



## Tuesday, 28 May

- 1pm **Registration**  
*Lobby*
- 2pm **Soil Ecology Teaching Workshop**  
*Faculty Club*  
Chaired by: Dr. Loren Byrne
- 4pm **Welcome Mixer with Heavy Appetizers and Cash Bar**  
*Mahogany Room*
- 6pm **Natural History Talk: Introduction to the Great Black Swamp and Oak Openings Regions - Kim High, Metroparks Toledo**  
*Mahogany Room*
- 7:15pm **Shuttle Service to Downtown (Hensville), with pickups at 9 and 10 PM.**  
*Lobby*
- 8:30pm **Student Mixer - all students are welcome and will be given two free drink tickets at registration**  
*Hotel Bar - 31Hundred*

## Wednesday, 29 May

- 8am **Registration**  
*Lobby*
- 8am **Breakfast & Coffee**  
*Mahogany Room*

- 8:30am **Meeting Welcome - 30 Years of SES**  
*Mahogany Room*  
Chaired by: Prof. Michael Weintraub
- 8:45am **Plen-1 - Plenary Address 1: SES Early Career Award Winner Thea Whitman**  
*Mahogany Room*  
Chaired by: Prof. Michael Weintraub
- 9:30am **Break**  
*Birch & Elm Rooms*
- 9:30am **Break**  
*Oak, Pine, & Willow Rooms*
- 9:45am **OS-W1 - Carbon Sequestration**  
*Birch & Elm Rooms*  
Chaired by: Qian Zhao
- 9:45am **Building Soil Carbon and Improving Resilience with Kernza Intermediate Wheatgrass**  
» Galen Bergquist, Dr. Jessica Gutknecht, Dr. Jacob Jungers, Dr. Craig Sheaffer, Dr. Donald Wyse
- 10am **The Role of Litter Chemistry and Degree of Carbon Saturation Deficit on Soil Organic Matter Formation**  
» Samantha Mosier, Dr. Francesca Cotrufo
- 10:15am **Does higher mineral N stabilize extant soil organic C in grasslands? A continuous <sup>13</sup>C labelling mesocosm study**  
» Dr. Tanvir Shahzad
- 10:30am **Iron mineral-dependent persistence of carbon in response to nutrient addition in grassland soils**  
» Qian Zhao, Stephen Callister, Allison Thompson, Ravi Kukkadapu, Malak Tfaily, Lisa Bramer, Nikolla Qafoku, Sarah Hobbie, Eric Seabloom, Elizabeth Borer, Kirsten Hofmockel



Continued from **Wednesday, 29 May**

10:45am **Carbon Geochemistry and Microbial Communities Reveal Dynamic Carbon Pools in Grassland Soils**  
» [Allison Thompson](#), Qian Zhao, Stephen Callister, William Nelson, Malak Tfaily, Sarah Hobbie, Kirsten Hofmockel

9:45am **OS-W2 - Agricultural Ecosystems**  
*Oak, Pine, & Willow Rooms*  
Chaired by: Dr. Dave Knaebel

9:45am **Improving soil as a win-win for agricultural viability and climate adaptation**  
» [Dr. Jessica Gutknecht](#), Dr. Kristen Brennan, Dr. Ann Marie Journey

10am **The provision of soil-based ecosystem services and biodiversity varies with field margin species in agricultural fields of the Peruvian Andes**  
» [Steven Fonte](#), Anna Visscher, Steven Vanek, Katherin Meza, Ron de Goede, Edgar Olivera, Raul Canto, Jaime Hoogesteger, Maria Scurrah

10:15am **Vegetation and Soil Biodiversity at Cropped-Perennial Edges**  
» [Mariah Aguiar](#), Alexandra Conway, Katherine Stewart

10:30am **LONG TERM CROPPING SYSTEM INFLUENCE SOIL MACROFAUNA AND WATER DYNAMICS**  
» [Courtland Kelly](#), Dr. Boris Kondratieff, Dr. Joel Schneekloth, Dr. Meagan Schipanski, Dr. Lucretia Sherrod, Steven Fonte

10:45am **Advances in agricultural soil ecosystem research conducted by USDA ARS scientists – highlights of improving productivity, decreasing environmental impacts, and preparing for climate changes and changes in land use.**  
» [Dr. Dave Knaebel](#)

11am **Break**  
*Birch & Elm Rooms*

11am **Break - Break**  
*Oak, Pine, & Willow Rooms*

11:15am **OS-W3 - Plant-Soil Interactions**  
*Birch & Elm Rooms*  
Chaired by: Anthony Darrouzet-Nardi

11:15am **Using synthetic biology to understand flavonoid bioavailability in soils**  
» [Ilene Del Valle](#), Dr. Tara M. Webster, Dr. Caroline A. Masiello, Dr. Jonathan J. Silberg, Dr. Johannes Lehmann

11:30am **Hidden players of plant function: variation in microbiome conditioning source influences phenotypic variation in a common perennial**  
» [Kendall Beals](#), Dr. Joe Bailey, Dr. Jen Schweitzer

