern Ecological Corridor, Coalition,

(4)University of Puerto Rico, Río Piedras Campus, (5) University of Puerto Rico, (6)Coalition Pro-Northeastern Ecological Corridor, (7)University of Puerto Rico Río Piedras Campus. *Progressive Ecology: Shifting the flow of conservation biology through involving communities in the Northeastern Ecological Corridor of Puerto Rico through research and its declaration of nature reserve.*

1:50 PM COS 104-2 Wright, BE, Clark University. *Measuring and mapping indices of biodiversity conservation effectiveness.*

2:10 PM COS 104-3 Fryxell, JM, University of Guelph. *Human-mediated source-sink dynamics in a forest carnivore.*

2:30 PM COS 104-4 Felson, AJ and MA Bradford, Yale University. *If you build it they will come: A new approach to urban ecological research.*

2:50 PM COS 104-5 Knapp, C¹ and FS Chapin III², (1)University of Alaska, Fairbanks, (2)University of Alaska Fairbanks. *Redefining citizen science: A catalyst to broaden the knowledge base and insights for sustainability in a rapidly changing world.*

3:10 PM Break

3:20 PM COS 104-6 Mitchell, RM, PA Rosenfield and EJ Hilton, University of Washington. *Engage: The Science Speaker Series - A novel approach to improving science outreach and communication.*

3:40 PM COS 104-7 Doll, JE¹ and CN Layman², (1)Michigan State University, (2)Michigan State University Extension. *Climate change education and outreach for agriculture through dialogue and deliberation.*

4:00 PM COS 104-8 Russell, AE, Iowa State University. *Extendsim rainforest simulation model: An interactive learning tool for middle-school children.*

4:20 PM COS 104-9 Goldsmith, GR¹, AD Fulton², CD Witherill³, EE Dukeshire⁴, JF Espeleta⁵, A Quiros-Arauz⁶ and TE Dawson⁷, (1)University of California, Berkeley, (2)Drew Fulton Photography, (3)Broadreach Images, (4)Orchard Gardens School, (5)Tropical Science Center, (6)Canopy in the Clouds, (7)UC Berkeley. *Canopy in the Clouds: An immersive, web-based platform for K-12 earth and life science education.*

4:40 PM COS 104-10 Bowie, D¹, R Shepard¹ and S Aghajanian², (1)Science and Engineering Alliance, (2)Demographic and Institutional Research. *Cultivating participation of underrepresented institutions and students in NEON science: The college speaking tour report.*

COS 105 - Behavior: Foraging and Diet II

Ballroom F, Austin Convention Center

1:30 PM COS 105-1 Rushmore, JL¹, SD Leonhardt² and CM Drea³, (1)University of Georgia, (2)University of Würzburg, (3)Duke University. *Sight or scent: Sensory reliance in detecting food quality by foraging lemurs reflects differing feeding ecologies.*

1:50 PM COS 105-2 Yeager, LA, CA Layman and CM Hammerschlag-Peyer, Florida International University. *Foraging trade-offs of a generalist fish predator viewed from the landscape-scale.*

2:10 PM COS 105-3 Boucek, RE and J Rehage, Florida International University. *Resource partitioning among fish mesoconsumers along a marsh-mangrove ecotone: A response to a pulsed seasonal resource subsidy.*

2:30 PM COS 105-4 McMeans, BC, University of Windsor. *Slow and stealthy? Evidence for individual differences in marine mammal consumption by Greenland sharks (*Somniosus microcephalus*) based on stable isotopes and fatty acids.*

2:50 PM COS 105-5 Snowberg, LK¹, KM Hendrix² and DI Bolnick¹,

1:30 pm-5 pm

(1)University of Texas at Austin, (2)New Deal High School. *Evidence for population level-variability in individual ecological specialization in the Three-spine Stickleback (*Gasterosteus aculeatus*)*.

3:10 PM Break

3:20 PM COS 105-6 Brown, AJ, San Diego State University. *Small mammal seed preference in coastal sage scrub communities: New technologies, new insights*.

3:40 PM COS 105-7 Lattanzio, MS and DB Miles, Ohio University. *Fire and the isotopic niche: Resource polymorphisms and phenotypic divergence among tree lizard populations in response to disturbance*.

4:00 PM COS 105-8 Caillaud, D¹, MC Crofoot² and LA Meyers¹, (1)The University of Texas at Austin, (2)Smithsonian Tropical Research Institute, Max Planck Institute for Ornithology Princeton University. *Folivores vie for abundant resources: How intrinsic and induced heterogeneities foster competition*.

4:20 PM COS 105-9 Beaulieu, M and KW Sockman, University of North Carolina at Chapel Hill. *Temporal trophic segregation between Lincoln's sparrows and White-crowned sparrows in a high elevation habitat*.

COS 106 - Abundance and Rarity

4, Austin Convention Center

1:30 PM COS 106-1 Grundel, R, KJ Frohnapple and NB Pavlovic, US Geological Survey. *Are avian abundance, diversity, and community composition explained by the same types of predictors?*

1:50 PM COS 106-2 Walker, KR, University of Ottawa. *From correlation to causation: The rarest drives biodiversity gradients*.

2:10 PM COS 106-3 Miller-Struttman, N, Washington University in St. Louis. *Stress-adaptation and competition for pollinators in Ozark glade endemic plants*.

2:30 PM COS 106-4 Dangremond, EM, University of California, Berkeley. *Shade and salt tolerance of rare, common and invasive mangroves*.

2:50 PM COS 106-5 Bradstreet, JL and DL Rogowski, Texas Tech University. *Habitat associations of native and invasive snails in the San Solomon Springs complex*.

3:10 PM Break

3:20 PM COS 106-6 Dexter, KG¹ and J Chave², (1)McGill University, (2)Centre National de la Recherche Scientifique. *Phylogenetic signal for extinction risk in Amazonian trees*.

3:40 PM COS 106-7 Pinsky, ML¹, OP Jensen², D Ricard³ and SR Palumbi¹, (1)Stanford University, (2)Rutgers University, (3)Dalhousie University. *Unexpected patterns of fisheries collapse in the world's oceans*.

4:00 PM COS 106-8 Warren, CC¹, JR Ott² and FW Weckerly¹, (1) Texas State University, (2)Texas State University-San Marcos. *Behavioral components of detection underlying bias in population estimation of the golden-cheeked warbler, *Dendroica chrysoparia**.

4:20 PM COS 106-9 Ray, C¹, K Sweazea² and J Wilkening³, (1) University of Colorado-Boulder, (2)Arizona State University, (3)University of Colorado. *Signs of demographic change and physiological stress in Rocky Mountain pikas*.

COS 107 - Biogeochemistry: New Paradigms in Biogeochem Cycling I

5, Austin Convention Center

1:30 PM COS 107-1 Wieder, WR¹, PG Taylor¹, CC Cleveland², D

Nemergut³, L Philippot⁴ and AR Townsend⁵, (1)Institute of Arctic and Alpine Research, University of Colorado at Boulder, (2)University of Montana, (3)University of Colorado, (4)INRA-Université de Bourgogne, (5) University of Colorado, Boulder. *Nitrogen cycling in wet tropical forests*.

1:50 PM COS 107-2 Batterman, SA¹, N Wurzburger² and L Hedin¹, (1)Princeton University, (2)University of Georgia. *Nitrogen, phosphorus, and the biogeochemical niche of symbiotic di-nitrogen fixers in tropical rainforests*.

2:10 PM COS 107-3 Wurzburger, N¹ and LO Hedin², (1)University of Georgia, (2)Princeton University. *Stoichiometry of multiple soil nutrients controls leguminous nitrogen fixation in a tropical forest*.

2:30 PM COS 107-4 Taylor, PG¹, WR Wieder¹, AR Townsend² and CC Cleveland³, (1)Institute of Arctic and Alpine Research, University of Colorado at Boulder, (2)University of Colorado, Boulder, (3)University of Montana. *Organic nitrogen loss dominates nitrogen export from a wet lowland tropical forest watershed*.

2:50 PM COS 107-5 Morford, SL, BZ Houlton and RA Dahlgren, University of California, Davis. *Bedrock nitrogen contributes to nitrogen fertility and carbon storage across temperate forest ecosystems*.

3:10 PM Break

3:20 PM COS 107-6 Yang, WH¹, KA Weber² and WL Silver¹, (1) University of California, Berkeley, (2)University of Nebraska. *Nitrogen loss from upland soil via anaerobic ammonium oxidation coupled to iron reduction*.

3:40 PM COS 107-7 Averill, C¹ and AC Finzi², (1)University of Texas at Austin, (2)Boston University. *Using Rayleigh isotope equations to predict Foliar ¹⁵Nitrogen signatures and quantify form of plant nitrogen uptake across biomes*.

4:00 PM COS 107-8 Houlton, BZ, University of California, Davis. *Spatial couplings between nitrogen fixation and denitrification in the terrestrial biosphere: An earth system hypothesis*.

4:20 PM COS 107-9 Brookshire, J¹, S Gerber², DNL Menge³ and LO Hedin³, (1)Montana State University, (2)University of Florida IFAS, (3)Princeton University. *Large losses of inorganic nitrogen from tropical rainforests suggest a lack of nitrogen limitation*.

4:40 PM COS 107-10 Keller, JK and C Anderson, Chapman University. *The importance of humic reduction in anaerobic microbial carbon cycling in peatland soils*.

COS 108 - Effects of Multiple Global Changes on Communities and Ecosystems

6A, Austin Convention Center

1:30 PM COS 108-1 Terry, RC¹, C Li² and EA Hadly², (1)University of California Santa Cruz, (2)Stanford University. *Predicting species responses to climatic warming: Autoecology, geographic range, and the holocene fossil record*.

1:50 PM COS 108-2 de Senerpont Domis, LN, NR Helmsing, E van Donk and WM Mooij, Netherlands Institute of Ecology (NIOO-KNAW). *Combined effects of warming and nutrient loading on an experimental phytoplankton community: Stoichiometric implications*.

2:10 PM COS 108-3 Hall, EK¹ and TJ Battin², (1)United States Geological Survey, (2)University of Vienna. *To flee or not to flee: The microbial response to changing temperature in a stream environment*.

2:30 PM COS 108-4 Freitag, A¹, M Hooper² and D Rittschof¹, (1) Duke University, (2)Hooper Seafood. *The Geography of Toxins: Mercury and PCBs in the daily catch*.

- 2:50 PM COS 108-5 Boersma, KS, MT Bogan and DA Lytle, Oregon State University. *Top predators versus the abiotic environment: What determines community structure in arid-land streams?*
- 3:10 PM Break
- 3:20 PM COS 108-6 Martone, RG, RW Markel and SJ Dick, University of British Columbia. *Assessing the influence of a re-introduced keystone predator on ecosystem resilience: The indirect effects of sea otters on kelp forest food web structure moderates fishing impacts.*
- 3:40 PM COS 108-7 Wragg, PD and D Tilman, University of Minnesota. *Experimental warming and plant species diversity and composition interactively influence seedling establishment.*
- 4:00 PM COS 108-8 Hines, J¹, TJ Mozder² and MO Gessner³, (1) EAWAG, (2) Smithsonian Environmental Research Center, (3) Leibniz Institute of Freshwater Ecology and Inland Fisheries. *Ecosystem response to climate change varies across a latitudinal gradient.*
- 4:20 PM COS 108-9 Fenstermaker, LF¹, DA Devitt², LS Saito³, JA Arnone III¹, F Biondi⁴, BR Riddle², MJ Walker³, RL Jasoni¹, S Strachan⁴, B Bird², G McCurdy¹ and B Lyles¹, (1) Desert Research Institute, (2) University of Nevada, Las Vegas, (3) University of Nevada, Reno, (4) University of Nevada. *Monitoring climate variability and change along two elevation gradients in the Mojave and Great Basin Deserts.*
- 4:40 PM COS 108-10 Concilio, AL and ME Loik, University of California. *Effects of global change on high elevation populations of *Bromus tectorum* in the eastern Sierra Nevada, CA.*
- COS 109 - Climate Change: Plants II**
6B, Austin Convention Center
- 1:30 PM COS 109-1 Hagenah, N¹, KP Kirkman¹ and MD Smith², (1) University of Kwazulu-Natal, (2) Yale University. *Alterations in rainfall amounts change productivity but not competition of key grasses in southern Africa.*
- 1:50 PM COS 109-2 Hoover, DL¹, AK Knapp¹ and MD Smith², (1) Colorado State University, (2) Yale University. *Differential sensitivity of co-dominant C4 grasses to increasing temperature and drought.*
- 2:10 PM COS 109-3 Goklany, ME, BR Johnson, T Tomaszewski, L Pfeifer-Meister and SD Bridgman, University of Oregon. *How will climate change affect the physiology, productivity, and fitness of the invasive grass, *agrostis capillaris* L., in Pacific Northwest prairies?.*
- 2:30 PM COS 109-4 Copeland, SM¹, SP Harrison² and El Damschen³, (1) University of California, Davis, (2) University of California - Davis, (3) University of Wisconsin-Madison. *Climate tolerance, range position, and soil fertility affects herbaceous species distribution across topographic microclimates.*
- 2:50 PM COS 109-5 Malyshev, AV and HAL Henry, University of Western Ontario. *Sub-lethal effects of freezing on growth and nitrogen uptake in *Poa pratensis*.*
- 3:10 PM Break
- 3:20 PM COS 109-6 Mayfield, MM¹, JM Dwyer² and JM Levine³, (1) The University of Queensland, (2) The University of Western Australia, (3) University of California, Santa Barbara. *Averting risk under variable climate conditions: Temperature cuing and seed bank reliance in native annual plant populations persisting along California's climate gradient.*
- 3:40 PM COS 109-7 Li, J¹, Y Bai¹, DR LeCain², D Blumenthal² and JA Morgan², (1) University of Saskatchewan, (2) USDA-ARS. *Multiple climate change treatments interact on germination thresholds of native and invasive species in the Mixed-grass Prairie.*
- 4:00 PM COS 109-8 Munson, SM¹, J Belnap¹, JA Hubbard², RH Webb³, S Rutman² and DE Swann², (1) USGS - Southwest Biological Science Center, (2) National Park Service, (3) USGS. *Forecasting climate change impacts to plant community composition in the Sonoran Desert.*
- 4:20 PM COS 109-9 Katz, DW and Ibanez, University of Michigan. *Is the grass greener on the other side? Plant migration and natural enemy release.*
- 4:40 PM COS 109-10 Whittington, HR, D Tilman and JS Powers, University of Minnesota. *Phenology of grassland plants exposed to elevated temperature.*
- COS 110 - Community Pattern and Dynamics V**
8, Austin Convention Center
- 1:30 PM COS 110-1 Warburton, HJ¹, AR McIntosh¹, PA McHugh² and PG Jellyman¹, (1) University of Canterbury, (2) Oregon Department of Fish and Wildlife. *Body mass-abundance relationships in stream ecosystems: The influence of habitat size on community structure and stability.*
- 1:50 PM COS 110-2 Sullivan, L and WS Harpole, Iowa State University. *Top-down and bottom-up effects on plant reproduction.*
- 2:10 PM COS 110-3 Prugh, LR¹ and J Brashares², (1) UC Berkeley, (2) University of California, Berkeley. *Partitioning the effects of an ecosystem engineer: Kangaroo rats control community structure via multiple pathways.*
- 2:30 PM COS 110-4 Deiner, K¹, B Hammock¹, RA Knapp², O Heiri³, A Sivasundar⁴ and B May⁵, (1) University of California, Davis, (2) Sierra Nevada Aquatic Research Laboratory, University of California, (3) University of Berne, Switzerland, (4) Institute of Ecology and Evolution, (5) University of California - Davis. *Trophic filters in community phylogenetics: An analysis of fish predation on two aquatic midge metacommunities from the Swiss Alps and Sierra Nevada Mountain Range.*
- 2:50 PM COS 110-5 Bardwell, JH, Baylor University. *The covariant effects of microclimate and microhabitat factors on turtle basking behavior in Waco Creek, Texas.*
- 3:10 PM Break
- 3:20 PM COS 110-6 Chamberlain, SA and KD Whitney, Rice University. *Mutualist and antagonist arthropod communities of native plants are influenced by proximity to agricultural crops.*
- 3:40 PM COS 110-7 Holt, GP and P Chesson, University of Arizona. *Spatial patterns of species' environmental responses: Coexistence implications of how organisms experience environmental variation.*
- 4:00 PM COS 110-8 Supp, SR, X Xiao, SKM Ernest and EP White, Utah State University. *Experimentally altering biotic interactions has different effects on static and dynamic macroecological patterns.*
- 4:20 PM COS 110-9 Sommers, P and P Chesson, University of Arizona. *Predator avoidance behavior increases apparent competition.*
- 4:40 PM COS 110-10 Barabás, G, R D'Andrea and AM Ostling, University of Michigan. *Coexistence by virtue of similarity versus dissimilarity: The implications of nonsmooth competition kernels.*

1:30 pm-5 pm

COS 111 - Food Webs I

9AB, Austin Convention Center

- 1:30 PM COS 111-1 Gravel, D¹, EF Canard², F Guichard³ and N Mouquet⁴, (1)Université du Québec à Rimouski, (2) Institut des Sciences de l'Évolution de Montpellier, (3) McGill University, (4)Université Montpellier 2, CNRS. *Persistence increases with complexity in spatially structured food webs.*
- 1:50 PM COS 111-2 Joppa, L¹ and RJ Williams², (1)Microsoft Research, (2)Microsoft Research Ltd.. *Niche structure and nestedness in mutualistic and antagonistic bipartite networks.*
- 2:10 PM COS 111-3 Stouffer, DB, Estación Biológica de Doñana - CSIC (Spain) and University of Canterbury (New Zealand). *Understanding species' roles and dynamic importance in empirical food webs.*
- 2:30 PM COS 111-4 Eklof, AC, University of Chicago. *Relevance of evolutionary history for food web structure.*
- 2:50 PM COS 111-5 Golubski, AJ¹ and M Pascual², (1)University of Michigan, (2)University of Michigan AND Howard Hughes Medical Institute. *Community-wide consequences of modeling mutualistic benefits as more direct than they are.*
- 3:10 PM Break
- 3:20 PM COS 111-6 Noble, AE¹ and A Hastings², (1)University of California, (2)University of California, Davis. *Resilience and vulnerability in large nonlinear food webs.*
- 3:40 PM COS 111-7 Shevtsov, J¹ and RC Rael², (1)University of Georgia, (2)University of Michigan. *Indirect energy flows in model food webs: Effect of system size and connectance.*
- 4:00 PM COS 111-8 Gendusa, TD, MC Wade and RD French, CDM. *A case study: Caution when using food web models early in the ecological risk assessment process.*
- 4:20 PM COS 111-9 Ritchie, ML and TN Romanuk, Dalhousie University. *Network structure of the human microbiome.*
- 4:40 PM COS 111-10 Krumins, JA¹, V Krumins² and WH van der Putten³, (1)Montclair State University, (2)Rutgers University, (3)Netherlands Institute of Ecology. *Modeling microbial communities in soil food webs.*

COS 112 - Plant-Insect Interactions II

9C, Austin Convention Center

- 1:30 PM COS 112-1 Matiella, TJ, The University of Texas San Antonio. *Effects of elevated carbon dioxide on milkweed and Monarch Butterfly larva and adults.*
- 1:50 PM COS 112-2 terHorst, CP and JA Lau, Michigan State University. *Direct and indirect evolutionary effects alter ecological plant-herbivore interactions.*
- 2:10 PM COS 112-3 Lehman, FR¹, JE Mohan¹, JM Melillo², JS Clark³ and CF Salk³, (1)University of Georgia, (2)Marine Biological Laboratory, (3)Duke University. *Climate warming effect on Acer rubrum seedling susceptibility to foliar herbivory.*
- 2:30 PM COS 112-4 Tariq, M¹, DJ Wright¹, TJA Bruce² and JT Staley³, (1)Imperial College London, (2)Rothamsted Research, (3)NERC Centre for Ecology and Hydrology. *Drought modifies trophic interactions above and below ground.*
- 2:50 PM COS 112-5 Zhang, S, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijing, 100085, P. R, China.. *From canopy to forest floor: The impacts of ant-aphid mutualism on the ground arthropod community.*
- 3:10 PM Break
- 3:20 PM COS 112-6 Del-Claro, K, AA Vilela and HM Torezan-Silingardi, Universidade Federal de Uberlândia. *Ant-plant*

interactions: Migration in herbivore fauna and conditional outcomes related to plant sequential flowering.

- 3:40 PM COS 112-7 Quintero, C, University of Colorado at Boulder. *The importance of plant ontogeny for tri-trophic interactions.*
- 4:00 PM COS 112-8 Swope, SM, USDA ARS. *Soil type mediates interactions in a plant-pathogen-seed predator system.*
- 4:20 PM COS 112-9 Stephens, AEA and J Myers, University of British Columbia. *Interacting natural enemies: Impact on the host plant.*
- 4:40 PM COS 112-10 McMichael, CC¹, RA Ramirez II², SD Frank³ and MD Eubanks¹, (1)Texas A&M University, (2)Utah State University, (3)North Carolina State University. *To lay or not to lay: Aphid induction effects on Spodoptera exigua oviposition preference.*

COS 113 - Invasion: Community Effects I

10A, Austin Convention Center

- 1:30 PM COS 113-1 Brewer, JS, University of Mississippi. *Increased disturbance-mediated competition between invasive and native plants: An unintended consequence of managing for increased species diversity.*
- 1:50 PM COS 113-2 Brym, ZT¹ and I Ibanez², (1)Utah State University, (2)University of Michigan. *Environmental and biotic controls on the invasion of the exotic shrub *Elaeagnus umbellata* in a temperate forest.*
- 2:10 PM COS 113-3 Rojas-Sandoval, J¹, EJ Meléndez-Ackerman² and DS Fernandez³, (1)Center for Applied Tropical Ecology and Conservation, (2)University of Puerto Rico, Rio Piedras, (3)University of Puerto Rico at Humacao. *Vegetation community dynamics of a tropical semi-arid system following experimental removals of an exotic grass.*
- 2:30 PM COS 113-4 Jordan, NR¹, L Aldrich-Wolfe², SC Huerd¹, DL Larson³ and GJ Muehlbauer¹, (1)University of Minnesota, (2)Concordia College, (3)US Geological Survey. *Effects of invasive and native grassland plant species on diversity and composition of associated communities of arbuscular mycorrhizal fungi.*
- 2:50 PM COS 113-5 Stein, C¹, WS Harpole² and KN Suding¹, (1)University of California at Berkeley, (2)Iowa State University. *Threshold dynamics in California grasslands: plant species effects moderate grazing effects to influence invasion success.*
- 3:10 PM Break
- 3:20 PM COS 113-6 Otfinowski, R and PA Sinkins, Parks Canada. *Legacies of exotic plant invasions on the northern prairies: Forty years after cattle grazing in Riding Mountain National Park, Manitoba.*
- 3:40 PM COS 113-7 Powell, KI, JM Chase and TM Knight, Washington University in St. Louis. *Synthesizing the effects of plant invasions on diversity at different spatial scales.*
- 4:00 PM COS 113-8 Rubio, A, Texas A&M International University. *Passive restoration potential of riparian ecosystems following the manual removal of invasive giant reed (*Arundo donax*).*
- 4:20 PM COS 113-9 Leffler, AJ, TA Monaco, JJ James and RL Sheley, USDA-ARS. *Disturbance and community traits influence invasive grass establishment in a semi-arid shrubland.*
- 4:40 PM COS 113-10 Yurkonis, KA¹, JA Newman² and H Maherali², (1)University of North Dakota, (2)University of Guelph. *The source population dictates invasion and invasion impact in the *Neotyphodium coenophialum* - *Festuca arundinacea* model system.*

THURSDAY

COS 114 - Disease and Epidemiology IV

10B, Austin Convention Center

- 1:30 PM COS 114-1 Rasmussen, DA¹, O Ratmann² and K Koelle¹, (1)Duke University, (2)Duke. *Inferring the population dynamics of multi-strain pathogens from genealogies.*
- 1:50 PM COS 114-2 Haas, SE¹, MB Hooten², DM Rizzo³ and RK Meentemeyer⁴, (1)University of North Carolina at Charlotte, (2)Colorado State University, (3)University of California Davis, (4)University of North Carolina, Charlotte. *Landscape epidemiology of species diversity effects on disease risk in a multihost plant pathogen invasion.*
- 2:10 PM COS 114-3 Springer, JC¹, MT Chansler¹, AL Davelos-Baines² and AM Jarosz¹, (1)Michigan State University, (2) University of Wisconsin-LaCrosse. *Diversity of vegetative incompatibility groups in Michigan populations of the chestnut blight fungus, *Cryphonectria parasitica*, 1996 to 2009.*
- 2:30 PM COS 114-4 Civitello, DJ¹, JL Hite¹, RM Penczykowski² and SR Hall¹, (1)Indiana University, (2)Georgia Institute of Technology. *Potassium stimulates fungal epidemics in *Daphnia*.*
- 2:50 PM COS 114-5 Srygley, R and ST Jaronski, USDA-ARS-NPARL. *Adaptive melanism and immunity to fungal infection in the migratory grasshopper.*
- 3:10 PM Break
- 3:20 PM COS 114-6 Eisenberg, M, The Ohio State University. *Exploring cholera dynamics and transmission pathways using identifiability and parameter estimation: Applications to recent and ongoing outbreaks.*
- 3:40 PM COS 114-7 Robertson, SL¹ and IM Hamilton², (1) Mathematical Biosciences Institute, (2)The Ohio State University. *The effect of the risk of infectious disease on habitat selection.*
- 4:00 PM COS 114-8 Cattadori, IM¹, B Wagner¹, L Wodzinski¹, B Boag², A Pathak¹, AD Hernandez¹ and A Poole¹, (1)The Pennsylvania State University, (2)The James Hutton Institute. *Strategies of tolerance and resistance in natural host-parasite interactions: an ecological approach.*
- 4:20 PM COS 114-9 Kennedy, DA and G Dwyer, University of Chicago. *The roles of multi-level selection and recombination in maintaining genetic diversity in an insect virus.*
- 4:40 PM COS 114-10 Vuong, HB¹, D Fonseca², D Brisson³ and RS Ostfeld⁴, (1)Rutgers University/Cary Institute of Ecosystem Studies, (2)Rutgers University, (3)University of Pennsylvania, (4)Cary Institute of Ecosystem Studies. *Infection prevalence of two vector-borne zoonotic pathogens in the tick vectors across a gradient of reported human incidence rates.*

COS 115 - Forest Management

12B, Austin Convention Center

- 1:30 PM COS 115-1 Shields, JM¹ and M North², (1)University of California, Davis, (2)USDA Forest Service. *Influence of topography and fire history on Sierra Nevada mixed-conifer stand conditions under an active-fire regime.*
- 1:50 PM COS 115-2 Franklin, SB and N Kirkley, University of Northern Colorado. *Effects of mastication treatments on ponderosa pine understory communities.*
- 2:10 PM COS 115-3 Stephan, K¹ and JA Hubbart², (1)Lincoln University of Missouri, (2)University of Missouri. *Effects of long-term prescribed burning on soil organic carbon and total nitrogen content in the Missouri Ozarks.*
- 2:30 PM COS 115-4 Roxburgh, SH and K Paul, CSIRO. *Mixed-species environmental plantings for carbon sequestration: Improved methods for biomass estimation.*
- 2:50 PM COS 115-5 Hausman, CE, TL Robison and JJ Mack Jr., Cleveland Metroparks. *Using the generalized random*

tessellation (GRTS) survey design for monitoring and assessment of terrestrial plant communities at local, regional and ecoregional scales.

