

ASPB MIDWESTERN SECTION NEWSLETTER



States included: IA, IL, IN, KS, KY, MI, MN, MO, ND, NE, OH, OK, SD, WV, WI Canada - MB, ON

Meet your 2019–2020 MW Section Officers!

Chair: Harkamal Walia, Associate Professor at University of Nebraska–Lincoln. Harkamal’s lab is interested in drought–regulated gene expression during reproductive development. He has served as vice chair since 2018.

Vice Chair: Senthil (Sen) Subramanian, Associate Professor at South Dakota State University, Brookings, SD. Sen’s lab is interested in plant–microbe interactions, in particular the roles of plant hormones and small RNAs in soybean nodule development. Another focus area of his lab is to evaluate and identify plant factors and mechanisms that determine rhizosphere microbiome composition and activity. Sen organized the 2016 Midwest sectional meeting at Brookings, SD and has served as treasurer since 2017.

Secretary/Treasurer: Mike Mickelbart, Associate Professor, Purdue University. His lab focuses on applied and basic aspects of plant water and nutrient physiology and management.

Early Career Representative: Rachel Hiles, PhD Candidate, Purdue University. Her research focuses on the bacterial pathogen, *Ralstonia solanacearum*, and how its virulence proteins, type III effectors (T3Es), influence pathogenicity in tomato. She is a new member of ASPB Midwest section, having joined in February 2019.

Executive Committee Representative: Gustavo MacIntosh, Associate Professor of Biochemistry, Biophysics and Molecular Biology at Iowa State University. Gustavo’s research focuses on how plants

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respond to insect attacks and the mechanisms used by insects to avoid plant defenses, as well as rRNA degradation through vacuolar mechanisms. Gustavo is also a member of the ASPB Minority Affairs Committee and previously served as Secretary/Treasurer from 2014–2015 and Vice Chair for the ASPB Midwest Section in 2015–2016.

Annual Meeting Organizer: Sarah Refi Hind, Assistant Professor of Crop Sciences at the University of Illinois at Urbana–Champaign. Sarah’s research focuses on understanding the plant immune system, with a current emphasis on bacterial pathogens of vegetable crops. Ongoing projects in the laboratory study the causal agents of bacterial spot disease of Solanaceae (tomato) and Cucurbitaceae (pumpkin) plants. Sarah has been a member of ASPB since 2008, and is excited to be involved in organizing the Midwest section meeting for 2020.

Publications Manager: Jennifer Robison, Visiting Assistant Professor at Manchester University. Her research focuses on how the effect of cold stress on soybean physiology. She has served as the Network Champion for the ASPB Plant Biology meetings since 2017, has been the Publications Manager for the Midwest section since 2016, and is currently Secretary/Treasurer of the EEPP section.

Five Questions with Midwest Section member...

Nathan Nordstedt: Nathan is a graduate student at The Ohio State University.

1) What is your favorite thing about living and working in the Midwest? The Midwest is home to some of the top agricultural research institutions in the world, providing ongoing resources and support which work to solve issues throughout the plant sciences field. There is a significant cultural awareness of the value these institutions provide to society, which is one of my favorite things about this area.

2) What has been the benefit to you of belonging to the Midwest section of ASPB? The Midwest ASPB section has connected me with research groups that I would typically not have the chance for collaboration, opening new doors and generating new ideas for research. In particular, the Midwest regional meeting serves as an invaluable resource to foster these connections by providing graduate students with the opportunity to share their research with fellow researchers and potential collaborators.

3) What projects are you excited about working on in the future? I am excited about my future projects using beneficial bacteria to increase nutrient availability for greenhouse ornamental plants. Microorganisms are an underestimated tool to provide nutrients to plants that would otherwise go unutilized in these resource intensive environments.



"The Midwest ASPB section has connected me with research groups that I would typically not have the chance for collaboration, opening new doors and generating new ideas for research."

4) What's your favorite non-science activity and why? I love cooking. As scientists we spend all day focusing, making sure everything is exact, precise, and well-documented. After a long day in the lab, cooking allows me to unwind and create something with no protocols or procedures.

