



## 18<sup>th</sup> Annual Soil and Water Sciences Research Forum Program

**November 13, 2017**

**Rion Ballroom - J. Wayne Reitz Union**

- |                     |   |
|---------------------|---|
| 8:15 am – 9:00 am   | Registration  |
| 9:10 am – 9:20 am   | Opening Remarks<br>K. Ramesh Reddy, SWSD Chair  |
| 9:20 am – 9:30 am   | Opening Remarks<br>Jackie Burns<br>IFAS-Dean for Research   |
| 9:30 am – 10:30 am  | <a href="#"><u>Carbon Remineralization and Burial in the Coastal Margin: Linkages in the Anthropocene</u></a><br>Thomas S. Bianchi<br>Jon and Beverly Thomson Endowed Chair<br>Department of Geological Sciences<br>University of Florida |
| 10:30 am – 10:50 am | <b>BREAK</b>  |

### **SESSION I – Featured Faculty Oral Presentations** **Rion Ballroom - J. Wayne Reitz Union**

10:50 am – 11:50 am      Featured Faculty Oral Presentations

**Session Chair: James Jawitz**

10:50 am – 11:10 am      **Effects of Climate Change Induced Vegetation Shifts on Biogeochemical Processes of Coastal Marshes**  
[Todd Osborne, Assistant Professor](#)  
Coastal Biogeochemistry

UF Whitney Lab – St. Augustine, FL.  
Soil and Water Sciences Department  
University of Florida

11:10 am – 11:30 am      **Coastal Biodiversity: Ecological Consequences and Implications for Effective Management and Restoration**  
[Laura Reynolds, Assistant Professor](#)  
Coastal Ecology  
Soil and Water Sciences Department  
University of Florida

11:30 am – 11:50 am      **Environmental Risks and Risk Mitigation Strategies for Pesticides and Emerging Contaminants in Contaminated Surface Water**  
[P. Christopher Wilson, Professor](#)  
Environmental Toxicology  
Soil and Water 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: Rose Collins, Saroop Sandhu, and Claire Friedrichsen**

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

Arsenic Recovery from As-hyperaccumulator *Pteris vittata* Biomass: Coupling Extraction with Precipitation

**Authors:**     *Evandro B. da Silva, Letuzia M. de Oliveira, Ann C. Wilkie, and Lena Q. Ma*

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

In Situ Measurement of Nitrate Fluxes and Attenuation in a Mixed-Land Use Springshed

**Authors:**     *Amanda Desormeaux, J.W. Jawitz, M. Annable, D. Dobberfuhl, P. Inglett, and M. Yang*

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

Understanding Soil Organic Carbon Spatial Variability in the Peruvian Central Andes using Digital Soil Mapping

**Authors:** *Carla Gavilan, Sabine Grunwald, and Roberto Quiroz*

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

Struvite Recovery from Aerobically Digested Municipal Wastewater Filtrate: A Sustainable P Recovery Source

**Authors:** *John Hallas, Cheryl Mackowiak, and Ann Wilkie*

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

Landscape Self-Organization and the Development Regular Topographic Patterning of Karst Depressions

**Authors:** *Carlos Quintero and Matthew Cohen*

**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:**

Sensitivity Analysis Reveals Critical Factors that Affect Wetland Methane Emissions using Soil Biogeochemistry Model

**Carla Alonso-Contes, Stefan Gerber, Isaac Duerr, and Nikolay Bliznyuk**

Enzyme Activity Responses to Flowing Conditions in the Everglades Stormwater Treatment Areas

**Sara Baker, Patrick Inglett, and K.S. Inglett**

Application of Aquatic Vegetation as a Bio-filter for Phosphorous Reduction from Farm Canals

**Jay Capasso, Jehangir Bhadha, Allan Bacon, Raju Khatiwada, Mark Clark, Samira Daroub, and Timothy Lang**

Phosphorus Association and Release from Biosolids and Corresponding Biochars

**Andressa M. Freitas**, *Vimala D. Nair, and Willie Harris*

Mental Models of Soil Management for Food Security in peri-urban India

**Claire N. Friedrichsen**, *Samira H. Daroub, Martha C. Monroe, John R. Stepp, and Suhas P. Wani*

Total and Bioaccessible Concentrations of PAHs in Florida Urban Soils

**Peng Gao**, *Evandro B. da Silva, Timothy G. Townsend and Lena Q. Ma*

Soil Morphology Reveals the Different Origins of Podzolized Carbon

**Yaslin Gonzalez**, *Allan Bacon, and Willie Harris*

The Effect of Harvesting Frequency on Microalgal Cultures in Open Raceway Ponds

**Brett Higgins** and *Ann Wilkie*

Sensitivity Analysis of a Wetland Biogeochemistry Model based on Spiraling Theory Suggests Internal Nutrient Cycling becomes an Important Factor to Performance

