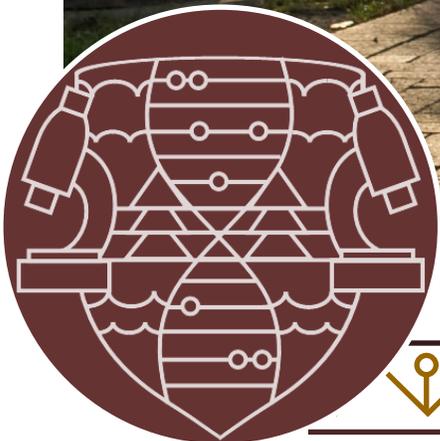




ESGP NEWS

A monthly Newsletter produced by and for the Environmental Science Graduate Program

October News



Upcoming Events

ESGP Seminar Guest Speaker

Brian Gara 10/4/19

ESGP Student Seminar

Lourdes Arrueta and
Jane Karetny 10/18/19

Invited College of Public
Health Guest Seminar
Speaker 10/25/19

ESGP Town Hall
Smith 3150 • 10/25/19

Dark Waters Movie Watch
Party @ Gateway Friday
11/22/19

Zoolights
12/4/19 • 6-9pm



ESGP Seminar Series



Brian Gara is currently a Stream and Wetland Mitigation Coordinator with the Ohio Chapter of The Nature Conservancy. Previously, he was the Wetland Ecologist with the Ohio EPA, specializing in the study of native hydrophytic plants and the use of geographic information systems (GIS) technology to enhance the quantity and quality of Ohio's wetland resources. He has worked on numerous research projects to better understand these important aquatic resources. Past studies include: a detailed statewide assessment of the ecological condition of Ohio's remaining wetland resources, and the integration of wetland assessment into the total maximum daily load (TMDL) process, and the subject of this talk, the development of a GIS application to identify potential high quality vernal pool restoration sites. He graduated with a BA in Art and Biology from Bluffton College (1985), an MS in Botany from Ohio University (1987), and a PhD from The Ohio State University in Environmental Science (1995).

Brian Gara

The Nature Conservancy —Ohio Chapter

Stream and Wetland Mitigation Coordinator

October 4, 2019 | 2:00 pm - 3:00 pm | 3150 Smith

Forested vernal pools represent critical breeding habitat for several species of sensitive amphibians, including Wood Frogs (*Lithobates sylvaticus*), Spotted Salamanders (*Ambystoma maculatum*), and Tiger Salamanders (*A. tigrinum*). Although much of Ohio's pre-settlement vernal pool habitat has been lost due to various types of human development activities, vernal pools are rarely targeted as a component of wetland mitigation. Without adequate replacement of these resources via restoration projects, we will continue to experience a "net loss" of amphibian habitat as more of our natural landscape is developed. This project was developed specifically to address this issue by creating a GIS model to identify exceptional vernal pool restoration sites which are likely to result in increased amounts of amphibian breeding habitat. Several steps were included as part of the model, including:

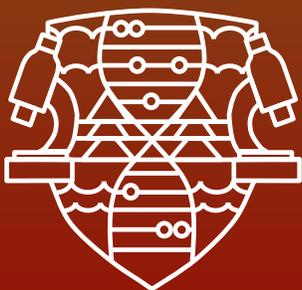
1. Landscape level analysis to identify "high quality" vernal pools.
2. Intensive field testing of sites using Ohio detailed, Level 3 assessments to verify that the model was successfully identifying these high quality sites.
3. Creation of a GIS layer of prioritized vernal pool restoration opportunities in Ohio.

The resultant map is now available on a publicly-accessible site maintained by Ohio EPA. The procedure has proven to be highly effective and is being used by several restoration practitioners across the state. As many of the critical data layers used in the GIS model are available for several other areas of the country, this approach has the potential to have a much broader applicability as a tool for restoring these extremely sensitive resources.



ESGP Town Hall

Friday, October 25th | 1:00 PM — 2:00 PM | Smith 3150



*Environmental Science
Graduate Program*

Please join the ESGP Student Association for an informal dialogue about the program. Bring your thoughts, questions, and concerns for an open discussion with other students.

Open to all ESGP students!

