ESGP NEWS

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

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ESGP Seminar Series

Natalie Hull, PhD

Assistant Professor
Civil, Environmental & Geodetic Engineering
The Ohio State University

February 1, 2019 | 3:00 - 4:00 pm | Smith Lab 3150

"Water Microbes: Comprehension and Control"

Microorganisms and byproducts of their metabolism present increasing challenges for protection of public and environmental health. By expanding fundamental biological understanding, engineers can more sustainably control microbes in natural and engineered aquatic environments.

The objectives of this research were:

(1) to characterize microbiota and their surroundings in aquatic niches including tap water and humidifiers, and

(2) to elucidate microbial responses to treatments including conventional surface water treatment and disinfection by ultraviolet light.

These results add to a growing body of knowledge that will evolve alongside emerging synthetic and molecular biology tools to enable improved detection and control of microbes and their related risks. This talk will also cover elements of constructing an effective academic job talk.

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Dr. Hull earned her B.S. in Civil Engineering at the University of Kentucky, and her M.S. in Civil Engineering with Environmental Specialization and Ph.D. in Environmental Engineering at the University of Colorado Boulder. She is an Assistant Professor in Civil, Environmental, and

ESGP Seminar Series

Geodetic Engineering at The Ohio State University, and leader of the Water TEAM (Treatment Engineering and Microbiome) research group. Her group focuses on optimizing engineered treatments to sustainably manage water microbiomes.