- 3:10 PM Break
- 3:20 PM COS 115-6 Weisser, W¹, M Gossner¹ and CR Fonseca², (1)Friedrich-Schiller-Universität, (2)Universidade Federal do Rio Grande do Norte. *Indicator species and the management of temperate forests.*
- 3:40 PM COS 115-7 Ex, S and FW Smith, Colorado State University. *Production efficiency and leaf area estimation in multi-cohort stands of pure *Pinus ponderosa* var. *scopulorum* in South Dakota's Black Hills National Forest.*
- 4:00 PM COS 115-8 Linden, D and G Roloff, Michigan State University. *Understanding the effects of tree retention on bird species richness in managed forests of the Pacific Northwest: Application of a hierarchical community model.*
- 4:20 PM COS 115-9 Buck, JR and SB St Clair, Brigham Young University. *Altered disturbance patterns promote facilitated competition in aspen-conifer forests.*
- 4:40 PM COS 115-10 Pelz, KA and FW Smith, Colorado State University. *Effects of mountain pine beetle on forest structure and fuel load 25 years after outbreak.*

COS 116 - Remote Sensing and Image Analysis

13, Austin Convention Center

- 1:30 PM COS 116-1 Rogers, J, Columbia University. *Deforestation in central African protected areas from 1990-2000 using remote sensing.*
- 1:50 PM COS 116-2 Goswami, S¹, JA Gamon² and CE Tweedie³, (1)Systems Ecology Lab, University of Texas at EL Paso, (2)University of Alberta, (3)University of Texas at El Paso. *Surface hydrology of an arctic ecosystem: Multiscale analysis of a flooding and draining experiment using a new spectral index.*
- 2:10 PM COS 116-3 Dahlin, KM¹ and GP Asner², (1)Stanford University, (2)Carnegie Institution. *Plant species mapping using integrated airborne lidar and hyperspectral imagery across multiple functional groups.*
- 2:30 PM COS 116-4 Xiao, X, C Biradar, A Wang, S Sheldon and Y Chen, University of Oklahoma. *Recovery of vegetation canopy after severe fire in 2000 at the Black Hills National Forest, South Dakota, USA.*
- 2:50 PM COS 116-5 Pinto, N¹, R Dubayah¹, M Simard², S Saatchi², B Cook³ and P Siqueira⁴, (1)University of Maryland, (2) NASA Jet Propulsion Laboratory, (3)NASA Goddard Space Flight Center, (4)University of Massachusetts. *Scaling up forest allometry with lidar and radar remote sensing.*
- 3:10 PM Break
- 3:20 PM COS 116-6 Witté, IA, Centre for forest research, University of Quebec in Montréal. *A picture is worth a thousand words: A new index of structural complexity to quantify the effects of management on forest structure.*
- 3:40 PM COS 116-7 Gaughan, AE¹, RM Holdo¹ and TM Anderson², (1)University of Missouri, (2)Wake Forest University. *Quantifying tree cover in an African savanna using a multi-scale remote sensing approach.*
- 4:00 PM COS 116-8 Henareh Khalyani, A, MJ Falkowski and AL Mayer, Michigan Technological University. *Classification of Landsat images based on spectral and topographic variables for land cover change in Zagros forests.*
- 4:20 PM COS 116-9 Thompson, SM, WT Brademan, BG Barber, A Delgado, MA Austin, DB Hays and RA Washington-Allen, Texas A&M University. *Estimating changes in above- and below-ground 3-D vegetation structure in a model savanna using ground penetrating radar and terrestrial laser scanning.*

1:30 pm-5 pm

4:40 PM COS 116-10 Olsson, A¹, O Wang¹, L Zachmann¹, S Sesnie¹, BG Dickson¹ and BA Bradley², (1)Northern Arizona University, (2)University of Massachusetts, Amherst. *Using multi-spectral phenological trajectories to detect an invasive grass in the Sonoran Desert.*

COS 117 - Population Dynamics: Metapopulations

18A, Austin Convention Center

1:30 PM COS 117-1 Jacobson, B and PR Peres-Neto, University of Quebec at Montreal. *The effects of density, habitat properties, and traits on habitat selection.*

1:50 PM COS 117-2 Ullmann, K¹ and NM Williams², (1)UC Davis, (2)University of California-Davis. *Population persistence in dynamic landscapes: The role of spatiotemporal connectivity.*

2:10 PM COS 117-3 Gilarranz, LJ and J Bascompte, Estación Biológica de Doñana, CSIC. *Spatial patterns of species interaction networks.*

2:30 PM COS 117-4 Simonis, JL, Cornell University. *Is dispersal a strong synchronizing force in predator-prey metapopulations? Insights from process-based modeling.*

2:50 PM COS 117-5 Nuñez, MC¹, M Uriarte², PA Marquet¹ and JJ Armesto¹, (1)CASEB-Pontificia Universidad Católica de Chile and Instituto de Ecología y Biodiversidad, (2) Columbia University. *Recruitment limitation and seed-mediated gene flow in the dioecious tree *Aextoxicon punctatum* in relict forest fragments in semiarid Chile.*

3:10 PM Break

3:20 PM COS 117-6 McKee, AM¹, LL Smith², JC Maerz³ and TC Glenn¹, (1)University of Georgia, (2)Joseph W. Jones Ecological Research Center, (3)The University of Georgia. *Genetic population structure in two amphibian species with differing dispersal capabilities: Implications for metapopulation theory.*

3:40 PM COS 117-7 Ross, AA and S Travers, North Dakota State University. *Reproductive dynamics and population genetics of the Western Prairie Fringed Orchid.*

4:00 PM COS 117-8 Grey, E, CM Taylor, S Chiasson and M Bartlein, Tulane University. *Insights into Blue crab larval ecology from the Deepwater Horizon oil spill.*

4:20 PM COS 117-9 Fletcher, Jr., RJ, University of Florida. *The population consequences of spatial modularity: Insights from networks undergoing habitat destruction.*

4:40 PM COS 117-10 Van Allen, BG and VHW Rudolf, Rice University. *Natal habitat alters population dynamics in novel environments.*

COS 118 - Paleoecology

18B, Austin Convention Center

1:30 PM COS 118-1 Blois, JL¹, S Ferrier², R Graham³, EC Grimm⁴, F He¹, ST Jackson⁵, Z Liu¹, G Manion⁶, B Otto-Bliesner⁷, SD Veloz⁸ and JW Williams¹, (1)University of Wisconsin-Madison, (2)CSIRO Ecosystem Services, (3)Pennsylvania State University, (4)Illinois State Museum, (5)University of Wyoming, (6)New South Wales Department of Environment and Conservation, (7)National Center for Atmospheric Research, (8)PRBO Conservation Science. *Modeling community turnover since the last glacial maximum using generalized dissimilarity modeling.*

1:50 PM COS 118-2 Samartin, S¹, O Heiri² and W Tinner³, (1) University of Bern, Switzerland, (2)University of Berne, Switzerland, (3)University of Bern. *Chironomid-based environmental reconstructions in Italy and southern Switzerland using subfossil chironomid assemblages.*

2:10 PM COS 118-3 Ireland, AW and RK Booth, Lehigh University. *Hydroclimatic variability and basin morphology control terrestrialization in glacial kettles.*

2:30 PM COS 118-4 McLauchlan, KK, CJ Morris and JL Commerford, Kansas State University. *Reconstructing grassland vegetation on the southern Great Plains of North America.*

2:50 PM COS 118-5 Wigdahl, CR and JE Saros, University of Maine. *Effects of ecological interactions on drought reconstructions from prairie lakes.*

3:10 PM Break

3:20 PM COS 118-6 Crawford, JN¹, SA Mensing¹, FK Lake², C Skinner² and S Zimmerman³, (1)University of Nevada, Reno, (2)U.S. Forest Service, Pacific Southwest Research Station, (3)CAMS, Lawrence Livermore National Lab. *The potential impacts of Native American land-use on fire regimes and forest structure in the Lower Klamath River Region, California.*

3:40 PM COS 118-7 Tweiten, MA¹ and SC Hotchkiss², (1) University of Wisconsin - Madison, (2)University of Wisconsin. *Generating sediment age chronologies from incomplete ²¹⁰Pb radioisotope profiles: An application of Gibbs sampling to the untamed sediments of a Hawaiian tropical rainforest.*

4:00 PM COS 118-8 Crausbay, SD and SC Hotchkiss, University of Wisconsin. *Dynamics of a tropical forest ecotone in Hawai'i are driven by changes in large scale climate features and fire.*

4:20 PM COS 118-9 Yorke, AL¹, GS Robinson², MG Egan³, RS Feranec⁴, A Kozlowski⁴, J Lothrop⁴, M Wilson⁵ and T Tareque⁶, (1)Oberlin College, (2)Fordham College at Lincoln Center, (3)Montclair State University, (4)New York State Museum, (5)South Bronx Preparatory High School, (6)Ossining High School. *Cervical scotti and Mammut americanum: Recent finds of extinct Pleistocene fauna in Orange County, NY.*

COS 119 - Restoration Ecology II

18C, Austin Convention Center

1:30 PM COS 119-1 Ruthrof, KX, TK Douglas, MC Calver, B Dell and GESJ Hardy, Murdoch University. *Novel nutrient sources and site preparation facilitate root growth and hence restoration success in degraded ecosystems.*

1:50 PM COS 119-2 Armitage, AR, CK Ho, EN Madrid, MT Bell and AS Quigg, Texas A&M University at Galveston. *Built for success: Brackish marsh construction techniques influence ecosystem-level restoration success.*

2:10 PM COS 119-3 Kulpa, SM¹ and EA Leger², (1)U.S. Fish and Wildlife Service, Reno, (2)University of Nevada, Reno. *Only the small survive: non-random seedling establishment in Great Basin restorations.*

2:30 PM COS 119-4 Richardson, SC¹, CE Palmer¹, S Hughes¹, EL Middleton², JD Bever², PA Schultz² and Z Yermakov³, (1) DePaul University, (2)Indiana University, (3)Chicago Parks Department. *Comparing the effectiveness of native and commercial arbuscular mycorrhizal fungi in establishing and colonizing plants in an urban prairie restoration.*

2:50 PM COS 119-5 Ord, RC¹, DP Rokich², SR Turner², J Stevens¹ and KW Dixon², (1)Botanic Garden and Parks Authority / University of Western Australia, (2)Kings Park and Botanic Garden. *Restoring *Banksia* woodland communities after pine forestry in a biodiversity hotspot, Western Australia.*

3:10 PM Break

3:20 PM COS 119-6 Carter, DL, Kansas State University. *Species richness and seeding density affect plant community composition and response to simulated drought.*

3:40 PM COS 119-7 Collinge, SK¹ and C Ray², (1)University of Colorado, (2)University of Colorado-Boulder. *Reflections*

on vernal pool plant community restoration: Three lessons from a long-term field experiment.

- 4:00 PM COS 119-8 Saielli, TM¹, PG Schaberg², GJ Hawley¹, JM Halman¹ and KM Gurney³, (1)University of Vermont, (2)USDA Forest Service, (3)The American Chestnut Foundation. *Genetics and silvicultural treatment influence the growth and winter shoot dieback of American and Chinese chestnut seedlings grown in Vermont, USA.*
- 4:20 PM COS 119-9 Knapp, BO¹, JL Walker² and GG Wang¹, (1) Clemson University, (2)USDA Forest Service. *Effects of longleaf pine restoration management on ground layer vegetation in existing loblolly pine forests of the southeastern United States.*
- 4:40 PM COS 119-10 Plank, K, T Wu, S Wadwha, E Kirby and C Holzapfel, Rutgers University Newark. *Clonal diversity and resistance to invasion in remnant salt marsh patches.*

COS 120 - Ecosystem Management

18D, Austin Convention Center

- 1:30 PM COS 120-1 Ojima, DS¹ and T Kittel², (1)Colorado State University and The H John Heinz III Center for Science, Economics, and the Environment, (2)University of Colorado at Boulder Boulder. *Downscaled climate projections for consideration in complex terrain of the western mountain initiative: A Colorado example.*
- 1:50 PM COS 120-2 Kachergis, EJ, M Rocca and M Fernandez-Gimenez, Colorado State University. *Comparing species and functional group approaches for identifying alternate states.*
- 2:10 PM COS 120-3 Dowling, ZR¹, PA Armbruster² and PT Leisham¹, (1)University of Maryland, (2)Georgetown University. *Linking resident knowledge, attitudes, and practices regarding mosquitoes to socioeconomic factors and vector control.*
- 2:30 PM COS 120-4 Bagchi, S¹, DD Briske¹, BX Wu¹, MP McClaran², B Bestelmeyer³ and M Fernandez-Gimenez⁴, (1)Texas A&M University, (2)University of Arizona, (3) USDA Agricultural Research Service, (4)Colorado State University. *An empirical assessment of non-equilibrium theory and state-and-transition models with a long-term (1953-2009) vegetation record from the Sonoran Desert.*
- 2:50 PM COS 120-5 Biederman, L, WS Harpole, DA Laird and E Heaton, Iowa State University. *Biochar interacts with soil type to effect prairie community structure.*
- 3:10 PM Break
- 3:20 PM COS 120-6 Shackelford, N¹, RJ Hobbs¹, M Renton¹, K Brooks² and MPerring¹, (1)University of Western Australia, (2)Department of Environment and Conservation. *Biodiversity loss in kwongan heathland and the use of simulation modeling to assess management strategies.*
- 3:40 PM COS 120-7 Takahashi, MK¹, LM Horner¹, T Kubota², NA Keller¹ and WG Abrahamson¹, (1)Bucknell University, (2)Susquehanna University. *Extensive clonal spread and longevity of saw palmetto (*Serenoa repens*) in a threatened ecosystem.*
- 4:00 PM COS 120-8 Pitt, AL, RF Baldwin, BL Brown, JE Hawley and DJ Lipscomb, Clemson University. *Functional versus geographic isolation of wetlands: Using organisms to indicate status.*
- 4:20 PM COS 120-9 Sah, JP¹, MS Ross¹, PL Ruiz¹ and JR Snyder², (1)Florida International University, (2)US Geological Survey. *Linking vegetation dynamics to hydrologic changes in the southern Everglades marl prairies.*
- 4:40 PM COS 120-10 Lynch, RL, ML Casler and FJ Mazzotti, University of Florida. *Landscape and hydrologic effects on anuran species in the Florida Everglades at multiple spatial scales.*

Earth Stewardship: Preserving and enhancing earth's life support systems

COS 121 - Physiological Ecology IV

19A, Austin Convention Center

- 1:30 PM COS 121-1 Whiteman, JP, HJ Harlow and M Ben-David, University of Wyoming. *Polar bears may adjust physiology and behavior to cope with climate change.*
- 1:50 PM COS 121-2 Soper, FM¹, N Robinson², C Paungfoo-Lonhienne², D Rentsch³ and S Schmidt², (1)Cornell University, (2)University of Queensland, (3)University of Bern. *The support of plant growth by small peptides in two functionally different plant species.*
- 2:10 PM COS 121-3 Coe, KK¹, J Belnap² and JP Sparks¹, (1) Cornell University, (2)USGS. *Environmental controls on moss carbon flux in a pulse-dynamic system.*
- 2:30 PM COS 121-4 Shortlidge, EE, TN Rosenstiel and SM Eppley, Portland State University. *Implications of stress tolerant spermatozoa on the complex mating system of mosses.*
- 2:50 PM COS 121-5 Wiley, ET, BB Casper and B Helliker, University of Pennsylvania. *Carbon limitation of growth and storage in black oak.*
- 3:10 PM Break
- 3:20 PM COS 121-6 Asao, S¹, MG Ryan² and WJ Parton¹, (1) Colorado State University, (2)USDA Forest Service. *Trees are not always carbon limited: Evidence for sink regulation of photosynthesis.*
- 3:40 PM COS 121-7 Kinmonth-Schultz, H and SH Kim, University of Washington. *Carbon gain, allocation, and storage in rhizomes in response to elevated CO₂ and fertilization in an invasive perennial C₃ grass, *Phalaris arundinacea*.*
- 4:00 PM COS 121-8 Melnychenko, AN and TN Rosenstiel, Portland State University. *Biogenic emissions in Bamboo: How do physiological constraints influence patterns of emission?.*

4 pm-5 pm

ESA SEEDS Closing

19B, Austin Convention Center

4:30 pm-6:30 pm

PS 56 - Biodiversity

Exhibit Hall 3, Austin Convention Center

- PS 56-1 Fernandez, E, Stanford University. *Biodiversity loss and reforestation in rural Maya Yucatan.*
- PS 56-2 Womack, AM, BJM Bohannan and JL Green, University of Oregon. *Metabolically active bacteria in the atmosphere revealed by RNA-based community composition.*
- PS 56-3 Furusawa, T, Kyoto University. *Socio-ecological production system of forests in the Roviana, Solomon Islands: Villagers' resources uses and vegetation diversity.*
- PS 56-4 Olson, DH¹, JI Burton² and KJ Puettmann², (1)USDA Forest Service, Pacific Northwest Research Station, (2) Oregon State University. *Annual climate variability and surface flow of headwater streams in forests of the Coast Range and Western Cascade Range, OR, USA.*
- PS 56-5 Love, JM, W Mackay and J Pacheco, University of Texas El Paso. *Revision of the Ant Genus *Xenomymex* (Hymenoptera: Formicidae).*
- PS 56-6 Maierhofer, CN¹, K Spickerman¹, MJ Moris¹ and TA Wellnitz², (1)UW - Eau Claire, (2)University of Wisconsin - Eau Claire. *Exploring the effect of biological filters on lichen populations in the BWCAW.*
- PS 56-7 Freitas, CE and F Siqueira-Souza, Federal University of Amazonas. *The influence of environmental factors on the fish diversity in the floodplain lakes of Central Amazon.*

4:30 pm-6:30 pm

- PS 56-8 Deans, RA and DR Chalcraft, East Carolina University. *Local and regional aspects of habitat quality jointly affect the biodiversity of ephemeral ponds.*
- PS 56-9 Koda, R¹, R Tsujino², N Agetsuma³, Y Agetsuma-Yanagihara⁴ and N Fujita², (1)Center for Ecological Research, Kyoto University, (2)Research Institute for Humanity and Nature, (3)Wakayama Experimental Forest, Hokkaido University, (4)Freelance. *Nonlinear responses of forest floor vegetation to deer density in forests with different forest managements.*
- PS 56-10 Griffin, EA¹, SJ Wright², MB Traw¹ and WP Carson¹, (1)University of Pittsburgh, (2)Smithsonian Tropical Research Institute. *Is herbivore damage and bacterial presence related to resource supply or host identity: results from a long-term fertility experiment in a tropical forest.*
- PS 56-11 McClellan, ML, RA Montgomery and JS Powers, University of Minnesota. *How does land ownership affect biodiversity and biomass stocks in secondary tropical dry forests?*
- PS 56-12 Clausen, AJ and RL Brown, Eastern Washington University. *Further evidence for dam effects on riparian vegetation along Elwha River, Washington.*
- PS 56-13 Habeck, CW¹, J Ledvina¹, LA Brudvig² and JL Orrock³, (1)Washington University, (2)Michigan State University, (3)University of Wisconsin - Madison. *Controls over understory species richness within degraded remnants of longleaf pine woodland.*

PS 57 - Ecosystem Function

Exhibit Hall 3, Austin Convention Center

- PS 57-14 Gherardi, L and OE Sala, Arizona State University. *Automated rainfall manipulation system: A reliable, and inexpensive tool for experimental ecologists.*
- PS 57-15 Zuo, X¹, X Zhao¹, JMH Knops² and Y Li¹, (1)Cold and Arid Regions of Environmental and Engineering Research Institute, Chinese Academy of Sciences, (2)University of Nebraska. *A positive correlation between plant diversity and productivity is indirectly caused by environmental heterogeneity driving species composition in semiarid sandy grassland.*
- PS 57-16 Drystek, EA¹, H Maherali¹ and KA Yurkonis², (1) University of Guelph, (2)University of North Dakota. *The effects of species richness and endophyte infection on invasion of *Festuca arundinacea*.*
- PS 57-17 Bonilla, NO, Universidad Metropolitana. *Priority effects on a marine fouling community: Changes on the community structure due to the first colonizer.*
- PS 57-18 Vasconcelos, HL and R Pacheco, Universidade Federal de Uberlândia. *Land use change affects the abundance, species richness, and the predatory activity of ground-dwelling ants.*
- PS 57-19 Yahdjian, L¹, L Gherardi² and OE Sala², (1)University of Buenos Aires, CONICET, (2)Arizona State University. *Grasses and shrubs had different responses to nitrogen fertilization in the arid Patagonian Steppe.*
- PS 57-20 Dauer, JM¹ and S Perakis², (1)Oregon State University, (2)US Geological Survey. *Calcium-oxalate pools in forests of contrasting nutrient status.*
- PS 57-21 Crawford, KM and JA Rudgers, Rice University. *Effects of plant species diversity and genetic diversity on belowground communities and processes.*
- PS 57-22 Nelson, J and TO Crist, Miami University. *Local and landscape determinants of species diversity and composition of beneficial insects in agricultural environments.*
- PS 57-23 Steele, CH and EH Boughton, Archbold Biological Station. *Diversity and function of dung beetles in subtropical grasslands.*
- PS 57-24 Clark, KL¹, N Skowronski¹, M Gallagher¹, KV Schafer² and HJ Renninger³, (1)USDA Forest Service, (2)Rutgers University Newark, (3)Rutgers University. *Effects of invasive insects and fire on forest evapotranspiration and water use efficiency.*
- PS 57-25 Soong, JL, U Nielson, K Deneff, WJ Parton, DH Wall and MF Cotrufo, Colorado State University. *Tracking litter derived carbon in terrestrial ecosystems using stable isotopes.*
- PS 57-26 LeBauer, D and M Dietze, University of Illinois. *Plant trait meta-analysis and flux data assimilation constraints on parameterizations of ecosystem models.*

PS 58 - Invasion

Exhibit Hall 3, Austin Convention Center

- PS 58-27 Mitchell, RM and JD Bakker, University of Washington. *Plasticity in six species of native and exotic Asteraceae.*
- PS 58-28 Stacey, LM, University of Washington. *Landscape factors that foster and hinder invasion of the argentine ant (*Linepithema humile*) in Chile.*
- PS 58-29 Becerra, PI, Facultad de Agronomía e Ingeniería Forestal, Universidad Católica de Chile. *Effect of the invasion by *Pinus radiata* on recruitment of native species in the Mediterranean region of Chile.*
- PS 58-30 Eschtruth, AK¹ and JJ Battles², (1)University of California, Berkeley, (2)University of California, Berkeley. *The importance of quantifying propagule pressure to understand invasion dynamics.*
- PS 58-31 Barrios Garcia, MN¹ and D Simberloff², (1)University of Tennessee, (2)The University of Tennessee. *Liking the pattern to the mechanism: How wild boar (*Sus scrofa*) promote plant invasion.*
- PS 58-32 Chambliss, S and EG King, Princeton University. *Plants behaving badly: Proliferation of a native succulent in Kenyan drylands.*
- PS 58-33 Steinmetz, J¹, J Ludlam¹, A Stoeckman¹ and P Fernandez², (1)Francis Marion University, (2)University of South Carolina Sumter. *Potential impacts of an invasive zooplankton, *Daphnia lumholtzi*, on South Carolina Lakes.*
- PS 58-34 Shirk, RY¹, JL Hamrick¹, C Zhang² and S Qiang², (1)University of Georgia, (2)Nanjing Agricultural University. *Genetic diversity in native and invasive populations of an annual herb.*
- PS 58-35 Wang, O, A Olsson, L Zachmann, S Sesnie and B Dickson, Northern Arizona University. *African buffelgrass infestation in the Sonoran Desert of Arizona: A preliminary plant community assessment.*
- PS 58-36 Machado, J, N Buttino, E Chiang and A Sanchez de Lozada, Swarthmore College. *Physiological performance of Norway and sugar maple seedlings growing in conspecific soils under conspecific and heterospecific canopies.*