11:45am **Ecosystem nitrogen retention following severe bark beetle and salvage logging disturbance in lodgepole pine forests: a <sup>15</sup>N enrichment study**  
» [Bethany Avera](#), Dr. Charles Rhoades, Dr. Eldor Paul, Dr. Francesca Cotrufo

12pm **Both leaf habit and mycorrhizal association predict tree species' effects on soil**  
» [Ms. Rachel Sims](#), Dr. Meghan Midgley

12:15pm **Testing the fungal loop hypothesis for nitrogen movement from biocrusts to plants in dryland ecosystems**  
» [Anthony Darrouzet-Nardi](#), Eva Stricker, Catherine Cort, Kristina Young, Grace Crain, Laura Green, Robert Sinsabaugh, Jayne Belnap, Jennifer Rudgers

11:15am **OS-W4 - Agricultural Ecosystems 2**  
*Oak, Pine, & Willow Rooms*  
Chaired by: Dr. Carl Wepking



Continued from **Wednesday, 29 May**

- 11:15am **Cover Crop Application Shifts Soil Fungal Community Composition in Dredge Sediments**  
» [Ashley Julian](#), Dr. Louise Stevenson, Dr. Megan Rúa
- 11:30am **Exposure to antibiotics alters microbial communities and terrestrial elemental cycling**  
» [Dr. Carl Wepking](#), Dr. Brian Badgley, Dr. Jeb Barrett, Dr. Katharine Knowlton, Dr. Kevan Minick, Dr. Partha Ray, Ms. Sarah Shawver, Dr. Michael Strickland
- 11:45am **Invertebrates strengthen the linkage between soil microbial activity and crop productivity**  
» [Ashley Jernigan](#), Dr. Kyle Wickings, Dr. Matthew Ryan
- 12pm **Consequences of Intensifying Rainfall Patterns on Nitrous Oxide Fluxes**  
» [Ms. Kathryn Glanville](#), Dr. G. Philip Robertson
- 12:15pm **Microbial Contributions to Soil Carbon Under Winter Rye Cover Crop in Continuous Silage Corn**  
» [Jaimie West](#), Dr. Anna Cates, Yichao Rui, Leonardo Deiss, Matt Ruark, Thea Whitman

12:30pm **Lunch -**  
**Lunch - Mexican Buffet**  
*Mahogany Room*

1:30pm **Registration**  
*Lobby*

1:30pm **OS-W5 -**  
**Mechanisms of Decomposition**  
*Birch & Elm Rooms*  
Chaired by: Ms. Ruth Whittington

1:30pm **Beyond Initial C:N: Litter chemistry dynamics throughout decomposition**

» [Becky Ball](#), Lynn Christenson, Dr. Kyle Wickings

1:45pm **Microbial community and soil properties modify microbial carbon use efficiency response to N and P addition**

» [Kendalynn Morris](#), Prof. Kirsten Küsel, Dr. Marion Schruppf, Dr. Mirco Migliavacca, Prof. Andreas Richter

2pm **A shortcut to soil health: a novel soil amendment rapidly increases soil organic carbon**

» [Mr. Oladapo Olayemi](#), Dr. Cynthia Kallenbach, Dr. Matt Wallenstein

2:15pm **Three levels of microbial activity in soil revealed by substrate-induced growth response**

» Dr. Evgeniya Blagodatskaya, Ms. Aliia GILMULLINA, [Dr. Sergey Blagodatsky](#)

2:30pm **Rediscovering microbial metabolism in terrestrial ecosystems - A bioenergetics approach**

» [Dr. Anke Herrmann](#), Mr. Arjun Chakrawal, Dr. Tobias Bölscher, Mr. Louis Dufour, Dr. Naoise Nunan, Dr. Stefano Manzoni

2:45pm **What's the holdup? Temperature limitations to enzyme-catalyzed Arctic soil decomposition**

» [Ms. Ruth Whittington](#), Prof. Michael Weintraub

3pm **Volatile organic compounds produced during leaf litter decomposition enter soil organic matter.**

» [Mr. Steven McBride](#), Dr. Noah Fierer, Dr. Michael Strickland

3:15pm **Effect of drying and re-wetting of contaminated soil on enzyme function**

» [Jay Singh](#), Diane Hagmann, Dr. Nina Goodey, Dr. Jennifer Krumins

1:30pm **OS-W6 -**  
**Soil Biodiversity**  
*Oak, Pine, & Willow Rooms*  
Chaired by: Sean Schaeffer



Continued from **Wednesday, 29 May**

1:30pm **Unraveling the role of soil viral biodiversity in agroecosystem function**  
» [Sean Schaeffer](#), Mark Radosevich, Ning Duan, Aubrey Fine, Xiaolong Liang, Regan Wagner

1:45pm **Spatiotemporal variation in dust-associated fungi and bacteria along an elevation gradient in California's Sierra Nevada Mountains**  
» Dr. Mia Maltz, Dr. Chelsea Carey, Mr. Nat Pombubpa, Dr. Jason Stajich, Dr. Stephen Hart, Ms. Morgan Barnes, Mr. Nicholas Dove, Mr. Jon Botthoff, [Dr. Emma Aronson](#)

2pm **Urban homogenization of soil bacterial communities across four North American ecoregions**  
» [Dr. Kathryn Docherty](#), Dr. Rebecca Hale, Ms. Allison Spring

