



PHI SIGMA NEWS

The Official Phi Sigma Newsletter

Fall 2021

Message from the President

By Tony Breitenbach

Hello Phi Sigma members- here is a summary of some things from the past semester and things coming up this semester. Please note the dates for important events coming up- we don't want anyone to miss anything! The 2021-2022 Executive Board hopes to see you all at the upcoming events. Keep an eye out for the next Phi Sigma newsletter in the spring. *Winter is coming.*

Fourth Annual Weigel Seminar This year's Speaker: Dr. Ben Parrott

By: Caitlyn Kant

The Phi Sigma Executive board is excited to announce our fourth annual Weigel Seminar this Fall! The Weigel seminar is designed to emphasize professional development among students through interactions with an established researcher within the field of Biology. Students will also have an opportunity to schedule a meeting with the seminar speaker to interact with and ask questions!

Our fourth annual speaker for the Weigel Seminar is Dr. Benjamin Parrott from the University of Georgia and the Savannah River Ecology Laboratory. His talk is entitled "A means to adapt, a means to disrupt: environment-by-organism interactions underlying development and aging."

"All organisms (including people) are in part a product of the environment experienced during development. These interactions between developing embryos and a wide range of environmental factors have the potential to lead to both adaptive and disruptive responses, with attendant consequences on organismal fitness and individual health. The seminar will provide a brief overview of these



interactions and will highlight the speaker's work using American alligators as a model for resolving the influence of developmental exposure to environmental contaminants on subsequent reproductive health. Collectively, through a combination of field, lab, genomic, and epidemiological studies, the work will advance a mechanistic framework by which the developmental timing of estrogen signaling is identified as a playing a key role in mediating the influence of developmental environments on long-term ovarian function and female fertility."

Image from www.ecology.uga.edu/directory/benjamin-parrott/

- Dr. Ben Parrott

IMPORTANT DATES

FALL 2021

August 17

TA Welcome Week

August 28

Fall Picnic

September 10

Last day to submit Phi Sigma membership applications for the Fall

October 21

Weigel Seminar

December 4th

Winter Potluck

SPRING 2022

February 25

Phi Sigma Research Symposium

More important dates to come!

2021 Grant Recipients

Mockford-Thompson

Jack McKernitt

Gracious Donkor

Austin Calhoun

Weigel

Brooke Allen

Tony Breitenbach

Jessica Burkhart

Rebecca Chicosky

Rachael DiSciullo

Gracious Donkor

Kate Evans

Jaclyn Everly

Paige Farchmin

Ayoola Fasawe

Kiley Hughes

Rosario Marroquin-Flores

Elyse McCormick

Jack McKernitt

Ian Rines

Logan Savers

Ritika Shah

Bryan Sierra-Rivera

Sadia Sultana

Liisi Vink-Lainas

Phi Sigma thanks all of those who helped review applications.

TA Welcome Week & Social Events

By: Caitlyn Kant

This year our current and new graduate students had a chance to socialize and enjoy food at our TA Welcome week event to celebrate the start of a new semester. This event was organized by our Social Chair, Gracious Donkor, who was able to organize Moe's catering for the students. This event took place on August 17th outside of the Science Laboratory Building.

Phi Sigma was able to continue our Fall Picnic tradition this year! Members of Phi Sigma were able to socialize, enjoy food, play games, and get to know one another better at our Fall picnic, which was hosted by Dr. Craig Gatto at his house. Some members grilled food outdoors, while others each brought a side dish with them so that everyone could enjoy a variety of food. This was our first Fall Picnic since Fall 2019!

Upcoming: We are planning to continue with our winter potluck at the end of this semester! This event will take place on **Saturday December 4th** at the Ironwood Golf Course. Members will each contribute different food items and have a chance to wind down and socialize with one another after a long semester!



Pictured above: Fall Picnic 2021

External Grant Winner

By: Caitlyn Kant

This year, the External Grant was awarded to Katy Klokkenga at Chiddix Junior High School. Last school year, educators were faced with additional challenges because of covid-19. Specifically, science teachers were very limited on lab activities due to covid restrictions. The funds from the external grant this year will be used to purchase compound microscopes with attached LCD panels. These microscopes can be used for a variety of lab activities, such as focusing, staining, slide preparation, and even learning about properties of light and the physics behind lenses and mirrors. With the help of the external grant, students will be able to observe specimens through the lens of a microscope.