For more information, contact Ashleigh Bope.19@osu.edu

Other Events

OCTOBER						
S	M	T	W	T	F	S
						Homecoming
		1	2	3	4	5
		EPN Bfast		Fall Break	Fall Break	
		CGS Event			Highball	
6	7	8	9	10	11	12
		CPH Coffee	WMAO Lunch	SENR Seminar		
13	14	15	16	17	18	19
Pet Parade				Finance	Town Hall	
20	21	22	23	24	25	26
		O TEC	Development			
27	28	29	30	31		

10/08 EPN Breakfast

10/20 Halloween Pet Parade

10/08 CGS- Mentoring: A Pathway to Success

10/24 Wellness Series: Personal Finance

10/11 Highball Halloween

10/25 ESGP Town Hall

10/15 CPH: Coffee with Alumni

10/29 OTEC Conference

10/16 WMAO Luncheon Seminar

10/30 Professional Development Series

10/17 SENR Seminar



Other Events — continued

EPN Breakfast

Tuesday, October 8, 2019 | 7:15 AM – 9:30 AM

Nationwide & Ohio Farm Bureau 4-H Center, 2201 Fred Taylor Drive, Columbus, OH 43221

\$10 (General Admission); College students are FREE

<https://epn.osu.edu/events/epn-breakfast-october-8-2019>

Nutrient management on farms and water quality continue to make headlines across our state and region. For this EPN Breakfast program, Cathann A. Kress, vice president for agricultural administration and dean of The Ohio State University College of Food, Agricultural, and Environmental Sciences (CFAES) convenes Dorothy Pelanda, director of the Ohio Department of Agriculture (ODA); Mary Mertz, director of the Ohio Department of Natural Resources (ODNR) to discuss their agency's current nutrient management and water quality policies and programs; and Laurie A. Stevenson, director of the Ohio Environmental Protection Agency (Ohio EPA). The conversation will include a discussion about the newly launched H2Ohio (h2.ohio.gov) water quality initiative. This collaborative initiative, linking ODNR, Ohio EPA, and ODA along with other agencies and stakeholders, was designed to invest in targeted, long-term solutions to ensure clean and safe water in Lake Erie and water systems throughout Ohio.

Council of Graduate Students—Mentoring: A Pathway to Success

Tuesday, October 8, 2019 | 12:00 PM – 1:30 PM

Barbie Tootle Room- 3rd Fl Ohio Union

<https://cgs.osu.edu/events.aspx/2019/10/8/67874/mentoring-a-pathway-to-success?d=42>

Join us for a workshop on how to make mentoring support your success. Topics covered will include how to identify a mentor and how to make the most out of the mentoring relationship. Mentorship has been shown to improve both academic and career outcomes. Learn how to find a great mentor and be a great mentee.

Please register: https://osu.az1.qualtrics.com/jfe/form/SV_doqJnzj6wl8bNY1

Highball Halloween

Friday, October 11, 2019 to Saturday, October 12, 2019 | 6:00 PM

Greater Columbus Convention Center | 400 N. High St., Columbus, OH 43215

<https://www.experiencecolumbus.com/event/highball-halloween/52760/>

HighBall Halloween is the nation's most elaborate costume party. Staged in the fashion capital of Columbus, this yearly event for the Halloween season bridges runway style with the culture of the Short North Arts District. Be a part of the HighBall Halloween street spectacle and model yourself on High Street. At HighBall Halloween, you are what you wear.



Other Events — continued

College of Public Health Coffee and Connections with Alumni

Tuesday, October 15, 2019 | 1:00 PM – 2:00 PM
Cunz Hall 255 (Dean's Conference Room)

<https://cph.osu.edu/students/careers/career-events>

Hear from College of Public Health Alum Ellen Beebe (MPH-EHS 2010). Ellen is currently the Senior Clinical Site Monitor at Bristol-Myers Squibb. Ellen will discuss her career path and share with students key skills and qualities needed in today's Public Health workforce. RSVP on Handshake

Ohio Water Resources Center and WMAO Luncheon Seminar

Wednesday, October 16, 2019 | 12:00 PM – 1:00 PM
Olentangy Wetland Research Park, 352 West Dodridge Street Columbus, Ohio 43202
Tickets Free

<https://ceg.osu.edu/events/2019/10/ohio-water-resources-center-and-wmao-luncheon-seminar>

Water Resources Vulnerability: James Stagge, PhD Dr. James Stagge, Assistant Professor in the Department of Civil, Environmental and Geodetic Engineering, will demonstrate how his work quantifies drought risk to engineered water systems by reconstructing flows from previous centuries with tree rings and by simulating future flows based on projections of climate, land cover, and demand change. He will describe successes and challenges incorporating these approaches alongside water managers to simulate drought risk for the water supplies of Washington DC and Salt Lake City, UT. These two systems have vastly different water availability, water demands, and legal frameworks, but are facing many of the same water challenges. The seminar will end with a discussion of how this relates to Ohio water resources and a preview of research studying Cleveland stream erosion and the hydrologic impacts of land cover in the Great Lakes watershed.

