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ESGP News

Vol. 4 Issue 3 March 2018

A monthly newsletter brought to you by the
Environmental Science Graduate Program



How much room is needed for fungi to grow?

As mushroom as possible.

Upcoming ESGP Events

Guest Seminar Speakers:

March 9th: [Kyle Bibby](#)



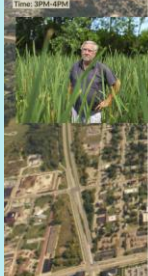
April 6th: [William Mitsch](#)

SUSTAINABLY SOLVING LEGACY PHOSPHORUS AND NITROGEN IN LANDSCAPES WITH WETLANDS AND WETLANDCULTURE

Location: Physics Research Building, Smith Seminar Room
Date: April 6th, 2018
Time: 3PM-4PM

Dr. William J. Mitsch

The world is faced with unprecedented threats to our aquatic ecosystems from excessive nutrients caused especially by agricultural and urban runoff. More than 750 aquatic ecosystems suffer from degraded ecosystem services with impairments described as hypoxia, dead zones, and harmful algal blooms, most due to pollution caused by excessive nitrogen and phosphorus. At the same time, it has also been estimated that, on a global scale, we have lost half of our original wetlands to our current extent of 8 to 12 million km², with most of the loss in the 20th century. We are proposing here a sizable increase in the wetland resources around the world to solve the devastating wetland problem but with the strategic purpose of mitigating the excess phosphorus and nitrogen in a sustainable fashion. Examples include minimizing phosphorus inflows to the Florida Everglades and Lake Erie in the Laurentian Great Lakes and reducing nitrogen fluxes by wetlands and riparian forests in Midwestern USA to reduce seasonal hypoxia in northern Gulf of Mexico. The status of our physical model (mesocosms) in Ohio and Florida for investigating nutrient saturation of our landscapes and aquatic ecosystems and recycling (fixing) those nutrients back to agriculture—defined as wetland-culture—will be described as a procedure of decreasing nutrient fluxes to downstream ecosystems and returning those nutrients to agricultural production.

An aerial photograph of a wetland landscape, showing a mix of green vegetation and brownish water. A person is standing in the shallow water in the foreground. The background shows a mix of land and water, with some buildings visible in the distance.

April 13th: [Kerry Ard](#)



April 20th: [Brady Hardiman](#)



Don't forget to save the date for the ESGP Student Poster Symposium on Friday, March 30th at 3pm!

You can now keep track of our upcoming events on our website [here!](#)

Important Deadlines

For students graduating this semester

- Master's/Doctoral Exam Report Forms, Apr. 13
- Approved Thesis/Dissertation, Apr. 20

For first-year master's students

- Approved Thesis Plan, May 1

For first-year PhD students

- Approved Program of Study, May 1
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News and Congratulations



Yaoping Wang has received the prestigious Peccei Award from the International Institute of Applied Systems Analysis (IIASA) for her paper "Hydroclimatic Impacts on Current and Planned Coal-Fired Power Plants in Asia." The Peccei award provides the financial support for her to conduct further research at IIASA, located just south of Vienna, Austria, for three months. Congratulations, Yaoping!

Newest ESGP Family Members

The ESGP family is growing - congratulations to the families of Mike Durand, Karen Dannemiller, Jeff Bielicki on their little ones!

Petra Francis Perle Durand



Devin Dannemiller Flaherty



Emerson Jeffrey Bielicki



Student Spotlight: Samantha McCabe

Where are you with your research?



I'm in the second semester of my Master's thesis, examining arctic wetland plants under changing habitat conditions from a shifting climate. My work falls under the IsoGenie project, which is part of an interdisciplinary US-DOE funded exploration of permafrost thaw and carbon cycling of these wetland systems. This semester, I will begin analyzing at least 400 dried plant samples from 2015 and 2017 for carbon, nitrogen, sulfur, and phosphorus. This data will help quantify carbon sequestration by plants and how that changes with the site's active permafrost thaw. This month, I gave a presentation to high-ranking researchers on this project, justifying the methods of my approach and discussing hypotheses I have been considering. I am excited to continue developing this project!

What has challenged you during your time at OSU?

Although I'm not conducting research in microbiology, it is my advisor's home department and the IsoGenie project has a large focus on microorganisms because of their role in nutrient/carbon cycling. I am the "plant person" of the group, but I needed to improve my understanding of microbiology so that I could comprehend all of the relevant literature to our site. My first semester, I took Environmental Microbiology which was full of upper-level microbiology majors and graduate students with micro-focused research. However I had practically zero background in the subject. The course required a lot of extra work

(maybe some stress and tears) for me, but in the end I came out with a good grade and expanded knowledge. Plus, I managed to impress the professor with one of our graduate assignments enough that she took the time to praise me and express it to my advisor! That felt amazing!

What is something we don't know about you?

The go-to fun fact about myself is that I have the lucky perk of flying at no cost because my dad is an airline pilot! Because of that, I have never felt particularly tied to one place, so I have moved myself around to live in multiple states and outside the US. Plus I try to seize opportunities to travel! I am very enthusiastic to get to travel to Sweden this summer for my research.

Tell us about your cats!

I have the cutest roommates around! My cats will be turning three this year, after coming into my life while I was doing wetland research in North Carolina. That summer, I found four young kittens in a drainpipe and felt compelled to care for them myself rather than drop them at a crowded shelter (which is a huge issue in NC). I named them Piper, Pepper, Jumper and Thumper. After adopting two of the kittens to two separate happy-homes, I eventually decided I couldn't part with the remaining two kittens I had come to love. So now Piper and Jumper have lived and traveled with me. They do great in the car and on planes! Ask me for pictures, I have plenty!

ESGP Student Association Activities



These are the activities for ESGP students for this spring:

- Every Friday: Happy Hour at Ethyl and Tank at 4:30 pm after seminar!
- Bar crawl after the Poster Symposium on March 30th!

If you have any questions, please let us know! Check for our emails from osuesgp@gmail.com.

Ohio Environmental Events



Flooding: A National, State, and Local Issue- We Are All Part of the Solution

Join the Environmental Professional Network (EPN) for breakfast to address the issue of flooding from the national, state, and local perspectives.

Guest speakers will include:

- **Chad Berginnis**, *Executive Director of the Association of State Floodplain Managers*
- **Cynthia J. Crecelius**, *Principal of CC Consults*
- **Shawn Arden**, *Associate with EMH&T*

March 6, 2018, 7:15-9:30 am

Students Register for [FREE HERE](#)



SERVICE SITES

Volunteer for Earth Day, April 14th - April 21st

CELEBRATION

Sunday, April 22nd @ Genoa Park



[/greencolumbus](#)
[/green_columbus](#)

earthdaycolumbus.org

Save the dates! Earth Day Columbus is organizing volunteer opportunities all around Columbus that are environmentally focused, followed by a celebration in Genoa Park! Check out [their website](#) for more specific information about how to get involved!

Request for Updates

Please send any recent publications, awards and honors, or other news items to Soz Zangana (zangana.3@osu.edu) or Demie Huffman (huffman.809@osu.edu) so they can be highlighted in the newsletter!

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