Natalie Hull, PhD

Associate Professor, Civil, Environmental, and Geodetic Engineering

The Ohio State University

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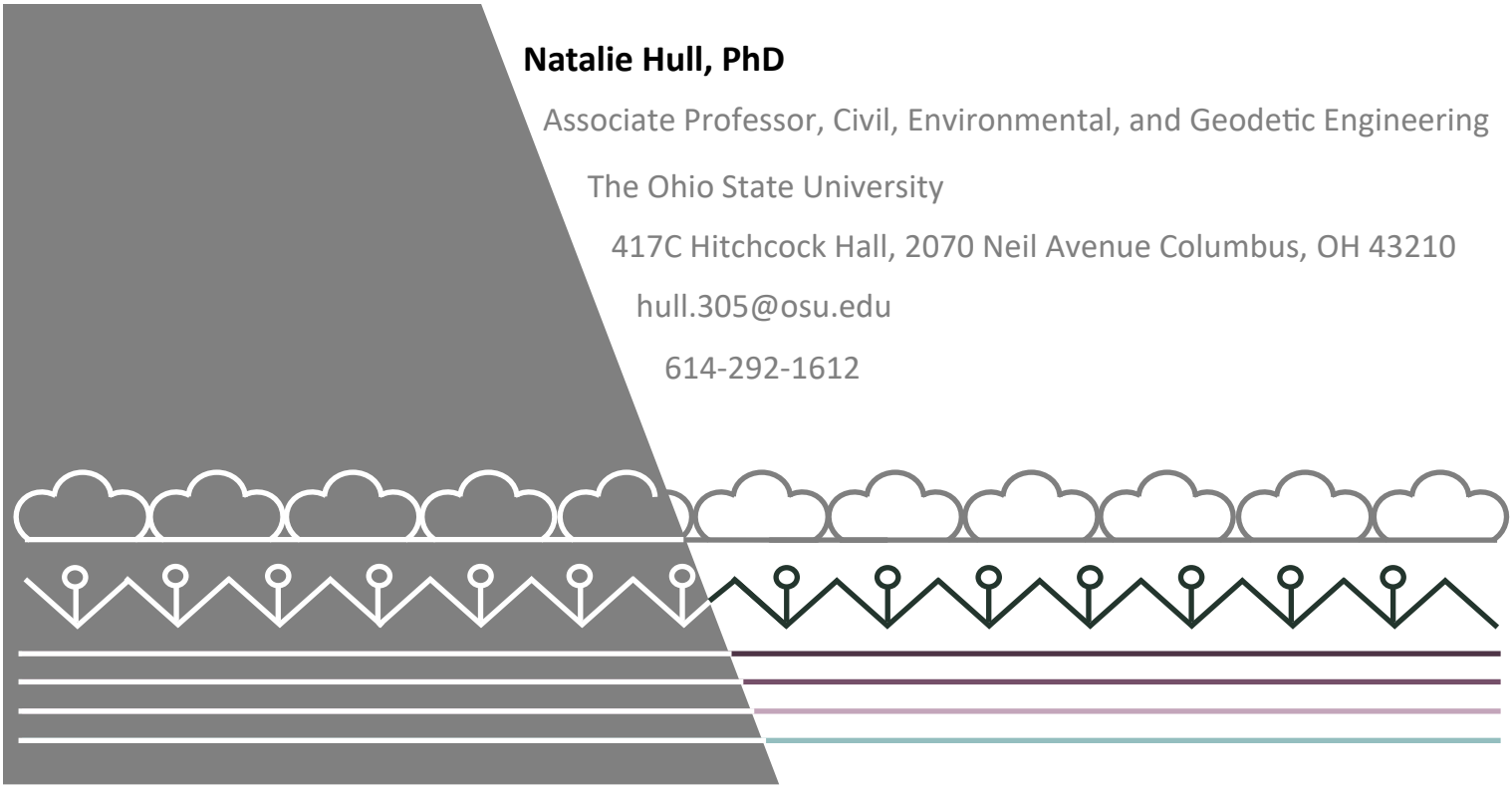
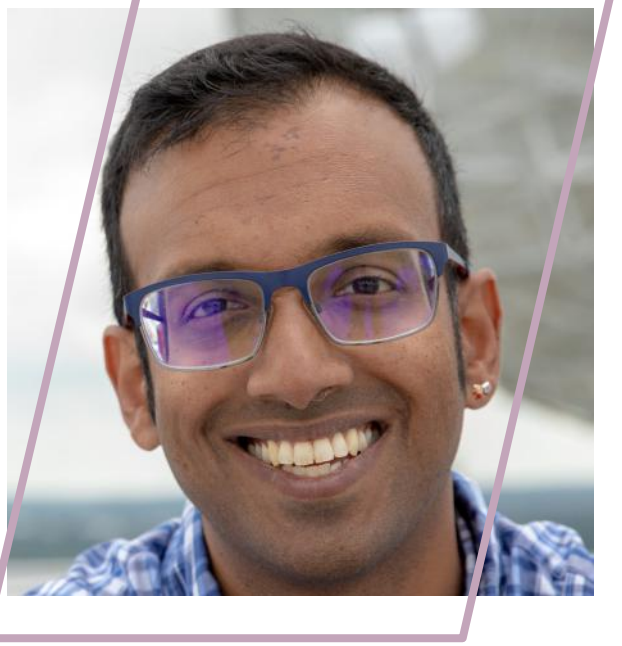


ESGP Seminar Series

Ankur Desai, PhD



Associate Chair and Director of Graduate Studies
Department of Atmospheric and Oceanic Sciences

University of Wisconsin-Madison

February 15, 2019 | 3:00 - 4:00 pm | Smith Lab 3150

"Advancing the science of Earth energy and carbon exchanges"

For decades, atmospheric scientists, environmental engineers, hydrologists, ecologists, and biogeochemists have sought ways to improve measurements and models of gas exchange between Earth's surface and the atmosphere, including for water (evapotranspiration) and carbon (photosynthesis and respiration). A number of technologies and approaches, such as eddy covariance flux towers and land surface models, have emerged as a result. However, there are known biases with many of these and the persistent issue of mismatch in spatial scales of observations and models. I will present how our lab is addressing specific challenges using new approaches to calculate surface fluxes, scale them, and compare to models.