Autumn 2019 SENR Seminar Series—Dr. Erika Marin-Spiotta

Thursday, October 17, 2019 | 4:10 PM – 5:30 PM
103 Kottman Hall, 2021 Coffey Rd. Columbus, OH

<https://senr.osu.edu/about-us/events/spring-2019-seminar-series>

The SENR Seminar Series is held during the autumn and spring academic semesters. Speakers address a variety of topics that are relevant to the major environmental problems and natural resource management issues of our day. The seminar series reflects the multi-disciplinary nature of the School of Environment and Natural Resources in that a variety of experts contribute from fields as diverse as the humanities and social sciences, traditional resource management disciplines, and the biological and physical sciences. The program includes opportunities for interested parties to meet formally and informally with speakers before and after their presentations.

Dr. Erika Marin-Spiotta, University of Wisconsin-Madison, Department of Geography “Out of sight, out of mind: Geographic variability in belowground carbon response to landscape disturbance across time”



Other Events — continued

20th Annual Halloween Pet Parade and Fall Festival

Sunday, October 20, 2019 | 12:00 PM – 3:00 PM
Easton Town Center 160 Easton Town Center, Columbus, OH 43219

<https://www.experiencecolumbus.com/event/20th-annual-halloween-pet-parade-and-fall-festival/62020/>

HighBall Halloween is the nation's most elaborate costume party. Staged in the fashion capital of Columbus, this yearly event for the Halloween season bridges runway style with the culture of the Short North Arts District. Be a part of the HighBall Halloween street spectacle and model yourself on High Street. At HighBall Halloween, you are what you wear.



Council of Graduate Students—Wellness Series: Personal Finance

Thursday, October 24, 2019 | 12:00 PM – 1:30 PM
Barbie Tootle Room- 3rd Fl Ohio Union

<https://cgs.osu.edu/events.aspx/2019/10/24/68106/wellness-series-personal-finance?d=42>

This lecture and discussion-based session will focus on the knowledge needed for graduate and professional students to manage their finances during their time at Ohio State. Presented by Scarlet and Gray Financial from the Student Life Student Wellness Center this session will provide participants with information and resources to effectively budget, establish and maintain good credit, and understand their student loans.

Ohio Transportation Engineering Conference (OTEC)

Tuesday, October 29, 2019 | 7:00 AM to Wednesday, October 30, 2019 | 4:00 PM
Greater Columbus Convention Center 400 N. High St. Columbus, OH 43215
Free

<https://ceg.osu.edu/events/2019/10/ohio-transportation-engineering-conference-otec>

Maintaining and advancing a modern transportation system requires strategic decision making based on real-time data and resources. With smart technology, innovative processes and better collaboration, Ohio is fueling the future of transportation transformation.



Other Events — continued

Council of Graduate Students—Professional Development Series: Imposter Syndrome/Growth Mindset

Wednesday, October 30, 2019 | 12:00 PM – 1:30 PM

Barbie Tootle Room- 3rd Fl Ohio Union

<https://cgs.osu.edu/events.aspx/2019/10/30/68121/professional-development-series-impostor-syndrome-growth-mindset?d=42>

Many graduate and professional students feel that they are impostors, fearing that at any moment their students or colleagues might perceive them as “frauds.” One way to combat these feelings is to embrace a “growth mindset.” Participants will discuss common causes of feeling like an imposter in academia with the goal of helping participants identify concrete steps to recognizing their competence as academics, teachers and professionals.

Dark Waters Movie with ESGP-SA

Friday, November 22, 2019 | Time TBD (following happy hour)

Gateway Film Center, 1550 N High St, Columbus, OH 43201

<https://www.imdb.com/title/tt9071322/>

Join the ESGP-SA in a movie watch party! Inspired by a shocking true story, a tenacious attorney (Mark Ruffalo) uncovers a dark secret that connects a growing number of unexplained deaths due to one of the world's largest corporations. In the process, he risks everything -- his future, his family, and his own life -- to expose the truth.

Wildlight at the Columbus Zoo and Aquarium with the ESGP-SA

Wednesday, December 4th, 2019 | 6:00 PM – 9:00 PM

Columbus Zoo and Aquarium, 4850 West Powell Rd Powell, OH 43065

<https://www.columbuszoo.org/home/visit/plan-your-visit/hours>

Central Ohio's favorite family holiday tradition went from a few strands of lights and a few trays of cookies to millions of LED lights, animated musical light shows, Santa, reindeer and other holiday festivities that can only be found at the Columbus Zoo & Aquarium. This year's event offers more holiday fun than ever before with the addition of our friends Rudolph and Bumble.