PS 59 - Invasion: Community Effects

Exhibit Hall 3, Austin Convention Center

- PS 59-37 Martin, C, SL Harlan and J Declat-Barreto, Arizona State University. *Tree naturalization as a means of provisioning ecosystem services in an arid urban ecosystem.*
- PS 59-38 Barry, KJ and MR Dudash, University of Maryland. *Competitor identity and age affect interactions between native and invasive plants.*
- PS 59-39 DiPhillippo, JB and GD Turner, West Chester University of Pennsylvania. *Ectomycorrhizal colonization and diversity on red oaks are reduced in response to garlic mustard density and extracts.*
- PS 59-40 Gumuser, ED, SM Hovick and KD Whitney, Rice University. *Importance of functional group dominance and colonizer genetic diversity on invasive success.*

- PS 59-41 Simanonok, MP¹, CB Anderson¹, G Martínez Pastur², MV Lencinas² and JH Kennedy³, (1)University of North Texas, Denton, TX & Universidad de Magallanes, Punta Arenas, Chile, (2)Centro Austral de Investigaciones Científicas, (3)University of North Texas. *A comparison of impacts from silviculture and North American beaver invasion on sub-Antarctic stream benthic macroinvertebrate community structure and function.*
- PS 59-42 Rodriguez-Cabal, MA, MN Barrios Garcia and NJ Sanders, University of Tennessee. *Indirect effects of exotic ungulates disrupt a keystone seed-dispersal mutualisms in the temperate forest of Patagonia.*
- PS 59-43 Kuebbing, SE, University of Tennessee. *Location, Location, Location: The importance of site and microhabitat type when assessing impacts of invasive plant species.*
- PS 59-44 Mummey, DL, Y Lekberg, LN Stoffel and PW Ramsey, MPG Ranch. *Neighboring plant influences on fungal communities: Do invasive species alter AMF communities and pathogen loads in native grasses.*
- PS 59-45 Remsburg, AJ, EF Latty, A Arnett and K Dunckel, Unity College. *Relationships among understory vegetation, insect diversity, and forest management in hemlock-dominated ecosystems.*
- PS 59-46 Amatangelo, KL¹, DF Sax¹ and ST Jackson², (1)Brown University, (2)University of Wyoming. *Shifting community composition and habit prevalence over three decades in a disturbed aquatic system.*
- PS 59-47 Sweet, LC and JS Holt, University of California, Riverside. *Invasion of perennial exotic fountain grass (*Pennisetum setaceum*), in a Mediterranean scrub system.*
- PS 59-48 Shields, JM, MA Jenkins, MR Saunders and CE Zellers, Purdue University. *Diversity and composition of ground-layer vegetation in Indiana mixed-hardwood forests invaded by the non-native Amur honeysuckle (*Lonicera maackii* (Rupr.) Herder).*
- PS 59-49 Hernandez, DL¹, JR Pasari² and ES Zavaleta³, (1)Carleton College, (2)University of California, (3)University of California, Santa Cruz. *Interactive effects of grazing and nitrogen deposition on invasion in serpentine grasslands.*

PS 60 - Invasion: Dynamics, Population Processes

Exhibit Hall 3, Austin Convention Center

- PS 60-50 Smith, LM and HL Reynolds, Indiana University. *Positive feedback may drive invasion by *Euonymus fortunei*.*
- PS 60-51 Labko, Y and LA Hyatt, Rider University. *Effect of varying *Alliaria petiolata* populations on myrosinase and sinigrin concentration in field soils.*
- PS 60-52 Compagnoni, A and PB Adler, Utah State University. *Climate warming and cheatgrass (*Bromus tectorum*) invasion in the Intermountain West.*
- PS 60-53 Kaproth, MA and J Molofsky, University of Vermont. *Investigating litter feedbacks on establishing invasive *Phalaris arundinacea*.*
- PS 60-54 Hovick, SM¹, LG Campbell¹, A Snow² and KD Whitney¹, (1) Rice University, (2)Ohio State University. *Hybridization in wild radish (*Raphanus raphanistrum*) alters early life-history traits and increases colonization success in a novel region.*
- PS 60-55 Brooks, DM, Houston Museum of Natural Science. *Distribution and natural history of large invasive waterfowl in Texas: Mute Swan (*Cygnus olor*) and Egyptian Goose (*Alpochen aegyptiacus*).*
- PS 60-56 Allstadt, AJ¹, T Caraco², JA Newman³ and G Korniss⁴, (1)University of Virginia, (2)University at Albany, (3)University of Guelph, (4)Rensselaer Polytechnic

Institute. *Kinetic roughening, spatial competition, and invasive advance: A field experiment.*

PS 61 - Invasion: Ecosystem Processes

Exhibit Hall 3, Austin Convention Center

- PS 61-57 Baty, JH¹, VT Eviner², K Rice³ and C Malmstrom⁴, (1)U C Davis, (2)University of California Davis, (3)University of California, Davis, (4)Michigan State University. *Does phenology of decomposition match phenology of plant growth in CA grasslands?*
- PS 61-58 Zirbel, CR, DJ Larkin and JF Steffen, Chicago Botanic Garden. *Effects of *Rhamnus cathartica* (common buckthorn) invasion and restoration on woodland carbon sequestration.*
- PS 61-59 Bray, SR¹, MA Arthur², RW McEwan³ and CR Kuchle², (1) Transylvania University, (2)University of Kentucky, (3) The University of Dayton. *Accelerated leaf decomposition of an invasive shrub (*Lonicera maackii*) and its relationship to soil biota and leaf chemistry.*
- PS 61-60 Pieri, DS¹, LA Bailey², AW Wilson¹, DJ Larkin¹ and LM Egerton-Warburton¹, (1)Chicago Botanic Garden, (2) Lake Forest College. *The effects of invasive European buckthorn and restoration on microbial metabolic processes and fungal communities in an oak woodland.*
- PS 61-61 Portier, E, WH Yang and WL Silver, University of California, Berkeley. *Pepperweed invasion increases nitrogen cycling rates in a managed grassland.*
- PS 61-62 Vinton, MA and L Rice, Creighton University. *The role of light availability and soil resources on *Juniperus virginiana* (Eastern red cedar) invasion in tallgrass prairie.*
- PS 61-63 Long, MS¹, CM Litton¹, CP Giardina² and JP Sparks³, (1) University of Hawaii at Manoa, (2)USDA Forest Service, (3)Cornell University. *Changes in soil-surface CO₂ efflux following nonnative feral pig (*Sus scrofa*) removal in Hawaiian tropical wet forest.*
- PS 61-64 Bozzolo, FH¹, D Lipson¹ and J Franklin², (1)San Diego State University, (2)Arizona State University. *Nitrogen assimilation pathways in native and exotic plant species.*
- PS 61-65 Hayes, SJ and RD Durtsche, Northern Kentucky University. *Aquatic hypoxia mediated by the decomposition of allochthonous leaf litter from the invasive shrub Amur honeysuckle (*Lonicera maackii*).*
- PS 61-66 Gurney, C¹, LR Prugh¹ and J Brashares², (1)UC Berkeley, (2)University of California, Berkeley. *Biotic soil disturbance and foraging behavior function at different scales in explaining the keystone effect of an endangered rodent.*

PS 62 - Invasion: Prevention and Management

Exhibit Hall 3, Austin Convention Center

- PS 62-67 Poulos, L¹, BA Roy¹ and B Thomas², (1)University of Oregon, (2)McKenzie River Ranger District. *Fire and invasive species: The burning quest for truth.*
- PS 62-68 Zoellner-Kelly, DC and SJ Dewalt, Clemson University. *On the edge: Quantifying the response of *Lonicera japonica* and *Albizia julibrissin* to fragmentation in southeastern USA piedmont forests.*
- PS 62-69 Dauer, J, Michigan State University. *Management effects on re-growth of Japanese knotweed (*Fallopia japonica*).*
- PS 62-70 Soman, C, SC Lear and M Wu, Montclair State University. *Invasive plant management using hydroraking at the New Jersey school of conservation.*
- PS 62-71 Hall, M and KE Schulz, Southern Illinois University Edwardsville. *A simple model suggests how to more efficiently prevent the spread of Asiatic shrub honeysuckles in temperate forests.*
- PS 62-72 Kirkpatrick, HE and KC Lubetkin, University of Puget

4:30 pm-6:30 pm

- Sound. *Responses of native and introduced plant species to sucrose addition in Puget lowland prairies.*
- PS 62-73 Busby, RR¹, MW Paschke², ME Stromberger², DL Gebhart¹ and PJ Meiman², (1)US Army Engineer Research and Development Center, (2)Colorado State University. *Cheatgrass and AMF: Understanding interactions for improved restoration of invaded lands.*
- PS 62-74 Hughes, MJ, EG Johnson and PR Armsworth, University of Tennessee. *Near-optimal temporal and spatial control strategies for kudzu using goats.*
- PS 62-75 Holcombe, TR¹, L Frid², A Olsson³, K Bryan², A Hall² and JT Morissette¹, (1)USGS Fort Collins Science Center, (2)ESSA Technologies Ltd., (3)Northern Arizona University. *A decision support model for buffelgrass management in southern Arizona.*
- PS 62-76 Rogers, WE¹, D Twidwell¹, EA McMahon¹, BR Thomas¹, UP Kreuter¹ and TL Blankenship², (1)Texas A&M University, (2)Rob and Bessie Welder Wildlife Foundation. *Using prescribed extreme fire for coastal prairie restoration: Effects on species richness and invasion.*
- PS 62-77 Ulrich, JL¹, SN Miller¹, KK Bohn¹, M Thetford² and EC Pieteron¹, (1)University of Florida, (2)University of Florida/Milton Campus. *Effect of herbicide treatments on germination of Japanese climbing fern spores and survival of fern gametophytes.*
- PS 62-78 Ruiz-González, SP¹, J Goluvob² and MDC Mandujano Sánchez¹, (1)Instituto de Ecología, UNAM, (2)UAM-X. *Demography of an invasive species (Kalanchoe delagoensis) in Northern Mexico.*
- PS 62-79 Shin, M, U Song and EJ Lee, Seoul National University. *Mowing: Cause, but also a solution for invasive plant Erigeron annuus in a landfill.*
- PS 63-88 Gill, AL and MF Hoopes, Mount Holyoke College. *Fixing invasions: The effect of non-native nitrogen-fixing species on plant community structure in Northeastern open-meadow habitats.*
- PS 63-89 Barnes, EE and MF Hoopes, Mount Holyoke College. *Survival and oviposition of monarch butterflies (Danaus plexippus) on invasive pale swallow-wort (Cynanchum rossicum) in Massachusetts.*
- PS 63-90 Gonda-King, LM and E Preisser, University of Rhode Island. *Adelgid infestation increases foliar water content in eastern hemlock.*
- PS 63-91 Francis, JS and JL Horton, University of North Carolina at Asheville. *Using dendroecology to determine the effect of Celastrus orbiculatus Thunb. (Oriental bittersweet) on Liriodendron tulipifera L. (tulip poplar) growth.*
- PS 63-92 Lieurance, DM and D Cipollini, Wright State University. *The invasive shrub Lonicera maackii receives significantly less herbivory in the field than two native relatives: evidence for enemy release.*
- PS 63-93 Coykendall, KE and GR Houseman, Wichita State University. *Facilitating invasion by altering soil conditions: Evidence from Lespedeza cuneata.*
- PS 63-94 Houseman, GR and DD Wixson, Wichita State University. *Contrasting a native and invasive legume: Competitive effect on and response to sixteen native species.*
- PS 63-95 Lehrer-Brey, GL¹, MS Kornis², J Carlson¹ and MJ Vander Zanden², (1)University of Wisconsin Madison, (2)University of Wisconsin-Madison. *An interaction between the invasive round goby (Neogobius melanosomus) and native fishes across a gradient of round goby density.*
- PS 63-96 Kujawa, ER and MF Hoopes, Mount Holyoke College. *An investigation of the below-ground properties of two Polygonum species: native Polygonum virginianum and non-native invasive Polygonum cespitosum.*
- PS 63-97 Jones, KD¹ and TN Kaye², (1)Oregon State University, (2)Institute for Applied Ecology. *Determining ecological drivers of plant community composition: Which plant interactions govern seedling establishment and growth?*

PS 63 - Invasion: Species Interactions

Exhibit Hall 3, Austin Convention Center

- PS 63-80 Levri, EP¹, RH Bilka¹, AC Krist² and MF Dybdahl³, (1)Penn State Altoona, (2)University of Wyoming, (3)Washington State University. *Phenotypic plasticity and the invasive success of the New Zealand mud snail, Potamopyrgus antipodarum.*
- PS 63-81 Glidden, LK¹, S Gomez², CM Orians¹ and E Preisser², (1)Tufts University, (2)University of Rhode Island. *Are two invasive herbivores better than one? The role of starch.*
- PS 63-82 Burger, AC, GR Smith and JE Rettig, Denison University. *Competition between invasive mosquitofish and native bluegill sunfish.*
- PS 63-83 Miller, EZ and JE Rettig, Denison University. *Behaviors in groups: Measuring aggression between native bluegill (Lepomis macrochirus) and invasive mosquitofish (Gambusia affinis).*
- PS 63-84 Schwartz, LM and DJ Gibson, Southern Illinois University. *The competitive response of Panicum virgatum cultivars to non-native invasive species.*
- PS 63-85 Rand, T¹, S Louda², AR Kula³ and A Arnett⁴, (1)USDA-ARS Northern Plains Agricultural Research Laboratory, (2)University of Nebraska, (3)University of Maryland, (4)Unity College. *Cross-scale assessment of the competitive effects of an invasive weevil on a native floral herbivore.*
- PS 63-86 Bhattarai, GP¹, LA Meyerson², C Lee² and JT Cronin¹, (1)Louisiana State University, (2)The University of Rhode Island. *Latitudinal gradients in the defense characteristics in an invasive plant, Phragmites australis, in North America.*
- PS 63-87 Downing, JL, Florida International University and Fairchild Tropical Botanic Garden. *Impacts of a naturalized specialist bee Centris nitida on an endemic mutualism in Southern Florida.*

PS 64 - Land-Use and Land-Use History

Exhibit Hall 3, Austin Convention Center

- PS 64-98 Shin, JH, Korea Forest Research Institute. *The roles of geographical legends for conserving forest ecosystems in Korea.*
- PS 64-99 Vadeboncoeur, MA¹, SP Hamburg², CV Cogbill³ and WY Sugimura⁴, (1)University of New Hampshire, (2)Environmental Defense Fund, (3)Plainfield, VT, (4)Brown University. *A comparison of presettlement and modern forest composition in central New Hampshire.*
- PS 64-100 DeBano, SJ¹, C Kimoto¹, RV Taylor², H Schmalz³, PL Kennedy¹, T DelCurto¹, S Wyffels¹ and T Johnson¹, (1)Oregon State University, (2)The Nature Conservancy, (3)University of Idaho. *Differential effects of livestock grazing intensity on invertebrates in the Pacific Northwest Bunchgrass Prairie: Results of a large-scale manipulation.*
- PS 64-101 Guo, D, X Li and H Fu, Lanzhou University. *Carbon mineralization potential in response to land use change.*

PS 65 - Modeling

Exhibit Hall 3, Austin Convention Center

- PS 65-102 Peirce, JP, GJ Sandland, C Sutter and RJ Haro, University of Wisconsin - La Crosse. *Predicting the ecological outcomes of species invasions and parasite transmission in the upper Mississippi River.*

- PS 65-103 Sandland, GJ, RJ Haro, JP Peirce and AM Wood, University of Wisconsin - La Crosse. *Using field and experimental approaches to investigate the mechanisms underlying species invasion and disease outbreaks in the upper Mississippi River.*
- PS 65-104 Burgess, HR and S Townley, University of Exeter. *Modelling the impacts of differing hurricane patterns on the reef-building coral *Montastraea annularis*.*
- PS 65-105 Kellett, KM¹ and RP Shefferson², (1)Odum School of Ecology, University of Georgia, (2)University of Georgia. *Evaluating effects of stress on orchid populations with integral projection models.*
- PS 65-106 Erickson, RA, SB Cox and KR Long, Texas Tech University. *Stability of non-linear, stage-structured population models: An application of Floquet analysis.*
- PS 65-107 Kim, J¹, J Ryu¹, C Seo², H Kwon³, J Suh¹ and M Suh¹, (1) National Institute of Environmental Research, (2)University of Seoul, (3)Seoul National University. *Species distribution modeling using National Ecosystem Survey in Korea.*
- PS 65-108 Miller, CP¹, A Lira Noriega² and J Soberon³, (1)University of New Mexico, (2)University of Kansas, (3)Biodiversity Institute, Kansas University. *Modeling of processes of a mistletoe population in the Southwestern United States.*
- PS 65-109 Encinas, MY, E Diaz and RA Desharnais, California State University, Los Angeles. *Modeling the dynamics of disturbances in mussel beds.*
- PS 65-110 Palamara, GM¹, G Delius², OL Petchey¹, NT Worsfold³ and RJ Williams⁴, (1)University of Zurich, (2)University of York, (3)University of Sheffield, (4)Microsoft Research Ltd.. *Understanding the effect of predator functional response on time to extinction using stochastic models and microcosm experiments.*
- PS 65-111 Cyterski, M¹ and S Zhang², (1)U.S. Environmental Protection Agency, (2)University of Georgia. *Temporal synchronization to improve empirical modeling of fecal indicator bacteria at a recreational beach.*
- PS 65-112 Cubeta, AB¹, A Matthews² and JM Gramling³, (1)College of Charleston, (2)College of Charleston, (3)The Citadel. *A habitat characterization and suitability model for the endangered wetland plant *Lindera melissifolia* in the Southeastern Coastal Plain.*
- PS 65-113 Zemlich, A¹, DD Briske¹, JR Kiniry² and J Angerer¹, (1) Texas A&M University, (2)USDA-ARS. *Predicting plant compositional responses to grazing with a functional traits model.*
- PS 65-114 Carrillo-Rubio, E, S Morreale, J Lassoie, P Sullivan and E Cooch, Cornell University. *Site occupancy models to assess the impact of human activities and identify important areas for biodiversity.*
- PS 65-115 Garcia, ES¹, C Tague² and JS Choate², (1)University of California, Santa Barbara, (2)University of California, Santa Barbara. *Streamflow responses to potential changes in coniferous forest species composition and climate warming in the Western U. S.*
- PS 65-116 Holmes, EE¹, EJ Ward¹, S Hampton², M Scheuerell¹, LP Scheef² and DE Pendleton¹, (1)Northwest Fisheries Science Center, (2)National Center for Ecological Analysis and Synthesis. *Inferring community dynamics from time-series data using multivariate autoregressive state-space (MARSS) models: The effect of observation error and noise.*
- PS 65-117 Ventura, WA, University of Texas at Arlington. *The Role of resting stages in population dynamics of harmful algae: A mathematical model.*
- PS 65-118 Ryu, J¹, J Kim¹, J Lee¹, C Seo², H Kwon³ and C Park³, (1)National Institute of Environmental Research, (2) University of Seoul, (3)Seoul National University. *Spatial distribution and characteristics of endangered Korean Winter Hazel (*Corylopsis gotoana* var. *Coreana Uyeki*).*
- PS 65-119 Childs, EO¹, G Savant² and R McAdory¹, (1)USACE Research and Development Center, (2)Dynamic Solutions LLC. *Physics to planning: Numerical modeling in support of ecosystem restoration in estuaries.*
- PS 65-120 Giacomini, Sr., HC¹ and M Petrere Jr.², (1)University of Toronto (post-doctoral fellow), (2)UNESP. *Predicting species invasion success and impacts on individual-based modeled fish communities.*
- PS 65-121 Belshe, EF¹, BM Bolker², R Bracho¹ and EAG Schuur¹, (1)University of Florida, (2)McMaster University. *Incorporating spatial variation to estimate carbon fluxes in a tundra landscape undergoing permafrost thaw.*
- PS 65-122 Stocking, JJ and TR Simons, North Carolina State University. *From ProgramMARK to WinBUGS: Moving toward a hierarchical analysis of avian nest survival.*
- PS 65-123 Hunt, ND, University of Wisconsin Madison. *Use of an ecosystem process model to evaluate the effects of residue removal on long-term soil fertility in Upper Midwest cropping systems.*
- PS 65-124 Elton, EE, University of Virginia. *Forecasting the effect of ozone on mixed deciduous forests.*

PS 66 - Biogeochemistry: Aboveground-Belowground Interactions

Exhibit Hall 3, Austin Convention Center

- PS 66-125 Sánchez-de León, Y¹, MA Gonzalez-Meler², D Wise², J Lugo-Pérez¹ and R Norby³, (1)University of Puerto Rico at Utuado, (2)University of Illinois at Chicago, (3) Oak Ridge National Laboratory. *Seasonal influence over earthworm populations exposed to long-term elevated atmospheric carbon dioxide in a sweetgum plantation.*
- PS 66-126 Foote, JA¹, TW Boutton¹ and DA Scott², (1)Texas A&M University, (2)USDA Forest Service. *Soil carbon storage and dynamics in the western Gulf Coastal Plain as impacted by forest management.*
- PS 66-127 Sookhdeo, C¹, S Tepler² and M Pavao-Zuckerman³, (1)Rider University, (2)Biosphere 2, University of Arizona, (3)University of Arizona. *Short and long term environmental effects on N-mineralization rates in arid ecosystems of Biosphere 2.*
- PS 66-128 Pitz, S, K Szlavecz, L Xia, CH Chang, MJ Bernard, D Carlson, J Gupchup and P Houlihan, Johns Hopkins University. *Soil respiration in an upland tropical rainforest.*
- PS 66-129 Lynch, HB, Stanford University. *The effect of introduced canopy tree species in a tropical, wet, montane forest on the taxonomic diversity and abundance of microbial communities.*
- PS 66-130 Kantola, IB¹, TW Boutton¹, TR Filley² and CT Hallmark¹, (1)Texas A&M University, (2)Purdue University. *Changes in soil C, N, and P storage following woody plant invasion of grassland.*
- PS 66-131 Mauritz, M and D Lipson, San Diego State University. *Annual grass invasion in a semi-arid shrubland affects seasonal N retention but not N mineralization patterns.*
- PS 66-132 Chang, C¹, MJ Bernard¹, K Szlavecz¹, N Bray¹, MK McCormick², L Xia¹, S Pitz¹, DF Whigham² and J O'Neill², (1)Johns Hopkins University, (2)Smithsonian Environmental Research Center. *The effects of forest age, earthworm abundance, and leaf litter types on mesofauna and soil properties in Mid-Atlantic deciduous forests.*
- PS 66-133 Bae, K¹, RD Yanai², TJ Fahey³ and MC Fisk⁴, (1)SUNY-ESF, (2)SUNY College of Environmental Science and Forestry,

4:30 pm-6:30 pm

(3)Cornell University, (4)Miami University of Ohio. *Fine root biomass and soil respiration reflect belowground carbon allocation in response to nutrient limitation in New Hampshire northern hardwoods.*

PS 66-134 Macfall, JS and DN Whitman, Elon University. *Enzyme activity in hyporheic soils of Piedmont streams.*

PS 67 - Biogeochemistry: Atmospheric N Deposition Effects

Exhibit Hall 3, Austin Convention Center

PS 67-135 Ratliff, TJ¹ and MC Fisk², (1)Miami University, (2)Miami University of Ohio. *Resource allocation and nitrogen and phosphorus availability in northern hardwood forests.*

PS 67-136 Bettez, ND and PM Groffman, Cary Institute of Ecosystem Studies. *Nitrogen deposition along an urban-rural land-use gradient in Baltimore, MD.*

PS 67-137 Midgley, MG and RP Phillips, Indiana University. *Towards an improved understanding of forest ecosystem responses to N deposition: Do mycorrhizal associations matter?*

PS 67-138 Reyes, JJ¹, JC Adam¹, C Tague², JS Choate², JK Vaughan¹, SH Chung¹ and BK Lamb¹, (1)Washington State University, (2)University of California, Santa Barbara. *Building a biosphere-relevant Earth system modeling framework: Modeling impacts of atmospheric nitrogen deposition on the terrestrial biosphere.*

PS 67-139 Cook, EM¹, SJ Hall¹, RA Sponseller², DP Huber³, S Earl¹ and NB Grimm¹, (1)Arizona State University, (2)Swedish University of Agricultural Sciences, (3)Colorado State University. *Atmospheric nitrogen deposition in arid Phoenix, Arizona: A comparison of sampling methods.*

PS 67-140 Burton, AJ, MP Jarvi and JC Jarvey, Michigan Technological University. *Long-term NO₃⁻ additions alter root respiration:tissue N relationships in northern hardwood forests but not ecosystem root respiration.*

PS 68 - Biogeochemistry: Biogeo Patterns Along Environmental Gradients

Exhibit Hall 3, Austin Convention Center

PS 68-141 Mascaro, J¹, GP Asner¹, HC Muller-Landau², M van Breugel², J Hall² and KM Dahlin³, (1)Carnegie Institution for Science, (2)Smithsonian Tropical Research Institute, (3)Stanford University. *Controls over aboveground forest carbon density on Barro Colorado Island, Panama.*

PS 68-142 Morse, JL¹, PM Groffman¹ and SW Bailey², (1)Cary Institute of Ecosystem Studies, (2)USFS. *Landscape and hillslope controls over soil biogeochemical properties in a northern hardwood forest.*

PS 68-143 Xia, K and MA Williams, Mississippi State University. *Soil organic nitrogen speciation during 4000-year of soil and ecosystem development: Nitrogen K-edge XANES spectroscopy study.*

PS 68-144 Williams, RJ, SK Hargreaves, TM Isenhardt, LA Schulte and KS Hofmockel, Iowa State University. *The effect of landscape and cropping system on greenhouse gas emissions in an agro-ecosystem.*

PS 68-145 Eisenhut, NM, R Ye, BJM Bohannon, Q Jin and SD Bridgman, University of Oregon. *The effects of pH on carbon mineralization to CO₂ and CH₄ in peatlands across an ombrotrophic-minerotrophic gradient.*

PS 68-146 Baas, P¹, J Mohan¹, D Markewitz² and JD Knoepp³, (1) University of Georgia, (2)The University of Georgia, (3)USDA Forest Service Southern Research Station. *Utilization of watershed scale soil moisture and C/N dynamics: Possibilities for quantifying nitrogen cycling "hotspots".*

PS 68-147 Becknell, JM and JS Powers, University of Minnesota.