Professor Ankur Desai is Associate Chair and Director of Graduate Studies in the Department of Atmospheric and Oceanic Sciences at the University of Wisconsin-Madison. His lab studies a variety of phenomena on the interactions of ecosystems with climate, from regional to global scales, using long-term in-situ experiments and numerical modeling. Desai has served as past chair of the Agricultural and Forest Meteorology committee of the American Meteorological Society; and is currently editor of the Journal of Geophysical Research-Biogeosciences, member of the National Ecological Observatory Network science advisory

ESGP Seminar Series

committee, and co-PI of the North Temperate Lakes Long-Term Ecological Research (LTER) site and the Predictive Ecosystem Analyzer project (PEcAn). He received his Bachelor's degree in computer science and environmental studies from Oberlin College, a Master's in Geography from University of Minnesota, and a Ph.D. in Meteorology from The Pennsylvania State University. Since 2007, he has lived in Madison with his wife and three daughters

Ankur Desai PhD

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ESGP Seminar Series

Sarah Supp, PhD

Assistant Professor, Data Analytics
Denison University

February 22, 2019 | 3:00 - 4:00 pm | Smith Lab 3150

"What does the biogeography of biodiversity look like in the Anthropocene? "

We exist as members of the Anthropocene - an era where human activity is the dominant influence on climate and the environment. Human activities reshape the world around us, including fundamental changes to the living world that we depend upon. Biodiversity, commonly defined as the number and different types of species in an area, is undergoing changes across the planet; but our understanding of the magnitude and direction of these changes is patchy, or based on models that "fill in the gaps". Recent advances in computing and data availability have made it possible to assess biodiversity change using multiple measures across the planet, and to identify critical hotspots to prioritize. This talk will highlight recent research on the biogeographic patterns for biodiversity change using the largest aggregation of assemblage time-series to date, the BioTIME database (Dornelas et al. 2018), as well as the value of an interdisciplinary and data science lens to solving the critical ecological problems of our time.

Dr. Supp is an ecologist who is currently teaching in the new Data Analytics Program at Denison University (2017-present). She considers herself to be a combination of biodiversity scientist, macro-ecologist, and data scientist.

ESGP Seminar Series

Prior to her position at Denison, she co-led an international working group on biodiversity change (sChange, iDiv 2015-2017), was an NSF funded Postdoctoral Research Fellow (University of Wisconsin-Madison, UMaine), and was a postdoc for a NASA funded project, working on hummingbird migration (Stony Brook University, with Catherine Graham). She received her PhD in 2013 from Utah State University (with Morgan Ernest). While she has done field work on birds, plants, and small mammals, these days she mostly works with other people's data, which—along with her involvement in The Carpentries—has facilitated her transition from ecology to data science. Her newest project is working with long-term butterfly biodiversity and prairie restoration data at The Wilds, and co-leading an NSF RCN-UBE group assessing the state of data science education in undergraduate biology curricula. She lives with her family, including he cat, in Granville, OH

Sarah Supp, PhD

Assistant Professor, Data Analytics | Denison University

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February						
S	**M**	**T**	**W**	**T**	**F**	**S**
					1	Gallery Hop 2
3	4	5	6	Polar Lecture 7	Water Rsrch forum 8	9
10	11	Enviro prof. network 12	Career Expo 13	COSi After Dark 14	15	16
Science Sundays 17	18	19	20	21	22	23
26	27	Croc Tales 28				

February Gallery Hop

Saturday, February 2, 2018 | 4:00 PM – 10:00 PM
http://shortnorth.org/november-2018-gallery-hop-exhibitions-events/

The first Saturday of each month, the Short North booms with live music, street performers, and free entrance to the numerous art galleries along high street. Short North restaurants and vendors join the party with free samples or exhibitions of their own. Come to browse boutiques, try new foods, or simply enjoy an evening viewing the art pieces of talented, often local, artists.

Goldthwait Polar Lecture

Where: Rm 240 Scott Hall Auditorium
When: Thursday, February 7, 2019 | 3:30 – 5:00 PM

Environmental Change in Antarctica: Clues from Marine Sediments and Implications for the Future

There has been catastrophic loss of ice shelves in Antarctica in the last several decades. In this lecture, Professor Amy Leventer—from Colgate University, and recipient of the 2018 Goldthwait Polar Medal—will discuss marine sediment cores from the Antarctic. These cores document oceanographic responses to cryosphere changes, offering both a longer-term perspective on recent changes and a blueprint for the future.

https://byrd.osu.edu/events/goldthwait-polar-lecture?utm_campaign=UMAR%20OnCampus%20Weekly%2001162019&utm_medium=email&utm_source=EOACLK