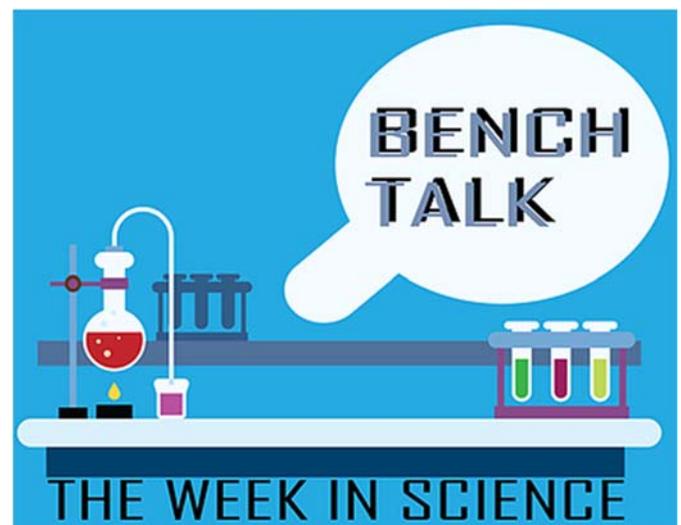
5) Who or what has inspired your work the most? There are many strong women that have guided and supported my journey as a young scientist. My great grandmother fostered my love of plants as a child, my mother has supported my sense of adventure throughout my endeavors, and my undergraduate and current graduate advisor have played a fundamental role in my success as a scientist. This support has been invaluable to my career, and my work is constantly inspired by these individuals.

Radio Show Featuring the Midwest 2019 Meeting!

David Robinson brought his radio show on Louisville's Forward Radio *Bench Talk: The Week in Science* (<https://www.forwardradio.org/bench-talk>) to the Midwest meeting at West Virginia University. Catch up with the techniques, cool research, and overall highlights from the meeting by listening to the archived shows here:

<https://soundcloud.com/wfmp-forward-radio/bench-talk-the-week-in-science-today-in-plant-biology-mwaspb-conference-july-15-2019?in=wfmp-forward-radio/sets/bench-talk-the-week-in-science>

<https://soundcloud.com/wfmp-forward-radio/bench-talk-the-week-in-science-mwaspb-part-2-steam-fireflies-climate-change-july-22-2019?in=wfmp-forward-radio/sets/bench-talk-the-week-in-science>



An Undergraduate's Tale from San Jose

By Samantha Suber
Undergraduate Student
University of Nebraska-Lincoln

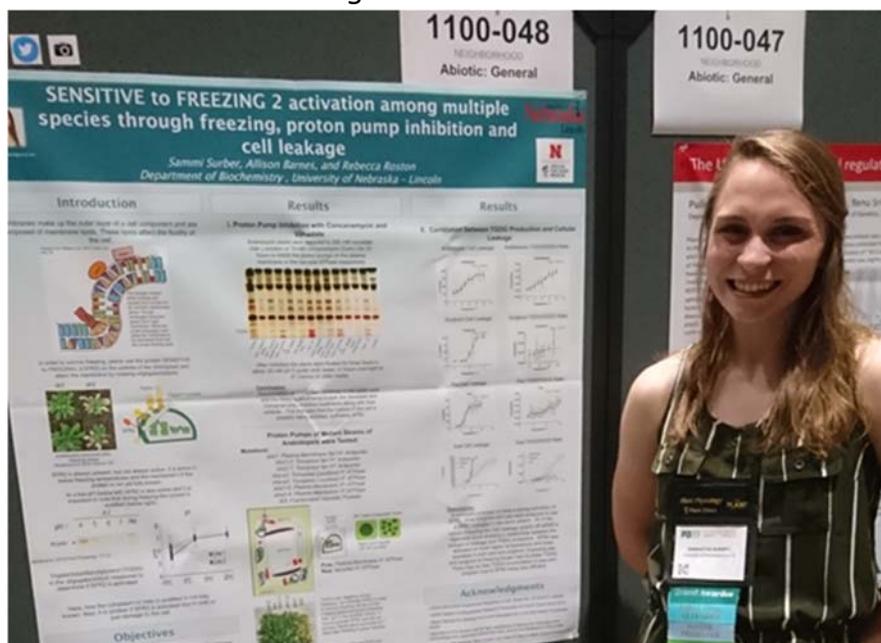
After a long summer jampacked with countless hours spent at the bench, a trip to California would sound like a breezy vacation. For me, in the prior months to Plant Biology 2019 I occupied my time preparing the questions I would ask about how to improve my science, what my next steps should be after completing my undergraduate degree, and how to begin to tackle the thought of graduate school. Walking off the plane to the surprisingly less humid air, I was brimful of excitement, enthusiasm, and nerves. I was not nearly as prepared for the amount of information I was about to receive about those three simple questions listed above.