Biomass and forest structure across topographic position in a Costa Rican secondary tropical dry forest.

PS 68-148 Ontl, TA¹, CA Cambardella², LA Schulte¹ and RK Kolka³, (1)Iowa State University, (2)USDA-Agricultural Research Service, (3)USDA Forest Service, North Central Research Station. *Differences in soil aggregation and particulate organic matter pools across landscape positions in an agroecosystem.*

PS 68-149 Lynch, LM, EE Daugherty, ST Dunn, KM Halvorson, KE Lapo, KR Salk, SN Schmidt and JD Schade, St. Olaf College. *Nutrient availability and soil processes along topographical gradients in a restored prairie.*

PS 68-150 Enders, SK and BZ Houlton, University of California, Davis. *Isotopic evidence for shifts in N cycling across rain/snow transitions in the Sierra Nevada.*

PS 68-151 Sackett, L¹, K Tea¹, SR Whitehead¹, I Schwartz², DM McKnight¹, DH Wall³ and RA Virginia⁴, (1)University of Colorado, (2)Casey Middle School, (3)Colorado State University, (4)Dartmouth College. *Spatial heterogeneity of biogeochemistry and respiration in exposed and subnivian soils in McMurdo Dry Valleys, Antarctica.*

PS 68-152 Méndez, CL¹, MC Moreno¹, JJ San José¹, RA Montes Sr.², JV Montoya¹ and J Paolini¹, (1)Instituto Venezolano de Investigaciones Científicas, (2)Universidad Simón Bolívar. *Anthropogenic water drawdown and carbon accumulation mediates by soil aggregates in ecotones (Morichales) of the Orinoco lowland.*

PS 69 - Biogeochemistry: C and N Cycling In Response to Global Change

Exhibit Hall 3, Austin Convention Center

PS 69-153 Qi, X, Y Luo and X Zhou, University of Oklahoma. *Response of ecosystem nitrogen cycle to elevated CO₂: A meta-analysis.*

PS 69-154 Tao, B, H Tian, W Ren, C Lu, J Yang, M Liu and G Chen, Auburn University. *Potential carbon cycle consequences of large scale utilization of marginal land for biofuel crop production.*

PS 69-155 Wang, L¹, X Xu², C Lu², W Ren², C Song³ and H Tian⁴, (1) Auburn University, AL, USA, (2)Auburn University, AL, (3)Northeast Institute of Geography and Agroecology, Chinese Academy of Sciences, (4)Auburn University. *Dynamics of carbon storage and GHG balance in response to multiple global changes in wetlands in the Sanjiang Plain, Northeast China during 1949-2008.*

PS 69-156 Rothfuss Dair, B¹, CR Levine² and MC Fisk³, (1) Swarthmore College, (2)SUNY College of Environmental Science and Forestry, (3)Miami University of Ohio. *Carbon and nitrogen mineralization in soil microcosms from a northern hardwood forest show no response to phosphorous additions.*

PS 69-157 Pang, X¹, B Zhu² and W Cheng², (1)Chinese Academy of Sciences, (2)University of California. *Substrate availability controls the temperature sensitivity of soil organic carbon decomposition: Evidence from different soil depths.*

PS 69-158 Auyeung, DSN and JS Dukes, Purdue University. *Responses of nitrogen cycling and ammonia oxidizers to warming and altered precipitation in an old-field ecosystem.*

PS 69-159 Araujo, PI and AT Austin, University of Buenos Aires and IFEVA-CONICET. *Pine afforestation alters carbon cycling and pools along a precipitation gradient in Patagonia, Argentina.*

PS 69-160 Welsch, DL, SJ Deacon and JT Saville, Canaan Valley Institute. *Hydrological and temperature controls on fluxes of CO₂ and CH₄ from an Appalachian peatland.*

PS 69-161 Stark, JM, Utah State University. *Mechanisms for seasonal fluctuations in net and gross N mineralization and immobilization in a sagebrush ecosystem.*

- PS 69-162 Buckeridge, KM¹ and JP Schimel², (1)University of California, (2)University of California, Santa Barbara. *Disturbance and ecosystem recovery: Soil nutrient cycling response to thermokarst in Northern Alaska.*
- PS 69-163 Machmuller, MB¹, J Mohan¹, JS Clark² and JM Melillo³, (1)University of Georgia, (2)Duke University, (3)Marine Biological Laboratory. *The effect of experimental warming on soil respiration in two mixed deciduous forests.*
- PS 69-164 Minor, RL¹, CL Wright², SA Papuga³ and GA Barron-Gafford¹, (1)University of Arizona, (2)Texas A&M University, (3)The University of Arizona. *Quantifying environmental and topographic controls on soil respiration in a montane drainage system.*
- PS 69-165 Yang, Q, H Tian, C Lu, W Ren and X Li, Auburn University. *Phosphorus Effects on Productivity of Tropical Ecosystems: Perspectives from a fully coupled P-C-N land ecosystem model.*
- PS 69-166 Miao, G, A Noormets, JS King and S Zhang, North Carolina State University. *Temporal dichotomy in the hydrological and physiological controls of soil respiration in a forested wetland in Southeast US.*

PS 70 - Biogeochemistry: Experimental Climate Change Effects on Biogeo Processes

Exhibit Hall 3, Austin Convention Center

- PS 70-167 Zhou, X¹, Y Luo¹, PSJ Verburg², JA Arnone III² and D Schimel³, (1)University of Oklahoma, (2)Desert Research Institute, (3)NEON Inc.. *Benchmark analysis of parameterization under climate warming for terrestrial carbon cycle model.*
- PS 70-168 D'Orangeville, L¹, B Côté¹, D Houle², L Duchesne² and H Morin³, (1)McGill University, (2)Ministère des Ressources naturelles et de la Faune du Québec, (3) Université du Québec à Chicoutimi. *Response of a mature boreal balsam fir stand to two years of experimental soil warming and canopy N fertilization: Increase in soil available nutrients and wood production.*
- PS 70-169 Xue, P¹, X He² and Y Gao², (1)Harvard University, (2) Nankai University.
- PS 70-172 Ford, C¹, JD McGee² and RJ Mitchell², (1)USDA Forest Service, (2)Joseph W. Jones Ecological Research Center. *Long- and short-term precipitation effects on soil CO₂ efflux: Patterns revealed only with high frequency measurements.*

PS 71 - Biogeochemistry: Linking Community Structure and Ecosystem Function

Exhibit Hall 3, Austin Convention Center

- PS 71-173 Hutchins, BT¹, BF Schwartz¹ and AS Engel², (1)Texas State University, (2)Louisiana State University. *Hydrogeologic and geochemical controls on nutrient availability and food web dynamics in the biodiverse karstic Edwards Aquifer, TX, USA.*
- PS 71-174 Rodríguez, A¹, J Durán¹, A Gallardo² and JM Fernández-Palacios³, (1)Cary Institute of Ecosystem Studies, (2) Pablo de Olavide University, (3)La Laguna University. *Species and wildfire effects on the spatial pattern and scale*

4:30 pm-6:30 pm; 5 pm-6:30 pm; 8 pm-10 pm

- of soil N and P pools in a Pinus canariensis forest.*
- PS 71-175 Hsu, S¹ and DH Buckley², (1)Kent State University, (2) Cornell University. *Quantifying the relative contributions of diazotrophic community composition and soil characteristics on nitrogen fixation rates.*
- PS 71-176 Chattopadhyay, S¹, KD McConnaughay², ML Haddix³, R Conant³, SJ Morris², EA Paul³ and CB Blackwood¹, (1) Kent State University, (2)Bradley University, (3)Colorado State University. *Tag encoded pyrosequencing reveals shift in microbial community structure in Midwest soil under different agricultural and restoration treatments affecting carbon sequestration.*
- PS 71-177 Jondreau, GP, MP Jarvi and AJ Burton, Michigan Technological University. *Influence of root biomass and specific respiration rates on variation in ecosystem level fine root respiration among forest types.*
- PS 71-178 Davinic, M¹, J Moore-Kucera¹, L Fultz¹, S Dowd², V Acosta-Martinez³, SB Cox¹ and V Allen¹, (1)Texas Tech University, (2)Research and Testing Laboratory, (3) USDA-ARS. *Pyrosequencing-based assessment of soil bacterial communities within soil aggregates: Linking structure to C storage.*
- PS 71-179 Welter, JR¹, PC Furey¹, JA Cormier¹, AJ Rosendahl¹, BL Weigel² and GM Wilkinson³, (1)St. Catherine University, (2)St. Olaf College, (3)University of Virginia. *Abiotic and biotic constraints on nitrogen fixation and producer species assemblages in an N-limited river ecosystem.*
- PS 71-180 Brewer, PE¹, DJ Augustine², DM Blumenthal² and JC von Fischer¹, (1)Colorado State University, (2)USDA-ARS. *Impacts of fire and vegetation on resource distribution and microbial nitrifier communities in an semiarid grassland ecosystem.*

5 pm-6:30 pm

Musicians Central

Registration Lobby, Austin Convention Center

8 pm-10 pm

An Austin Night for Nature

ACL Moody Theater

Ticket \$15 ONLY includes the concert—No food or drinks included—MUST wear ESA Badge

Learn the meaning of “Live Music Capital of the World” by attending the ESA concert, organized by music lovers for music lovers. This is NOT COUNTRY MUSIC!! Listen to 3 local bands: Alejandro Escovedo and The Sensitive Boys (Rock, Roots Rock, Acoustic); Carolyn Wonderland (Blues, Americana); and Hendrix and Maines (Americana, Roots Rock, Folk). Come and hear this concert at the NEW home of the Austin City Limits located only a few blocks from the Austin Convention Center. Experience Austin at its best!!

THURSDAY

Friday, August 12

Field Trips, Business Meetings, and Receptions

8 am-10:30 am

ESA Governing Board

Austin Suite, Austin Convention Center

11:30 am-1 pm

ESA Buell/Braun Student Award Committee Meeting

Austin Suite, Austin Convention Center

11:30 am-1:15 pm

PL 4 - ESA Closing Plenary

19A, Austin Convention Center

11:30 am-1:30 pm

ESA Musicians Central

Registration Lobby, Austin Convention Center

Friday Sessions

8 am-10:30 am

ESA Governing Board

Austin Suite, Austin Convention Center

8 am-11:30 am

SYMP 22 - Global Perspectives of Earth Stewardship

Ballroom E, Austin Convention Center

Organized by: RA Dyball, E Ellis, A Freitag

Endorsed by: Human Ecology

Moderator: RA Dyball

The symposium is intended to present insights from the social sciences that are crucial for ecologists and others who are advocating global attitudinal and behavioral change to understand.

8:00 AM SYMP 22-1 Lovejoy, T, George Mason University & Heinz Center for Science, Economics and the Environment. *The imperative for planetary management.*

8:20 AM SYMP 22-2 Newell, B, Australian National University. *Metaphor, conceptual integration, and adaptive capacity.*

8:40 AM SYMP 22-3 Fantini, A and A Siminski, Universidade Federal de Santa Catarina. *Problems, problematic situations and plural perspectives: Conciliating collective interests through wise forest stewardship.*

9:00 AM SYMP 22-4 Wyborn, C, Australian National University. *Engaging with earth stewardship.*

9:20 AM Break

9:30 AM SYMP 22-5 Wang, R, Chinese Academy of Sciences. *Rethinking, reform, and renovation: A case study of ecological civilization renaissance in Hangzhou City.*

9:50 AM SYMP 22-6 Borden, R, College of the Atlantic. *Getting to the good life: Reflections on the psychological dimensions of a livable future?*

10:10 AM SYMP 22-7 Ellis, EC, University of Maryland Baltimore County. *Globalizing local thinking to support earth stewardship.*

10:30 AM Discussion

SYMP 23 - The Role of Soil Microbial Communities in Ecosystem Responses to Global Climate Change: Developing Predictive Tools for Impacts and Feedbacks that Facilitate Adaptation and Mitigation Strategies

Ballroom F, Austin Convention Center

Organized by: C Hawkes, BA Sikes

Endorsed by: Soil Ecology, Microbial Ecology (To be considered)

Moderator: BA Sikes

In this symposium, we will address the mechanistic links between soil microbial responses and ecosystem responses to climate change in order to make progress on an integrated predictive framework that can be used to develop mitigation and adaptation strategies for societal responses to climate change.

8:00 AM SYMP 23-1 Hawkes, C, University of Texas, Austin. *Soil microbial responses to altered environmental conditions: Understanding both patterns and mechanisms toward developing a predictive framework.*

8:20 AM SYMP 23-2 Lilleskov, EA¹, H Wei², VA Robert³ and O Gailing², (1)US Forest Service, Northern Research Station, (2)Michigan Technological University, (3)Centralbureau voor Schimmelcultures. *Can we use phylogeny and rRNA secondary structure to predict microbial community metabolic response to changing temperature?.*

8:40 AM SYMP 23-3 Treseder, KK¹, SN Kivlin¹, SD Allison¹ and KL McGuire², (1)University of California, Irvine, (2)Barnard College. *How do microbial responses to global change influence ecosystem carbon cycling?.*

9:00 AM SYMP 23-4 Brodie, EL and NJ Bouskill, Lawrence Berkeley National Laboratory. *How can soil microbial biogeography improve our ability to predict soil responses to climate change?.*

9:20 AM Break

9:30 AM SYMP 23-5 Billings, SA¹, S Ziegler², J Li¹ and C Lane³, (1)University of Kansas, (2)Memorial University, (3) University of North Carolina at Wilmington. *Nitrogen as a mediator of soil organic matter decomposition in a changing climate: Linking stable isotopes, organic geochemistry, and microbial ecology.*

9:50 AM SYMP 23-6 Herrera, J¹, A Porras-Alfaro², R Sinsabaugh³ and SL Collins³, (1)Truman State University, (2)Western Illinois University, (3)University of New Mexico. *Threshold models for how pulse dynamics affect microbial responses to climate change in arid ecosystems.*

10:10 AM SYMP 23-7 Sudderth, EA¹, KM Byrne², L Gherardi³, LG Reichmann³, SA Placella⁴, DJ Herman⁴, SB St. Clair⁵, PB Adler⁶, MK Firestone⁴, MS Torn⁷, DD Ackerly⁴ and OE Sala³, (1)Brown University, (2)Colorado State University, (3)Arizona State University, (4)University of California, (5)Brigham Young University, (6)Utah State University, (7)Lawrence Berkeley National Laboratory. *How do linked plant-soil processes affect ecosystem responses to climate change?.*

10:30 AM SYMP 23-8 Classen, A¹, EE Austin¹, VA Brown¹, JAM Bryant¹, A Buchan¹, H Castro¹, MA Cregger¹, MA de Graaff², P Kardol³, TE Sackett⁴ and L Souza¹, (1)The University of Tennessee, (2)Boise State University,

FRIDAY

(3)Swedish University of Agricultural Sciences, (4) University of Toronto. *Soil microbes as predictors of ecosystem functional responses to global climate change.*

10:50 AM Discussion

SYMP 24 - Population-Level Effects of Acoustic Disturbance on Marine Mammals

Ballroom G, Austin Convention Center

Organized by: E Fleishman (efleishman@ucdavis.edu), DP Costa, J Harwood, P Tyack, M Weise

Moderator: E Fleishman

Recent theoretical and empirical work has substantially improved understanding of the population-level effects of multiple sources of disturbance, including sound, on marine mammals. The work we present will inform research, management, and projections of responses of marine mammals to alternative scenarios of natural and anthropogenic environmental change.

8:00 AM SYMP 24-1 Weise, M, Office of Naval Research. *Relevance to agencies and industry of effects of sound on populations of marine mammals.*

8:15 AM SYMP 24-2 Harwood, J¹, DP Costa², P Tyack³ and M Weise⁴, (1)University of St Andrews, (2)University of California Santa Cruz, (3)Woods Hole Oceanographic Institution, (4)Office of Naval Research. *A conceptual frameworks for evaluating the effects of sound on marine mammals.*

8:30 AM SYMP 24-3 Thomas, L¹, JS Clark² and J Harwood¹, (1) University of St Andrews, (2)Duke University. *Translating conceptual to parameterized models for multiple taxonomic groups.*

9:00 AM SYMP 24-4 Costa, DP¹ and L Schwarz², (1)University of California Santa Cruz, (2)Dept. of Biology, University of California Santa Cruz. *Environmental variation and experimental manipulation as proxies for disturbance in elephant seals.*

9:30 AM Break

9:40 AM SYMP 24-5 New, L¹, C McMahon² and M Hindell³, (1) University of St Andrews, (2)Charles Darwin University, (3)University of Tasmania. *Relations among foraging, disturbances to foraging, and vital rates in southern elephant seals.*

9:55 AM SYMP 24-6 Lusseau, D¹, R Williams², F Christiansen¹ and L Bejder³, (1)University of Aberdeen, (2)University of St Andrews, (3)Murdoch University. *Population consequences of whalewatching disturbances on cetaceans.*

10:25 AM SYMP 24-7 Schick, R¹, S Kraus², R Rolland², P Hamilton², P Corkeron³, C Clark⁴ and JS Clark¹, (1)Duke University, (2)New England Aquarium, (3)NOAA, (4)Bioacoustics Research Program, Cornell Laboratory of Ornithology. *Potential effects of acoustic disturbance on foraging behavior, body condition, and demography in North Atlantic right whales.*

10:55 AM SYMP 24-8 Moretti, D¹, N DiMarzio¹, E McCarthy¹, A Dille¹, R Morrissey¹, J Ward¹, S Jarvis¹ and L Thomas², (1)NUWC, (2)University of St. Andrews. *Population Level Effects of Mid-Frequency Active (MFA) sonar on Blainville's (Mesoplodon densirostris) and Cuvier's (Ziphius cavirostris) Beaked Whales on U.S. Navy Ranges.*

11:10 AM Discussion

OOS 46 - Modeling Bioenergy Production Impacts across Scales: Implications for Environmental Sustainability

16B, Austin Convention Center

Organized by: RC Izaurralde (cesar.izaurralde@pnl.gov)

Moderator: WM Post III

This session includes presentations and discussion on the modeling of environmental impacts of bioenergy production at the field to regional scales.

8:00 AM OOS 46-1 Zhang, X¹, RC Izaurralde¹, D Manowitz¹, TO West¹, WM Post², AM Thomson¹, P Bandaru¹, J Nichols² and J Williams³, (1)Pacific Northwest National Laboratory, (2)Oak Ridge National Laboratory, (3) AgriLIFE Research. *SEIMF: A spatially-explicit integrative modeling framework to evaluate the productivity and sustainability of biofuel crop production systems.*

8:20 AM OOS 46-2 Kang, S¹, WM Post III¹, J Nichols¹, D Wang¹, C Izaurralde², TO West², P Bandaru², X Zhang², D Manowitz² and AM Thomson², (1)Oak Ridge National Laboratory, (2)Joint Global Change Research Institute. *Delineating a hierarchical definition of marginal land using simulation results.*

8:40 AM OOS 46-3 Parton, WJ¹, SC Davis², S DelGrosso³, PR Adler⁴ and EH DeLucia⁵, (1)Colorado State University, (2)University of Illinois, (3)USDA/ARS, (4)USDA-ARS, (5) University of Illinois at Urbana-Champaign. *Ecological modeling of bioenergy production systems using DayCent.*

9:00 AM OOS 46-4 Manowitz, D and RC Izaurralde, Pacific Northwest National Laboratory. *Modeling production, net greenhouse gas emissions, and related environmental impacts of bioenergy systems at plot scale.*

9:20 AM OOS 46-5 Song, Y¹, P Meiyappan¹, M Liang², A Jain¹, M Khanna¹ and H Huang¹, (1)University of Illinois, (2) China Meteorological Administration. *An integrated biogeochemical, biophysical, and economic analysis of bioenergy crops.*

9:40 AM Break

9:50 AM OOS 46-6 Egbendewe-Mondzozo, A¹, SM Swinton¹, C Izaurralde², D Manowitz³ and X Zhang², (1)Michigan State University, (2)Joint Global Change Research Institute, (3) Pacific Northwest National Laboratory. *Biomass supply from alternative cellulosic crops, and crop residues: A watershed scale bioeconomic modeling approach.*

10:10 AM OOS 46-7 Eranki, PL, BD Bals and BE Dale, Biomass Conversion Research Laboratory, Chemical Engineering Michigan State University and Great Lakes Bioenergy Research Center. *Techno-ecological modeling of bioenergy production systems.*

10:30 AM OOS 46-8 Sahajpal, R¹, TD Meehan², RC Izaurralde³, D Manowitz³, X Zhang³, C Gratton⁴, BP Werling⁵ and DA Landis⁶, (1)University of Maryland College Park, (2) University of Wisconsin, Madison, (3)Pacific Northwest National Laboratory, (4)University of Wisconsin - Madison, (5)University of Wisconsin, (6)Michigan State University. *Integrating biodiversity estimation into the EPIC model.*

OOS 47 - From Leaf to Biosphere: The Effects of a Warming Climate on Tropical Rain Forests

17A, Austin Convention Center

Organized by: TE Wood (tana@berkeley.edu), MA Cavaleri, SC Reed

Moderator: TE Wood

Together these talks will provide a comprehensive exploration of how tropical forests are currently responding to temperature increases, and will help with predictions of how these forests may respond in the future by highlighting key factors controlling their response.

8 am-11:30 am

- 8:00 AM OOS 47-1 Wixon, D¹, AP Smith² and TC Balsler², (1) University of Wisconsin, Madison, (2)University of Wisconsin-Madison. *Tropical soil microbial community response to experimental warming.*
- 8:20 AM OOS 47-2 Craine, JM, Kansas State University. *Carbon quality controls over the temperature sensitivity of soil respiration in the tropics.*
- 8:40 AM OOS 47-3 Cleveland, CC¹, AR Townsend², S Alvarez-Clare³, MM Bustamante⁴, GB Chuyong⁵, S Dobrowski¹, P Grierson⁶, KE Harms⁷, BZ Houlton⁸, AR Marklein⁹, WJ Parton¹⁰, S Porder¹¹, SC Reed¹², C Sierra¹³, WL Silver¹⁴, EVJ Tanner¹⁵, PG Taylor¹⁶ and WR Wieder¹⁶, (1)University of Montana, (2)University of Colorado, Boulder, (3) University of Florida, (4)Universidade de Brasilia, (5)University of Buea, (6)The University of Western Australia, (7)Louisiana State University, (8)University of California, Davis, (9)University of California - Davis, (10) Colorado State University, (11)Brown University, (12) USGS, (13)Max-Planck-Institute for Biogeochemistry, (14)University of California, Berkeley, (15)University of Cambridge, (16)Institute of Arctic and Alpine Research, University of Colorado at Boulder. *Climate and nutrient regulation of the tropical forest carbon cycle.*
- 9:00 AM OOS 47-4 Cunningham, SC and J Read, Monash University. *Physiological clues to the responses of tropical rainforest trees to a warming climate.*
- 9:20 AM OOS 47-5 Russell, AE¹, WJ Parton² and SF Oberbauer³, (1)Iowa State University, (2)Colorado State University, (3)Florida International University. *Modeling the complex effects of climatic variation on tropical rainforest carbon cycling.*
- 9:40 AM Break
- 9:50 AM OOS 47-6 Malhi, Y¹, P Meir², N Salinas³, J Silva-Espejo³, C Girardin⁴, M Zimmerman⁵, LE Aragao⁶, DB Metcalfe⁷, F Farfan-Amezquita³, W Huaraca-Huasco³, L Durand³, M Mamani³, AJ Ccahuana³, C Doughty⁴, W Farfan⁸, K Garcia⁸, A Robertson⁹, KJ Feeley¹⁰, M Bird⁵ and MR Silman⁸, (1)Oxford University, (2)University of Edinburgh, (3) Universidad San Antonio Abad del Cusco, (4)University of Oxford, (5)James Cook University, (6)University of Exeter, (7)Swedish University of Agricultural Sciences, (8)Wake Forest University, (9)University of Alaska, (10)Department of Biological Sciences. *The response of tropical forest function and carbon cycling to warming: Insights from an elevation transect study in the Andes and Amazon.*
- 10:10 AM OOS 47-7 Ryan, MG, USDA Forest Service. *Higher temperatures and tropical tree physiology: The known unknowns.*
- 10:30 AM OOS 47-8 Wood, TE¹, MA Cavaleri² and SC Reed³, (1)University of California - Berkeley, (2)Michigan Technological University, (3)USGS. *Tropical forest carbon balance in a warmer world: A critical review spanning microbial- to ecosystem-scale processes.*
- 10:50 AM OOS 47-9 Vourlitis, GL¹, FDA Lobo², PA Zeilhofer³ and JDS Nogueira², (1)California State University, (2) Universidade Federal de Mato Grosso, (3)3Programa de Pós-Graduação em Física Ambiental. *Temporal patterns of net CO₂ exchange for a tropical semi-deciduous forest of the southern Amazon Basin.*
- 11:10 AM OOS 47-10 Schnitzer, SA¹ and F Bongers², (1)University of Wisconsin - Milwaukee, (2)Wageningen University. *Increasing liana abundance and biomass in tropical forests: Emerging patterns and putative mechanisms.*

OOS 48 - Ecohydrology of Shallow Soil Communities and of Roots in Rocks

17B, Austin Convention Center

Organized by: S Schwinning (schwinn@txstate.edu), GW Moore, JL Heilman, P Poot, MC Duniway, KT Rebel

Moderator: S Schwinning

The symposium will a) feature case studies from four continents demonstrating the hydrologic contribution of water storage in weathered bedrock and cemented horizons, b) examine the nature of plant adaptations to such substrates, and c) propose avenues for more accurately representing these ecosystems in hydrological models.