2:15pm **The effects of nutrient enrichment on the community composition of arbuscular mycorrhizal fungi: a meta-analysis of fertilization studies**  
» [Kevin MacColl](#), Hafiz Maherali

2:30pm **PD-W1 -  
The State of Knowledge on Global Soil Biodiversity**  
*Oak, Pine, & Willow Rooms*  
Chaired by: Dr. Carl Wepking and Diana Wall

3:30pm **PS-1 -  
Poster Session 1 & Mixer - Student Posters**  
*Mahogany Room*  
Chaired by: Prof. Michael Weintraub

**Soil microbial responses to altered precipitation regimes across a southwestern United States elevation gradient**  
» [Ms. Brittney Monus](#), Seth Munson, Heather Throop

**No-till irrigated cotton systems in West Texas. How stable are they?**

» [Pablo Tovar](#), Dr. Veronica Acosta-Martinez, Dr. John Zak

**Land use change effects on soil microorganisms in tropical ecosystems: A meta-analysis**

» [Emily Diaz Vallejo](#), Megan Seeley, Dr. A. Peyton Smith, Dr. Erika Marin-Spiotta

**USING CROP RESIDUE AND NO-TILL TO MANAGE SOIL MICROBIAL DYNAMICS IN A DRYLAND COTTON SYSTEM IN WEST TEXAS**

» [Diana Vargas-Gutierrez](#), Dr. John Zak, Dr. Veronica Acosta-Martinez, Dr. Bobbie McMichael

**Deficit irrigation reduces absolute, but not yield-scaled greenhouse gas emissions**

» [Nora Flynn](#), Catherine Stewart, Louise Comas, Steven Fonte

**On the edge of opportunity: evaluating microbial functional dynamics at the edges of prairie monoliths and restoration targets**

» [THEO MICHAELS](#), James Bever, Benjamin Sikes

**Seeing the unseen, bacterial drivers of decomposition in alfalfa soils fertilized with high organic matter amendments**

» [Jared Flater](#), Adina Howe, Jinlyung Choi, Cynthia Cambardella

**Effect of Salinity on Soil Nematode Habitat and Community Structure**

» [Mackenzie Ries](#), Dr. Caley Gasch, Dr. Jason Harmon

**Arbuscular Mycorrhizal Colonization and Mutualism: The Roles of Stress, Disturbance, and Life History Traits**

» [Caitlyn Horsch](#), Dr. Rebecca Bunn, Dr. Pierre-Luc Chagnon, Dr. Catherine Fahey, Dr. Ylva Lekberg, Dr. Pedro Antunes

**Comparison of biocrust-associated fungal communities at grassland sites in New Mexico**

» [Catherine Cort](#), Eva Stricker, Jennifer Rudgers, Ari Jumpponen, Anthony Darrouzet-Nardi



Continued from Wednesday, 29 May

**Litter quality and soil fauna as drivers of soil restoration in agroforestry systems of Sapucaia-RJ, Brazil**

» [Priscila Silva Matos Matos](#), Steven Fonte, Everaldo Zonta, Dr. Marcos Pereira, Sandra Lima, Cindy Ferreira

**Natural Transformation of Extracellular DNA in Soil**

» [Ms. Heather Kittredge](#), Sarah Evans

**Seasonal nutrient cycling trends in a Chihuahuan Desert ecosystem**

» [Isabel Siles Asaff](#), Anthony Darrouzet-Nardi, Dr. Marguerite Mauritz, Dr. Craig Tweedie, Dr. Jennie McLaren

**Plant-Soil Feedbacks in Metal Contaminated Soils**

» [Justin Reidy](#), Christian Navarro, Bhagyashree Vaidya, Dr. Nina Goodey, Dr. Jennifer Krumins

**Modeling effects of carbon quality and carbon-nitrogen stoichiometry on eco-enzymatic stoichiometry during plant litter decomposition**

» [Ms. Michaela Margida](#), Dr. Gwenaëlle Lashermes, Prof. Michael Weintraub, Prof. Robert Sinsabaugh, Daryl Moorhead

**Effect of drying and re-wetting of contaminated soil on enzyme function**

» [Jay Singh](#), Diane Hagmann, Dr. Nina Goodey, Dr. Jennifer Krumins

**Robbing the Phosphorus Vault: Can tropical rainforest trees access and use "unavailable" P?**

» [Alanna Shaw](#)

**Using separation techniques to explore the location of exoenzyme activity within the matrix of Arctic soils**

» [Jane Martinez](#), Anthony Darrouzet-Nardi

**Herbivory with fire exclusion reduces soil carbon dioxide emissions from South African grassland soils.**

» [Mr. Farai Chikomba](#), Dr. Heidi Hawkins, Prof. Michael Cramer

**Leaf Litter Lability is in The Eyes of the Decomposer**

» [Jessica Swedik](#), Shannon Pelini, Daryl Moorhead, Prof. Michael Weintraub

**N and P limitation on fine root production in different tree species in northern hardwood forests**

» [Ms. Shan Shan](#), Dr. Melany Fisk

**Mycorrhizal Feedbacks in the Rhizosphere and Their Role in the Maintenance of Biodiversity.**

» [Robert Ramos](#), James Bever

**Crop diversification and soil organic matter dynamics: Evidence from on-farm trials in central Malawi**

» [Alexia Witcombe](#), Dr. Lisa Tiemann, Dr. Sieglinde Snapp

**How do invasive plants impact riparian soil nitrogen cycling? A case study from a large-scale Russian olive removal project in the middle Rio Grande**

