

20th

Soil, Water, and Ecosystem Sciences Research Forum Program

February 6, 2023

Rion Ballroom - J. Wayne Reitz Union

8:15 am – 9:00 am

Registration

9:10 am – 9:20 am

[Opening Remarks](#)

[Matt Whiles](#)

Department Chair and Professor
Soil, Water, and Ecosystem Sciences Department
University of Florida

9:20 am – 9:30 am

[Opening Remarks](#)

[Damian Adams](#)

Professor and Associate Dean for Research and Associate
Director of the Florida Agricultural Experiment Station
(FAES)
University of Florida

9:30 am – 10:30 am

[Laws, Theories and Patterns in Ecology](#)

[Walter Dodds](#)

University Distinguished Professor
Division of Biology
Kansas State University
[Complete List of Publications](#)
[Google Scholar Profile](#)
[Lab Website](#)

10:30 am – 10:50 am

BREAK

SESSION I – Featured Faculty Oral Presentations

Rion Ballroom - J. Wayne Reitz Union

10:50 am – 11:50 am

Featured Faculty Oral Presentations

Session Chair: Patrick Inglett

10:50 am – 11:10 am

[Leveraging Long-Term Research Networks to Advance
Ecosystem Science](#)

[Yang Lin, Assistant Professor](#)

Soil Health
Soil, Water, and Ecosystem Sciences Department
University of Florida

11:10 am – 11:30 am

[Applied Microbial Ecology for Improved Ecosystem Function in Florida's Coral Reef](#)

[Julie Meyer, Assistant Professor](#)

Microbial Ecology and Bioinformatics
Soil, Water, and Ecosystem Sciences Department
University of Florida

11:30 am – 11:50 am

[Small But Mighty: How Microbes Help Agroecosystems Function](#)

[Sarah Strauss, Assistant Professor](#)

Soil Microbiology
Southwest Florida Research and Education Center
Soil, Water, and Ecosystem Sciences Department
University of Florida

11:50 pm – 1:00 pm

LUNCH ON OWN

SESSION II – Ph.D. Graduate Student Oral Presentations
Rion Ballroom - J. Wayne Reitz Union

1:00 pm – 2:15 pm – Ph.D. Graduate Student Oral Presentations

Session Chairs: Julia Barra Netto-Ferreira, Daniel Colopietro, Mohkam Singh, and Yasmeen Saleem

Student Presentation (1:00 pm – 1:15 pm):

[Seagrass Meadows Emit Greenhouse Gases But Are Still Net Carbon Sinks](#)

Authors: *Alexandra Bijak, Ashley R. Smyth, Laura K. Reynolds, and Willm Martens-Habben*

Student Presentation (1:15 pm – 1:30 pm):

[Abundance of Ultrafine P in < 0.45 \$\mu\$ m “Dissolved” Fraction of Waters Entering and Leaving Everglades Stormwater Treatment Areas and Implications for Management Practices](#)

Authors: *Caroline Buchanan and Jonathan Judy*

Student Presentation (1:30 pm – 1:45 pm):

Shifts in the Coral Microbiome in Response to *In Situ* Experimental Deoxygenation

Authors: *Rachel Howard, Monica Schul, Lucia M. Rodriguez Bravo, Andrew Altieri, and Julie L. Meyer*

Student Presentation (1:45 pm – 2:00 pm):

Manatee Bioturbation Effects Supersede Nutrient Inputs to Alter Ecosystem Function

Authors: *Adam C. Siders, Alexander J. Reisinger, and Matt R. Whiles*

Student Presentation (2:00 pm – 2:15 pm):

Metabolic Regimes of Sub-Tropical Urban Streams

Authors: *Emily Taylor, Jacob Hosen, Matthew Cohen, and Alexander J. Reisinger*

SESSION III - Student Poster Viewing and Reception

Rion Ballroom, J. Wayne Reitz Union

3:00 – 4:00 pm **Poster Session I**

a. Judging of Even Numbered Posters – Will Occur During This Period

4:00 – 5:00 pm **Poster Session II**

a. Judging of Odd Numbered Posters – Will Occur During This Period

Judged Poster Titles & Authors:

1. Estimating Cover Crop Quantity and Quality Through the Use of Optical Sensors
Julia Barra Netto-Ferreira, Diego Arruda Huggins de Sá Leitão, Winniefred Griffin, Lakesh K. Sharma, and Gabriel Maltais-Landry
2. Soil Health Assessment of Sugarcane and Flooded Rice Crop Rotation Within the Everglades Agriculture Area, Florida
Xue Bai, Yuchuan Fan, Fatemeh Maghsood, Samuel Smidt, Young Gu Her, and Jehangir Bhadha
3. The Catawampus Theory
Shelby M. Beck, Jeremy A. Rapp, and Samuel J. Smidt

4. Characterization Of Fecal Indicator Bacteria, Microbial Sources, Water Quality, And Nutrients Dynamics Seasonally For Mixed-Use Watersheds And Land Uses In NW Florida
Ronell S.H. Bridgemohan, Matthew J. Deitch, Tesfay Gebremicael, Dave Bachoon, Matt Whiles, P. Christopher Wilson, Eban Bean, Emily Harmon, and Caitlyn Turnball
5. Innovative Learning for NASA Earth Science Applications: A Pilot Study for Game-Based Learning Using a Design Thinking Approach
Trista Brophy, Margaux Reynolds, and Shobhana Gupta
6. Characterization of Deep Podzolized Carbon with Infrared Spectroscopy
Bella Brush and Dr. Yang Lin
7. Assessing Soil Health Indicators Across Various Cropping Systems in Florida
Franky Celestin, Rao Mylavarapu, and Yang Lin
8. Enhancing Nutrient Uptake and Grapefruit (*Citrus paradisi*) Growth through Soil Application of Beneficial Bacteria Species (*Bacillus spp.*)
Laura Cano, Laura Waldo, Napoleon Mariner, Timothy Ebert, and Perseveranca Mungofa, Shankar Shrestha, and Arnold Schumann
9. Energy and Nutrient Limitations to Degradation of Deep Podzolized Carbon
Ryan E. Champiny and Yang Lin
10. Biogas Energy for Remote Villages in Zambia
Caitlyn Claverie and Ann C. Wilkie
11. Analyzing Heavy Metal Removal in Point-Of-Use Water Filter Systems: GOW & Biosand Water Filtration
Jeantel Cheramy, Andrew L. Rainey, Samuel Smidt, Joseph H. Bisesi, Jr, and Anthony T. Maurelli
12. Sediment Nitrogen Cycling and Phytoplankton Nutrient Limitation in an Urbanizing Estuary
Justina Dacey, Ashley Smyth, and A.J. Reisinger
13. Soil and Nutrient Accretion Rates in Everglades Stormwater Treatment Area Wetlands
Ankita Datta, Praveen Subedi, Alan Wright, and Patrick Inglett
14. Do Cover Crops Alter the Rhizosphere Composition and Predicted Functionality of Two Sub-Tropical Perennial Tree Crops?
Emma Dawson, Antonio Castellano Hinojosa, and Sarah L. Strauss

15. Nutrient Controls on Algal Biomass in Biscayne Bay
Camila Del Sol Pina and Dr. Ashley Smyth
16. Seasonal and Long-Term Surface Water Quality Trends Relevant to Drinking Water Supply in Tampa, FL
Casey Harris, AJ Reisinger, and Wendy Graham
17. Advancing Applied Environmental Sustainability in Geo-, Eco-, and Agro-Sciences
Hayden Henke, Samuel J. Smidt, Trista Brophy, Xiang Bi, Anne Mook, Damian C. Adams, Shelby M. Beck, Zoe Spielman, Gretchen Stokes, and Genaro Guerrero Espinosa
18. Characterization of Pesticides in Urban Waterbodies of Gainesville, FL.
Francisca Ordonez Hinz and P. Chris Wilson
19. Soil Health and Compost Education for Elementary School Students
Chioma Iyamu and Ann C. Wilkie
20. Predictability of Phosphorus Leaching in Biosolids-Treated Soil Columns
Yewon "Julia" Lee, Allan Bacon, and Yang Lin
21. Soil Health Stabilizes US Corn Yield Under Drought
Swarnali Mahmood, Daniel A. Kane, Márcio R. Nunes, and Yang Lin
22. Unlocking the Chemistry of Legacy Phosphorus to Maintain Sustainable Agriculture and a Healthy Environment
MD Anik Mahmud, Xue Bai, Caroline Buchanan, Shin-Ah Lee, Elise Morrison, Luke Gatiboni, Owen Duckworth, Jonathan Judy, and Jehangir Bhadha
23. Kenaf (*Hibiscus Cannabinus*): A Sustainable Source of Horticultural Growth Media
Colleen Mondell and Ann C. Wilkie
24. Carbon Sequestration Potential of Regenerative Farming Practices on Mitigating Soil Subsidence within the Everglades Agricultural Area, Florida
Noel Manirakiza, Yang Lin, Abul Rabbany, Yuchuan Fan, and Jehangir Bhadha
25. *Spartina Alterniflora* (Smooth Cordgrass) in Living Shorelines: Traits and Planting Design May Influence Sediment Stabilization and Sediment Enhancement in the Indian River Lagoon
Kiki Montgomery, Jesse Crawford, Carrie Reinhardt Adams, Laura K. Reynolds, Xiao Yu, Christine Rohal, and Ashley McDonald