Thank you to everyone who helped review the external grant applications.

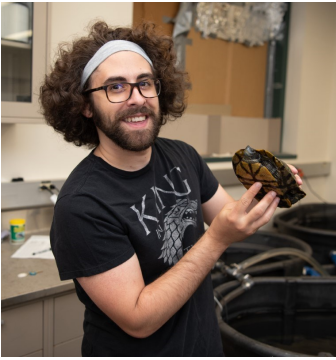
Book Donations

By: Gracious Donkor

A Shared Shelf is a budding nonprofit organization in Ghana (West Africa) that provides library resources for disadvantaged communities. We believe the cycle of illiteracy in these communities can only be ended by providing access to educational facilities. To this end, we organize book donation drives and collect electronic learning devices to support and initiate community libraries. It is our vision to see a Ghana where every child is literate. This fall, we are collaborating with the Phi Sigma Honors Society at ISU to solicit book donations which will be sorted and shipped to our organization in Ghana. It is our hope that in "sharing your shelf" with our libraries, you will play a crucial role in our dream of seeing every child in need educated.



Meet the 2021-2022 Phi Sigma Executive Board



President: Tony Breitenbach

Hi everyone! I'm Tony Breitenbach and I'm a 6th (oof) year PhD student in the Bowden/Paitz labs and THE KING IN THE NORTH! Er, I mean, I'm president of Phi Sigma. I majored in biology and minored in history and chemistry at Indiana University East, from which I graduated with my BS in 2016. My research focuses on understanding how temperature-dependent sex determination (TSD; common in turtles and various other reptiles and even some fish) operates under natural circumstances, as most of what we know about TSD is from laboratory studies that use constant conditions which are not reflective of natural conditions. I plan to continue researching TSD after I finish my degree. In my free time I'm either sleeping, listening to rock music (Pink Floyd more oft than not), or listening to 1 of the 8 A Song of Ice and Fire podcasts for which I regularly tune in.

Vice President: Jaclyn Everly

My name is Jaclyn Everly and I'm a third-year PhD candidate in the Juliano lab of Insect Ecology. My research investigates the impact of larviciding (the practice of applying pesticide to larval mosquitoes) on ephemeral pond communities. These ephemeral pond systems include a myriad of insect larvae and other aquatic invertebrates that may be directly or indirectly affected by larviciding. I began studying larval mosquito ecology as an undergraduate at the University of Southern Mississippi, and this research has brought me from Mississippi to Alabama, Puerto Rico, and finally Illinois doing surveillance studies and experiments on insects. Following my degree I hope to work in mosquito control and abatement, where I can contribute to the protection of my community from mosquito-borne illnesses while continuing research in the fascinating and important field of mosquito ecology. In my free time, I enjoy hiking, gardening, and spending time with my dog and cat.



Business & Bookstore Manager: Jack McKermitt

My name is Jack McKermitt and I am the business manager for Phi Sigma. Currently I am a second-year master's student with Drs. Ben Sadd and Scott Sakaluk studying sexual selection and behavioral plasticity in decorated crickets. Generally, I enjoy topics of ecology and evolution for research. I originally grew up in the Edison Park neighborhood of Chicago. I did my undergraduate at Illinois Wesleyan University where I worked as a student manager for our food services and catering company on campus. In my free time, I like to read, go bowling, play volleyball, and cook!

Treasurer: Sadia Sultana

Hello everyone! I am Sadia, 3rd year PhD student in the Molecular and Cellular Biology sequence of the School of Biological Sciences. I work in Dahl microbiology group where my research focuses to decipher pathogenic bacterial defense mechanisms against antimicrobial agents. Prior to start the PhD, I obtained my bachelor and master's in microbiology from the University of Dhaka, Bangladesh. My long-term career goal is to establish myself as an academic scientist with a research focus in bacterial pathogenesis. Beside the academic studies, I am the Treasurer of Phi Sigma Honor Society and I also serve as a copy editor of Graduate Women in Science (GWS)'s monthly newsletter.