» [Mr. Sergio de Tomás Marín](#), Dr. Benjamin Duval

**Shotgun metagenomic analysis of microbial soil organic matter decomposition and nutrient cycling in an Arctic snow fence experiment**

» [Mr. Michael Ricketts](#), Ms. Theresa Ewa, Dr. Stefan Greene, Dr. Jeffrey Welker, Dr. Miquel Gonzalez-Meler

**Soil microbial dynamics of Midwest prairie strips**

» [Corinn Rutkoski](#), Dr. Sarah Evans

**Effect of season and site conditions on soil microbial community activities in high-elevation mixed conifer forest**

» [Chance Muscarella](#), Dawson Fairbanks, Kathleen Bernard, Dr. Virginia Rich, Dr. Jon Chorover, Dr. Rachel Gallery



Continued from **Wednesday, 29 May**

## **Terra plastica: The burgeoning world of microplastic research in soil**

» [Mr. Maxwell Helmberger](#), Dr. Matthew Grieshop

## **Root Demographics: How Root Stage Distributions Alters Plant Growth**

» [Mr. Tyler Poppenwimer](#), Dr. Lou Gross, Dr. Joe Bailey, Dr. Megan Rúa

## **A shortcut to soil health: a novel soil amendment rapidly increases soil organic carbon**

» [Mr. Oladapo Olayemi](#), Dr. Cynthia Kallenbach, Dr. Matt Wallenstein

## **Influences of Bioenergy Cropping System Identity and Management on Microarthropod Communities**

» [Allison Zahorec](#), Douglas Landis, Lisa Tiemann

## **Lonicera maackii increases rates of nutrient turnover during coarse woody debris decay**

» [Mrs. Michaela Woods](#), Dr. Megan Rúa

## **Effects of Agrilus planipennis and Lonicera maackii on fungal driven decomposition in Midwestern forests**

» [Adam Reed](#), Dr. Megan Rúa

## **Restoration of soil microbial communities in prairie conservation corridors**

» [Zachary Whitacre](#), Jacob Evans, Mitchell Patalon, Dr. Kathryn Docherty

## **Nitrogen Cycling is Affected by Interseeding Cover Crops into Corn**

» [Mr. Andrew Curtright](#), Dr. Karen Renner, Dr. Christy Sprague, Lisa Tiemann

## **Rhizosphere versus bulk soil microbial processes under contrasting crop rotations**

» [Laura van der Pol](#), Dr. Francisco Calderon, Rebecca Even, Dr. Meagan Schipanski, Dr. Matt Wallenstein, Dr. Francesca Cotrufo

## **Investigating the effects of soil microbes on seedling success and endophyte colonization**

» [Corinne Walsh](#), Dr. Noah Fierer

## **Stimulating soil respiration below freezing**

» [Mr. Cameron McMillan](#), Prof. Michael Weintraub

## **Impact of fire and herbivory on soil microbial populations in mesic and semi-arid savanna ecosystems of South Africa.**

» [Dr. Marie-Liesse Vermeire](#), Dr. Joshua Thoresen, Dr. Jennifer Krumins, Prof. Michael Cramer, Dr. Heidi Hawkins

## **Do decomposing AMF and EMF necromass contribute differently to the formation of mineral associated soil organic matter?**

» [Diane Meraz](#), Bethany Avera, Jocelyn Lavalley, Dr. Yamina Pressler, Dr. Francesca Cotrufo

## **3:30pm Soil Biology & Biochemistry Subject Matter Editors Meeting**

*Oak, Pine, & Willow Rooms*

Chaired by: Prof. Karl Ritz

## **5:30pm Cake and a toast to celebrate the 50th Anniversary of Soil Biology & Biochemistry**

*Mahogany Room*

## **6pm Soil Biology & Biochemistry Editors discuss the journal's achievements**

*Mahogany Room*

## **6:15pm Panel Discussion with the Editors of Soil Biology & Biochemistry**

*Mahogany Room*



Continued from **Wednesday, 29 May**

**7:15pm Shuttle Service to Downtown, with pickups at 9 and 10 PM.**  
*Lobby*

## Thursday, 30 May

**7:15am Business Meeting Breakfast**  
*Faculty Club*

**7:30am SES Business Meeting (includes breakfast)**  
*Faculty Club*

**8am Breakfast**  
*Birch & Elm Rooms*

**8:45am OS-T1 - Rhizospheres**  
*Birch & Elm Rooms*  
Chaired by: Dr. Evgeniya Blagodatskaya

**8:45am Soil Macroinvertebrates Shape Microbial Communities and Alter the Fate of Carbon and Nitrogen in the Rhizosphere**  
» Natalie Bray, Dr. Jenny Kao-Kniffin, Dr. Serita Frey, Dr. Timothy Fahey, Dr. Grant Thompson, Dr. Kyle Wickings