8:00 AM OOS 48-1 Estrada-Medina, H¹, RC Graham², M Allen³, W Tuttle⁴, LS Santiago⁵ and JJ Jimenez-Osornio¹, (1) Universidad Autonoma de Yucatan, (2)University of California, Riverside, (3)University of California Riverside, (4)National Soil Survey Center, (5)University of California. *Subsurface features: Beyond shallow soils in Yucatan.*

8:20 AM OOS 48-2 Heilman, JL¹ and ME Litvak², (1)Texas A&M University, (2)University of New Mexico. *Shallow soil constraints on ecohydrological processes in limestone karst ecosystems of the Edwards Plateau, TX.*

8:40 AM OOS 48-3 Egerton-Warburton, L¹, JI Querejeta² and M Allen³, (1)Chicago Botanic Garden, (2)Centro de Edafología y Biología Aplicada del Segura (CEBAS-CSIC), (3)University of California Riverside. *Differences in depth to groundwater modulates the mycorrhizal responses of oak trees to interannual rainfall variability.*

9:00 AM OOS 48-4 Graham, RC, University of California, Riverside. *Water relations and ecosystem function of weathered granitic bedrock.*

9:20 AM OOS 48-5 Poot, P and H Lambers, The University of Western Australia. *Adaptive advantages and constraints of a specialized root system morphology: A review of case studies from shallow-soil communities in Mediterranean SW Australia.*

9:40 AM Break

9:50 AM OOS 48-6 Eggemeyer, KD and S Schwinning, Texas State University. *Contrasting responses of seedling development to soil barriers in two woody encroachers.*

10:10 AM OOS 48-7 Duniway, MC¹, JE Herrick², C Monger³, DM Browning⁴, K Snyder⁵ and DPC Peters², (1) USDA-ARS Jornada Experimental Range, (2)USDA Agricultural Research Service, (3)New Mexico State University, (4)USDA Agriculture Research Service, (5) USDA, Agricultural Research Service. *Ecohydrology of petrocalcic horizons: Water storage, ecological potential, and hydrologic models.*

10:30 AM OOS 48-8 Rebel, KT¹, GW Moore², S Schwinning³ and RJ Elkington¹, (1)Utrecht University, (2)Texas A&M University, (3)Texas State University. *Modeling shallow-soil communities: Opportunities and Challenges.*

10:50 AM OOS 48-9 Moore, GW and JL Heilman, Texas A&M University. *Transpiration: Whether it varies with land-use change or not, and why.*

OOS 49 - The Fire-Grazing Interaction: An Integral Ecosystem Process

12A, Austin Convention Center

Organized by: BW Allred, SL Eby

Moderator: BW Allred

Fire-grazing interactions are ecological processes that have a defining role in grasslands, savannas, and woodlands; they are critical to the conservation and stewardship of these landscapes.

- 8:00 AM OOS 49-1 Fuhlendorf, SD, BW Allred, DM Engle and D Elmore, Oklahoma State University. *Pyric Herbivory: The fire-grazing interaction as a critical ecological process.*
- 8:20 AM OOS 49-2 Sensenig, R¹, MW Demment² and EA Laca², (1)Goshen College, (2)University of California. *Allometric scaling: Body size and fire-grazing interactions in an East African savanna.*
- 8:40 AM OOS 49-3 Smith, MD¹, AK Knapp², SL Collins³, N Govender⁴, K Kirkman⁵, RWS Fynn⁶, DE Burkepille⁷, N Hagenah⁸, K Matchett⁵, D Thompson⁹, SE Koerner³, K Wilcox² and CE Burns¹⁰, (1)Yale University, (2)Colorado State University, (3)University of New Mexico, (4) Scientific Service Kruger National Park, (5)University of KwaZulu-Natal, (6)University of Botswana, (7)Florida International University, (8)University of Kwazulu-Natal, (9)SAEON, (10)The Nature Conservancy. *Divergence in savanna grassland community responses to fire and grazing in North America and South Africa.*
- 9:00 AM OOS 49-4 Winter, S¹, S Fuhlendorf¹, C Goad¹, C Davis¹, K Hickman¹ and D Leslie², (1)Oklahoma State University, (2)US Geological Survey. *Pyric herbivory in Artemisia shrubland of the southern Great Plains, North America.*
- 9:20 AM OOS 49-5 Joern, A, A Laws and JE Gomez, Kansas State University. *Arthropod distributions, abundances and species interactions in tallgrass prairie respond to habitat heterogeneity resulting from fire-grazing interactions.*
- 9:40 AM Break
- 9:50 AM OOS 49-6 Gregory, N¹, R Sensenig² and DS Wilcove¹, (1) Princeton University, (2)Goshen College. *Savanna home companions: Fire, pastoralism, drought, and birds in East Africa.*
- 10:10 AM OOS 49-7 Hamilton, B, The Nature Conservancy. *Application of the fire-grazing interaction model for conservation in the tallgrass prairie of Oklahoma.*
- 10:30 AM OOS 49-8 Mandle, L and T Ticktin, University of Hawaii at Manoa. *Interactive effects of leaf harvest, grazing, and fire on the population dynamics of the mountain date palm (Phoenix loureiri Kunth) and implications for management.*
- 9:20 AM OOS 50-5 Chang, AL¹, A Deck¹, PD Malm², K Willits¹, S Attoe³, JL Fisher³ and SG Morgan¹, (1)University of California Davis, (2)Sonoma State University, (3)Oregon State University. *Going with the flow or staying close of home? Linking habitat quality and population dynamics of Olympia oysters in San Francisco Bay.*
- 9:40 AM Break
- 9:50 AM OOS 50-6 White, JW, University of North Carolina Wilmington. *Evaluating metapopulation source strength in a multispecies context for marine protected area planning.*
- 10:10 AM OOS 50-7 Alexander, ML and PH Diaz, U.S. Fish and Wildlife Service. *Temporal and spatial variation of macroinvertebrate communities in a central Texas spring-fed river.*
- 10:30 AM OOS 50-8 Hellman, ML¹, CR Allen² and MP Simon³, (1)Nebraska Fish and Wildlife Cooperative Research Unit, University of Nebraska-Lincoln, (2)University of Nebraska-Lincoln, (3)Benedictine College. *Detection and occupancy of anuran adults and tadpoles in wetland restorations.*
- 10:50 AM OOS 50-9 Struve, J, University of Florida. *The role of habitat quality and availability in population abundance and fisheries sustainability of Florida Gulf Coast snook (Centropomus undecimalis).*
- 11:10 AM OOS 50-10 Trexler, JC, Florida International University. *Local and landscape control of population dynamics: Small fish in a large ecosystem.*

COS 122 - Aquatic-Terrestrial Linkages

Ballroom B, Austin Convention Center

- 8:00 AM COS 122-1 Earl, JE and RD Semlitsch, University of Missouri. *Effects of spatial subsidies and canopy cover on ponds ecosystems.*
- 8:20 AM COS 122-2 Schriever, TA and DD Williams, University of Toronto. *Unequal flow of resource subsidies across aquatic-terrestrial ecosystems.*
- 8:40 AM COS 122-3 Bartrons, M¹, M Papes¹, MW Diebel², C Gratton³ and MJ Vander Zanden¹, (1)University of Wisconsin-Madison, (2)Wisconsin DNR Bureau of Science Services, (3)University of Wisconsin - Madison. *Empirical model of the potential flux of aquatic productivity from lakes and streams onto land.*
- 9:00 AM COS 122-4 Rogalski, MA, Yale University. *The combined influence of habitat connectivity and land use on zooplankton community structure.*
- 9:20 AM COS 122-5 Abuzeineh, AA, WH Nowlin, A Smith, TC Heard and TH Bonner, Texas State University. *Organic matter sources supporting communities of an arid and semi-arid riverine system: The lower Rio Grande drainage.*
- 9:40 AM Break
- 9:50 AM COS 122-6 Dreyer, J, D Hoekman and C Gratton, University of Wisconsin-Madison. *The effect of a midge pulse on a terrestrial arthropod food web.*
- 10:10 AM COS 122-7 Hoekman, D, J Dreyer and C Gratton, University of Wisconsin - Madison. *Arthropod community response to lake-derived production in heathland food webs demonstrate ecosystem linkages.*
- 10:30 AM COS 122-8 Palen, WJ¹, JC Finlay², C McNeely³, MP Limm⁴, ME Power⁴ and B Semmens⁵, (1)Simon Fraser University, (2)University of Minnesota, (3)Eastern Washington University, (4)University of California, Berkeley, (5) Northwest Fisheries Science Center. *Thresholds of juvenile steelhead, *Oncorhynchus mykiss*, resource use and stable isotope composition in a river network.*
- 10:50 AM COS 122-9 Compton, JE¹, KE Goodwin² and DJ Sobota³,

OOS 50 - Source Habitat Quality and Metapopulation Dynamics in Aquatic Ecosystems

14, Austin Convention Center

Organized by: B Walther, P Munguia

Moderator: B Walther

This session will explore the influence of habitat quality on population dynamics and resilience of marine and freshwater species with a mobile life history stage.

- 8:00 AM OOS 50-1 P Munguia, The University of Texas at Austin. *Structural heterogeneity in source-sink marine communities.*
- 8:20 AM OOS 50-2 Maloney, KO, RM Bennett and WA Lellis, USGS - Leetown Science Center. *Identifying the factors controlling the persistence of endangered freshwater mussel populations in hydrologically altered systems: A case study on the Upper Delaware River, USA.*
- 8:40 AM OOS 50-3 Shima, JS¹ and SE Swearer², (1)Victoria University of Wellington, (2)University of Melbourne. *Legacies of natal sources and dispersal histories: Implications for connectivity in a reef fish metapopulation.*
- 9:00 AM OOS 50-4 Morgan, SG¹, JW White², SO Hameed¹ and SH Miller³, (1)University of California Davis, (2)University of North Carolina Wilmington, (3)University of California, Davis. *Nearshore retention and population connectivity in upwelling regions: Estimating source strength and settlement in rocky shore metapopulations.*

8 am-11:30 am

- (1)US EPA, NHEERL, Western Ecology Division, (2) Independent contractor based at US EPA, (3)National Research Council Postdoctoral Fellow. *Seasonal and annual watershed nitrogen export within the Willamette River Basin.*
- 11:10 AM COS 122-10 SanClements, MD¹, GP Oelsner², D McKnight³, FR Fatemi⁴ and IJ Fernandez⁵, (1)University of Colorado, (2)USGS New Mexico Water Science Center, (3)University of Colorado, (4)University of Maine, (5)University of Maine. *The Clean Air Act and Dissolved Organic Matter (DOM): The effects of acidification and recovery on DOM quality and source in temperate forested watersheds.*

COS 123 - Behavior: Migration and Movement

Ballroom C, Austin Convention Center

- 8:00 AM COS 123-1 Shaw, AK and I Couzin, Princeton University. *Migration or residency: The evolution of movement behavior and information usage in seasonal environments.*
- 8:20 AM COS 123-2 McCauley, SJ¹, MJ Fortin² and L Rowe², (1) Cal Poly State University, (2)University of Toronto. *The matrix matters: Forest cover affects movement behavior and habitat selection in odonates.*
- 8:40 AM COS 123-3 Parkos, III, JJ and JC Trexler, Florida International University. *Landscape influences on cues and spatial scales of predator dispersal in response to drought disturbance.*
- 9:00 AM COS 123-4 Cecala, KK¹ and JC Maerz², (1)University of Georgia, (2)The University of Georgia. *The role of behavior in influencing headwater salamander responses to disturbance.*
- 9:20 AM COS 123-5 Kreakie, BJ¹ and TH Keitt², (1)University of Texas at Austin, (2)The University of Texas at Austin. *Predictive Migratory Movement Model illustrated through a Blue-Winged Teal (*Anas discors*) case study.*
- 9:40 AM Break
- 9:50 AM COS 123-6 Kennedy, BP and E Hamann, University of Idaho. *The spatial scale and ecological drivers of homing in a migratory salmon population.*
- 10:10 AM COS 123-7 Bruggeman, DJ¹, TWiegand², IC Martinez² and JR Walters³, (1)Michigan State University, (2)Helmholtz Center for Environmental Research - UFZ, (3)Virginia Polytechnic Institute and State University. *Contrasting information content of demographic and genetic data when inversely estimating dispersal parameters.*
- 10:30 AM COS 123-8 Hinkelman, TM¹, BC Nolting², CE Brassil¹ and B Tenhumberg¹, (1)University of Nebraska, (2)University of Nebraska, Lincoln. *Giving-up time and giving-up density in a world without patches: new models for optimal foraging based on random search strategies.*
- 10:50 AM COS 123-9 Yackulic, CB¹, S Blake², F Cabrera³, A Guezou³, P Jaramillo³ and M Wikelski², (1)Princeton University, (2)Max Plank Institute for Ornithology, (3) Charles Darwin Foundation. *Not to hot, not to cold: The role of temperature in the daily activity and altitudinal migration of Galapagos Tortoises.*
- 11:10 AM COS 123-10 Chynoweth, MW¹, DCA Lepczyk¹, CM Litton¹ and S Cordell², (1)University of Hawaii at Manoa, (2) USDA Forest Service. *Movement patterns and habitat utilization of nonnative feral goats in Hawaiian dryland montane landscapes.*

COS 124 - Parasitism and Host-Parasite Interactions

4, Austin Convention Center

- 8:00 AM COS 124-1 Pérez-Vila, S, B Wertheim, RS Etienne and LW Beukeboom, University of Groningen. *Host choice strategies in micro-sympatric *Nasonia* species.*

- 8:20 AM COS 124-2 Busby, PE¹, G Newcombe², R Dirzo¹ and TG Whitham³, (1)Stanford University, (2)University of Idaho, (3)Northern Arizona University. *Host plant genotype, environment, and their interaction jointly determine pathogen community structure.*
- 8:40 AM COS 124-3 Crumrine, PW¹, AD Miller², VR Beasley³, A Schotthoefer⁴, LB Johnson⁵ and JR Rohr⁶, (1)Rowan University, (2)SUNY ESF, (3)College of Veterinary Medicine, University of Illinois at Urbana-Champaign, (4)Centers for Disease Control and Prevention (CDC), National Center for Emerging and Zoonotic Infectious Diseases, (5)University of Minnesota, (6)University of South Florida. *Dragonfly diversity and density and parasite dodging dilute disease in amphibians.*
- 9:00 AM COS 124-4 Bernot, R and M Bernot, Ball State University. *Parasite prevalence and nanosilver affect benthic nutrient cycling and productivity.*
- 9:20 AM COS 124-5 Hood, GR¹, AA Forbes², THQ Powell¹, SP Egan³ and JL Feder¹, (1)The University of Notre Dame, (2)University of Iowa, (3)University of Notre Dame. *Genetic and ecological evidence for sequential speciation in sympatric populations of a parasitic wasp.*
- 9:40 AM Break
- 9:50 AM COS 124-6 Marino, JA, University of Michigan. *Consumptive and nonconsumptive effects of predators on interactions between larval anurans and trematode parasites.*
- 10:10 AM COS 124-7 Rynkiewicz, E¹, H Hawlena² and K Clay¹, (1) Indiana University, (2)Ben-Gurion University. *Interactions between ectoparasites and immune function in free-living rodents.*
- 10:30 AM COS 124-8 Ryan, JA and SL Kohler, Western Michigan University. *The effect of parasitism on the functional response of a fish predator.*
- 10:50 AM COS 124-9 Alexander, JD, RW Stocking, SL Hallett, L Xue and JL Bartholomew, Oregon State University. *Spatiotemporal patterns in density and population structure of *Manayunkia speciosa*, the polychaete host of *Ceratomyxa shasta* in the Klamath River, CA.*
- 11:10 AM COS 124-10 Bolshakova, VL and EW Evans, Utah State University. *Varying impacts with elevation from a parasitoid guild of a montane moth, the sagebrush defoliator.*

COS 125 - Biogeochemistry: New Paradigms in Biogeochem Cycling II

5, Austin Convention Center

- 8:00 AM COS 125-1 Townsend, AR¹, PG Taylor², WR Wieder², CC Cleveland³ and DR Nemergut⁴, (1)University of Colorado, Boulder, (2)Institute of Arctic and Alpine Research, University of Colorado at Boulder, (3)University of Montana, (4)University of Colorado. *Stoichiometric controls over nitrogen and phosphorus transformations and loss.*
- 8:20 AM COS 125-2 Stanton, DE¹, B Salgado-Negrete², LO Hedin¹ and JJ Armesto², (1)Princeton University, (2)CASEB, Pontificia Universidad Católica de Chile and Instituto de Ecología y Biodiversidad. *Ecosystem properties self organize in response to a directional fog-vegetation feedback.*
- 8:40 AM COS 125-3 Keller, AB¹, CC Cleveland¹, SC Reed², PG Taylor³, AR Townsend⁴, WR Wieder³ and PR Funk¹, (1) University of Montana, (2)USGS, (3)Institute of Arctic and Alpine Research, University of Colorado at Boulder, (4)University of Colorado, Boulder. *Effects of canopy tree species diversity on belowground ecosystem processes in a wet tropical rain forest.*

- 9:00 AM COS 125-4 Bradford, MA¹, AD Keiser¹, CA Mersmann² and MS Strickland¹, (1)Yale University, (2)University of Georgia. *Fates of low molecular weight carbon inputs to the belowground.*
- 9:20 AM COS 125-5 Levine, CR¹, JL Campbell², RD Yanai¹, MB Green³, MB Adams², DA Burns⁴, DC Buso⁵, ME Harmon⁶, T Keenan⁷, SL LaDeau⁸, GE Likens⁵, WH McDowell⁹, JN Parman¹⁰, SD Sebestyen², J Vose² and M Williams¹⁰, (1) SUNY College of Environmental Science and Forestry, (2) USDA Forest Service, (3)Plymouth State University, (4)US Geologic Survey, (5)Cary Institute of Ecosystem Studies, (6)Oregon State University, (7)Harvard University, (8) Cary Insitute of Ecosystem Studies, (9)University of New Hampshire, (10)University of Colorado. *Quantifying Uncertainty in Ecosystem Studies (QUEST): A cross-site comparison of watershed input-output budgets.*
- 9:40 AM Break
- 9:50 AM COS 125-6 Duval, BD¹, SC Davis², WJ Parton³, SP Long² and EH DeLucia⁴, (1)Global Change Solutions, (2)University of Illinois at Urbana-Champaign, (3)Colorado State University, (4)University of Illinois. *Greenhouse gas reduction with conversion from pasture to energy cane production.*
- 10:10 AM COS 125-7 Wickings, K¹, AS Grandy¹, SC Reed² and CC Cleveland², (1)University of New Hampshire, (2) University of Montana. *Litter quality constrains the affect of management intensity on decomposers and litter chemistry.*
- 10:30 AM COS 125-8 Liptzin, D, E Bai, BZ Houlton and RA Dahlgren, University of California, Davis. *A land-based nitrogen mass balance for California: Partitioning nitrogen surplus.*
- 10:50 AM COS 125-9 Dickens, SJM¹, EB Allen², LS Santiago³ and DE Crowley¹, (1)University of California Riverside, (2) Univeristy of California, Riverside, (3)University of California. *Environment is a stronger determinant of exotic plant feedbacks to soil than vegetation type in southern California ecosystems.*
- 11:10 AM COS 125-10 Gruenzweig, JM, Hebrew University of Jerusalem. *Litter decomposition during rainless periods is enabled by atmospheric water-vapor absorption and solar radiation.*

COS 126 - Climate Change: Plants III

6A, Austin Convention Center

- 8:00 AM COS 126-1 Salguero-Gomez, R¹ and B Casper², (1) The University of Pennsylvania, (2)University of Pennsylvania. *Super-size me... not: Desert plant size plays a crucial role before climate change.*
- 8:20 AM COS 126-3 Law, DJ¹, S Ravi¹, DD Breshears², GA Barron-Gafford¹ and TE Huxman¹, (1)University of Arizona, (2) The University of Arizona. *Evapotranspiration partitioning in a warmer world: Natives lose out to invasives in a shift to evaporation dominance?.*
- 8:40 AM COS 126-4 Schwilk, D¹, T Brennan² and JE Keeley³, (1)Texas Tech University, (2)United States Geological Survey, (3)US Geological Survey. *A plant distribution shift uphill: Temperature, drought, or past disturbance history?.*
- 9:00 AM COS 126-5 Dawes, MA¹, F Hagedorn², T Zumbunn³, IT Handa⁴, S Hattenschwiler⁵, S Wipf¹ and C Rixen¹, (1)WSL Institute for Forest, Snow and Landscape Research - SLF, (2)Swiss Federal Institute of Forest, Snow and Landscape Research (WSL), (3)University of Basel, (4)Université du Québec à Montréal, (5)Centre of Functional Ecology and Evolution. *Growth and community responses of alpine dwarf shrubs to in situ CO₂ enrichment and soil warming.*
- 9:20 AM COS 126-5 Farrer, EC¹, IW Ashton² and KN Suding¹, (1)University of California at Berkeley, (2)National

Park Service. *Global change factors interact and modify competitive interactions among alpine tundra species: A population dynamic modeling approach.*

- 9:40 AM Break
- 9:50 AM COS 126-6 Patrick, DA, N Boudreau, Z Bozic, GS Carpenter, DM Langdon, SR LeMay, SM Martin, RM Mourse, SL Prince and KM Quinn, Paul Smith's College. *Changes in aquatic communities resulting from interactions between climate change and invasive aquatic plants in the Adirondack Park, New York.*
- 10:10 AM COS 126-7 Lewis, JD¹, R Smith², O Ghannoum², BA Logan³, N Phillips⁴ and DT Tissue², (1)Fordham University, (2)University of Western Sydney, (3)Bowdoin College, (4)Boston University. *Industrial-age changes in atmospheric [CO₂] and temperature alter drought sensitivity of photosynthesis in Eucalyptus.*
- 10:30 AM COS 126-8 Stinson, KA¹, C Brophy² and J Connolly³, (1) Harvard University, (2)National University of Ireland Maynooth, (3)University College Dublin. *Elevated CO₂ alters genetic dominance hierarchies in common ragweed, an allergenic plant.*
- 10:50 AM COS 126-9 Regan, TJ¹, D Keith², J Elith¹ and MG Tozer², (1)The University of Melbourne, (2)Department of Environment, Climate Change and Water. *Managing for climate change in the semi-arid zone.*

COS 127 - Environmental Justice, Impact, and Risk

Assessment

6B, Austin Convention Center

- 8:00 AM COS 127-1 Chen, Y, A Kelly and S Kumaran, University of Arkansas at Pine Bluff. *pH and related water quality in golden shiner *Notemigonus crysoleucas* ponds in Arkansas.*
- 8:20 AM COS 127-2 Herrington, CS and S Wagner, City of Austin. *Diel dissolved oxygen patterns and aquatic life use assessment in freshwater streams near Austin, Texas.*
- 8:40 AM COS 127-3 Purucker, T, T Crk and E Odenkirchen, U.S. Environmental Protection Agency. *Cross-taxa comparison of dermal contact exposure in terrestrial vertebrates.*
- 9:00 AM COS 127-4 Li, J and Q Dang, Lakehead University. *Effects of CO₂ elevation, photoperiod, and nutrient supply on growth and cold hardiness of black spruce (*Picea mariana*) seedlings.*
- 9:20 AM COS 127-5 Ammons, EM, Tufts University. *In addition to data: Why arts and humanities are crucial when thinking about earth stewardship.*
- 9:40 AM Break
- 9:50 AM COS 127-6 Warziniack, TW, University of Heidelberg. *Water and forced migration.*
- 10:10 AM COS 127-7 Schwarz, K, W Zhou and ML Cadenasso, University of California, Davis. *Evaluating distributional equity of tree canopy cover in Sacramento, CA.*
- 10:30 AM COS 127-8 Uzochukwu, G and M Uzochukwu, North Carolina A&T State University. *Environmental impact of road dust on Human Health and Vegetation in Enugu, Nigeria.*

COS 128 - Community Pattern and Dynamics VI

8, Austin Convention Center

- 8:00 AM COS 128-2 Thibault, KM, EP White and X Xiao, Utah State University. *Using entropy maximization to predict the form of species abundance distributions across taxa.*
- 8:20 AM COS 128-3 Coyle, JR¹, AH Hurlbert¹ and EP White², (1) University of North Carolina, (2)Utah State University. *Opposing mechanisms drive diversity patterns of core and occasional species.*
- 8:40AM COS 128-4 D'Andrea, R, G Barabás and AM Ostling,

