

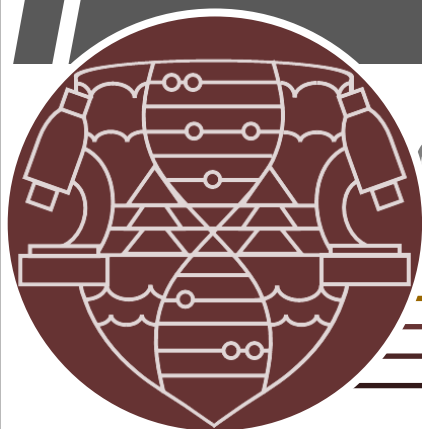


ESGP NEWS

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

November News

- *ESGP Guest Speakers:
Jordan Clark 11 - 9 - 18*
- *Updated November Event
Calendar*
- *November Gallery Hop*
- *EPN Breakfast
Let's Make Biking Work!*
- *Hot Chocolate 5K*
- *Important Deadlines*
- *ESGP Student Association
information*
- *Student Spotlight:
Lucas Rocha Robelo*



ESGP Seminar Series

Jordan Clark

Assistant Professor, Food, Ag. & Bio. Engineering

Assistant Professor, Civil, Enviro. & Geo. Engineering

November 9, 2018 | 3:00 pm - 4:00 pm 330 | Cunz Hall

"Smart control of indoor environments in energy efficient homes"

Dr. Jordan Clark holds a dual appointment within the College of Engineering at Ohio State: A majority appointment in the Department of Civil, Environmental, and Geodetic Engineering and a minority appointment in the Department of Food, Agricultural and Biological Engineering. In addition, he holds advising status in the Environmental Sciences Graduate Program and in Mechanical Engineering. He is a member of the Sustainable and Resilient Economy initiative at Ohio State, an interdisciplinary collaboration aimed at answering the challenges of a quickly changing world.

Dr. Clark investigates the physical processes affecting energy consumption, thermal environments, and air quality in sustainable buildings. Most recently his work has focused on looking at how we might leverage the recent explosion in sensing technology, communication, and data analytics capabilities to optimize heating, ventilation and air-conditioning devices and create smarter, more energy-efficient, healthy buildings. Dr. Clark received his PhD in Civil, Architectural, and Environmental Engineering and an MS in Architectural Engineering from the University of Texas at Austin, where he was a member of the Building Energy and Environments Research Group.



Proper ventilation of buildings is essential for occupant health and comfort, but it is also responsible for a significant portion of energy consumption in the developed world (around 4% of all energy consumed in the United States!). These competing motivations become

ESGP Seminar Series

especially pronounced as we tighten and improve building envelopes and reduce non-ventilation loads. This study examines a method for providing adequate ventilation in homes while reducing energy consumption and peak electricity demand: “smart” control of ventilation through sensing of occupancy, airborne pollutant concentrations, outdoor environmental variables, and grid signals, and modulation of ventilation fans in response.

California energy efficiency standards are among the most progressive in the country and dedicated ventilation is now required in new California homes. In addition, there are questions in California regarding potential air-tightness requirements in new homes. For these reasons, we first conducted a detailed simulation study of advanced California homes with several Smart Ventilation Control strategies using recently developed simulation tools. We then look at how general some of these results are on a national scale through a less detailed second simulation campaign. Results show a promising path forward for providing for healthy indoor environments while minimizing energy consumption and peak electricity demand.

Jordan Clark

Assistant Professor, Food, Agricultural, and Biological Engineering

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November						
S	M	T	W	T	F	S
						Gallery Hop
					1	2
						3
4	5	6	7	8	9	10
Veterans Day	Veterans Day			EPN Breakfast		
	Observed					
11	12	13	14	15	16	17
Hot Chocolate 5K			Thanks giving Break, no classes			
18	19	20	21	22	23	24
25	26	27	28	29	30	

November Gallery Hop

Saturday, November 3, 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.

Veteran's Day

Sunday, November 11th; observed by the University Monday, November 12th (no classes)

Let's Make Biking Work! - Environmental Professionals Network Breakfast

Thursday, November 15, 2018 | 7:15 AM – 9:30 AM

Nationwide and Ohio Farm Bureau 4-H Center

Free for Students

<https://senr.osu.edu/events/lets-make-biking-work-environmental-professionals-network-breakfast>

EPN is putting on another breakfast, this time partnering with MORPC and Yay Bikes! to improve bicycle commuting. Speakers will discuss infrastructure and how it affects public interest in utilizing biking or other means of green commuting. Bike technicians from Paradise Garage will also be attending the event to lend expertise as we head into this winter season.