Important Deadlines



Graduation Calendar

<i>Application to Graduate due</i>	<i>September 6, 2019</i>
<i>Examinations and Reports completed by</i>	<i>November 22, 2019</i>
<i>Approved Thesis & Dissertation submitted/accepted by</i>	<i>November 27, 2019</i>
<i>Commencement</i>	<i>December 15, 2019</i>
<i>End of Semester Deadline</i>	<i>January 3, 2019</i>

For more information [Click here](#)

ESGP-SA Activities



*Join the Environmental
Graduate Science Program
Student Association for happy
hour this Friday at
Ethyl & Tank
after ESGP seminar (~3:30 PM)*



Follow the ESGP Student Association on Instagram!



*For all the latest new on upcoming ESGP-SA events,
updates on past activities, and information on how
to get involved!*

*'Follow the Environmental Science Graduate
Program Student Association for food, fun, and
friendship'*

[Link to ESGP-SA Instagram](#)



Dr. Christine Sprunger



What are your research interests and expertise?

I am a soil scientist and rhizosphere ecologist who examines how various management practices influence soil and rhizosphere interactions for enhanced agronomic performance and ecological function. I am particularly interested in determining how different sources of nitrogen fertilizer, perenniality, and crop diversity influence root production, soil carbon permanence, and nitrogen use efficiency, and soil food web structure and function. I have also worked with several interdisciplinary teams to identify farmer perceptions of soil health and global climate change.

Could you give us a brief overview of the Initiative for Food and Agricultural Transformation (InFACT) and your role in the program?

My role within the School of Environment and Natural Resources and the Initiative for Food and Agricultural Transformation (InFACT) at The Ohio State University is to examine the soil-plant-water-animal-human nexus to enhance climate resilience of agroecosystems through adaptation and mitigation strategies that improve resource use efficiency, sustain productivity, restore soil ecosystem services, and improve carbon sink capacity.

What drew you to become affiliated with ESGP?

Over the course of my career, I have found that multidisciplinary and interdisciplinary efforts allow us to address more complex issues. Given the complexity of many environmental issues that society faces, it is becoming increasingly important to train the next generation of scientists through an interdisciplinary lens. I look forward to advising students and communicating with faculty that share my passion for interdisciplinary research.

Do you have any advice for graduate students you would like to share?

I encourage grad students to critically read the literature, ask a lot of questions, and work with their advisors to design a research project that they are truly passionate about.

Christine Sprunger | Assistant Professor

sprunger.29@osu.edu

<https://www.sprungerlab.com/>

129 Williams Hall

1627 Thorne Road Wooster, Ohio 44691



Nick Nastasi



Describe your research/thesis project

Moisture and dust are present in any occupied indoor environment, including spacecraft. Indoor dampness and visible mold growth have been associated with negative human health effects such as asthma and allergic rhinitis. These health effects can be more pronounced for astronauts due to decreased immune system function in microgravity. Understanding fungal growth in dust on board the International Space Station (ISS) can help future long duration human space missions by protecting astronaut health and spacecraft integrity. Dust was collected from HEPA filters which are part of the air ventilation system on the ISS and returned to Earth to study equilibrium relative humidity (ERH) effects on microbial growth. Fungal DNA quantities were measured using quantitative polymerase chain reaction (qPCR), scanning electron microscopy (SEM) was utilized for visualization of fungal growth on ISS dust, and Illumina sequencing will be used to identify microbes present. The goal of this study is to characterize how microbial communities respond to Equilibrium Relative Humidity (ERH) in the air. These data can be used to inform spacecraft design for prolonged manned flight missions and colonization structures on Mars or the Moon that promote a healthy indoor microbiome.

Are you traveling to present at any interesting upcoming conferences?

In July, I was able to present my research at the International Conference on Environmental Systems in Boston, MA. The theme of the conference was centered around technological development needed for long-term spaceflight and a human presence on other worlds. While many of the presentations throughout the week focused on indoor air quality, only one other focused on the effects of microbiome on the indoor environmental quality.

What is your favorite place to visit/activity to do in Columbus?

I am a huge fan of the Metro Parks around Columbus, with my favorites being Highbanks and Battelle Darby Creek. I can often be found wandering in one of the parks or participating in one of their many activities all year long. I also really enjoy visiting COSI, catching a Blue Jackets game at Nationwide, or seeing a show at Express Live or the Newport.

What is your favorite aspect of ESGP? / What made you want to join the program?

The part of the Environmental Science Graduate Program that most appealed to me was the diversity and flexibility of the course work. I liked the idea of being able to choose from multiple topic areas especially since I have many areas of interest that I want to learn about. I have also really enjoyed learning about the research that my fellow graduate students are participating in and look forward to even more collaboration as I move through the program.



Request for Updates

Please send and recent publications, awards and honors, or other news items to Ashleigh Bope (bope.19@osu.edu) so they can be highlighted in the newsletter or

The Environmental Science Graduate Program

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