Social Chair: Gracious Donkor

My name is Gracious Donkor and I am the current Social Chair for Phi Sigma. I was born and raised in Ghana, West Africa, where I earned my Bachelor's in Biomedical Science. Through a weird combination of fate and a zest for new experiences, I ended up almost 10,000 miles away at ISU where I am currently pursuing my MS in biotechnology. My research interests are in host-pathogen relationships and microbial pathogenesis. I have an unhealthy addiction to old music, fantasy novels and cookbooks. I intend on pursuing a PhD in Molecular Microbiology/ Biomedical Science and work in a position where I can combine research and teaching. I hope to dedicate the rest of my time (if there's any left) on STEM non-profit work in economically challenged regions. I hope to change the world someday with stories but maybe I'm being overly optimistic.

Secretary: Caitlyn Kant

Hello! I'm Caitlyn Kant and I am the current Secretary for Phi Sigma. I am a senior undergraduate student on the pre-medical track. I am majoring in psychology as well as biology in the physiology and neuroscience sequence, with a minor in cognitive science and chemistry. I plan to attend medical school once I graduate from ISU and would love to specialize in psychiatry or neurology. I am currently doing research under Dr Heidenrich's lab focusing immunohistochemistry staining methods in rat brains, as well as Dr. Garriss's lab focusing on the affects of amphetamine on dopamine levels in rat brains. In my free time I enjoy reading, spending time with my 2 dogs, binge watching Netflix, and being involved in my other RSO's on campus!



New Graduate Students

Phil Avella (Comte)	Rachel Berg (Nietlisbach)	Juan Canchola (Mills)	Mary Crompton (Dahl)	Christen Fairow (Vogel/Bowgen)
Dakota Fuss (Mortimer, N)	Emily Harders (Paitz)	Shianna Johnson (Mortimer, N)	Carol Kiam Assato (Sedbrook)	Piotr Klos (Mortimer, A)
Lauren Lesichner (Nietlisbach)	Shahriar Mahmud (Sedbrook)	Ryan Meyer (Perry)	Brittany Rivera (Vidal-Gadea)	Caleb Sawe (Engelke)
Joshua Hill (Mortimer, N)	Bismark Acquah (Mortimer, A)	Ashely Salzman Visiting Student	Josephine Payne Visiting Student	Luca GaBler Visiting Student

Tanya Josek
Post Doctoral

Heba Abouseada
Visiting Faculty Fulbright Scholar

Maria Albo
Visiting Faculty Researcher

A Letter from Our Advisors

By Pirmin Nietlisbach

It is my pleasure to start serving alongside Martin Engelke as faculty advisor for Phi Sigma. Martin told me that this appointment is a lot of fun and that the students are very engaged. Even during the pandemic-dominated last year, this society organized some great online events and helped creating a sense of community. This is particularly important when everything else is not like normal (it also wasn't like Bloomington, but I'm sure you hear these kinds of puns way too often from outsiders and fairly new locals). Even in more normal years, the work of Phi Sigma is invaluable for fostering a feeling of community and belonging among biology students and creating opportunities to grow as researchers.

All this would not be possible without the effort and dedication of the Phi Sigma Executive Board. Based on availability for board meetings, some of the current board members are busier than the Director of the Department of Chemistry (who generously provides his experience and insight with all university-related issues to the board: he has already been able to resurrect and prompt a response from an email account deemed dead for several years – magic?). Thus, we are even more thankful for all that the executive board members are doing to climb new heights with the society. Now, we are looking forward to a successful and inspiring year of great Phi Sigma activities.

Continuing with the awesome tradition of keeping past advisors connected to Phi Sigma, please direct any criticism and comments about this letter to Dr. Dugas. He might also appreciate receiving photos and videos of your pets doing funny things, or might he not?

Pirmin Nietlisbach

I joined ISU as Assistant Professor of Evolutionary Biology in fall 2020. After completing my PhD at the University of Zurich, Switzerland, in 2015, I worked as a postdoctoral researcher at the University of Zurich and then the University of British Columbia in Vancouver, Canada. My research focuses on understanding the genetic consequences of inbreeding and life in small populations. In my lab, we study wild populations of song sparrows, deermice and house wrens.

Martin Engelke

I started as an Assistant Professor of Cell Physiology at ISU in August 2019. Originally trained as a biochemist, I switched fields a bit and completed a PhD in Virology/Cell Biology at the University of Zurich and then moved to the University of Michigan for a postdoc in Cell Biology. My lab studies how the function and regulation of molecular motor proteins facilitates cellular organization and homeostasis.

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