Forum on Water Research

Where: Research Commons (#340, Colloquia space), 3rd floor 18th Avenue Library, 175 W. 18th Ave.
When: Friday, Feb. 8, 2019 | 9:00 AM – 3:00 PM

At Ohio State, the Middle East Studies Center, the Mershon Center, International Programs in Agriculture, and the Office of Research in the College of Arts and Sciences have facilitated conversations between faculty of many different departments focusing on water. This forum will bring insights to water resource issues in the Middle East and offer opportunities to partner with faculty from other departments for a multi-disciplinary approach to a water crisis of global proportions.

RSVP: https://mesc.osu.edu/water-research-forum

Environmental Professionals Network

Cost: free for students
Where: Nationwide and Ohio Farm Bureau 4-H Center
2201 Fred Taylor Dr., Columbus, Ohio 43221
When: February 12, 2019 | 7:15 – 9:30 AM

With almost two decades of experience facilitating individual, organizational, and systemic DEI change, keynote speaker, Marcelo Bonta, will provide context and inspiration for diversity, equity, and inclusion (DEI) in the environmental movement. Further discussion will cover the critical need for DEI as well as successful efforts relevant to the environmental movement now and into the future.

Register: Link

Environmental and Sustainability Career Expo

Where: Ohio Union
When: Wednesday, Feb 13, 2019
2:00 – 6:00 PM

https://senr.osu.edu/undergraduate/career-services/career-events/countdown-expo

COSI After Dark: a 21+ Event!

Cost: $14 for Members | $18 for Nonmembers (in advance, or $20 at the door)
Where: COSi, 333 W Broad St, Columbus, OH 43215
When: Thursday, February 14, 2019 | 6:00 - 10:00 PM

Geek out with grown-ups and explore COSI, ride the High Wire Unicycle, enjoy special Valentine's Day themed activities, concessions and a cash bar.

https://cosi.org/adults/cosi-after-dark

Science Sundays: Mobility Matters — Why Sustainable Transportation is Essential for our Future

Where: Ohio Union U.S. Bank Conference Theatre
When: Sunday, Feb. 17, 2019 | 3:00 – 5:00 PM

Modern humans enjoy mobility levels that are unprecedented in history. While this has benefits, it also has enormous social, health and environmental costs. Harvey J. Miller, the Reusche Chair in geographic information science, director of the Center for Urban and Regional Analysis (CURA) and professor of geography discusses how resolving these costs is crucial if civilization is to survive the 21st century — a world that will see 10 billion people, most of whom will crowd into cities.

https://artsandsciences.osu.edu/news-events/events/science-sundays-mobility-matters-why-sustainable-transportation-essential-our

