PHI SIGMA NEWS

The Official Phi Sigma Newsletter By Mackenzie Seymour

From Phi Sigma to You:

Dear Phi Sigma Members,

The Phi Sigma (Beta Lambda) board for 2024-2025 extends a warm welcome to the fall semester filled with new goals, ideas, and opportunities for success. As a prominent national honor society in the U.S., Phi Sigma is dedicated not only to fostering academic excellence but also to hosting enriching scientific and social events. We invite you to participate in all our events this semester. Your active involvement is key to the success of our programs and contributes to a vibrant atmosphere that strengthens our School of Biological Sciences community. Your participation adds immense value, driving success and excellence. Additionally, your feedback is crucial in helping us improve our future activities. Please keep an eye out for our upcoming events, and don't hesitate to share your creative ideas and suggestions to make this semester outstanding.

Wishing you all a productive and successful semester ahead!

Best wishes,
Phi Sigma Board of 2024-2025 (Beta Lambda Chapter)

Important Dates

October 17th: Weigel Seminar

October 29th: Paint Night

December 6th: Winter Potluck

November TBD: Movie Night

Membership applications open on September 9th and close September 23rd

Fall Picnic

By Mackenzie Seymour

Our annual fall picnic was a delightful success! We were blessed with perfect weather, and the potluck-style spread was a hit, with an impressive variety of delicious dishes that showcased everyone's culinary talents. It was a wonderful opportunity to relax with a friendly competition of lawn games and to connect outside of the classroom/lab. Thank you Dr. Gatto for hosting!

7th Annual Weigel Seminar & More

7th Annual Weigel Seminar

By Abu Habib Md Abdullah

The Phi Sigma Executive Board 2024-2025 is delighted to announce our 7th annual Weigel Seminar this Fall! The Weigel seminar series is a special event where Phi Sigma members have a democratic opportunity to select the speaker. At the beginning of this semester, Phi Sigma members submitted a plethora of exceptional biologists and subsequently voted on this year's extraordinary researcher. The seminar is designed to emphasize professional development among students through interactions with established research within the field of biology. Our 7th annual Weigel seminar will be held on October 17th. Students will have an opportunity to schedule a meeting with the seminar speaker on October 17th to interact and ask questions. This year, our speaker is Dr. Michael Downey from the University of Ottawa College of Medicine. Dr. Downey is an Associate Professor of Cellular and Molecular Medicine, and his talk is entitled: "How Acylation and Polyphosphates are Synthesizing to maintain cellular homeostasis in Humans."

Meet Dr. Michael Downey

"I received my PhD from the University of Toronto (2008) and carried out a post-doc fellowship at the University of California, San Francisco (UCSF), where I studied protein lysine acetylation. I joined the University of Ottawa as an Assistant Professor (Department of Cellular & Molecular Medicine) in 2014 and was promoted to Associate Professor in 2020. Since 2020, I have also served as the Associate Director for the Ottawa Institute of Systems Biology (OISB). While my lab continues to study protein lysine acetylation a second major theme of my research program is polyphosphate biology. Polyphosphates are long chains of inorganic phosphates joined together by energy-rich bonds, akin to those found in ATP. While polyphosphates were once regarded as an evolutionary relic, interest in polyphosphate biology has experienced a resurgence as of late, on the heels of new-found connections to human health and disease. Our lab is interested in the way that polyphosphates function by interacting with protein targets, as well as the fundamentals of polyphosphate synthesis and turnover across diverse model systems including bacteria, budding yeast, and human cell culture. I value creative work and enjoy following unanticipated findings that bring us into new areas of biology." *Check out Dr. Downey's website here*

Mentorship Program

By Olivia Draper

Most first days of school are exciting and fun, but starting life as a grad student can be overwhelming and rather spooky. For this reason, Phi Sigma sponsors the Mentorship Program, designed to introduce new graduate students to more experienced students, regardless of discipline or age to help you start weaving a support network for yourself here in Normal, IL! While formal applications closed Friday, August 30th, it is still possible to sneak into a group. The Mentorship Program is a fun and free way to explore the town, get familiar with the graduate program, and find friends to lean on as the days start getting a little colder.

2024 Grant Recipients

Mockford-Thompson

Ravi Timsina
Sharanya Paul
Mackenzie Seymour

Weigel

Abu Habib Md Abdullah
Aalimah Akinosho
Debajjyoti Basu
Ryan Bayliss
Mehdi Bennis
Tanisha Bhimwal
Austin Calhoun
Avery Dart
Olivia Draper
Jaclyn Everly
Tyler Falk
Liza Gautum
Charles Jackson
Madeline Koeplin
Arjuman Lima
Shahriar Mahmud
Danny Marchiafava
Maggie Marlino
Cassie McGinnis
Gabriela Mendoza Rangel
Shifat Niha
Emmanuel Oladokun
Sharanya Paul
Benjamin Ross
Anindita Saha
Rachel Schinzler
Mackenzie Seymour
Sumaiya
Sydney Szwed
Patrick Tawiah
Ravi Timsina

Thank you to all who helped with the grant process!

