

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 2016–2017 MW Section Officers!

Chair: Gustavo MacIntosh, Associate Professor of Biochemistry, Biophysics and Molecular Biology at Iowa State University. Gustavo's research focuses on how plants respond to insect attacks and the mechanisms used by insects to avoid plant defenses, as well as rRNA degradation through vacuolar mechanisms. Gustavo has been an ASPB member since 2000. He is also a member of the ASPB Minority Affairs Committee and previously served as Secretary/Treasurer for the ASPB MW Section in 2014–2015 and Vice Chair for the ASPB MW Section in 2015–2016.

Vice Chair: David M Rosenthal, Assistant Professor of Environmental and Plant Biology at Ohio University, Athens OH. David is an ecophysiologicalist who is broadly interested in plant functional responses to global change and other stresses. His research focuses on understanding carbon assimilation and water relations tradeoffs in herbaceous crops and trees. David has been a member of ASPB since 2008.

Secretary/Treasurer: Kathrin Schrick, Associate Professor of Biology at Kansas State University. Kathrin's lab is interested in plant sterols, specifically the roles sterols play in plant growth and development. Another focus of her lab's research is on homeodomain transcription factors that contain putative lipid/sterol-binding domains. Kathrin has been a member of the ASPB since 2004.

Executive Committee Representative: Edgar Cahoon, Professor of Biochemistry and Director of the Center for Plant Science Innovation at the University of Nebraska, Lincoln. Ed's research focuses on plant lipid metabolism with the goal of enhancing the nutritional and industrial value of crop plants and improving agronomic performance of crops. Ed has

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been a member of ASPB since 1988, served as the 2013–2014 MW section Chair, organized the 2012 meeting in Lincoln, NE and was a monitoring editor for Plant Physiology from 2002–2007.

Annual Meeting Organizer: Sreekala Chellamma, Research Scientist at Dow AgroSciences and based in Indianapolis, Indiana. She has a PhD in Plant Biology with extensive background in biotechnology, secondary metabolites and plant stress responses. Sreekala leads the Plant Cell biology team focusing on Monocot crops. Her other interests include volunteering for science education, community development amongst others. Sreekala has been a member of ASPB since 2002.

Past Chair, ex officio: Aaron Wyman, Assistant Professor of Biology at Spring Arbor University, in Spring Arbor, MI. Aaron's research areas include biomineralization in plants, biogenesis and function of plant peroxisomes, characterization of metabolic pathways in microbes, and science education, focusing on plant biology. Aaron joined the ASPB in 2001 and has previously served as Vice Chair for the ASPB MW Section in 2014–2015 and Chair for the ASPB MW Section in 2015–2016.

Publications Manager: Jennifer Robison, PhD Candidate in Biology at IUPUI. Her research focuses on understanding cold stress in soybean. She regularly engages in science communication and outreach both online and in community. She has been a member of ASPB since 2015.

Five Questions with Midwest Section member...

David Horvath: David is a senior research scientist with the USDA-ARS in Fargo, North Dakota.

1) What is your favorite thing about living and working in the Midwest? I think what I like most about living in the Midwest is the strong differences between the seasons. Having very different spring summers falls and winters not only adds variation to what I get to do throughout the year, but has actually influenced my science by sparking questions such as what controls bud dormancy in perennials, and how do plants survive (or how can we engineer plants to survive) harsh winters like we experience here in ND.

2) What has been the benefit to you of belonging to the Midwest section of ASPB? There are numerous benefit to belonging to the Midwest (or really any) section of ASPB - the most prominent are leadership and networking opportunities. The sections are smaller ponds than the national organization, and as such it is more likely to get leadership roles for both serving the plant biology community and enhancing ones career. The smaller annual section meetings offer a bit more time to get to know the work of other regional plant biologists. Also, as these meetings more prominently engage students, it opens opportunities to get to know those who are obvious up and comers in the plant biology community. I also like the opportunity to engage and teach where I can, and as I am a government scientist, I don't always get the chance. Thus, I relish the chance to both teach and learn from the students that attend the sectional meetings.

3) What is your favorite/most unique part about your job? I am a USDA-ARS scientist, and that brings different opportunities and challenges that are not faced by either my academic or private company colleagues. Always having a reasonably stable base funding is definitely an advantage that I have, but it is sometimes more difficult to get the higher funding levels needed to support grad students or post docs since we are limited in the grants that we can apply to (for instance, we cannot directly apply for NSF or NIH funding). Thus, we generally have to make due with 10-20K for yearly supplies and travel, and we are limited to what work we can get done with a single dedicated technician. That said, we don't have to worry that we will not have any funding if grants don't come through. There is also the advantage of stability since after a short three year probationary period, it is as if we are tenured, and just have to maintain a relatively easy to reach threshold for productivity to keep our jobs.