**9am Spatially evaluating biogeochemical processes within the rhizosphere**  
» Dr. Jim Moran, Dr. Vivian Lin, Dr. Elizabeth Denis, Ms. Jamie Nunez, Dr. Sawi Swantantar, Mr. Peter Ilhardt, Mr. Nicholas Huggett, Dr. Ryan Renslow, Dr. Jason Kriesel, Dr. Camille Makarem, Dr. James Kelly

**9:15am Hot moments shape the microbial hotspots in rhizosphere - a concept revisiting**  
» Dr. Evgeniya Blagodatskaya

**9:30am Going back to the roots: evaluating the influence of ancient and modern maize on microbial nutrient cycling**  
» Siwook Hwang, Dr. Megan Machmuller, Dr. Matt Wallenstein

**9:45am Influences of the wheat genotype on soil ecology: evidence for effects on soil structure and microbial community phenotype**  
» Prof. Karl Ritz, Dr. Sonja Schmidt, Dr. Stephanie Ellis, Dr. Mario Martinez Araya, Dr. Jonathan Atkinson, Prof. Malcolm Bennett, Prof. Murray Lark, Prof. Sacha Mooney

**10am Structure and variation of the rhizosphere microbiome in wild metapopulations of cotton in Mexico**  
» Ms. Alejandra Hernández-Terán, Dr. Ana E. Escalante, Dr. Ana Wegier, Dr. Mariana Benítez, Dr. Rafael Lira

**8:45am OS-T2 - Fires and Droughts**  
*Oak, Pine, & Willow Rooms*  
Chaired by: Dr. Jessica Miesel

**8:45am The interplay between rivers, fire and herbivory as drivers of soil invertebrates in mesic and semi-arid savanna.**  
» Dr. Joshua Thoresen, Dr. Marie-Liesse Vermeire, Dr. Jennifer Krumins, Mr. Zander Venter, Mr. Graeme Wolfaard, Prof. Michael Cramer, Dr. Heidi Hawkins

**9am Combining immediate and delayed post-fire measurements to investigate forest soil response to wildfire**  
» Dr. Jessica Miesel, Jaron Adkins, Alicia Reiner, Dr. Jonathan Sanderman, Carol Ewell, Dr. Matt Dickinson

**9:15am Differences in microbial community structure across a wildfire severity gradient are driven by soil pH and inorganic nitrogen three years post-fire.**  
» Jaron Adkins, Dr. Kathryn Docherty, Dr. Jessica Gutknecht, Dr. Jessica Miesel





Continued from **Thursday, 30 May**

- 9:30am **Characterizing the response of soil microbial and faunal populations to drought**  
» [Dr. Javier Ceja-Navarro](#), Dr. Abelardo Arellano, Dr. Leila Ramanculova, Dr. Kateryna Estera, Dr. Jennifer Pett-Ridge, Dr. Peter Weber, Dr. Eoin Brodie, Dr. Mary Firestone
- 9:45am **Temperature and substrate limitation interactively drive trace gas pulse dynamics in deserts**  
» [Holly Andrews](#), Dr. G. Darrel Jenerette
- 10am **Soil nematode community response to altered precipitation in the Great Plains Grasslands**  
» [Katharine Ankrom](#), Diana Wall, Dr. André Franco, Cecilia M. de Tomasel
- 10:15am **Break**  
*Birch & Elm Rooms*
- 10:15am **Break**  
*Oak, Pine, & Willow Rooms*
- 10:30am **OS-T3 - Rhizospheres 2**  
*Birch & Elm Rooms*  
Chaired by: Dr. Cynthia Kallenbach
- 10:30am **Using directed evolution of the rhizosphere microbiome to increase seed yield**  
» [Joshua Garcia](#), Dr. Jenny Kao-Kniffin
- 10:45am **Root herbivory controls the effects of precipitation on above-belowground grass biomass partitioning: a greenhouse study**  
» [Dr. André Franco](#), Cecilia M. de Tomasel, Walter S. Andriuzzi, Katharine E. Ankrom, Elizabeth M. Bach, Laureano A. Gherardi, Osvaldo E. Sala, Diana Wall

- 11am **Interactions with belowground organisms alter biomass quality of a candidate bioenergy crop**  
» [Mr. Binod Basyal](#), Dr. Sarah Emery
- 11:15am **Rhizosphere and detritosphere soil communities shape the mobilization of root carbon**  
» [Dr. Jennifer Pett-Ridge](#), Dr. Erin Nuccio, Mr. Evan Starr, Dr. Javier Ceja-Navarro, Dr. Shengjing Shi, Dr. Eoin Brodie, Dr. Jizhong Zhou, Dr. Jillian Banfield, Dr. Mary Firestone
- 11:30am **Microbial source communities and root C allocation interact to determine biological N cycling and rhizosphere microbial community function and composition**  
» [Dr. Cynthia Kallenbach](#), Mr. Djun Junaidi, Dr. Patrick Byrne, Dr. Matt Wallenstein, Steven Fonte
- 11:45am **Plant and Microbe Interactions in Contaminated Soil**  
» [Dr. Jennifer Krumins](#), Jay Singh, Diane Hagmann, Bhagyashree Vaidya, Justin Reidy, Christian Navarro, Dr. Nina Goodey
- 10:30am **OS-T4 - Microbial Community Structure and Function**  
*Oak, Pine, & Willow Rooms*  
Chaired by: Jared DeForest
- 10:30am **Exploring the functional capacity of seed meal-structured microbiomes in the control of apple replant disease**  
» [Dr. Tracey Somera](#), Dr. Shiri Freilich, Dr. Mark Mazzola
- 10:45am **Plant communities mediate interactive effects of invasion and drought on soil microbial communities**  
» [Dr. Catherine Fahey](#), Dr. Akihiro Koyama, Dr. Kari Dunfield, Dr. Pedro Antunes, Dr. S. Luke Flory
- 11am **Diversity and function of the soil microbiome in a North American forest in response to *Alliaria petiolata* (garlic mustard) invasion**  
» [Katherine Duchesneau](#), Dr. Pedro Antunes, Dr. Robert Colautti