Meet the 2024-2025 Executive Board

Abu
President

I am Abu, a 2nd year Ph.D. student of Molecular and Cellular Biology at the School of Biological Science. I completed my B.Sc. from Sher-e-Bangla Agricultural University, Bangladesh before obtaining a master's in AgiGenomics from University of Kiel, Germany. Afterward, I moved to Illinois State University to pursue the doctoral program in Molecular and Cellular Biology in Dr. Viktor Kirik's lab, and my current research focuses on understanding the role of Tonneau1 Recruiting-like Motif (TRM) protein in the cell division, cell shape regulation, cytoskeletal arrays development in Arabidopsis. I would like to see myself as a research scientist in the days to come. Besides my academic activities, I like to watch movies, play sports, ride a bicycle, and hang out with friends. I believe in social solidarity, equality, and welfare to improve society for a better one. Consequently, I am serving as the President of the Phi Sigma honor society of biological science to make our school better for the upcoming days.

Sharanya
Vice President

I'm Sharanya, a biotech explorer in my 2nd year of a master's program at the Dahl Lab, where I am diving deep into the world of Staphylococcus aureus. My work focuses on how this bacterial baddie incorporates exogenous straight-chain unsaturated fatty acids (SCUFAs) like oleic acid, sapienic acid, and others into its membrane lipids, particularly at low temperatures. My journey began in India, where I earned a B.Tech in Biotechnology, learning everything from bioinformatics and immunology to genetics and R programming. I even know how to code—because who says scientists can't speak computer? While my thesis had me working with plants, it was an internship where I got to play detective with clinical isolates of carbapenem on UTI plates that truly ignited my passion for bacteria. Seeing how these microscopic troublemakers could be distinguished by their color variations was the spark that led me to where I am today—tackling bacterial challenges one petri dish at a time. When I'm not busy making S. aureus spill its secrets, you'll find me exploring new places, taste-testing dishes like it's my day job, or belting out tunes as if nobody's listening. Life's an experiment, and I'm all in—enjoying every unpredictable, delicious, and musical moment of it.

Tanisha
Treasurer

I earned both my bachelor's and master's degrees in India, where my fascination with bacteria and interest in protein biophysics began to take shape. These foundational years cultivated a keen interest in microbial world and its intricacies. In the fall of 2023, I joined the Dahl lab to study the evolution of resistance in uropathogenic E. coli. Beyond my scientific pursuits, I have a deep passion for travel, art, and photography, which allows me to explore different cultures and capture the beauty of the world through a creative lens. I truly enjoy building connections with people from various backgrounds, exchanging ideas, and expanding my network. This motivation led me to join Phi Sigma, where I could actively participate in the society's activities and engage with a community that shares my passion for science and exploration.

Mackenzie
Secretary

I am a second year graduate student on the Neuroscience and Physiology track in Dr. Wolfgang Stein's lab. I received my BS in Biomedical Sciences at the University of Wisconsin Oshkosh in 2022. Before pursuing graduate school, I worked in marketing and journalism for a natural history museum where I solidified my love for community outreach and scientific writing for a wide range of audiences. Broadly, my research focuses on the role of neuropeptides in temperature compensation in the nervous system of decapod crustaceans. I am also working on establishing CRISPR-Cas9 genetic editing in the parthenogenic species, marbled crayfish. In my free time, I enjoy reading sci-fi books, baking, playing video games, and occasionally writing articles for a nonprofit organization called Wild Ones.

Arjuman
Business Manager

Hello All! I'm a third-year Master's student at the School of Biological Sciences, deeply immersed in some exciting research. In Professor John C. Sedbrook's lab, I'm using CRISPR-Cas9 to alter the genetic structure of cover crops—it's every bit as thrilling as it sounds! Research and innovation are what drive me—especially when they have a tangible impact. In addition to my research, I'm serving as the business manager for the Phi Sigma Society (Beta Lambda chapter) this year, and I'm looking forward to connecting with students and faculty at Phi Sigma events. Outside of academics, I'm all about traveling and whipping up delicious meals. Catch me in the SLB for some top-tier life analysis with a side of scientific insight!

Meet the 2024-2025 Executive Board

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Carlos Rodriguez
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Mason
Social Chair

I'm thrilled to introduce myself to you all. I'm Mason Sanford, a third-year master's student in the Stein lab, where I'm diving deep into the fascinating world of neuroscience. But my journey here doesn't stop with the lab – I'm excited to take on the role of Phi Sigma's Social Chair and bring a touch of fun and a sense of family to our academic journey. When I'm not exploring the intricacies of the brain or brainstorming fantastic events, you can often find me immersed in the world of music. Nature is my other great love, and I seize any chance to soak in the beauty of the outdoors. I'm wholeheartedly committed to making this academic year unforgettable. As Social Chair, my mission is to create events that entertain and foster meaningful connections among us. I'm open to your event ideas, feedback, or a friendly chat, so don't hesitate to reach out. With your support and enthusiasm, I'm confident we'll make this year truly exceptional together. Stay tuned for the wonderful experiences we're set to share as part of Phi Sigma. Here's to a year filled with laughter, growth, and cherished memories! Looking forward to connecting with you all.