4) What projects are you excited about working on in the future? I have several interesting projects I am



"....it may be possible to make crops blind to weeds so that they do not initiate the developmental responses that had evolved..."

currently working on. The one taking up most of my time is trying to work out the details of how crops see and respond to weeds. Contrary to common thinking, it turns out that weeds reduce crop yield primarily by altering their development rather than through direct competition for resources (at least in modern high input agricultural settings). Thus, it may be possible to make crops blind to weeds so that they do not initiate the developmental responses that had evolved and been selected for when the crops were growing in the wild and might actually face significant resource competition from their neighbors. With the broad-leafed plants that we have looked at (soybean and arabidopsis, it is clear that some form of red:far-red light signaling occurs between crops and weeds, but there also appears to be other signals that can act synergistically with or even independently of these light signals. We have some evidence that some of these signals are soil transmitted, and there is emerging evidence that some might be volatile signals. We see some similarities but also some differences in the way corn perceives and responds to weeds. Thus, we expect to spend the next few years working out the nature of the various weed-generated signals that are perceived by crops and hopefully identify the receptors and down-stream targets of these signals so that we can interrupt the developmental changes that generally lead to reduced yield.

5) What's your favorite non-science activity and why? I am a member of an organization called The Society for Creative Anachronism. This group is a historical recreation group that spans a very wide time frame (generally from the fall of Rome through the Elizabethan period) in Europe and any cultures that had contact with Europe. My personal interests lay in 7th century northern European Material culture. Thus, I spend a lot of time making armor, clothing, weapons, accoutrements, and such of a wealthy 7th century warrior- as well as engaging in mock combat and revelry with my fellow SCAians. I actually have one peer reviewed manuscript on

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The Pub Club Experiment: Key Points to Creating Your Own Community of Minds

By Bethany Huot
PhD Candidate
Michigan State University

In 2014, I started an experiment called The Pub Club at Michigan State University (MSU). “Pub” stands for publications and is also reminiscent of the old practice of scientists meeting at the local pub to talk science over a nice cold brew. The principle underlying The Pub Club is tapping into the resource of The Community of Minds (COM) to meet our dual goals of “staying on the cutting edge of science” and filling “The Void,” which is the gap between the skills you need to be qualified and competitive for the career of your choice and the skills you currently have. In the course of this experiment I have identified specific components essential for achieving these goals.

1. Weekly Gatherings – Meeting weekly ensures all members have access when they need it and their schedules enable them to participate. Gatherings are informal to provide a forum that facilitates open discussions. Topics range from exciting breakthroughs in science – both published and hot off the lab bench – to research-related ethics or challenges regarding research, writing and/or career development.

2. Student-driven, PI-approved – Having a student-led group facilitates “soft skill” development. However, in a “bench-centric” academic culture it is critical that professors demonstrate the value of cross-training to their students and post docs by providing enthusiastic support and regular participation. Our three professors’ participation has proven to be both educational and entertaining.

3. The Mug Club – This element helps to bring the conference effect home. Each month we invite a “guest speaker” to join our weekly gathering. Our guests have included many local faculty and several people from industry, and we thank them with an official Pub Club Mug. Of course, with modern technology, local is not required. This May we had a great Skype mini-conference with Detlef Weigel’s lab (www.weigelworld.org) in Tübingen, Germany.

4. Filling the Void – Within the last year, I have watched many “soft skills” move from the “preferred” to the “required” column in job ads. While awareness for the value and need of these skills is increasing, opportunities available for students and post docs to develop them are limited. At The Pub Club, every single activity we do, from weekly gatherings to summer BBQs, is designed to have a specific training element, providing a unique forum for soft skill development. For example, snack duty provides an opportunity to develop time management, organization, planning and budgeting skills. Leading a weekly discussion hones research, leadership, communication, time and people management skills. While membership is voluntary, active participation by members is required. This is key for establishing a sustainable group, and also ensures each member benefits from this effort.

The components above lay out the core structure for a successful Pub Club, but there are countless ways for you to use this resource and/or to develop other nodes of The COM. To learn more about The Pub Club mission and resources or to share your ideas visit us at <http://www.TheCOMonline.org>.



SY He lab alum, JP Jerome (far right), packs the house at a March 2015 Pub Club gathering to talk about working in industry at Michigan State University. Photo by B. Huot

Going Digital at Plant Biology 2016 and Beyond

By Nicholas Tomeo ([@Tomeopaste](#))
Graduate College Fellow
Ohio University

The first major scientific conference I attended, and where I met my PhD advisor David M. Rosenthal, was Plant Biology 2012 in Austin, TX. So it was a great treat to return to Austin this summer for ASPB's annual meeting, Plant Biology 2016. As is the norm for Plant Biology, the program offered diverse activities for personal and professional growth, all anchored in great science. You can find recaps and the scientific highlights on the ASPB blog Plant Science today ([blog.aspb.org](#)), as superbly documented by Susan Cato, Ian Street, and Mary Williams.

Just as the ASPB blog has transformed how the conference is documented and remembered, social media has transformed the conference experience in real time. Four years ago at Plant Biology, the few of us who attempted to share the meeting experience with the broader plant biology community could not agree on a single hashtag and official conference support for Twitter communication was minimal. This year we had an official Twitter policy, the official hashtag - #plantbio16 for both Twitter and Instagram- was omnipresent, and a much larger number of us brought the meeting online.

