

# ASPB MIDWESTERN SECTION NEWSLETTER

Winter 2016  
Volume 2, Issue 2



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



Coughlin Campanile  
on the campus at  
SDSU

## Join us at the Midwestern Section Annual Meeting in Brookings, SD!

South Dakota State University will host this year's Midwestern Section annual meeting on March 19–20, 2016, where we will continue our tradition of presenting, discussing, and celebrating research pursuits from all areas of plant biology. The meeting will involve outstanding researchers at all career stages from across the Midwestern sectors of the USA and Canada.

Our keynote speaker this year will be Dr. Federica Brandizzi, Professor at the Michigan State University (MSU) – Department of Energy Plant Research Laboratory. Dr. Brandizzi's research in focuses on the investigation of how secretory molecules are packaged and which mechanisms regulate the shipment of compounds to the final destination. We also explore the mechanisms that lead to the establishment and maintenance of organelles of the secretory pathway.

This year's featured speaker will be Dr. Adrian Hegeman, Associate Professor in the Microbial and Plant Genomics Institute at the University of Minnesota Twin Cities campus with appointments in the Departments of Horticultural Science and Plant Biology. Dr. Hegeman has been at the University of Minnesota since 2007 studying plant metabolomics and the use of stable isotopes and mass spectrometry for methodological innovations an analysis of metabolic flux. He will discuss "Challenges and Opportunities in Plant

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Metabolomics" at the meeting.

The links for [registration](#) and [abstract submission](#) are now available. To be considered for an oral presentation, please submit your abstract by February 29<sup>th</sup>. Abstracts for poster presentations can be submitted until March 7<sup>th</sup>.

Airport Transportation and transport from the hotels to the meeting site can be requested on your abstract submission form. If you need these but are not submitting an abstract, please contact [Shoshana@aspb.org](mailto:Shoshana@aspb.org).

The Days Inn–Brooking and the Fairfield Inn are providing a limited number of rooms with discounted rates for the meeting. For more information as well as upcoming information on Travel Grant applications, please visit: [Travel, Housing and General Information](#)

We look forward to seeing you in South Dakota!



**ASPB MW 2016 meeting speakers.** Keynote speaker Dr. Federica Brandizzi (left), and featured speaker Dr. Adrian Hegeman (right).

## Five Questions with Midwest Section member...

Diane Janick-Buckner, Professor of Biology at the Truman State University in Kirksville MO.

**1) What is your favorite thing about living and working in the Midwest?** I grew up in New Jersey and completed my undergraduate and graduate degrees in the Northeast. Moving to Iowa and then to northeast Missouri was a big change in many ways. While I initially missed the ocean and the heavily wooded forests of the Northeast, I have come to really love the wide open spaces, slower pace of life and the friendly people in rural Missouri. Being a professor at an undergraduate institution such as Truman State University, while rewarding, can be really intense and very stressful. It is great to live in a place that is quiet, peaceful and safe.

**2) What has been the benefit to you of belonging to the Midwestern section of ASPB?** My colleague Brent Buckner and I have co-mentored a team of undergraduate research students for many years. The annual Midwest ASPB meeting is an excellent place for our students to present their work; there is an expectation that the work they present be of high quality and that they will be asked difficult questions about it, however, the environment of the meetings is also encouraging and friendly. Additionally, it is a great opportunity to discuss educational approaches with other plant biology faculty.

**3) Who or what has inspired your work the most?** I have often felt mesmerized by the beauty of the form and molecular function of cells. Time goes really quickly when I am in a microscopy suite imaging tissue samples. I have also had the good fortune to work with a number of scientists, whose passion for



*"...I have come to really love the wide open spaces, slower pace of life and the friendly people in rural Missouri."*

pursuing their research has been inspired by their fascination of biology. During their professional life time, these scientists have developed and utilized a variety of techniques and technologies to pursue their research interests. My postdoctoral mentor James A. Olson, as well as my colleagues Guri Johal and Pat Schnable has been exceptional role models.