Through the countless talks, networking sessions, and dinners I received a multitude of expert opinions on what I should do and how to be a better scientist. On top of that I was lost in the awe of the topics these scientists spoke about, many of which I did not even begin to comprehend. Most stirred questions within me on how I could connect this back to my research or in general, questions about what was actually being talked about to bring back to my mentor, Dr. Roston.

With all these questions filling pages in my journal I was taken aback when on the first night

of the poster presentation I was approached with many questions about what I was doing back in Nebraska. I knew I was prepared to answer but I still found myself stumbling over my words. It was then when I realized I was totally drowning in information overload, but I was approached by a faculty member from a university on the other side of the country that listened to my speech and talked to me about my interests and why I was there at ASPB 2019. He helped me realize that I had a week plus time to mine for those answers I was so desperate to find.

After that I took my time to actually connect with people to begin building a network that would be beneficial to me in the future. I met people across the country and world that not only helped improve my experience at ASPB 2019 but I know will be there to support me in the future no matter what my decision ends up being. I am excited to travel to Washington D.C. next summer to get to see them again and get to continue to improve my abilities as a scientist. Despite my love for corn being bred into me living my whole 21 years in the cornhusker state I can't wait to continue to learn more about the oodles of plants that are brought to the conference.



Sammi Suber with her poster at Plant Biology 19. Credit: Dr. Rebecca Roston



ASPB

Midwest Section

American Society of Plant Biologists

Midwest Section Meeting 2020

University of Illinois at Urbana-
Champaign
Champaign, Illinois

March 21 – 22, 2020

For more information, including registration, abstract submission, and travel grant applications, please visit <http://midwest.aspb.org/>



Meeting Organizer Contact:
Dr. Sarah R. Hind
Department of Crop Sciences
srhind@illinois.edu
217-300-5981

Seth Murray highlights EPPP Annual Meeting in San Jose!

By Frank G. Dohleman, Ph.D.
Open Innovation Lead, Science
The Climate Corporation

The Environmental and Ecological Plant Physiology (EPPP) Section held its 5th annual meeting alongside the ASPB Annual Meeting in San Jose on August 5, 2019. The EPPP is the first theme-based section within ASPB. Its mission is to advance EPPP disciplinary science and practice, integrate the community, and support and train early career members.

The agenda for the meeting included three topic areas:

- 1) Annual business meeting
- 2) Lightning talks!
- 3) Keynote address

During the annual business meeting, we discussed membership numbers, and identified strategies to recruit new members, and continue to provide added value to those who are interested in ecophysiology. We also discussed an upcoming election for our Outreach Officer. Your candidates are Courtney Leisner and Anna Locke. Newly elected officials were selected through an election administered by ASPB in late September and early October, and began their terms in October, 2019. At that time, Andy VanLooche will become Chair, Jennifer Robison will become Vice Chair, and Emily Heaton will continue in her role as Secretary-Treasurer for the coming year. Slides can be found on the [EPPP Community on Plantae!](#)

We discussed ideas to help us become more engaged as an EPPP community, including smaller satellite meetings, and webinars. There was broad agreement from the membership in the room that there would be value in webinars, and that interest areas included research presentations, methods discussion and career development. There was also interest in expanding the Ecophysiology presence at the Annual Meeting, including concurrent sessions.