**Kalindhi Larios** and *Stefan Gerber*

Agronomic and Environmental Impacts of Land Application of Biosolids on Bahiagrass Pastures in Florida

**Yanyan Lu**, *Maria Lucia Silveira, George O'Connor, Joao M.B. Vendramini, John E. Erickson, and Yuncong Li*

Impacts of Tropical Land Use Change on the Local Hydrologic Regime

**Kathryn McCurley** and *James Jawitz*

Evidence for Accelerated Geologic Phosphate Dissolution in dark-colored Drainage Lakes and Associated Wetlands

**Sara Miller**, *Todd Osborne, and Angelique Keppler-Bochnak*

The Role of Glomalin at Reducing the Effects of Peat Collapse due to Salt Water Intrusion

**Kaitlyn Mroczka**, *Todd Osborne, Mark Clark, and Andrew Ogram*

Student Compost Cooperative – Making Campus More Sustainable

**Rebecca O'Connell** and *Ann C. Wilkie*

Does the Real Refractive Index Matter when Estimating Florida's Soil Particle Size Distribution?

**Julio Pachon** and *Allan Bacon*

Bottom-up Controls of Recent Harmful Algal Blooms in the northern Indian River Lagoon, FL

**Joshua Papacek**, *Edward Philips, Margaret Lasi and Patrick Inglett*

Influence of Carbon Lability and Flooding Treatment in Potential Oxidation of Histosols in the Everglades Agricultural Area

**Andres F. Rodriguez**, *Samira Daroub, and Stefan Gerber*

Management Intensification Effects on Soil Biogeochemical Processes and Carbon Storage in Subtropical Grazing Lands

**S.S Sandhu**, *K.S. Inglett, P.W. Inglett, M.L. Silveira and S. Gerber*

Photo-mineralization of Organic Phosphorus and Nitrogen Compounds Present in Vegetation

**Tracey Schafer**, *Todd Osborne, and K.R. Reddy*

Microbial Response to Biosolids-borne Ciprofloxacin (CIP) and Azithromycin (AZ)

**Harmanpreet Sidhu**, *Andrew Ogram, George O'Connor*

Diel Variability in Fish and Invertebrate Community Structure of Big Bend Seagrass Meadows

**Samantha Tiffany**, *Laura Reynolds, Whitney Scheffel, Sara Kopetman, and Charles Martin*

Using Aquarium Salt Mix as a proxy for Seawater in Sea Level Rise and Climate Change Research

**Mohsen Tootoonchi**, *Lyn A Gettys, Kyle L Thayer and Ian J Markovich*

The Capacity of the Saprophytic Fungus *Fusarium solani* to affect the Population Dynamics and Insecticidal Efficiency of the Entomopathogenic Nematode *Steinernema diaprepesi*

**Sheng-Yen Wu**, *F. E. El-Borai, L. W. Duncan, and J. H. Graham*

### **Non-Judged Poster Titles & Authors:**

Tolerance of Biofuel Tree Species to Metal Toxicity of Textile Effluent under Arid Environmental Conditions

**Rafia Abid**, *Seema Mahmood, Shazia Gaffar, and Lena Q Ma*

Soil Types Moderate the Impact of Oxygen Fertilizer and Biochar on Reducing Nitrous Oxide Production

**Tanumoy Bera**, *K.S. Inglett and G. D. Liu*

An Environmental Phosphorus Monitoring Tool for Soils of the Eastern and  
Midwestern USA

**Biswanath Dari**, *Vimala D. Nair, Andrew Sharpley, Dorcas Franklin, Peter  
Kleinman, and Willie G Harris*

Heavy Metal Concentrations in Traditional and Herbal Tea: Potential Health Risk  
to Humans

**Letuzia M. de Oliveira**, *Suchismita Das, Evandro B. da Silva, Peng Gao, and  
Lena Q. Ma*

Soil Health Assessment and Management Strategies

**Raju Khatiwada**, *Nan Xu, Jay Capasso, Salvador Galindo, and Jehangir Bhadha*

Phytoremediation of Pb-contaminated Soil by *Pelargonium Zonale* and  
Associated Growth Response

*Iram Gul, Maria Manzoor, Jean Kallerhoff, Muhammad Arshad, and Lena Q. Ma*

Tolerance, Mobilizing Ability and Plant Growth Promoting Characteristics of  
Fungal Strains in Pb-contaminated Soil

**Maria Manzoor**, *Iram Gul, Jean Kallerhoff, Muhammad Arshad, and Lena Q. Ma*

Sustainable Irrigation System for Rural Farming Operations

**Wendy Mussoline** and *Ann Wilkie*