Register here: <http://www.cvent.com/events/epn-breakfast-november-15-2018/registration>

Hot Chocolate 5K

Sunday, November 18, 2018 | Race starts at 7:30

<https://studentlife.osu.edu/calendar.aspx/2018/11/17/62009/ouab-in-the-kitchen-foods-of-thanksgiving>

The race is being sponsored by Allstate and benefits the Make a Wish Foundation. Participants can sign up for either the 5K or 15K races. There are different prices for the two races, and it does require registration prior to race day. All participants get a chocolate snack pack and athletic zip ups in their 'goodie bags'.



Thanksgiving Break

Wednesday, November 21st to Sunday, November 25th. No classes

Important Deadlines

Graduation Calendar

<i>Application to Graduate due</i>	<i>September 7, 2018</i>
<i>Examinations and Reports completed by</i>	<i>November 21, 2018</i>
<i>Approved Thesis & Dissertation submitted/accepted by</i>	<i>November 30, 2018</i>
<i>Commencement</i>	<i>December 16, 2018</i>
<i>End of Semester Deadline</i>	<i>January 4, 2018</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 (~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](#)

Lucas Rocha Robelo



Describe your research/thesis project

I will be working with strategies to reduce environmental impact of cattle production as well as improving its productivity and profitability. My first project will assess the potential of supplementing elemental sulfur to beef cattle in order to reduce methane (CH₄) emissions. Sulfur is reduced by microorganisms in the rumen, and electrons (H⁺) are used in this pathway. The potential of elemental sulfur in reducing methane production is due to a decrease in H⁺ available for methanogens to produce CH₄. Methane is detrimental to the environment (global warming); and as it is a molecule that contains carbon, basically, the production of CH₄ in the rumen of is a loss of energy (in terms of 4-12%) from feeding, but that could be used for metabolic pathways (production of meat or milk).

What got you interested in sustainable beef production?

More food has been produced every year and, we have been facing a scenario that food production in large scale somewhat is detrimental to the environment. In addition, nowadays, people are getting more concerned about what they are eating, its origins, as well as its environmental footprint. The market follows consumer choice and my interests in sustainable ways of production lie on the tendencies of the market

What made you choose the ESGP at OSU for your PhD program?

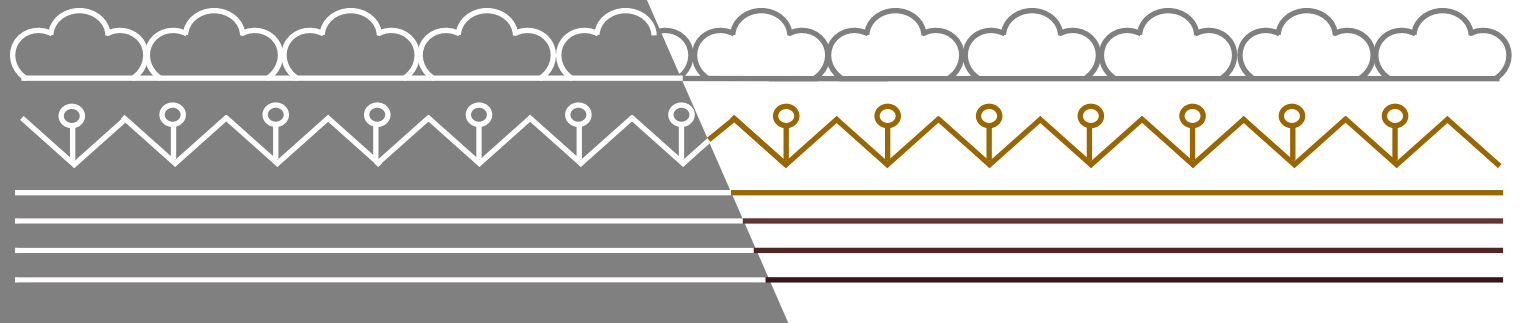
I have chosen the ESGP as a path for my Ph.D. because it is an inter-disciplinary program that allows students to take classes across several programs related to the Environment; because it has a board of unique and renowned professionals who are very conscious and engaged with their mission; as well as because this program was willing to invest on me as a student.

How have you adjusted to Columbus so far ?

November is my 4th month living in Columbus and, as I am from Brazil moving here was a great change but it took me a short time to get used to the city and the university. The city of Columbus and The Ohio State University are very well organized and have a good structure for new students, the Apps and information the University provides is very helpful. As Columbus is a big city and, as The Ohio State University has a tremendously big campus, until the second month I was struggling to get around and needing the GPS all the time to get where I needed to be. But so far, I am feeling adjusted to this new life although I still have a lot to get to know in this University and city.

Lucas Rocha Robelo

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Request for Updates

Please send and 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!

[The Environmental Science Graduate Program](#)

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