Olivia
Membership Chair

Hello all, my name is Olivia Draper, and I am serving as the Membership Chair for the 2024-2025 Phi Sigma Executive Board. I am a second year Master's student currently studying the TON1 protein complex and it's involvement during plant mitosis in *Arabidopsis thaliana* in Dr. Vikto Kirik's lab.. While inviting new members to Phi Sigma keeps me busy, my free time is normally filled with reading or doodling (oftentimes on myself).

Ben
Faculty Advisor

I joined ISU in 2013. I hail from the wild flatlands of Eastern England, where I became engrossed by the natural world and its interactions. I received my MSc in 2004 from the University of Sheffield, U.K., and my PhD in 2008 from the Swiss Federal Institute of Technology (ETH), Zurich, Switzerland. I was a Post-Doc at the ETH, a Junior Fellow at the Institute for Advanced Studies, Berlin, Germany, and, returning to the ETH, a Senior Research Associate. I am an evolutionary ecologist with a particular fascination with infectious diseases and what contributes to variation in health. I address questions of reproduction, immunity, and disease in bumble bees and crickets. I believe a diverse perspective and broad communication of science is critical, and regularly take part in outreach events. I enjoy cooking, hiking, running, and being in nature taking photographs, which one day I may get processed.

Carlos
Faculty Advisor

I joined ISU in August 2023 as the Assistant Professor in Evolutionary Neurobiology. I hold a Ph.D. degree in Psychology (2019), with a track on Animal Behavior and Neuroscience, from Emory University. I am interested in the evolution of animal behavior, focusing on birdsong and rhythm and timing in song. In my lab, I integrate bioacoustics, evolutionary biology, ecology, tropical biology, and computational biology. I love birdwatching, hiking, and spending time with my wife and doggies.

Welcome New Bio-GradBirds!

MS

Peyton Ort (Casto)
Sylvia Fritz (delBarco-Trillo)
Sydney Romps (delBarco-Trillo)
Lydia Thomas (delBarco-Trillo)
Ashley Salzman (Edwards)
Joseph Alexander (Floyd)
Charlotte Steiger (Stein)
Margarita Gomez (Vidal-Gadea)
Mackenzie Jones (Vidal-Gadea)

PhD

Julius Narh (Dahl from S24)
Matthew Hagaman (Darner)
Blessing Soyebi (Darner)
Padmanav Barauh (Duque)
Jadyn Scott (Rodriguez)
Mohamed Kahie (Sedbrook)
Sydney Szwed (Sadd/Sakaluk admit from MS)
Mehdi Amirfazli (Stein)

Welcome New Faculty!

Dr. Kara Andres
Dr. Scott Clem

Advice from Graduate Student Veterans

Austin Calhoun, 5th year Ph.D.
BEES | Sadd Lab
"The friends and community you surround yourself with will make your time here worthwhile."

'Tope Awe, 4th year Ph.D.
Neuro-Phys | Vidal-Gadea Lab
"Never hope your doubts away. Actively engage them."

Sumaiya, 3rd year MS
Biotech | Edwards Lab
"Success isn't measured by how much you gain, but how many times you try. Each attempt, each effort, brings you closer to your goals. So, just keep trying."

Avery Dart, 3rd year MS
BEES | Nietlisbach Lab
"Grad school is less of a sprint, and more of a test of endurance - be kind to yourself to prevent burnout."

A Letter from Our Advisors

We both enter this year as Phi Sigma advisors through different trajectories. Carlos, on one hand, is the fresh-faced new advisor, with a spring in his step as he enters his second year at ISU. Ben, more grizzled and seasoned, is back for a second run after being Phi Sigma advisor for two years from 2014 to 2016. However, what we both share is a firm belief in the great value that Phi Sigma adds to our School of Biological Sciences, and we are passionate to contribute to its further success as advisors to the current board.

Attending college or graduate school leads to professional and personal growth, but it also comes with challenges. Facing those is a bit easier with a little help from our peers. But finding such help may not be easy; everybody is busy with their studies, research projects, and life. Sometimes, you randomly bump into a fellow student at a conference or a mixer and talk about things you have in common. Still, it is not guaranteed that that conversation will continue beyond that meeting. Sometimes, you need an organization that fosters such interactions and long-term peer support, which Phi Sigma does for our school. Beyond that, facilitating the broader connection amongst all the members of the school, Phi Sigma is key to our collegial community.

We encourage our students, in the classroom and our laboratories, to participate in Phi Sigma activities throughout the year. Thanks to these interactions, they have received peer mentoring and funding for research, presented their research at the Phi Sigma Symposium, come together to celebrate shared successes at the Spring Banquet, and got to further hang out with fellows at social events such as the Fall Picnic and Paint Night. To this day, many show pride in their watercolor art! Phi Sigma has thus helped our students practice essential communication and scholarly skills vital for their careers. We see Phi Sigma as an important ally to mentors of students, like us. We are thus happy to work closely (again for Ben) with Phi Sigma as advisors and advocates for students.

Wishing you all a great semester ahead!

Carlos and Ben