8 am-11:30 am

- University of Michigan. *Coexistence in two tradeoff models: Limits to similarity arise when competitive ability or stress tolerance varies smoothly with seed size.*
- 9:00 AM COS 128-5 Sanders, NJ¹ and RR Dunn², (1)University of Tennessee, (2)NCSU. *Community ecology through a macroscope: A global experiment to assess the effects of resources on ant community structure.*
- 9:20 AM COS 128-6 Rael, RC, AM Ostling, T Bedford and RD'Andrea, University of Michigan. *Species abundance distribution and its scaling in trait space in a stochastic niche model.*
- 9:40 AM Break
- 9:50 AM COS 128-7 Walker, SC, G Guénard and P Legendre, Université de Montréal. *Predicting community composition using the interactions between site and species characteristics: A generalized bilinear modeling framework.*

COS 129 - Food Webs II

9AB, Austin Convention Center

- 8:00 AM COS 129-1 Pocock, MJO, University of Bristol. *An empirical, field-based test of extinction cascades in food webs.*
- 8:20 AM COS 129-2 Wright, IM, University of Texas, Austin. *Cow fecal arthropod community succession in pasture and forest habitats in Monteverde, Costa Rica.*
- 8:40 AM COS 129-3 Rodriguez, J¹, CJ Melián², W Hallwachs³ and D Janzen³, (1)National Center for Ecological Analysis and Synthesis, (2)Swiss Federal Institute of Science and Technology, (3)University of Pennsylvania. *Hyperdiverse and specialized parasitoid food webs.*
- 9:00 AM COS 129-4 Lewis, D¹, GM Wimp¹ and SM Murphy², (1)Georgetown University, (2)University of Denver. *Ontogenetic omnivory in a top-level predator.*
- 9:20 AM COS 129-5 Ward, CL¹, KS McCann¹ and SS Bell², (1)University of Guelph, (2)University of South Florida. *Cultural eutrophication shifts the relative importance of energy channels in seagrass food webs.*
- 9:40 AM Break
- 9:50 AM COS 129-6 Carscadden, WMA and TN Romanuk, Dalhousie University. *Food-web structure and robustness to species loss in Arctic and Antarctic ice-shelf ecosystems.*
- 10:10 AM COS 129-7 Caskenette, AL and KS McCann, University of Guelph. *Examining the effect of stage-structured top predators with flexible feeding strategies on community stability.*
- 10:30 AM COS 129-8 Fiene, JG, C Nansen, X Martini, JB Bernal, L Kalns and P Krauter, Texas A&M University. *Plant genotype shapes the feeding decisions of an omnivore.*
- 10:50 AM COS 129-9 Forde, AJ¹, IC Feller², JD Parker³ and DS Gruner¹, (1)University of Maryland, (2)Smithsonian Environmental Research Center, (3)Smithsonian Institution. *Cascading effects of predatory birds on arthropods and plants of Caribbean mangrove islands.*
- 11:10 AM COS 129-10 Kaspari, M, University of Oklahoma. *Spatial scale, biogeochemistry, and the structure of tropical brown food webs.*

COS 130 - Plant-Insect Interactions III

9C, Austin Convention Center

- 8:00 AM COS 130-1 Sconiers, WB¹, DL Rowland² and MD Eubanks¹, (1)Texas A&M University, (2)University of Florida. *Testing the pulsed stress hypothesis on plant-insect interactions.*
- 8:20 AM COS 130-2 Shrestha, M¹, M Burd¹ and A Dyer², (1)Monash University, (2)RMIT University. *How do orchids talk to bees?*

- 8:40 AM COS 130-3 Harmon-Threatt, AN¹ and S Hendrix², (1)University of California, Berkeley, (2)University of Iowa. *Plant-pollinator networks in remnant prairie patches.*
- 9:00 AM COS 130-4 Yeaman, R¹, TH Roulston² and DE Carr², (1)University of Virginia, (2)University of Virginia. *Reduced pollen viability leads to reduced pollen reward for pollinators in *Mimulus guttatus*.*
- 9:20 AM COS 130-5 Cuevas, E and R Jiménez, Universidad Michoacana de San Nicolás de Hidalgo. *Sex specific reproductive components and pollination ecology in *Fuchsia microphylla* (Onagraceae), a subdioecious shrub.*
- 9:40 AM Break
- 9:50 AM COS 130-6 Smith, DS¹, P Turk², SM Shuster¹ and TG Whitham¹, (1)Northern Arizona University, (2)West Virginia University. *Ungulate-induced evolution of plant traits changes the plant-associated arthropod community.*
- 10:10 AM COS 130-7 Quesada, M, N Calderon-Cortes and LH Escalera-Vazquez, Universidad Nacional Autónoma de México. *Insects as stem engineers: Long-term interactions mediated by the twig-girdler *Oncideres albomarginata* chamela enhance arthropod diversity.*
- 10:30 AM COS 130-8 Rosenstiel, TN, EE Shortlidge and SM Eppley, Portland State University. *Examining the role of volatile compounds in influencing moss-microarthropod transport mutualisms.*
- 10:50 AM COS 130-9 Schreck, TK¹ and KA Mooney², (1)University of California, Irvine, (2)University of California at Irvine. *Mycorrhizal interactions and competition with invasive mustard affect arthropod communities on native *Deinandra fasciculata*.*

COS 131 - Invasion: Community Effects II

10A, Austin Convention Center

- 8:00 AM COS 131-1 Allington, GR and TJ Valone, Saint Louis University. *Decline in biotic resistance and the reorganization of an annual plant community by an exotic invader.*
- 8:20 AM COS 131-2 David, AS¹, EW Seabloom¹, PL Zarneske² and SD Hacker², (1)University of Minnesota, (2)Oregon State University. *Invasive congeners uniquely alter community succession of dunes.*
- 8:40 AM COS 131-3 Johnson, DJ, SL Flory, AL Shelton and K Clay, Indiana University. *Direct and indirect effects of a plant invasion alter forest succession.*
- 9:00 AM COS 131-4 Kumschick, S¹, CM Alba¹, RA Hufbauer¹ and W Nentwig², (1)Colorado State University, (2)University of Bern. *Weak or strong invaders? A comparison of impact between the native and invaded ranges of mammals and birds alien to Europe.*
- 9:20 AM COS 131-5 Hart, LM¹ and DL Finke², (1)University of Missouri-Columbia, (2)University of Missouri. *Greater abundance and diversity of native coccinellids in agricultural grass-dominated habitats than natural tallgrass prairies.*
- 9:40 AM Break
- 9:50 AM COS 131-6 Cord, EE¹, AR Litt², TE Fulbright³ and GL Schuster³, (1)Caesar Kleberg Wildlife Research Institute, Texas A&M University-Kingsville, (2)Montana State University, (3)Texas A&M University-Kingsville. *Changes in abundance and diversity in an arthropod community with invasive grasses.*
- 10:10 AM COS 131-7 Barun, A and D Simberloff, University of Tennessee. *Impact of the introduced small Indian mongoose (*Herpestes auro-punctatus*) on abundance and activity time of native small mammals, reptiles, amphibians and introduced ship rat (*Rattus rattus*), Adriatic islands, Croatia.*
- 10:30 AM COS 131-8 Bielfelt, BJ¹, AR Litt², FC Bryant¹, LA

Brennan¹ and T Langschied¹, (1)Texas A&M University-Kingsville, (2)Montana State University. *Understanding a native invader: Implications of Tanglehead (Heteropogon contortus) on plants and birds in desert grasslands.*

10:50 AM COS 131-9 Farrell, KA¹ and ET Borer², (1)Oregon State University, (2)University of Minnesota. *Trophic responses to plant invasion: How a shift from a native to exotic grass community impacts arthropod community structure.*

11:10 AM COS 131-10 Capps, KA¹, S Heilpern², G Ng¹, A Fortman¹, R Rodiles-Hernández³ and AS Flecker¹, (1)Cornell University, (2)Wildlife Conservation Society, (3)El Colegio de la Frontera Sur. *Non-native grazers in novel environments: Consequences of introduced armored catfish in stream ecosystems.*

COS 132 - Disease and Epidemiology V

10B, Austin Convention Center

8:00 AM COS 132-1 Barton, HD and JM Drake, University of Georgia. *Ecological characteristics of co-circulating low pathogenicity avian influenza subtypes at Delaware Bay, USA.*

8:20 AM COS 132-2 Shriner, SA, NL Moers, KK VanDalen, JJ Root and AB Franklin, National Wildlife Research Center. *The role of synanthropic mammals in avian influenza outbreaks.*

8:40 AM COS 132-3 Lavine, JS¹, A King² and ON Bjornstad³, (1)The Pennsylvania State University, (2)University of Michigan, (3)Penn State University. *Re-examining pertussis cycles and the role of waning immunity.*

9:00 AM COS 132-4 Hurtado, P¹, SR Hall² and SP Ellner¹, (1) Cornell University, (2)Indiana University. *Infectious disease in predator populations: Dynamic consequences of prey-mediated transmission and infectiousness.*

9:20 AM COS 132-5 Penczykowski, RM¹, MA Duffy¹ and SR Hall², (1)Georgia Institute of Technology, (2)Indiana University. *Habitat structure, thermal stratification, and ecological drivers of disease in the plankton.*

9:40 AM Break

9:50 AM COS 132-6 Dolan, III, TW¹, MJ Butler IV² and JD Shields¹, (1)Virginia Institute of Marine Science, (2)Old Dominion University. *The effects of changes in social behavior and habitat structure on disease dynamics in the Caribbean spiny lobster, *Panulirus argus*.*

10:10 AM COS 132-7 Gunning, C and HJ Wearing, University of New Mexico. *Measles epidemics in pre-vaccine era United States cities: Natural experiments in metapopulation dynamics.*

10:30 AM COS 132-8 Bharti, N¹, MJ Ferrari² and BT Grenfell¹, (1)Princeton University, (2)The Pennsylvania State University. *Aggregating spatial disease data: When high-resolution matters most.*

10:50 AM COS 132-9 Baeza, Sr., A¹, A ter Venn², MJ Bouma³, AA King¹ and M Pascual⁴, (1)University of Michigan, (2) Royal Dutch Tropical Institute, (3)London School of Hygiene and Tropical Medicine, University of London, (4)University of Michigan AND Howard Hughes Medical Institute. *Malaria and socioeconomic conditions: A time series model to address double causality.*

11:10 AM COS 132-10 Brock, P¹, SJ Goodman² and K Acevedo-Whitehouse³, (1)Institute of Zoology & University of Leeds, (2)University of Leeds, (3)Institute of Zoology. *Ecological immunology in the Galapagos sea lion (*Zalophus wollebaeki*): Behavioural ecology meets conservation.*

COS 133 - Environmental Gradients

12B, Austin Convention Center

8:00 AM COS 133-1 Dobrowski, S, University of Montana. *Climatic refugia, landscape physiography, and species distributions.*

8:20 AM COS 133-2 Stomp, M¹, E Litchman², GG Mittelbach², J Huisman¹ and CA Klausmeier², (1)University of Amsterdam, (2)Michigan State University. *Large-scale biodiversity patterns in freshwater phytoplankton.*

8:40 AM COS 133-3 Robinson, TM¹, KJ La Pierre², MA Vadeboncoeur³, KM Byrne⁴, S Colby⁵ and ML Thomey⁶, (1)Michigan State University, (2)Yale University, (3) University of New Hampshire, (4)Colorado State University, (5)Oregon State University, (6)University of New Mexico. *Seasonal, not annual precipitation drives community productivity across ecosystems.*

9:00 AM COS 133-4 Stevens, RD, JS Tello and MM Gavilanez, Louisiana State University. *Stronger tests of mid-domain effects on biodiversity gradients of New World bats.*

9:20 AM COS 133-5 Pratt, JD¹, KA Mooney² and DR Campbell³, (1) University of California, Irvine, (2)University of California at Irvine, (3)UC Irvine. *Assessing clinal variation and elevational range limits in *Ipomopsis aggregata*.*

9:40 AM Break

9:50 AM COS 133-6 Kremer, CT¹, MK Thomas¹, E Litchman² and CA Klausmeier², (1)W. K. Kellogg Biological Station, Michigan State University, (2)Michigan State University. *Adapting to variable thermal environments: A trait-based, eco-evolutionary approach.*

10:10 AM COS 133-7 Thomas, MK, CT Kremer, CA Klausmeier and E Litchman, Michigan State University. *Ocean warming drives productivity changes and range shifts in the fundamental niches of marine phytoplankton.*

10:30 AM COS 133-8 Parsons, SMA and A Joern, Kansas State University. *Converse Bergmann's Rule in the red-legged grasshopper (*Melanoplus femurrubrum*): Body size and performance variation along a latitudinal gradient.*

10:50 AM COS 133-9 Dahle, G¹, FJ Gallagher², KV Schafer³ and J Grabosky², (1)Rutgers the State University, (2)Rutgers University, (3)Rutgers University Newark. *Allometric relationships of *Betula populifolia* in a naturally assembled urban woodland.*

11:10 AM COS 133-10 Wentworth, TR¹, MT Lee², MF Boyle² and RK Peet², (1)North Carolina State University, (2)University of North Carolina - Chapel Hill. *Classification and environmental relationships of plant communities in the southern Appalachian Mountains of North and South Carolina.*

COS 134 - Phenotypic Plasticity

13, Austin Convention Center

8:00 AM COS 134-1 Ndlovu, M, GS Cumming and PAR Hockey, University of Cape Town. *Phenotypic flexibility in African waterfowl during moult.*

8:20 AM COS 134-2 Edge, CB¹, D Thompson², LF Baker¹, JF Mudge¹ and J Houlahan¹, (1)University of New Brunswick, (2)Canadian Forest Service. *Amphibian development in variable wetlands: Does altering wetland ecosystems with herbicide application and nutrient enrichment result in changes to development rates in natural wetlands.*

8:40 AM COS 134-3 Behm, JE, University of Wisconsin- Madison. *Does competition modify predator-induced phenotypic plasticity in three tadpole species?*

9:00 AM COS 134-4 Miehl, AL¹, AG McAdam² and SD Peacor¹, (1)Michigan State University, (2)University of Guelph. *Phenotypically plastic response of an invasive species to temperature but not a predator.*

8 am-11:30 am

- 9:20 AM COS 134-5 McCoy, M¹, JC Touchon², T Landberg³, KM Warkentin³ and JR Vonesh⁴, (1)Virginia Commonwealth University and University of Florida, (2)Smithsonian Tropical Research Institute, (3)Boston University, (4)Virginia Commonwealth University. *Determining mechanisms for risk assessment: Disentangling the relative importance of prey number and prey biomass for generating indirect cues of predation risk.*
- 9:40 AM Break
- 9:50 AM COS 134-6 McIntyre, PJ, University of California Davis. *Role of phenotypic plasticity, selection, and transgenerational effects in the fine scale distribution of broad and narrow leaved Claytonia perfoliata (Portulacaceae).*
- 10:10 AM COS 134-7 Hossain, SM, University of Toronto. *Branch growth in three shade tolerant tree species.*
- 10:30 AM COS 134-8 Kimball, S¹, AL Angert², JR Gremer¹, TE Huxman¹ and DL Venable¹, (1)University of Arizona, (2)Colorado State University. *Phenotypic selection on physiological traits in four species of coexisting annual plants.*

COS 135 - Ecosystem Function II

15, Austin Convention Center

- 8:00 AM COS 135-1 Ogle, K¹, GA Barron-Gafford², LP Bentley², JM Cable³, R Lucas⁴, TE Huxman², ME Loik⁵, SD Smith⁶ and DT Tissue⁷, (1)Arizona State University, (2)University of Arizona, (3)University of Alaska, (4)Swedish University of Agricultural Sciences, (5)University of California, (6)University of Nevada, Las Vegas, (7)University of Western Sydney. *Quantifying ecological "memory" of plant and ecosystem productivity.*
- 8:20 AM COS 135-2 Le Mao, T¹, S Barot² and N Loeuille³, (1)French National Institute for Agricultural Research, (2)Institut de recherche pour le développement, (3)Universite Paris 6. *Evolution of plant nutrient cycling strategies in heterogeneous meta-ecosystems: Impacts for source-sink dynamics.*
- 8:40 AM COS 135-3 Kosiba, AM¹, PG Schaberg², G Hawley¹, JM Halman¹ and CF Hansen¹, (1)University of Vermont, (2)USDA Forest Service. *Quantifying the influence of foliar winter injury on long-term woody carbon sequestration for red spruce in the northeastern forest.*
- 9:00 AM COS 135-4 Dietze, M, University of Illinois. *Regional-scale impacts of climate and environmental variability on tree carbon reserves.*
- 9:20 AM COS 135-5 Hawley, GH¹, PG Schaberg², JM Halman¹, LH Pardo² and TJ Fahey³, (1)University of Vermont, (2)USDA Forest Service, (3)Cornell University. *Reduced calcium availability influences belowground physiology and aboveground carbon dynamics of sugar maple trees.*
- 9:40 AM Break
- 9:50 AM COS 135-6 Notaro, M, University of Wisconsin-Madison. *The complex seasonal cycle of ecohydrology in the Southwest United States.*
- 10:10 AM COS 135-7 Reichmann, LG¹, OE Sala¹, L Gherardi¹ and DPC Peters², (1)Arizona State University, (2)USDA Agricultural Research Service. *Non-linear ecosystem response to long-term changes in precipitation and nitrogen availability in a desert grassland.*
- 10:30 AM COS 135-8 Byrne, KM¹ and WK Lauenroth², (1)Colorado State University, (2)University of Wyoming. *Changes in soil water affect net primary production in the central grassland region.*
- 10:50 AM COS 135-9 Delgadillo-Durán, E¹, J Álvarez-Sánchez², J Campo-Alves³, A Martínez-Yrizar⁴ and GM Barajas-

Guzmán¹, (1)UNAM, (2)Facultad de Ciencias, Universidad Nacional Autónoma de México, (3) Universidad Nacional Autónoma de México, (4)Instituto de Ecología, Universidad Nacional Autónoma de México. *Aboveground net primary productivity in temperate forests of Río Magdalena basin, Mexico City, Mexico.*

COS 136 - Restoration Ecology III

16A, Austin Convention Center

- 8:00 AM COS 136-1 Levine, AE, University of California - Santa Barbara. *Promoting coastal sage scrub vegetation after invasive grass removal.*
- 8:20 AM COS 136-2 Suronen, EF and BA Newingham, University of Idaho. *Key habitat characteristics of a threatened ground squirrel and implications for habitat restoration.*
- 8:40 AM COS 136-3 Emery, SM¹, PJ Doran², J Legge² and M Kleitch², (1)University of Louisville, (2)The Nature Conservancy. *Does removal of Gypsophila paniculata (baby's breath) from Lake Michigan sand dunes restore native community structure and ecosystem function?*
- 9:00 AM COS 136-4 Ostoja, SM¹, SL Roberts² and ML Brooks², (1)United States Geological Survey, (2)USGS Western Ecological Research Center. *Plant and bird community response to saltcedar removal along the Virgin River: Considerations for riparian restoration.*
- 9:20 AM COS 136-5 Johnson, LR, Rutgers University. *Long-term outcomes of urban forest restoration: Assessing trajectories in plant community ecology to improve environmental health.*
- 9:40 AM Break
- 9:50 AM COS 136-6 Kroiss, SJ¹ and TM Knight², (1)Washington University in St. Louis, (2)Washington University. *What limits the occupancy of rare plant species in restored habitats? A trait comparison between rare and widespread species in restored Missouri glades.*
- 10:10 AM COS 136-7 Osland, MJ¹, AC Spivak¹, JA Nestlerode¹, AE Almario¹, JM Lessman², PT Heitmuller³, F Alvarez¹, MJ Russell¹, KW Krauss³, DD Dantin¹ and JE Harvey¹, (1)U.S. EPA, (2)Eckerd College, (3)U.S. Geological Survey. *Ecosystem development after mangrove creation: Plant-soil change across a twenty-year chronosequence.*
- 10:30 AM COS 136-8 Corbin, JD¹, G Robinson² and SN Handel³, (1) Union College, (2)State University of New York at Albany, (3)Rutgers University. *Reforestation of a reclaimed landfill after 19 years - a long-term test of applied nucleation.*
- 10:50 AM COS 136-9 Veblen, KE¹, EA Beever¹, MHuso² and DAPyke³, (1)U.S. Geological Survey, (2)Oregon State University, (3)U.S. Geological Survey, Forest and Rangeland Ecosystem Science Center. *Long-term ecosystem responses to livestock removal in the Mojave Desert.*
- 11:10 AM COS 136-10 Doshi, SK¹, J Todd² and A McInnis³, (1) Queen's University, (2)Ocean Arks, International, (3) University of Vermont. *Beyond coal: A resilient new economy for Appalachia.*

COS 137 - Land-Use and Land-Use History

18A, Austin Convention Center

- 8:00 AM COS 137-1 Hale, RL¹ and JH Hoover², (1)Arizona State University, (2)University of Denver. *Anthropogenic nutrient loading in the Northeastern United States 1920-2000.*
- 8:20 AM COS 137-2 Morris, LR, TA Monaco and R Blank, USDA Agricultural Research Service. *Long-term legacy effects of cultivation on vegetation and soils in sagebrush ecosystems of the Great Basin.*
- 8:40 AM COS 137-3 Lumibao, CY and J McLachlan, University of Notre Dame. *Genetic legacies of historic landscape*

- modifications on American Beech populations.*
- 9:00 AM COS 137-4 Navarro, LM and HM Pereira, Faculdade de Ciencias da Universidade de Lisboa. *Rewilding abandoned landscapes in Europe.*
- 9:20 AM COS 137-5 Delgado, J¹, T Arredondo¹, HW Loescher² and E Huber-Sannwald³, (1)Instituto Potosino de Investigación Científica y Tecnológica A. C., (2)National Ecological Observatory Network, (3)Instituto Potosino de Investigación Científica y Tecnológica. *Water vapor fluxes among contrasting plant cover and species composition communities in a short-grass steppe.*
- 9:40 AM Break
- 9:50 AM COS 137-6 Barlow, PF, J Hepinstall-Cymerman and M Conroy, University of Georgia. *Assessing the effects of land use on birds in the southern Appalachian Mountains through occupancy modeling.*
- 10:10 AM COS 137-7 Chupp, AD¹, LL Battaglia¹ and JF Pagels², (1) Southern Illinois University, (2)Virginia Commonwealth University. *Mesopredator release and the divergence of small mammal communities in urban vs. rural parks.*
- 10:30 AM COS 137-8 Youn, Y¹, JC Koo¹, J Yun² and D Kweon¹, (1)Seoul National University, (2)Jirisan People. *Role of ownership and access right in conservation of village groves: The case of municipalities around the Jirisan Mountains, Korea.*

COS 138 - Ecosystem Services Assessment

18B, Austin Convention Center

- 8:00 AM COS 138-1 Kramer, EA, CA Couch, K Samples and J Reed, University of Georgia. *Incorporating ecological function into a landscape-scale model to prioritize potentially restorable wetland and riparian mitigation locations.*
- 8:20 AM COS 138-2 Baral, H, RJ Keenan, JC Fox, NE Stork and S Kasel, The University of Melbourne. *Approaches to valuing ecosystem services in production landscapes in southeastern Australia.*
- 8:40 AM COS 138-3 Roche, LM¹, AT O'Geen¹, VT Eviner², JD Derner³ and KW Tate⁴, (1)University of California, Davis, (2)University of California Davis, (3)USDA ARS, High Plains Grasslands Research Station, (4)University of California-Davis. *Ecosystem service-based state and transition models to guide rangeland management.*
- 9:00 AM COS 138-4 Hurteau, MD¹ and T Robards², (1)Northern Arizona University, (2)Spatial Informatics Group. *Modeling climate and wildfire mitigation treatment impacts on forest carbon sequestration.*
- 9:20 AM COS 138-5 Chaplin-Kramer, R¹, K Tuxen-Bettman² and C Kremen¹, (1)University of California, Berkeley, (2) Google. *Value of wildland habitat for supplying pollination services to Californian agriculture.*
- 9:40 AM Break
- 9:50 AM COS 138-6 Hansen, WD, TJ Brinkman and FS Chapin, University of Alaska. *Prey switching as a coping strategy in subsistence coupled human-natural systems.*
- 10:10 AM COS 138-7 Porfirio, LL, The Australian National University. *Mapping synergies and trade-offs among ecosystem services in the Australian Capital Region.*
- 10:30 AM COS 138-8 Washington-Allen, RA¹, RW Kulawardhana¹, MC Reeves² and JE Mitchell³, (1)Texas A & M University, (2)USFS, (3)USDA Forest Service, Rocky Mountain Research Station. *Is commercial livestock grazing a driver of the observed net carbon gain in US Drylands?.*
- 8:00 AM COS 139-1 Matteson, KC¹, E Minor¹ and D Taron², (1) University of Illinois at Chicago, (2)Chicago Academy of Sciences. *The role of citizen monitors in urban ecology and conservation.*
- 8:20 AM COS 139-2 Dallimer, M¹, KN Irvine², PR Armsworth³, ZG Davies⁴, JR Rouquette¹, LL Maltby¹, PH Warren¹ and KJ Gaston¹, (1)University of Sheffield, (2)De Montfort University, (3)University of Tennessee, (4)University of Kent. *Ecological determinants of self-reported psychological well-being among recreational visitors to urban greenspaces.*
- 8:40 AM COS 139-3 Childers, DL, S Earl, NB Grimm, B Ruddell, L Turnbull and E Vivoni, Arizona State University. *The dynamics of water in arid cities, Part I: Overview of the central Arizona-Phoenix (CAP) LTER research at the water-climate nexus.*
- 9:00 AM COS 139-4 Turnbull, L, DL Childers, S Earl, NB Grimm and RL Hale, Arizona State University. *The dynamics of water in arid cities, Part II: Effects of stormwater infrastructure on dissolved and particle-bound nutrient transport across multiple spatial scales.*
- 9:20 AM COS 139-5 Davies, ZG, JL Edmondson, S McCormack, JR Leake and KJ Gaston, University of Sheffield. *Managing biological carbon storage in urban areas: Assessing the influence of above-ground ecosystem structure on soil carbon.*
- 9:40 AM Break
- 9:50 AM COS 139-6 Hutyra, LR¹, M Brondfield², SM Raciti¹ and SC Wofsy², (1)Boston University, (2)Harvard University. *Carbon cycling across the Boston urban to rural gradient: Integrating emissions estimates and atmospheric observations.*
- 10:10 AM COS 139-7 Dillon, ML, Portland State University. *Explaining soil organic carbon sequestration in an urban ecosystem.*
- 10:30 AM COS 139-8 Ross, MS, P Harlem, G Hollander and K Zhang, Florida International University. *Historical analysis of vegetation, tree cover, and residential development on an urbanizing Florida barrier island.*