Continued from Thursday, 30 May

- 11:15am **Shifting phosphorus nutrient economies: Impacts on soil microbial composition and function**  
» [Jared DeForest](#)
- 11:30am **Optimization of Methods for Assessing Free-living Nitrogen Fixation in Soils and the Rhizosphere**  
» [Darian Smercina](#), Lisa Tiemann, Sarah Evans, Maren Friesen
- 11:45am **Environmental and plant mediated controls on free-living N-fixation**  
» [Lisa Tiemann](#), Darian Smercina, Dr. Sarah Evans, Maren Friesen
- 12pm **Box Lunch Pickup from Lobby**  
*Lobby*
- 12:15pm **Bus Loading from Lobby**  
*Lobby*
- 12:30pm **Field Trips - don't forget to pick one in advance! Details in lobby and on conference website**  
*Lobby*
- 4pm **PS-2 - Poster Session 2 & Mixer**  
*Mahogany Room*  
Chaired by: Prof. Michael Weintraub
- Decomposition rates and fiber analyses of Norway and sugar maple leaves experiencing conspecific and heterospecific soil environments.**  
» [Jose-Luis Machado](#), Timothy Ogolla
- Largely Increased Nitrous Oxide Emission from Global Livestock Sector during 1860-2014: A geospatial-temporal analysis**  
» [Dr. Bowen Zhang](#), Dr. Hanqin Tian

**Cyanobacterial Communities Inhabiting Alvars of Drummond Island, Michigan**

» Travis Bean, [Dr. Gregory Colores](#)

**Depleted functional potential in C, N, P, and S cycling genes of soil microbial communities with tropical forest succession**

» [Dr. Yamina Pressler](#), Dr. Erika Marín-Spiotta, Dr. Teri Balser, Dr. Jizhong Zhou, Dr. A. Peyton Smith

**Response of bacterial and nematode communities to compost amendment in an almond production system**

» [Dr. Amanda Hodson](#), Jordan Sayre, Maria do Carmo Lyra, Prof. Jorge Rodrigues

**A Chronosequence of Soil Health under Tallgrass Prairie Reconstruction in Central Missouri**

» [Dr. Chenhui Li](#), Dr. Kristen Veum, Dr. Veronica Acosta-Martinez, Dr. Keith Goynes

**Evolution of soil carbon under an agricultural chronosequence in the desert of Arequipa, Perú**

» [Dr. Erika Foster](#), Dr. Zachary Brecheisen, Ms. Lucia Zuniga, Prof. Juan Lopa Bolivar, Prof. Martin Villalta Soto, Prof. Darrell Schulze, Prof. Tim Filley

**Low Temperature Sensitivity of Autotrophic and Heterotrophic Soil Respiration Components Under Artificial Warming.**

» [Dr. Eduardo Dias de Oliveira](#), Mr. Michael Ricketts, Dr. Charles Flower, Dr. Carlos Martinez y Huaman, Dr. Miquel Gonzalez-Meler

**Quantitative responses of ammonium-oxidation dominate N<sub>2</sub>O emissions in bioenergy crop**

» [Dr. Clovis Borges](#), Dr. Oriel Kolln, Dr. Beatriz Borges, Dr. Juliana Oliveira, Dr. Martin Polz, Dr. Siu Tsai, Dr. Henrique Franco

**Using knowledge of ecosystem productivity to predict the water balance**

» [Prof. Allen Hunt](#)



Continued from Thursday, 30 May

**Ground-active arthropod responses to shrub-planting practices at two levels of desertification in the southwest fringe of Mu Us Sandy Land**

» [Dr. Rentao Liu](#), Mr. Haitao Chang

**Earthworm populations are stable in temperate biochar-amended soils**

» [Prof. Joann Whalen](#), Mr. Hicham Benslim, Dr. Abdirashid Elmi, Mr. Barry Husk