COSi Insider Science Series

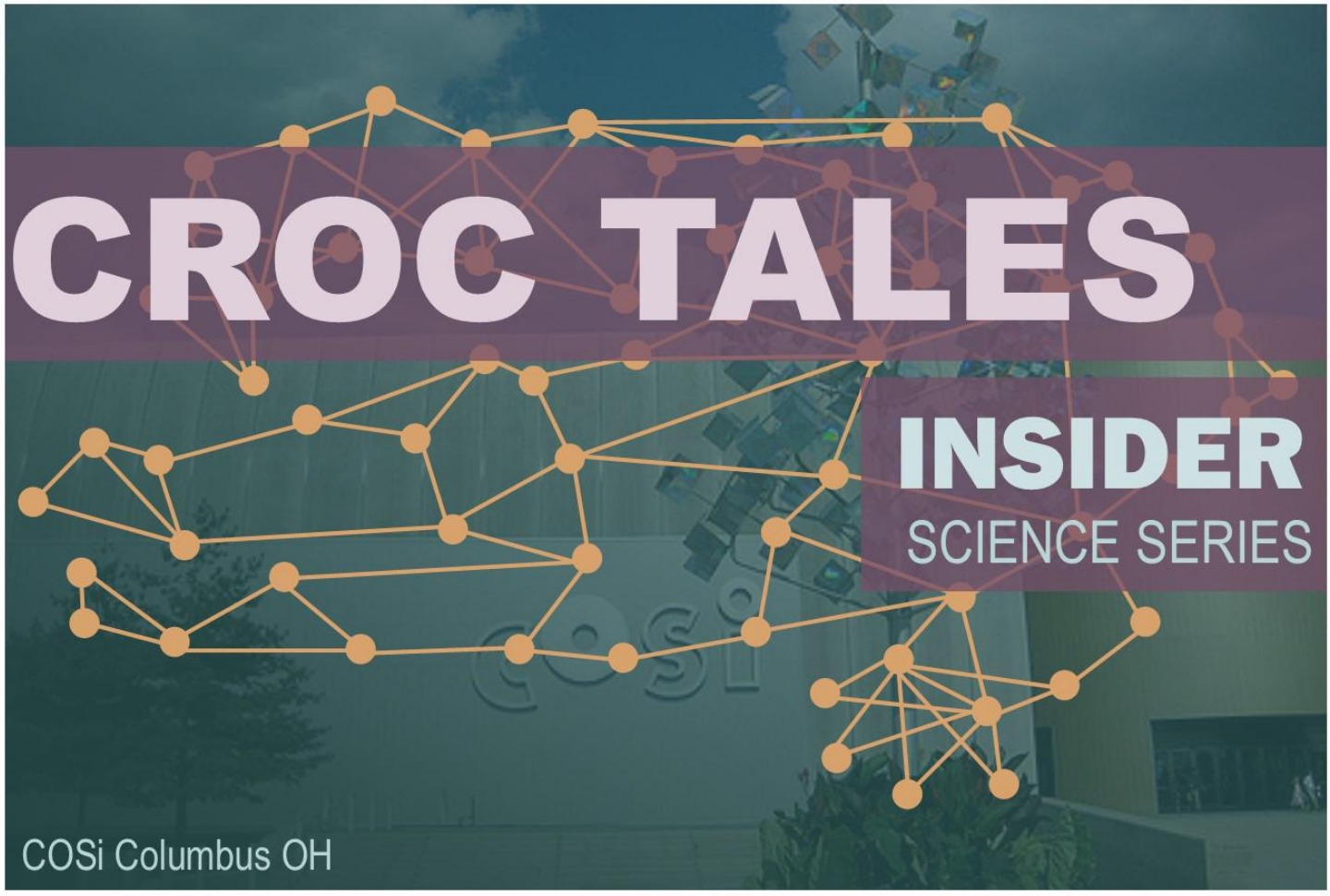
Croc Tales: the conservation success story of the American alligator

Cost: $12 for Members | $15 for Non-Members | $8 for Students with a valid College ID
Where: COSi, 333 W Broad St, Columbus, OH 43215
When: Friday, February 28, 2019 | 7:00 – 9:00 PM

Featured Gallery: Crocs: Ancient Predators in a Modern World
Speaker: Dr. Mark Flint, The Ohio State University College of Veterinary Medicine

"The American alligator was one of the first 10 species listed on the Endangered Species Act when it was first passed in 1973. 45 short years later this once-imperiled species is a conservation success story of recovery. It now sustainably supports a global industry that in-turn puts resources back in to the conservation of other species throughout the southern United States."

https://cosi.org/adults/insider-science-series



Important Deadlines

Graduation Calendar

Application to Graduate due …….	*January 25, 2019*
Examinations and Reports completed by ……	*April 12, 2019*
Approved Thesis & Dissertation submitted/accepted by …….	*April 19, 2019*
Commencement ……	*May 5, 2019*
End of Semester Deadline ……..	*May 7, 2019*

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* ***(~4:30 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

Loryssa Lake

Describe your project/work that you do or what research you are interested in?

My background is in heavy metal soil remediation. I'm particularly interested in anthropogenic sources of contamination and how that contamination can disproportionately affect different communities. In this day and age, we are now aware that people are not getting sick just due to genetic disorders or poor lifestyle choices, they are literally being poisoned by the environment, often due to industrial activities. My goal is to lessen the impact that humanity's actions have on the surrounding environment and on human health. And I hope to use naturally occurring resources to remediate soils. To that end, I'm currently working on a project to remediate heavy metal soil contamination using sewage sludge incinerator ash. I also have a project 'in-the-works' that will look at using biochar to remediate soil contaminated by organic compounds.