26. Approaches for Quantifying Soil Carbon Sequestration in Space and Time
Suraj Melkani, Noel Manirakiza, and Jehangir H. Bhadha
27. Decarbonizing the Cement Industry via Algae Cultivation
Hailey Muchnok and Ann C. Wilkie
28. Water-Dispersible Carbon Nanoparticles as a Soil Amendment for Sandy Soils: Evaluation of Agronomic Performance and Soil Biochemical Quality
Jaya Nepal, Xiaoping Xin, Gabriel Maltais-Landry, and Zhenli L. He
29. Spatiotemporal Variability of N-cycling in the Guana Estuary
Jenna Reimer, Ashley Smyth, and A.J. Reisinger
30. Effect of Silicon Fertilization on Performance of Young Citrus Trees
Jose Prieto Fajardo and Davie M. Kadyampakeni
31. Pesticide Application Method and Timing Influences Contamination of Nectar in Salvia
Vanessa Rostán, P. Christopher Wilson, and Sandra B. Wilson
32. Comparative the Effect of Varying Salinity of Reclaimed Water for Blueberry Production
Yasmeen Saleem, Shinsuke Agehara, and Davie Kadyampakeni
33. Coral Epibionts May Play an Important Role in the Coral Host Microbiome and Delivery of Beneficial Microbes for Coral
Monica Schul, Kalie Januszkiewicz, Allison Cauvin, Janna Randle, Joseph Morton, and Julie Meyer
34. Impacts of Acidification and Fertilization on Soil Quality and Citrus Tree Production
Duplicate Sambani and Davie M. Kadyampakeni
35. Shifting Macrophytes: *Thalassia* and *Caulerpa* Support Unique Ecological Communities
Adam R. Searles, Laura K. Reynolds, and Charles W. Martin
36. Estimating Maximum Streamflow Impacts by Land Cover Change in Florida Watersheds
Zoe Spielman, Kevin Easton, John Flores, Kyle Williams, and Samuel Smidt
37. Variability in Seagrass Monitoring Methods: Balancing Precision and Experimenter Bias
Kaitlyn Tucker and Dr. Laura Reynolds

Non-Judged Poster Titles & Authors:

38. Comparison of P Load Reductions of Selected Farms in the EAA Basins under Similar Best Management Practices
Pamela Aracena Santos, Mohsen Tootoonchi, Maryory Orton, Viviana Nadal, Irina Ognevich, Johnny Mosley, Manuel Tapia, Maria Medina, and Samira H. Daroub
39. Effects of Cover Cropping with Legumes and Non-Legume Species on Soil Quality in Florida Citrus Production
Miurel Brewer, Sarah L. Strauss, Ramdas Kanissery, and Davie Kadyampakeni
40. Soil Quality Assessment of Cultivating Flooded Rice on Histosol under Varying Flood Depths
Yuchuan Fan, Naba R. Amgain Abul Rabbany, Matthew VanWeelden, and Jehangir H. Bhadha
41. Coffee Agrosystem Diversification Improves Near-Surface Soil Health Indicators in Brazil
Monalisa Fagundes Oliveira, Patrícia Anjos Bittencourt, Barreto-Garcia; Paulo Henrique Marques Monroe, Julia Barra Netto-Ferreira; and Márcio Renato Nunes
42. Contrasting Effect of Protease on the Enzymatic Hydrolysis of Dissolved Organic P in Constructed Wetlands
Praveen Subedi, Li Dili, Patrick W Inglett, and Kanika Sharma Inglett
43. Effect of Floating Aquatic Vegetation on Canal Water Quality and Drainage Discharges
Mohsen Tootoonchi, Anne E. Sexton, Jennifer A. Cooper, Timothy A. Lang, Andres F. Rodriguez, and Samira H. Daroub