**Decomposition of residues and residue mixtures depends on management intensity and soil health**

» [Chase Kasmerchak](#), Lisa Tiemann

**Linking microbial function and soil health with tillage and pesticide seed treatment**

» [Dr. Jessica Mackay](#), Richard Smith, Jessica Ernakovich

**Basic biology of xystodesmid millipedes: soil moisture**

» [Dr. Bruce A. Snyder](#), Amarah Shakur, Nathan Whatley

**Effects of N-deposition on millipedes: an investigation of millipede-microbial interactions**

» [Dr. Bruce A. Snyder](#), M. Cole Brogden, Christina Cortes, Dr. Allison Rick VandeVoort, Dr. Shawn P. Brown

**Who benefits from biochar? Ecological and biogeochemical interactions in a perennial cropping system**

» [Jake Nash](#), Dr. Jessica Miesel, Lisa Tiemann

**Soil faunal assembly in a fragmented urban landscape**

» [Mr. Ian Yesilonis](#), Dr. Katalin Szlavecz, Dr. Heikki Setälä, Dr. Johan Kotze, Dr. Chih-Han Chang, Mr. Adam Dec, Mr. Christian Cayon, Dr. Christopher Swan

**Impact of chicken-livestock integration in the soil microbiome of current and subsequent year crops**

» [Maria Soledad Benitez Ponce](#), Dennis Bolshakov

**Impact of climate adaptive soil health management practices on nitrogen cycling**

» [Prof. Arnab Bhowmik](#)

**Composted biosolids stimulate nitrogen-degrading enzyme activities in agricultural soil**

» [Dr. Bingjie Sun](#), Prof. Joann Whalen, Dr. Cynthia Kallenbach, Dr. Michael Y. Boh, Prof. Grant Clark

**Biosolids from sewage treatment plants are not detrimental to earthworm populations in temperate corn agroecosystems**

» [Dr. Naseer Hussain](#), Prof. Joann Whalen, Dr. Michael Y. Boh, Prof. Grant Clark, Prof. Pierre Dutilleul

**The Problem of Deforestation leading to soil erosion**

» [Dr. SAMPSON AKINLEYE OLUDARE PANNEAH-AJITERU](#)

**The use of plant hyperspectral signatures to look belowground at The Santa Rita Experimental Range**

» [Mrs. Martha Gebhardt](#), Dr. Rachel Gallery

**EMSL: A Department of Energy Scientific User Facility for Soil Ecology Research**

» [Dr. Nancy Hess](#)

**Using meta-analysis to understand the effects of rangeland management practices on soil properties and plant-related outcomes in California**

» [Dr. Chelsea Carey](#), Dr. Kelly Gravuer, Dillon Osleger, Dr. Sasha Gennet, Dr. Stephen Wood

**Microbial community-level physiological profiles, labile C forms and oxidoreductase activities in floodplain forest soils**

» Ms. Hanadi Ananbeh, Dr. Ángeles Prieto-Fernández, Dr. Petra S Kidd, Dr. Marko Stojanović, [Dr. Carmen Trasar-Cepeda](#)

**Beyond salt chemistry: how the whole soil-plant-insect system responds to salinity**

» [Dr. Caley Gasch](#), Dr. Jason Harmon, Dr. Tom DeSutter, Dr. Abbey Wick



Continued from **Thursday, 30 May**

**Heavy metals along an urban-rural gradient from a major city in New Jersey and phyto-remediation characteristic of two plants in the presence and absence of commercial mycorrhizal inoculation.**

» Mr. Zachary Cook, Dr. John Dighton, Dr. Amy Savage

**Evidence that fire frequency affects pedogenesis over decadal time scales**

» Melanie Taylor, Mac Callaham

**Relative contributions of termites and fungi to wood decay at three sites in the southeastern USA**

» Melanie Taylor, Michael Ulyshen, Scott Horn, Mac Callaham, Amy Zanne

**Locally effective microbes and soil amendments influence the rhizosphere community and promote phytostabilization of mines**

» Dr. Kristin Trippe, Ms. Viola Manning, Dr. Catherine Reardon, Dr. Thomas Ducey, Dr. Jeff Novak, Dr. Kurt Spokas, Dr. Ann Klein

**Bioenergy crop residues alter decomposition dynamics of soil organic matter**

» Matthew Reid, Jenifer Gonzalez, Darian Smercina, Lisa Tiemann

**Dynamics of mineral N and soil organic C in mineral and organically fertilized systems**

» Sharon Weyers, Jane Johnson, David Archer, Alan Wilts

**Phylogenetic niche conservation theory may explain the functional redundancy of soil microbiota**

» Dr. Yu Jia, Prof. Joann Whalen

**Pyrophilous Microbes: What Controls Microbial Responses to Fire?**

» Thea Whitman, Ellen Whitman, Jamie Woolet, Mike Flannigan, Dan K. Thompson, Marc-André Parisien

7pm

**SES Banquet and Awards Presentation**

*Birch & Elm Rooms*

**Friday, 31 May**

8am

**Light breakfast**

*Mahogany Room*

8:30am

**Plen-2 -**

**Plenary Address 2: 2015 SES Career Award Winner Josh Schimel**

*Mahogany Room*

Chaired by: Prof. Michael Weintraub

9:15am

**Break**

*Birch & Elm Rooms*

9:15am

**Break**

*Oak, Pine, & Willow Rooms*

9:30am

**OS-F1 -**

**Modeling**

*Birch & Elm Rooms*

Chaired by: Daryl Moorhead

9:30am

**Modeling tradeoffs in carbon cost and nitrogen gain from enzymatic degradation of chemically recalcitrant forms of organic nitrogen**