These developments highlight the large and growing community of scientists using the service for a multitude of purposes, though at meetings is where the medium truly shines. Live-tweeting talks, i.e., providing syntheses of talks for the outside world in real time, is an engaging way to sit through a session. In a tweet you are allowed 140 characters;

distilling the important scientific concepts of a talk down to that level requires concentration and creativity. Through live-tweeting you essentially create a curated list of notes for each of the talks you attended. Even better, all tweets with the hashtag can be collated, providing not only your notes, but everyone else's in a single convenient location. We can thank Ian Street for compiling all of the #plantbio16 tweets, which you can find on his Storify page ([storify.com/IHStreet](#)).

Each Twitter user live-tweeting has a unique network of followers that often includes other scientists, journalists, policy makers, and the general public. Live-tweeting therefore promotes the meeting, the society, and our science well beyond the confines of conference halls.

Efficient communication with peers through Twitter provides another major benefit at conferences. For example, I saw ideas passed around about good lunch spots, and notices of a location change for a workshop. These informal communications are especially beneficial to early career researchers that may not yet have a network of friends and colleagues at large meetings like Plant Biology: a conference center with thousands of people can be a surprisingly lonely place. I am personally grateful for the new friends I made at Plant Biology 2015 and 2016, all possible through Twitter. I encourage everyone to follow the online discussion at your next conference. No need to even create an account, just find the hashtag and search it on [twitter.com](#) to follow along. You may be surprised at how much value 140 characters can add.

Featured Member Photo by Becky Barak, PhD Candidate Chicago Illinois



Announcements

The University of Missouri-Columbia (Mizzou) is excited to be hosting its first annual MU DuPont Pioneer Plant Sciences Symposium entitled: "Building the Bridge from Fundamental Research to Improving Tomorrow's Crops" on February 2, 2017 from 7:30 AM - 6:00 PM at the University of Missouri - Columbia campus. The aim of this symposium is to bring together numerous groups across Mizzou, other universities, and the community with vastly diverse research directed towards a unified goal: improving crops to solve problems facing food and agriculture today. Registration is free, for more information see: <https://www.eventbrite.com/e/mu-dupont-pioneer-symposium-tickets-26468717647>

Phenome2017. February 10 - 14, 2017 in Tucson Arizona. The first ever Phenome 2017 conference will bring together a multidisciplinary network consisting of plant biologists, ecologists, engineers, agronomists, computer scientists and representatives from U.S. federal agencies to create a rich and diverse network. Abstracts are open! For more information: <http://www.phenome2017.org/>

The Interdisciplinary Plant Group (IPG) at the University of Missouri will hold its 34th Annual Symposium on "Root Biology", the fourth in this series, June 7 - 9, 2017. This symposium will bring together an interdisciplinary group of researchers from across the globe to address recent advances in studies of root growth, development, and function as well as root-rhizosphere interactions. For more information and to sign up to be notified of updates regarding the symposium, please visit: <http://www.ipg.missouri.edu/symposium>.

Save the date! MW ASPB 2017 Meeting

Our annual section meeting will take place at

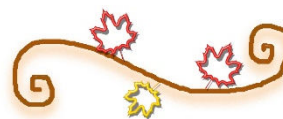
Purdue University
in West Lafayette, Indiana on
February 4-5 2017

Registration details will be available shortly. For information as it becomes available about this meeting and more, keep an eye on our Plantae group at <https://community.plantae.org/groups/home/32>

World Soybean Research Conference 10 & 17th Biennial Conference on Molecular and Cellular Biology of Soybean. September 10 - 15, 2017 in Savannah GA. Abstracts are open! For more information: <http://wsrc10.net/>.

Plant Biology 2017. June 24 -28, 2017 in Honolulu, Hawaii. Save the date for the ASPB annual meeting. Registration and abstract information coming soon!

The Translational Plant Sciences Graduate Program (TPSGP) at The Ohio State University is accepting applications for the 2017-2018 academic year. This five-year Ph.D. program offers full remission of tuition and fees, as well as a competitive stipend and support for research expenses. TPSGP leverages the strengths of a powerful, interdisciplinary group of participating faculty to create a dynamic program which prepares students to become the next-generation of leaders in global agricultural biotechnology. This program is designed for highly motivated students from a variety of undergraduate and masters level programs including chemistry, engineering, entomology, molecular genetics, microbiology, ecology, evolution, crop sciences and plant pathology. The application deadline for domestic students is December 15th, 2016. For additional information visit our website at <https://tpsgp.osu.edu/home>.



Section Member Highlight, continued...

...on my CV for a paper I wrote on a novel reconstruction of armor that was found at a place called Sutton Hoo in England that was published in an art history journal. I also like Steampunk cos-play for a somewhat less academic and just more relaxing fun bit of make believe playing. Thus, perhaps if any Midwest section readers out there have similar interests, perhaps we will cross paths at Teslacon some year :-)

Want to advertise a position, share some exciting news, or be featured in our next newsletter?

We would also love to hear about your favorite educational tool/lesson in plant biology!

Please send items to Jennifer Robison no later than December 15, 2016: jenrobis@iupui.edu