What made you interested in coming to OSU to pursue your Master's degree?

I came to OSU specifically to work with my advisor. I have always been interested in a holistic approach to soil remediation. Most people focus either on the method or the remediation strategy itself and I want to be involved in both. Dr. Basta's research encompasses both of those areas and also exposes me to some new ways of analyzing the effectiveness of remediation strategies. I'm very excited to be working with him and developing novel approaches to soil remediation.

Have you had a chance to attend/present at any interesting conferences in your MS so far? Are there any on your horizon?

I have not been to any conferences thus far but I'm hoping to have enough results to attend the next Soil Science Society of America (SSSA) meeting next year.

What is one thing (program, event, speaker, etc.) that you would like to see ESGP have in 2019?

I think that ESGP getting more involved in community outreach and environmental justice would be amazing. We have a lot of resources and willing people that could make a huge difference in the local community. Having a full-fledged community service group or project would be a wonderful component of ESGP and a way to get the local community aware of our presence.

Loryssa Lake

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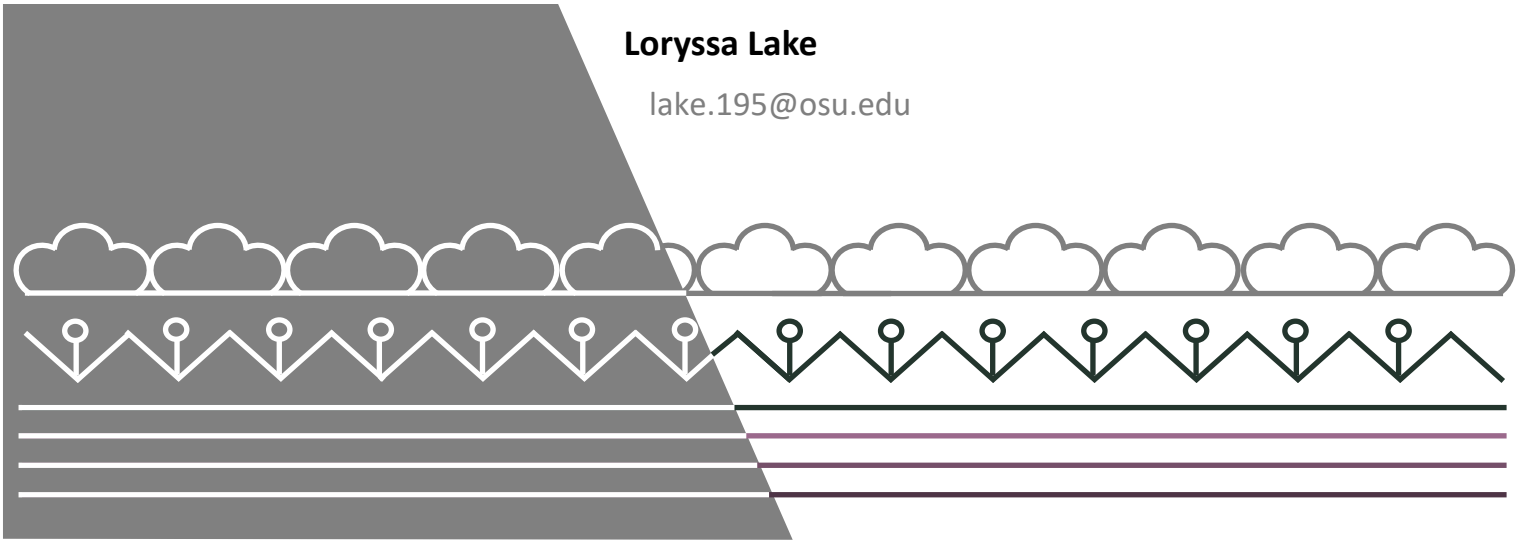

Request for Updates

Please send any recent publications, awards and honors, or other news items to Sam Cochran (cochran.383@osu.edu) so they can be highlighted in the newsletter or on the ESGP website!

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