» Daryl Moorhead, Ms. Michaela Margida, Prof. Michael Weintraub, Prof. Robert Sinsabaugh

9:45am

**Modelling biophysically-defined measurable soil organic matter pools and fluxes: the MEMS model**

» Dr. Francesca Cotrufo, Jocelyn Lavalley, Yao Zhang, Andy Robertson, Stephen Ogle, Dr. Matt Wallenstein, Keith Paustian



Continued from **Friday, 31 May**

10am **Modelling decomposition processes from long-term herbivory and burn trials may help understand woody plant encroachment in savannas**

» [Dr. Heidi Hawkins](#), Dr. Melannie Hartman, Mr. Farai Chikomba, Dr. Marie-Liesse Vermeire, Dr. Joshua Thoresen, Mr. Zander Venter, Dr. Jennifer Krumins, Prof. Michael Cramer

10:15am **Conceptual Diagramming as Learner-Centered Pedagogy for the Soil Ecology Classroom**

» [Dr. Loren Byrne](#)

9:30am **OS-F2 -  
Mycorrhizae and Fungi**

*Oak, Pine, & Willow Rooms*

Chaired by: Dr. Megan Rúa

9:30am **Determining Relationships between Agricultural Management and Arbuscular Mycorrhizal Fungi: What to Measure?**

» [Michael Lehman](#), Shannon Osborne, Wendy Taheri, Jeff Buyer, Bee Chim

9:45am **The Houghton Rhizotron sheds light on regulation of seasonal dynamics of ectomycorrhizal fungal growth**

» [Dr. Erik Lilleskov](#), Justina Silva, Lynette Potvin

10am **Variation in plant and fungal traits indicates mycorrhizal mediated selection for *Pinus radiata***

» [Dr. Megan Rúa](#), Dr. Jason Hoeksema

10:15am **The biogeography of ectomycorrhizal fungi across North American *Populus* species ranges**

» [Dr. Michael Van Nuland](#), Caroline Daws, Dr. Kabir Peay

10:30am **Break**

*Birch & Elm Rooms*

10:30am **Break**

*Oak, Pine, & Willow Rooms*

10:45am **OS-F3 -  
Carbon Cycling Mechanisms**

*Birch & Elm Rooms*

Chaired by: Dr. Aditi Sengupta

10:45am **Salinity and Inundation are Compounding Disturbances to Biogeochemical Fluxes in Coastal Forests**

» Dr. Vanessa Bailey, [Dr. Aditi Sengupta](#), Dr. Ben Bond-Lamberty, Dr. Nate McDowell, Dr. Pat Megonigal, Dr. James Stegen, Dr. Zeli Tan, Dr. Nick Ward, Dr. Steve Yabusaki, Dr. Jianqiu Zheng

11am **Monitoring microbial respiration using real time mass spectrometry**

» [Montana Smith](#), Karl Weitz, Kirsten Hofmockel, Mary Lipton

11:15am **Plant-microbe-soil effects on soil necromass**

» [Dr. Kirsten Hofmockel](#), Sheryl Bell, Allison Thompson, Dr. Robert Starke, Lindsey Anderson, Andy Lipton

11:30am **Cellulose decomposition exhibits cooperation by key taxa in soil microbial communities**

» [Sheryl Bell](#), William Nelson, Dr. Racheal Upton, William Chrisler, Dr. Jay Grate, Dr. Galya Orr, Joe Brown, Allison Thompson, Montana Smith, Kirsten Hofmockel

10:45am **OS-F4 -  
Human Impacted and Managed Systems**

*Oak, Pine, & Willow Rooms*

Chaired by: Dr. Jane Lucas

10:45am **Antibiotics and temperature disrupt soil food webs and their function**

» [Dr. Jane Lucas](#), Dr. Michael Strickland



Continued from **Friday, 31 May**

11am **Microbial extracellular polysaccharide (EPS) production controlled by Switchgrass (*Panicum virgatum*) root biomass in marginal land soil**

» [Dr. Yonatan Sher](#), Dr. Nameer Baker, Dr. Mary Firestone

11:15am **Soil organic carbon and understory vegetation dynamics in *Gmelina arborea* stands of different ages in Omo forest reserve, Southwestern, Nigeria**

» [Dr. Olatunde Eludoyin](#), Mr. Olalekan Akinola, Dr. Folasade Oderinde

11:30am **Dominant soil microbial taxa are highly resistant to drought in UK grasslands**

» [Dr. Jocelyn Lavallee](#), Manuel Delgado-Baquerizo, Timothy Goodall, Mathilde Chomel, Jennifer Rhymes, Nil Alvarez, F de Castro, Liz Baggs, Mark Emmerson, Franciska de Vries, David Johnson, Tancredi Caruso, Robert Griffiths, Richard Bardgett

11:45am **Break**

*Mahogany Room*

12pm **Closing Panel Discussion - The Next Frontiers in Soil Ecology**

*Mahogany Room*

Chaired by: Prof. Michael Weintraub

12:30pm **Concluding Remarks**

*Mahogany Room*