8 am-10:30 am

PS 72 - Latebreaking: Agriculture

Exhibit Hall 3, Austin Convention Center

- PS 72-1 Orantes, LC and AP Michel, The Ohio State University. *Differences in the genetic structure of spatial and temporally distributed populations of the invasive pest soybean aphid, Aphis glycines.*
- PS 72-2 Zhu, W, DR Smart, SB Brodt and AM Kendall, University of California. *Nitrous oxide emissions from California almond orchards: A statewide evaluation of current emissions estimates.*
- PS 72-3 Villegas-Patracca, R, C Perez and M Mora, Instituto de Ecología AC. *Poisson regression for count data: Application to bird and bat mortality at the wind farm La Venta II, Oaxaca, Mexico.*
- PS 72-4 Jones, S, R Shange and R Ankumah, Tuskegee University. *Assessing soil functional status across an agroecosystem using soil phosphatase enzymes.*
- PS 72-5 Ghassemzadeh, F, MASM Lahouti and H Ejtehadi, Ferdowsi University of Mashhad. *Effects of antimony on Citrullus lanatus from Argash-Neshabour in Northeast Iran.*

PS 73 - Latebreaking: Aquatic Ecology

Exhibit Hall 3, Austin Convention Center

- PS 73-6 Cornell, AE and RM Chambers, College of William and Mary. *Upstream development spurs downstream amphibian decline in Southeast VA watersheds.*

COS 139 - Urban Ecosystems II

18C, Austin Convention Center

Earth Stewardship: Preserving and enhancing earth's life support systems

8:30 am-10:30 am

- PS 73-7 Feit, SJ and DB Lewis, University of South Florida. *Hydrological influences on total soil organic matter accumulation and labile organic C and N pools in isolated cypress and marsh wetlands surrounding Tampa Bay, Florida.*
- PS 73-8 Mayer, AL and A Henareh Khalyani, Michigan Technological University. *Analyzing effective protection for roe deer (*Capreolus capreolus*) habitat in Iranian Zagros forests at two scales.*
- PS 73-9 Emerson, JE¹, SM Bollens¹ and TD Counihan², (1) Washington State University Vancouver, (2)United States Geological Survey. *Zooplankton in Columbia-Snake River system reservoirs, with special emphasis on the invasive copepod *Pseudodiaptomus forbesi*.*
- PS 73-10 Rossner, KJ, MC Sichel and WJ Cromartie, Richard Stockton College. *Design and evaluation of a novel and inexpensive floating emergence trap for aquatic insects in shallow water.*
- PS 73-11 Wahl, CM, A Neils and DU Hooper, Western Washington University. *Patchy riparian forests fail to buffer benthic macroinvertebrate communities from intensive land use in the Puget Lowland streams of Western Washington .*
- PS 73-12 Durben, RM, JS Hild, J Wood, M O'Connor, J Van der Veen, MR Freitas and JM Sellen, Sierra Streams Institute. *Citizen-based monitoring characterizes water quality and benthic macroinvertebrates throughout a western Sierra stream.*
- PS 73-13 Khan, AL and DM McKnight, University of Colorado. *Evaluation of the relationship between Dissolved Organic Material (DOM), chlorophyll-a and algal species in lakes and drinking water reservoirs throughout the state of Colorado.*

PS 74 - Latebreaking: Behavior

Exhibit Hall 3, Austin Convention Center

- PS 74-14 Malfi, RL and TH Roulston, University of Virginia. *Niche overlap and diet breadth: Can bumble bee (*Bombus spp.*) foraging preferences reveal species vulnerabilities?.*
- PS 74-15 Rafter, JL and E Preisser, University of Rhode Island. *Effect of coccinellid ontogenic niche shifts on aphid behavior.*
- PS 74-16 Murphy, KR, University of New Mexico. *Can predicting the movement and assemblage patterns of large herbivores in southern Africa reduce human-wildlife-conflict and help us benefit from ecosystem services.*
- PS 74-17 McRae, TR, University of Miami. *Tail signals in eastern gray squirrels include both generic and predator-specific alarms.*
- PS 74-18 Goodding, DD, BT Martin, NB Ford and JS Placyk, University of Texas at Tyler. *Prey detection strategies of the Western lesser siren (*Siren intermedia* nettingi).*
- PS 74-19 Kelly, EB¹, KW McFadden², KJ Reich³, E Sterling⁴ and E Nardo-Maciel⁵, (1)Columbia University, (2)Columbia University, (3)Texas A & M University at Galveston, (4)American Museum of Natural History, (5)College of Staten Island, City University of New York. *The ontogeny of foraging behavior in juvenile green turtles (*Chelonia mydas*) from Palmyra Atoll: Results from stable isotope analysis.*

PS 75 - Latebreaking: Biodiversity

Exhibit Hall 3, Austin Convention Center

- PS 75-20 Sylvain, I and T James, University of Michigan. *Effects of production method and geography on the fungal community composition in green coffee beans.*
- PS 75-21 Liu, X, M Liang and S Yu, Sun Yat-sen University. *Host-specific pathogens shape abundances of phylogenetically related tree species.*
- PS 75-22 Zhang, Y and Y Wang, Sun Yat-sen University. *Interspecific*

- interactions can increase productivity in grass communities.*
- PS 75-23 Rountree, NR¹, J Hulcr¹, A Lucky¹, MD Lowman¹ and RR Dunn², (1)North Carolina State University, (2)NCSU. *Beta-diversity of human skin bacteria studied with the citizen science approach.*
- PS 75-24 Xu, M and S Yu, Sun Yat-sen University. *Plant-soil feedbacks, and density dependence driven by soil pathogens influence seedling diversity in subtropical forest.*
- PS 75-25 Souza, L¹, GM Crutsinger², NJ Sanders³ and A Classen¹, (1)The University of Tennessee, (2)University of British Columbia, (3)University of Tennessee. *Intra-specific diversity shapes ecosystem carbon exchange in an old-field ecosystem.*
- PS 75-26 Solecki, AM, A Grégoire Taillefer, MS Blair, S Rochefort and TA Wheeler, McGill University. *Phenology and temporal species turnover in an Arctic Diptera assemblage.*
- PS 75-27 Donoghue, II, JC, University of Arizona. *Does the climatic variability hypothesis explain the longitudinal range size gradient in North American trees?.*

PS 76 - Latebreaking: Biogeochemistry

Exhibit Hall 3, Austin Convention Center

- PS 76-28 Reid, JP, University of Minnesota - Twin Cities. *Linking stream nitrogen fluxes to multi-scale temporal patterns of precipitation.*
- PS 76-29 La Quay-Velázquez, G¹, AE Carey² and C Restrepo³, (1) Universidad Metropolitana, (2)Ohio State University, (3) University of Puerto Rico-Rio Piedras. *Variation in forest and landslide carbon pools along complex environmental gradients in the Sierra de Las Minas of eastern Guatemala.*
- PS 76-30 Pagano, T¹ and JE Kenny², (1)Rochester Institute of Technology, (2)Tufts University. *Measuring the phenolic content of dissolved organic matter in wetlands.*
- PS 76-31 Ganong, CN¹, JH Duff² and CM Pringle¹, (1)University of Georgia, (2)U.S. Geological Survey. *Spatial variation in groundwater and stream water carbon chemistry in a Neotropical rainforest.*
- PS 76-32 Lutz, BD¹, ES Bernhardt¹, RL Bier¹, A Helton¹, CE Carter², J Fay¹, RS King³, M Palmer⁴, D Campagna⁵ and J Amos⁶, (1)Duke University, (2)TetraTech, Inc., (3)Baylor University, (4)University of Maryland, (5)Campagna & Associates, LLC, (6)SkyTruth. *How many mountains can we mine? Ecological thresholds for freshwater ecosystems of the Central Appalachians.*
- PS 76-33 Pound, KL¹, SI Passy¹ and GB Lawrence², (1)University of Texas at Arlington, (2)U.S. Geological Survey. *Diatom species traits vary in response to inorganic versus organic acidity in Adirondack streams.*
- PS 76-34 Hooper, DU¹, EC Adair², JE Byrnes², L Gamfeldt³, A Gonzalez⁴, BA Hungate⁵, MI O'Connor⁶, BJ Cardinale⁷ and JE Duffy⁸, (1)Western Washington University, (2) National Center for Ecological Analysis and Synthesis, (3) Göteborg University, (4)McGill University, (5)Northern Arizona University, (6)University of British Columbia, (7)University of Michigan, (8)The College of William and Mary. *Do the effects of species richness on ecosystem function rival other forms of environmental change?.*
- PS 76-35 Colman, BP¹, CJ Richardson¹, GV Lowry², BK Reinsch², B Espinasse¹, MR Wiesner¹, JM Unrine³ and ES Bernhardt¹, (1)Duke University, (2)Carnegie Mellon University, (3) University of Kentucky. *Differential silver nanoparticle toxicity to microbes and macrophytes leads to carbon dioxide, nitrous oxide, and methane pulses.*
- PS 76-36 Hartman, WH and CJ Richardson, Duke University. *Differential nutrient limitation of soil microbial biomass*

and metabolic quotients (qCO_2): Is there a Biological Stoichiometry of soil microbes?.

- PS 76-37 Fredensborg, BL¹, G Riojas¹, TA Eubanks¹, A Hernandez¹, FA Sandoval¹, S Luther¹, R Garza¹, H DeYoe¹, F Dirrignl Jr.¹, J Parsons¹, MW Persans¹ and KL Lowe², (1)The University of Texas-Pan American, (2)The University of Texas - Pan American. *Distribution and pathways of arsenic in a hypersaline estuary.*
- PS 76-38 Shaw, EA, DH Wall, MF Cotrufo, JL Soong and UN Nielsen, Colorado State University. *Do long-term burning practices affect carbon and nitrogen flow dynamics from grassland root litter through the soil food web?.*

PS 77 - Latebreaking: Climate Change

Exhibit Hall 3, Austin Convention Center

- PS 77-39 Hernandez, E¹, R Hernandez¹ and AL Cohen², (1)University of Puerto Rico, (2)Woods Hole Oceanographic Institution. *Long-term impacts of sea surface warming trends in the northeastern Caribbean: Case studies from Puerto Rico.*
- PS 77-40 Lee, D¹, H Kim¹, J Kim¹, CK Song² and JA Yu², (1)Seoul National University, (2)Korea National Institute of Environmental Research. *Climate change vulnerability assessment of forests for local governments in South Korea.*
- PS 77-41 Garcia, CI, University of Texas-Pan American. *Potential distributional effects on the invasive grass, Panicum maximum, due to climate change.*
- PS 77-42 Garcia, BM¹, SA del Alto¹, TP Feria², A Felicisimo³, J Goulovob⁴, GN Ervin⁵ and CP Brooks⁵, (1)University of Texas-Pan American, (2)The University of Texas-Pan American, (3)Universidad de Extremadura, (4) Universidad Autónoma Metropolitana-Xochimilco, (5) Mississippi State University. *Potential distribution of the Prickly-pear moth Cactoblastis cactorum in south Texas and north Mexico.*
- PS 77-43 Lamanna, CA, University of Arizona. *Some like it hot: Increased germination rate and altitudinal range expansion of Sagebrush (Artemisia tridentata ssp. vaseyana) under climate change.*
- PS 77-44 Pflingsten, IA¹ and TN Kaye², (1)Oregon State University, (2)Institute for Applied Ecology. *Effects of seasonal environments on stage-structured, rare plant populations.*
- PS 77-45 Casillas, EA, AL Cavazos, TP Feria and BL Fredensborg, The University of Texas-Pan American. *Fine-scale risk assessment of Chagas disease in the South Texas-Mexico border: Spread of vectors due to climatic change.*
- PS 77-46 Zongshan, L¹, L Guohua¹, F Bojie¹, Z Qibing², M Keping² and Z Jinlong², (1)Research Center for Eco-Environmental Science, Chinese Academy of Sciences, (2)Institute of Botany, Chinese Academy of Sciences. *Climatic fluctuation causes synchronous tree-ring variations along the elevation gradient in Wolong Natural Reserve, western Sichuan of China.*

PS 78 - Latebreaking: Community Pattern and Dynamics

Exhibit Hall 3, Austin Convention Center

- PS 78-47 Maharjan, SK¹, L Poorter¹, M Holmgren², F Bongers¹, JJ Wieringa³ and WD Hawthorne⁴, (1)Wageningen University, (2)University of Wageningen, (3)National Herbarium of The Netherlands, Wageningen University Branch, (4) University of Oxford. *Plant functional traits: Role of plant functional traits in distribution of West African trees.*
- PS 78-48 Wood, SA and MA Bradford, Yale University. *Grassland community responses across a gradient of atmospheric CO₂ and N fertilization.*
- PS 78-49 Rivera-Melendez, JA¹, JK Zimmerman², EO Vazquez-

Plass¹ and JM Wunderle Jr.³, (1)University of Puerto Rico - Rio Piedras, (2)University of Puerto Rico, (3) USDA Forest Service. *Ecological release and the impact of urbanization on bird communities in mainland and island avifaunas in the Caribbean Basin.*

- PS 78-50 Eggleston, JFG and RK Rose, Old Dominion University. *A small mammal community in a changing landscape in southeastern Virginia, 2005-2011.*
- PS 78-51 Wynn, MC, LE Weber, BM Pinquoch, WJ Botham, BC Nolting, NM West, CE Brassil and JMH Knops, University of Nebraska-Lincoln. *The effects of nutrient addition on small-scale spatial dynamics in a mixed prairie.*
- PS 78-52 Yoo, S¹, J Park² and C Park³, (1)The Graduate School of Environmental Studies, Seoul National University, (2)Environmental Planning Institute, Seoul National University, (3)Seoul National University. *A landscape ecological evaluation of avian fauna habitats at the wetland minefields of civilian control zone close to the Demilitarized Zone (DMZ) of Korea.*
- PS 78-53 Miller, E, Michigan State University. *An observational and theoretical study of trait dynamics in a seasonal, freshwater phytoplankton community.*
- PS 78-54 Wright, SE and TP Diggins, Youngstown State University. *Niche-based and spatial patterns of invertebrate community composition within and among wooded headwater streams in western New York State.*
- PS 78-55 Kraft, NJ and M Vellend, University of British Columbia. *Intraspecific trait variation and the intensity of species interactions.*
- PS 78-56 Meik, JM¹ and R Makowsky², (1)University of Texas at Arlington, (2)University of Alabama at Birmingham. *Occupancy patterns of viperid and Colubrid snakes on islands in the Sea of Cortez.*
- PS 78-57 McGrath, KA¹, JR Arévalo², DJ McGlenn³, MS Allen¹ and MW Palmer¹, (1)Oklahoma State University, (2) Universidad de La Laguna, (3)University of North Carolina, Chapel Hill. *Ten years of change in spatial pattern in an Oklahoma crosstimbers forest.*

PS 79 - Latebreaking: Conservation

Exhibit Hall 3, Austin Convention Center

- PS 79-58 Lloyd, MW¹, RK Burnett Jr.¹, K Engelhardt² and MC Neel¹, (1)University of Maryland, (2)University of Maryland Center for Environmental Science. *Genetic diversity and population structure of Vallisneria americana in the Chesapeake Bay: Implications for restoration.*
- PS 79-59 Schuman, ME, USDA. *Ecological sites in Alaska: A tool for sustainable stewardship.*
- PS 79-60 Bravo, C, C Ponce, C Palacin, M Magaña, LM Bautista and JC Alonso, Museo Nacional de Ciencias Naturales. *Agri-environmental schemes: Conserving and improving habitat quality in Mediterranean farmland ecosystems.*
- PS 79-61 Moulton, LL, University of Manitoba. *The effects of patch context on occupancy by an early-successional species.*
- PS 79-62 Almeida, L¹, K McEachern², E Schultz¹ and D Thomson¹, (1)Claremont McKenna, Pitzer and Scripps Colleges, (2) U.S. Geological Survey - Western Ecological Research Center. *Quantifying the effects of invasive pigs and climate variation on survivorship of an island endemic plant.*
- PS 79-63 Booth, EM, Northwestern University and the Chicago Botanic Garden. *Potential effects of climate change on Penstemon palmeri (Plantaginaceae) at Zion National Park, Utah, U.S.A.*
- PS 79-64 Lambert, KF, C Hart and DR Foster, Harvard University. *Wildlands and Woodlands research: Conservation impact*

from local parks to Capitol Hill.

- PS 79-65 Boughton, RK and R Bowman, Archbold Biological Station. *The current state of Florida's only endemic bird on conservation lands.*
- PS 79-66 Brown, LM and C Graham, Stony Brook University. *An analysis of the effects of land cover and urbanization on survival in northeastern birds.*
- PS 79-67 Simons, JD¹, ME Vega Cendejas², M Yuan³, C Carollo¹, AE Thessen⁴, SB Gonzalez-Perez³, C Mazza⁵, D Morris³ and L Williams³, (1)Texas A&M University Corpus Christi, (2) CINVESTAV-IPN, (3)University of Oklahoma, (4)Marine Biological Laboratory, (5)FWRI. *Conserving species interaction data: The Gulf of Mexico trophic database, and the Data Conservancy.*
- PS 79-68 Strickland, JD, BD Nylen, L Hunt and E Soderstrom, American Rivers. *Rapid assessment of ecosystem condition: Tools and applications for restoring Sierra Nevada meadows.*
- PS 79-69 Cantu, JM, University of Texas Pan-american. *The effects of climatic change on the distribution of the Taylor's (ornate) cantil *Agkistrodon taylori*.*
- PS 79-70 Kitzes, JA, J Harte and AM Merenlender, University of California, Berkeley. *Designing reserve networks for biodiversity persistence: An allometric community approach.*
- PS 79-71 Maupome, A., Comisión Nacional de Áreas Naturales Protegidas, México. *New Biosphere Reserve Reefs of Los Tuxtlas.*

PS 80 - Latebreaking: Disease and Epidemiology

Exhibit Hall 3, Austin Convention Center

- PS 80-72 Cheng, TL¹, SM Rovito², DB Wake² and VT Vredenburg¹, (1)San Francisco State University, (2)University of California, Berkeley. *Coincident mass extirpation of neotropical amphibians with the emergence of a fungal pathogen, *Batrachochytrium dendrobatidis*.*
- PS 80-73 O'Regan, SM and JM Drake, University of Georgia. *Transient analysis of an SIR epidemic model.*
- PS 80-74 MacDonald, AJ¹ and AE Larsen², (1)University of California, Santa Barbara, (2)University of California. *What predicts dominant ant foraging in a coffee agroecosystem? Insights from regression analysis.*

PS 81 - Latebreaking: Ecosystem Services Assessment

Exhibit Hall 3, Austin Convention Center

- PS 81-75 Timilsina, N¹, F Escobedo¹, A Abd-Elrahman¹, WP Cropper Jr.¹, S Delphin¹ and S Lambert², (1)University of Florida, (2)U. S. Forest Service. *A framework for mapping carbon storage hot spots and determining optimal forest structure and management regime characteristics.*
- PS 81-76 De Steven, D¹ and JM Gramling², (1)U.S. Forest Service Southern Research Station, (2)The Citadel. *Diverse wetland restoration approaches under working-lands programs in the Southeastern U.S.: implications for ecosystem services.*
- PS 81-77 Adamson, NL¹, TH Roulston², RD Fell¹ and DE Mullins¹, (1)Virginia Tech, (2)University of Virginia. *From April to August—wild bees pollinating crops in Virginia.*
- PS 81-78 Covich, AP¹, JC Bergstrom¹, RL Moore² and DA Patton¹, (1)University of Georgia, (2)University of Georgia. *Effects of drought on freshwater ecosystem services and biodiversity: Examples from the Savannah River Basin.*
- PS 81-79 Sircely, J¹, C Palm², PK Mutuo² and S Naeem¹, (1) Columbia University, (2)The Earth Institute at Columbia University. *Biodiversity and multiple ecosystem services in smallholder fallows.*

PS 82 - Latebreaking: Ecological Knowledge (Education, TEK, Philosophy)

Exhibit Hall 3, Austin Convention Center

- PS 82-80 Adhikari, S, Tribhuvan University, Amrit Campus. *Ethno-medicinal plants, and their sustainable utilization for the local livelihoods of central Nepal.*
- PS 82-81 Halpern, AA¹, FK Lake², TJ Carlson¹ and WP Sousa¹, (1) University of California, Berkeley, (2)U.S. Forest Service, Pacific SW. *The effects of prescribed fire on California Indian cultural use plant species in a serpentine woodland.*
- PS 82-82 Prather, CM, Florida State University. *The rise and fall of philosophy in ecology.*
- PS 82-83 Polgar, C, Boston University. *Climate change research comes to 5th grade.*
- PS 82-84 Studer, M, Encyclopedia of Life. *Developing tools and applications to visualize, manage and disseminate biodiversity information.*
- PS 82-85 Bray, SR¹ and GL Bailey², (1)Transylvania University, (2)University of Nebraska. *What do students really know about evolution? Measuring students' knowledge of and attitudes toward evolutionary science.*
- PS 82-86 Neill, PE¹, AK Barrera¹, I Medina-Muñoz² and S Pérez-Gutiérrez³, (1)Universidad Católica de la Santísima Concepción, (2)Corporación de Ayuda al Limitado Visual, (3)Ilustre Municipalidad de Chillán. *Using science to promote inclusive education: An example exploring marine biodiversity using all of the senses.*
- PS 82-87 Chesser, ME¹, J Kim² and K McGarigal¹, (1)University of Massachusetts, (2)San Diego State University. *Analysis of human error rates related to photographic identification in ecological databases: Implications for the possibility of incorporating citizen scientists.*
- PS 82-88 Dagleish, HJ, SM Chambers and NC Emery, Purdue University. *Creating active learning modules to incorporate statistics and experimental design across life sciences curricula through a Faculty Learning Community.*
- PS 82-89 Ofei-Manu, P and S Shimano, Miyagi University of Education. *In transition towards sustainability: Bridging the business and education sectors of RCE Greater Sendai using ESD-based social learning.*
- PS 82-90 Michalak, J, JJ Lawler and K Yocom, University of Washington. *Conservation planning in the classroom: Applying project-based pedagogy to promote interdisciplinary learning.*
- PS 82-91 Bailey, JB¹, CB Anderson², DJ Hoeinghaus¹ and AK Poole³, (1)University of North Texas, (2)University of North Texas and Universidad de Magallanes, (3)Center for Environmental Philosophy, Institute of Applied Science, University of North Texas. *Methods of SEEDS dispersal in the North Texas prairie.*
- PS 82-92 Boyle, B¹, Z Lu², JA Raygoza Garay³, N Hopkins³, C Freeland⁴, BJ Enquist⁵, W Piel⁶, M Narro³, S Lowry³ and S McKay³, (1)University of Arizona, (2)Cold Spring Harbor Laboratory, (3)iPlant Collaborative, (4)Missouri Botanical Garden, (5)University of Arizona and The Santa Fe Institute, (6)Yale University. *TNRS: A taxonomic name resolution service for plants.*
- PS 82-93 Porzecanski, AL¹, E Sterling¹, N Byrum², A Bravo¹, RL Burks³, A Gómez¹, K Landrigan¹, BJ Abraham⁴, G Bowser⁵, M Cawthorn⁶, JA Cigliano⁷, LM Dávalos⁸, DS Fernandez⁹, L Freeman¹⁰, SR Ketcham¹¹, TA Langen¹², J Linder¹³, JF Mull¹⁴, MI Palmer¹⁵, D Roon¹⁶, D Ruby¹⁷, J Singleton¹⁷, T Theodose¹⁸ and DW Vogler¹⁹, (1)American Museum of Natural History, (2)Duke University, (3)Southwestern University, (4)Hampton University, (5)Colorado State University, (6)Georgia Southern University, (7)Cedar

Crest College, (8)State University of New York at Stony Brook, (9)University of Puerto Rico at Humacao, (10)Fulton Montgomery Community College, (11)University of the Virgin Islands, (12)Clarkson University, (13)James Madison University, (14)Weber State University, (15)Columbia University, (16)University of Idaho, (17)University of Maryland Eastern Shore, (18)University of Southern Maine, (19)SUNY College at Oneota. *Cultivating skills for 21st century professionals: Development & assessment of process skills in ecology and conservation biology students.*