Early career scientists then presented their research through Lightning talks, spanning leaf, root and reproductive phenotyping work to better understand plant mechanisms.

- [Suxing Liu](#) from the University of Georgia led off the Lightning talks discussing how automated 3D root phenotyping in the field may pave the way to increased carbon sequestration.
- [Oded Liran](#) from the Galilee Research Institute then presented on the development of tools

for optimal nutrient and irrigation management based on remote sensing of chlorophyll fluorescence.

- [Jessica Waite](#) from Washington State University wrapped up the lightning talks discussing the role physiological changes associated with heat stress acclimation for developing apple fruit.

The meeting wrapped up with [Seth Murray](#), from the Texas A&M University presenting on the future of plant phenotyping and utilizing 'phenomic selection' for crop improvement, and how emerging tools in plant phenomics and high throughput field phenotyping are redefining possibilities for decisions in plant breeding and agronomy and discoveries in plant biology and the plant sciences. He also discussed the challenge in turning such images into useful data, transdisciplinary approaches beyond plant sciences are needed, requiring engineers, computer scientists, statisticians, and others collaborating towards shared goals.

On behalf of the EPPP Executive Committee, big thank you to all the presenters, and to the ASPB Staff for helping to make for an engaging and enlightening discussion! Also, thank you to the ASPB Membership Committee and EPPP Member dues for supporting the meeting!



L to R: Seth Murray keynote speaker, Emily Heaton EPPP secretary, Andy Vanlooche EPPP Vice Chair, Jennifer Robison EPPP Outreach Officer, Suxing Liu invited speaker, Frank Dohleman EPPP Chair, Jessica Waite invited speaker, Oded Liran invited speaker.

Announcements

Plantae Mentoring Board

ASPB and Plantae have launched an e-mentoring campaign on the Plantae Job Board. This program is an online network designed to connect early career scientists with mentors pursuing careers in a variety of sectors and organizations. The idea is that mentor and mentee establish mutually agreed engagements of varying length and goals in order to share and advance career knowledge, navigate career pathways, share experiences, and more. Join now: <https://jobs.plantae.org/ementor/>

Newly Released Plant Anatomy Text

Springer Nature is pleased to announce the release of *Plant Anatomy: A Concept-Based Approach to the Structure of Seed Plants* (<https://www.springer.com/us/book/9783319772080>). Co-authors Richard Crang (University of Illinois, deceased), Sheila Lyons-Sobaski (Albion College, MI) and Bob Wise (University of Wisconsin Oshkosh) created a 725-page, college-level textbook richly illustrated with over 1,150 color photographs, color light micrographs, electron micrographs, figures and tables. In each of the 19 chapters, a connected series of key concepts guides and focuses instructors and students. Occasional side boxes connect traditional plant anatomy concepts to current research questions. Chapters conclude with concept review and assessment exercises. An independent peer-review of the textbook may be found at <https://www.botany.one/2019/04/teaching-plant-anatomy-via-hangman/>.

Phenome 2019

The third annual Phenome conference, Phenome 2020: Connecting Biology, Systems, and Tools, will be held February 24 - 27, 2020, in Tucson, AZ. Watch this website to learn more: <http://phenome2020.org/>

Plant BLOOME 2019

Applications for The ASPB Plant Biology Learning Objectives, Outreach Materials & Education Grant will be accepted in early December. For more information watch here: <https://aspb-bloome.secure-platform.com/a>

Transforming Education in Plant Biology (TEPB)

The American Society of Plant Biologists (ASPB) has developed the Transforming Education in Plant Biology (TEPB) program to help put these recommendations into practice via development of new instructional materials in plant biology aligned with the ASPB core concepts in plant biology. TEPB awardees will receive up to \$4500 (reimbursable or direct-pay to professional development program) for registration and travel to the professional development program and to the ASPB annual meeting. View the full RFP and apply by October 31, 2019: <http://tepb.aspb.org>

Want to advertise a position, announce some big news, share a lab or teaching technique, or be featured in 5 questions with a Midwest Member in our next newsletter?

Please send items to Jennifer Robison no later than January 1, 2021: JDRobison@manchester.edu