- PS 82-94 Garrigan, DA and LR Huaracha, Carthage College. *Focusing on Nature: Educating about biodiversity, ecology, and conservation using digital photography.*
- PS 82-95 Colón-Rivera, RJ and RA Feagin, Texas A&M University. *Maximizing research efforts through PhD-mentored undergraduate research experiences: The humacao natural reserve.*
- PS 82-96 Moses, KP¹, Y Medina², F Massardo³, LR Lewis⁴, B Goffinet⁴ and R Rozzi⁵, (1)University of North Texas, (2)Universidad de Magallanes Programa de Conservación Biocultural Subantártica - Parque Etnobotánico Omora, (3)University of Magallanes and Omora Ethnobotanical Park, (4)University of Connecticut, (5)University of North Texas and University of Magallanes - Institute of Ecology and Biodiversity, Chile. *Ecotourism with a Hand Lens: A sub-Antarctic approach to implement Earth stewardship.*

PS 83 - Latebreaking: Evolution

Exhibit Hall 3, Austin Convention Center

- PS 83-97 Heberling, JM and J Fridley, Syracuse University. *Biogeographic constraints on the worldwide leaf economic spectrum.*
- PS 83-98 Yanjie, L¹, N Haishan¹ and X Xingliang², (1)Graduate University of Chinese Academy of Sciences, (2)Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences. *Evidence for functional divergence in *Leymus chinensis*: Local adaptation.*
- PS 83-99 Mason, CM, University of Georgia. *Evaluating correlated leaf trait evolution: Evidence from *Helianthus*.*
- PS 83-100 Ayre, DJ¹, A Denham², DG Roberts¹, C Forrest¹ and AM Gilpin¹, (1)University of Wollongong, (2)Department of Environment, Climate Change and Water. *Genetic rescue of Australian arid zone acacia species.*
- PS 83-101 Finch, TM, KH Frederick-Hudson and LS Eggert, University of Missouri. *A mitogenomic analysis of the phylogeny and adaptive evolution of the African elephant.*
- PS 83-102 Taylor, S and N Martin, Texas State University-San Marcos. *Homoploid hybrid speciation in Louisiana Iris.*
- PS 83-103 Moe, A, University of Minnesota. *Reproductive isolation among dioecious fig species (*Ficus*, Moraceae) and fitness consequences of cross-pollination.*
- PS 83-104 Hampton, PM, Carroll University. *Relationships among dietary richness, geographic range and morphology in snakes.*
- PS 83-105 Quintero, E¹, A Silva¹ and BL Fredensborg², (1)The University of Texas-Pan American, (2)University of Texas-Pan American. *Sex and parasitism: Do amazon mollies defy the Red Queen Hypothesis?*
- PS 83-106 Jin, LS¹, MJ Fortin¹ and MW Cadotte², (1)University of Toronto, (2)University of Toronto - Scarborough. *A phylogenetic community ecology approach to niche separation.*

PS 84 - Latebreaking: Forests

Exhibit Hall 3, Austin Convention Center

- PS 84-107 Yamanaka, T¹, K Nunokawa², S Saito³, H Kondoh⁴, E Shoda-Kagaya⁵ and S Makino⁵, (1)NIAES, (2)Niigata Prefectural Forest Research Institute, (3)Yamagata Prefectural Forest Research and Instruction Center, (4)Forestry and Forest Products Research Institute, Kyushu Research Center, (5)Department of Forest Entomology, Forestry and Forest Products Research Institute. *Severe mass oak defoliation in Japan by oak wilt disease: Origin and propagation pattern of the defoliation.*
- PS 84-108 Cheng, X¹ and Q Zhang², (1)Key Laboratory of Aquatic Botany and Watershed Ecology, Wuhan Botanical Garden, CAS, Wuhan 430074, P, (2)Wuhan Botanical Garden, the Chinese Academy of Sciences. *Impacts of agricultural land-use change on soil organic carbon storage in Danjiangkou Reservoir area, China.*
- PS 84-109 Seltzer, CE¹, CT Kremer², HJNdangalasi³ and NJ Cordeiro⁴, (1)University of Illinois at Chicago, (2)Michigan State University, (3)University of Dar es Salaam, (4)Roosevelt University. *Plants, rats, and people: Seed dispersal of an economically important rainforest tree in Tanzania.*
- PS 84-110 Xu, Q¹ and S Liu², (1)Institute of Forest Ecology, Environment and Protection, Chinese Academy of Forestry, Beijing 100091, China, (2)Chinese Academy of Forestry. *Effects of rainfall on soil moisture and water movement in a subalpine dark coniferous forest in southwestern China.*
- PS 84-111 Olney, JA¹, AE Kochsiek¹, S Tan² and SE Russo¹, (1)University of Nebraska-Lincoln, (2)Center for Tropical Forest Science - Arnold Arboretum of Harvard University. *Preferential uptake of different nitrogen forms by tree species in Bornean mixed dipterocarp forest.*
- PS 84-112 Kelly, SM¹ and TA Waldrop², (1)Clemson University, (2)US Forest Service, Southern Research Station, Center for Forest Disturbance Science. *Woody plant species composition and structure of burned sites differs only slightly from unburned sites in a Southern Appalachian wilderness area.*
- PS 84-113 Laszlo, Sr., M, RISSAC. *Fertilization impact on sulphur translocation and bioaccumulation from soil to triticale (*X Triticosecale* W.) shoot and grain.*
- PS 84-114 Howard, K¹, LD Dimov¹, ZH Leggett² and EB Sucre², (1)Alabama A&M University, (2)Weyerhaeuser Company. *Effect of organic matter manipulation in a pine plantation 16 years after clearcutting.*
- PS 84-115 Lowrey, CE, USGS. *Ecology, distribution, and predictive modeling of *Tamias palmeri*: A high elevation small mammal.*
- PS 84-116 Rehill, B, A Lau and D Dillner, U.S. Naval Academy. *Isolated red oak hydrolyzable tannins reduce gypsy moth feeding preference and weight gain.*
- PS 84-117 Ramírez-Araiza, P¹, JG Martínez-Avalos¹, A Mora-Olivo¹, P Feria² and G Sánchez-Ramos¹, (1)Institute of Applied Ecology, University Autonomous of Tamaulipas, Mexico, (2)University of Texas - Pan American, USA. *Tree species in the tropical deciduous forest in the Sierra de Tamaulipas, Tamaulipas, México.*
- PS 84-118 Pagnutti, C¹, M Anand², C Bauch² and SA Levin³, (1)University of Western Ontario, (2)University of Guelph, (3)Princeton University. *Modelling the Forest Transition.*

PS 85 - Latebreaking: Herbivory

Exhibit Hall 3, Austin Convention Center

- PS 85-119 Nelson Dickinson, T and O Van Auken, University of Texas at San Antonio. *Abiotic and biotic factors affecting first year seedling growth and survival of Acer grandidentatum.*
- PS 85-120 Russell, FL and GR Houseman, Wichita State University. *Variation in herbivore impacts on tall thistle reproduction: Roles of soil resources and herbivore diversity.*
- PS 85-121 Peters, VE¹ and R Greenberg², (1)Rollins College, (2) Smithsonian Migratory Bird Center. *Food enrichment as driver for ecosystem service provisioning in shade-grown coffee.*
- PS 85-122 Cox, MD, University of Massachusetts. *Florivory induces chemical defenses in *Impatiens capensis* flowers.*
- PS 85-123 Donovan, MP, PD Nability and EH DeLucia, University of Illinois. *Salicylic acid-mediated reductions in yield in *Nicotiana attenuata* challenged by aphid herbivory.*

PS 86 - Latebreaking: Invasion

Exhibit Hall 3, Austin Convention Center

- PS 86-124 Sekoni, TA, TW Boutton, CL Morgan, GW Moore and R Knight, Texas A&M University. *Growth and ecophysiological characteristics of an exotic woody invasive plant.*
- PS 86-125 Savage, AM, KD Whitney and JA Rudgers, Rice University. *Can novel mutualisms with native species modify the community-wide consequences of ant invasions? A test using the *Anoplolepis gracilipes* invasion of the Samoan Archipelago.*
- PS 86-126 LeBrun, EG, RM Plowes and LE Gilbert, University of Texas at Austin. *Imported fire ants near the edge of their range: Disturbance and moisture determine prevalence and impact of an invasive social insect.*
- PS 86-127 Tarpey, LM and RP Keller, University of Chicago. *The US Federal Noxious Weeds list: Species included, the listing process, and outcomes for declared noxious species.*
- PS 86-128 McNellis, BE and AR Howard, Western Oregon University. *A survey of daytime and nighttime gas exchange in invasive and native species of *Rubus*.*
- PS 86-129 Wang, L and DA Jackson, University of Toronto. *Predicting species distributions: Examining the effects of sample size and species response shape on the performance of different statistical models using simulations.*
- PS 86-130 Kwiatkowski, MA¹, D Saenz², EM Fucik¹ and TB Cotten³, (1)Stephen F Austin State University, (2)US Forest Service, (3)Arizona Game and Fish Department. *Interactions between invasive species and climate change: The effect on aquatic amphibians.*
- PS 86-131 Chen, B and S Peng, Sun Yat-Sen University. *Mixing litter effects of exotic invasive plant *Mikania micrantha* H.B.K. with native plants.*
- PS 86-132 Nobles, T, DM Wallace and Y Zhang, Texas State University. *Relationship of riparian tree species diversity and litter breakdown in a central Texas stream: The role of an introduced tree species.*
- PS 86-133 Lima-Junior, DP¹, A Agostinho² and LM Bini³, (1)Maringá State University, (2)Universidade Estadual de Maringá, (3)Universidade Federal de Goiás. *Are non-native species larger in invaded ranges.*
- PS 86-134 Beaty, LE and CJ Salice, Texas Tech University. *An end to cane toad roulette: Using stochastic modeling to focus cane toad control efforts in Australia.*
- PS 86-135 Davis, SL and D Cipollini, Wright State University. *How environmental conditions and changing landscapes influence the survival of a rare woodland butterfly, *Pieris virginiensis*.*

- PS 86-136 Reynecke, BK and RL Brown, Eastern Washington University. *Control methods for invasive grasses on Mima Mounds at Turnbull National Wildlife Refuge, WA.*
- PS 86-137 Whitmire, SL¹, RM Almodovar², TD Burgos¹ and JM Thaxton³, (1)University of Puerto Rico, Mayaguez, (2) University of Puerto Rico, (3)University of Puerto Rico. *Ecosystem consequences of non-native grass species removal in Puerto Rico.*
- PS 86-138 Van Bloem, SJ¹, SL Whitmire² and V Vera², (1)International Institute for Tropical Forestry, (2)University of Puerto Rico, Mayaguez. *Ecosystem effects of removing non-native trees from early successional subtropical dry forests.*
- PS 86-139 Vonshak, M, Stanford University. *The effect of distance from human disturbance on ant communities.*

PS 87 - Latebreaking: Land-Use and Land-Use History

Exhibit Hall 3, Austin Convention Center

- PS 87-140 Syphard, AD¹, JE Keeley², A Bar Massada³, T Brennan⁴ and VC Radeloff³, (1)Conservation Biology Institute, (2)US Geological Survey, (3)University of Wisconsin-Madison, (4)United States Geological Survey. *Housing arrangement and location increase wildfire risk.*
- PS 87-141 Niedbalski, SD, JS McLachlan, CY Lumibao, K Flood and D Williams, University of Notre Dame. *A population genetic approach to understanding the influence of land use on the distribution of *Ambrosia artemisiifolia* in New England.*
- PS 87-142 Manuschevich, DI and CM Beier, SUNY College of Environmental Science and Forestry. *Land use change at south-central Chile: A case study of socioecological systems.*

PS 88 - Latebreaking: Microbial Ecology

Exhibit Hall 3, Austin Convention Center

- PS 88-143 Malcolm, GM and MDM Jiménez-Gasco, Pennsylvania State University. *Genetic diversity of *Verticillium dahliae* populations from oats (asymptomatic host) is lower than in populations from potato (symptomatic host).*
- PS 88-144 Yelton, AP¹, K Wrighton¹, K Handley¹ and KH Williams², (1)University of California, Berkeley, (2)Lawrence Berkeley National Laboratory. *Vanadium removal and reduction from biostimulated sediments and isolation of the V-reducing Comamonadaceae, strain BODI.*
- PS 88-145 Sullam, KE, SS Kilham and JA Russell, Drexel University. *Distinct gut bacterial communities across wild Trinidadian guppy populations.*

PS 89 - Latebreaking: Modeling

Exhibit Hall 3, Austin Convention Center

- PS 89-146 Dixon, KR, Texas Tech University. *A physiologically-based toxicokinetic model to explore the uptake and distribution of crude oil PAHs in bottlenose dolphins (*Tursiops truncatus*) following exposure to oil spills.*
- PS 89-147 Kaganovskiy, L, Touro College. *Mathematical modeling of canopies for herbivory.*
- PS 89-148 Baskerville, EB, University of Michigan. *Modeling and prediction of feeding links using trait data.*
- PS 89-149 Ferrareze, M¹ and L Casatti², (1)UNESP, (2)Sao Paulo State University. *Model of ichthyofauna homogenization promoted by the introduction of *Cichla kelberi* in a large Neotropical reservoir.*
- PS 89-150 Hernández, CE¹, E Rodríguez-Serrano¹, J Avaria-Llautureo¹, B Morales-Pallero², D Boric-Bargetto¹, CB Canales-Aguirre¹ and A Meade³, (1)Universidad de Concepción, (2)Universidad de Valparaíso, (3)University of Reading. *Using the Directional Comparative Method in Macroecology: The body size – latitudinal range relationship*

in the *Sebastes* genus (Pisces: Scorpaeniformes).

- PS 89-151 Camargo, UM¹, SM Freitas¹ and G Ferraz², (1)Biological Dynamics of Forest Fragments Project, Instituto Nacional de Pesquisas da Amazônia, (2)Smithsonian Tropical Research Institute. *Use of canopy gaps by birds in the central Amazon: A quantitative approach with imperfect detection.*

PS 90 - Latebreaking: Physiological Ecology

Exhibit Hall 3, Austin Convention Center

- PS 90-152 Fincher, RM¹, AC Gilman², C Moore¹ and JT Pynne¹, (1)Samford University, (2)Finca Los Nacientes. *Forest restoration in abandoned cattle pastures in Costa Rica: Leaf traits determine light dependent tradeoffs between survival and growth in native and rare rainforest tree species.*
- PS 90-153 McGuire, MA¹, J Bloemen², DP Aubrey¹, K Steppe² and RO Teskey¹, (1)University of Georgia, (2)Ghent University. *Transport of dissolved CO₂ in xylem sap and subsequent assimilation in Populus trees in the field.*
- PS 90-154 Smith, SB, Rochester Institute of Technology. *Using plasma metabolite profiling to assess refueling performance and diet of migrating songbirds.*
- PS 90-155 Lemons, CR¹, DJ Peppe¹, DL Royer², IJ Wright³ and CH Lusk⁴, (1)Baylor University, (2)Wesleyan University, (3)Macquarie University, (4)University of Waikato. *Linking ecologies of past and present: Fern leaf economics quantified.*
- PS 90-156 Wang, H, M Matsushita, N Tomaru and M Nakagawa, Nagoya University. *Difference in female reproductive success between hermaphrodite and female individuals in a subdioecious shrub plant *Eurva japonica* Thunb.*
- PS 90-157 McGinty, ES¹, RF McMahon¹, R Avina¹, JN Pieczonka¹ and LD Mydlarz², (1)The University of Texas at Arlington, (2)University of Texas at Arlington. *Shifting from mutualism to parasitism under environmental stress: Physiological evidence in symbiotic algae.*

PS 91 - Latebreaking: Pollination

Exhibit Hall 3, Austin Convention Center

- PS 91-158 Gray, ML, Northwestern University and the Chicago Botanic Garden. *The effects of floral density manipulation on the pollination and reproductive success of *Penstemon pachyphyllus*.*
- PS 91-159 Rabie, PA¹, DL Larson¹, S Droege² and M Haar³, (1)US Geological Survey, (2)USGS, (3)Badlands National Park. *Pollination network patterns in selected South Dakota badlands plant communities.*
- PS 91-160 Rifkin, SA, University of Puerto Rico, Rio Piedras. *Pollination syndromes of the family Rubiaceae in El Verde, Puerto Rico.*
- PS 91-161 Ho, S, Texas state university- San Marcos. *Mechanical pollinator isolation in Louisiana iris: Legitimacy and pollen transfer.*

PS 92 - Latebreaking: Population Dynamics

Exhibit Hall 3, Austin Convention Center

- PS 92-162 Stratmann, TS, TC O'Sullivan, AJ Channell, AM Kramer, MA Zokan, AM Silletti and JM Drake, The University of Georgia. *Two paths to extinction: Effect of deteriorating environments on extinction time and distribution.*
- PS 92-163 Cosentino, BJ¹, CA Phillips¹, RL Schooley¹, WH Lowe² and MR Douglas¹, (1)University of Illinois, (2)University of Montana. *Area and isolation predict metapopulation genetic structure of a pond-breeding amphibian.*
- PS 92-164 Low, C and SP Ellner, Cornell University. *Tracing system dynamics when herbivore-plant interactions are net positive.*

- PS 92-165 Cunnings, AM, University of Calgary. *Processes contributing to the deposition of buoyant seeds along river margins.*
- PS 92-166 Thompson, HM, D Kidney, A Bruder, M Kummel and D Brown, Colorado College. *Predator foraging behavior in a patchy habitat drives self-organization in an insect predator-prey metapopulation.*
- PS 92-167 Lorch, PD, Kent State University. *Using boosted regression tree analysis to identify bioclimatic variables correlated Mormon cricket outbreaks.*
- PS 92-168 Levine, TD¹ and DS White², (1)Murray State University, (2)Murray State University. *Spatial structure and spatial dependence of zooplankton taxa in Kentucky Lake.*
- PS 92-169 Driscoll, CC and J Mitton, University of Colorado. *Population genetics of Rocky Mountain bighorn sheep (*Ovis canadensis*): Current status and future management implications.*

PS 93 - Latebreaking: Remote Sensing and Image Analysis

Exhibit Hall 3, Austin Convention Center

- PS 93-170 Abdullah, HM, River Basin Research Center. *Mapping biomass of agricultural fields including abandoned crop lands in a mountain area using QuickBird multispectral imagery.*
- PS 93-171 Hashiba, H, College of Science and Technology, Nihon University. *Analysis of the struck situation of coastal habitat in Matsukawa bay Wildlife Park by the tsunami disaster in Eastern Japan using time series satellite observation image.*

PS 94 - Latebreaking: Restoration Ecology

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- PS 94-172 Jones, LC, Texas State University. *Ecology and restoration of blackbrush (*Coleogyne ramosissima*) in the Mojave Desert.*
- PS 94-173 McCrea, ER, RP Klopff and SG Baer, Southern Illinois University Carbondale. *The effect of dominance and propagule source on root biomass and ANPP in restored prairie.*
- PS 94-174 Krasnow, KD¹ and AS Halford², (1)University of California, (2)BLM Morley Nelson Snake River Birds of Prey NCA. *Wildfire, management, and regeneration of quaking aspen (*Populus tremuloides*) in the Sierra Nevada and Glass Mountains, California, USA.*
- PS 94-175 Boring, LR¹, SE Cathey², TR Sinclair³ and RS Taylor¹, (1)Joseph W. Jones Ecological Research Center, (2)University of Florida, (3)University of Florida. *Growth and nitrogen fixation activity of native legumes in response to light levels under longleaf pine canopies.*
- PS 94-176 Patterson, CT and LD Dimov, Alabama A&M University. *Effects of overstory density and fertilizer supplement on American chestnut seedlings: Preliminary results.*
- PS 94-177 Alvarez-Aquino, C¹, G Williams-Linera² and J Tolome², (1)Universidad Veracruzana, (2)Instituto de Ecología A.C.. *Effect of site condition, seasonality and species selection on tropical dry forest restoration.*
- PS 94-178 Soong, O and FW Davis, University of California Santa Barbara. *Seedling recruitment of riparian trees along the Merced River, CA: Safe sites and tolerance.*
- PS 94-179 Latshaw, SA¹, PM Nolan² and JA Gerwin³, (1)College of Charleston, (2)The Citadel, (3)North Carolina Museum of Natural Sciences. *Using the habitat preferences of painted buntings (*Passerina ciris*) to guide restoration initiatives on a developing barrier island in South Carolina.*

PS 95 - Latebreaking: Species Interactions

Exhibit Hall 3, Austin Convention Center

- PS 95-180 Cornell, CM¹ and PW Crumrine², (1)University of Virginia, (2)Rowan University. *Effects of spatial scale and shared prey density on intraguild predation among aquatic invertebrates.*
- PS 95-181 Chang, N¹, HH Su² and LL Lee¹, (1)Institute of Ecology and Evolutional Biology, National Taiwan University, (2)Institute of Wildlife conservation, National Pingtung University of Science and Technology. *Relationship between gut retention time of primates, fiber ratio in diets, and seed germination.*
- PS 95-182 Erickson, DL¹, WJ Kress¹, V Novotny², G Weiblen³ and J Hrccek², (1)Smithsonian Institution, (2)University of South Bohemia and Biology Center, (3)University of Minnesota. *Molecular reconstruction of tri-trophic interactions within a plant-herbivore-parasitoid-predator food web.*
- PS 95-183 Mighell, KL, University of North Texas. *Investigations in *Tayloria mirabilis* spore dispersal via *Dipertans* in the Cape Horn Biosphere Reserve, Chile.*

PS 96 - Latebreaking: Sustainability

Exhibit Hall 3, Austin Convention Center

- PS 96-184 Madden, BD, O Lau, P Liao and C Santoro, University of Michigan. *Renewing Ranobe for tomorrow: An integrated approach to sustainable development in Madagascar.*
- PS 96-185 Park, C¹, D Lee¹ and D Tomlin², (1)Seoul National University, (2)University of Pennsylvania. *Vegetation and soil carbon stock changes in South Korea, 2005-2030.*
- PS 96-186 Johnson, AL¹, DJ Bain², EM Copeland³ and CM Swan¹, (1) University of Maryland, Baltimore County, (2)University of Pittsburgh, (3)Pittsburgh Parks Conservancy. *Volunteer urban environmental stewardship: An effective way to manage plant communities in city parks.*
- PS 96-187 Ma, B and J Gao, The International Center for Bamboo and Rattan. *The driving force system of ecological construction in Muchuan county.*
- PS 96-188 Sanchez, CA, DL Childers and L Turnbull, Arizona State University. *The contribution of evapotranspiration and evaporation to the water budget of a treatment wetland in Phoenix, AZ, USA.*
- PS 96-189 May-Tobin, CC, DH Boucher, P Elias, KB Lininger, S Roquemore and E Saxon, Union of Concerned Scientists. *The root of the problem: A comprehensive literature review of what's driving tropical deforestation today.*
- PS 96-190 Lee, D¹, C Park¹, E KIM² and K Oh³, (1)Seoul National University, (2)Korea Environment Institute, (3)Hanyang University. *Functional assessment of ecosystem for residential site development, South Korea.*
- PS 96-191 Alsina, MM¹, AC Fanton-Borges¹, KM Scow², P Brown¹ and DR Smart¹, (1)University of California, (2)University of California-Davis. *Modeling N₂O emissions for microirrigation systems in a nitrogen intensive perennial crop in California.*

PS 97 - Latebreaking: Urban Ecosystems

Exhibit Hall 3, Austin Convention Center

- PS 97-192 Moratto, SM, RL Hale and NB Grimm, Arizona State University. *Soil analysis in Arizona catchments.*
- PS 97-193 Schindler, BY, AB Griffith and KN Jones, Wellesley College. *Factors influencing arthropod diversity on green roofs.*
- PS 97-194 Moorhead, LC and SM Philpott, University of Toledo. *Abundance, diversity, and composition of spiders in urban green spaces in Toledo.*

- PS 97-195 Meineke, EK¹, SD Frank¹, RR Dunn² and JO Sexton³, (1) North Carolina State University, (2)NCSU, (3)University of Maryland. *Hot in the city: Scale insects, parasitoids, and the future of warmer urban trees.*
- PS 97-196 Park, JJ¹, DG Woo², S Yoo² and CH Park², (1)Environmental Planning Institute, Seoul National University, (2)The Graduate School of Environmental Studies, Seoul National University. *Site selection for Leopard Cat Passages in a fragmented urban wildlife refuge by using space syntax.*
- PS 97-197 Woo, D¹, DH Oh², YJ Kim³, MW Yoo¹ and CH Park¹, (1) The Graduate School of Environmental Studies, Seoul National University, (2)National Institute of Environmental Research, (3)Chung-nam wildlife rescue center. *Wildlife habitat conservation plan of leopard cats, and raccoon dogs in Gang-seo ecological Park, Seoul.*
- PS 97-198 Ambrose, MJ, North Carolina State University. *Analysis of North American urban forest tree species composition.*
- PS 97-199 Gilmer, AR and ML Sanchez, University of North Texas. *A student organization-centered approach for developing interdisciplinary collaborations and developing under-perceived biodiversity.*
- PS 97-200 Frank, SD¹, S Widney², M Green², W Blankenship², B Guénard², I McAreavy², DM Sorger², H Stansell², M Thoemmes² and RR Dunn³, (1)North Carolina State University, (2)North Carolina State University, (3)NCSU. *Urbanization creates a hostile environment for native trees.*
- PS 97-201 Fischer, JD¹, JR Miller², TP Lyons² and SH Cleeton², (1) University of Illinois- Urbana/Champaign, (2)University of Illinois- Urbana/Champaign. *Explaining the predation paradox: The role of predation in shaping urban wildlife communities.*

11:30 am-1 pm**ESA Buell/Braun Student Award Committee Meeting**

Austin Suite, Austin Convention Center

11:30 am-1:15 pm**PL 4 - ESA Closing Plenary**

19A, Austin Convention Center

Panel Speakers: Steward Pickett, Alan Knapp, Terry Chapin, Jenny Talbot, and Joe Fader

11:30 am-1:30 pm**ESA Musicians Central**

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