**4) What projects are you excited about working on in the future?** Our research group has worked on a variety of plant developmental mutants. We plan to continue to our studies of these maize and Arabidopsis mutants.

**5) What is one of your hidden talents?** We were only in Missouri a couple of years when we first visited the Neal Smith National Wildlife Refuge in Prairie City, Iowa. It was on our first visit that I really became acquainted with native grasses and wildflowers and was really struck by the beauty and complexity of the tall grass prairie. From that point on I started planting native grasses and wildflowers in our yard; at this point we have over four dozen different species in our gardens.



Tallgrass prairie in Neil Smith National Wildlife Refuge in Prairie City, IA. For more information, visit [http://www.fws.gov/refuge/Neal\\_Smith/](http://www.fws.gov/refuge/Neal_Smith/)

## MENTORS IN UNDERGRADUATE RESEARCH

by MARY LAI PREUSS  
Webster University, St. Louis, MO

I entered the field of plant biology as an undergraduate research assistant and I was immediately hooked. I was not a terribly good student in the classroom, but the research experience transformed my view of science and ultimately led me to where I am today. Now as a professor at Webster University, a small liberal arts university in the Midwest, I have the chance to provide that same kind of experience to undergraduate students. My approach to mentoring these students in the lab has been based upon my own experiences with the many wonderful mentors and colleagues who I've worked with over the years. Here are three major things that I've learned from my mentors and that I try to impart to the students:

1. *Don't expect to make huge discoveries. It's about learning the process.* Through our research projects, we all make progress towards understanding biological, chemical, and/or physical phenomena. However, the steps are usually quite small. And for an undergraduate, who sometimes only spends one semester on a research project, those steps are going to be even smaller. However, the bigger picture for me is not the "discovery" that the student makes, but the process by which the student learns the scientific method. Critical thinking and troubleshooting are skills crucial to the research process. Sometimes frustration and the need for repetition are what drive students away. But students with patience, resilience, and a critical eye develop an appreciation for and confidence in the scientific process, which in the end is their reward.
2. *If you are not falling down along the way, then you are not being challenged.* As a mentor, I need to carefully assess for each student the necessary balance between hovering and stepping away. It is very tempting (but also time-consuming) to hold a student's hand through every step of the research process to ensure that no wrong steps are taken. However, eliminating the possibility of failure also eliminates the possibility of learning from one's mistakes. A



Assistant Professor Mary Lai Preuss (left) observes as biology seniors Elizabeth Silverberg and Helena Lam perform '*Arabidopsis thaliana*' research.

mistake often sticks in the mind more than anything else and can be a very powerful lesson. When a student messes up, figures it out, and overcomes the problem, their confidence level soars.

3. *Constantly ask yourself "What's the next step?"* After each positive or negative result. After each mistake or obstacle. Don't make excuses; nobody likes to hear them. Own up to your mistakes and learn from them. When a student figures out they can't lean on excuses, they start taking ownership and responsibility for their "next steps."

At Webster University, we require all of our biology majors to carry out a Senior Thesis research project. As a research mentor, my biggest joy is watching each student grow in their own way. Some students are ready and eager to start research early in their college career. Through their abilities and initiative they produce an excellent professional product upon graduation. Other students are scared to death of being set free in a lab. With a little extra nurturing in the beginning, they are still able to rise and meet the challenges they face. But no matter where the student started, the undergraduate research experience is an opportunity for development both as a scientist and as a person.



## Announcements

**UNL-Plant Breeding Symposium. University of Lincoln, NE, March 29<sup>th</sup>, 2016:** The third biennial UNL-Plant Breeding Symposium will be held at the University of Nebraska-Lincoln. Graduate students from the Department of Agronomy and Horticulture, along with Dr. David Hyten, faculty mentor, will host this symposium as part of the Dupont Plant Science Symposium series initiated in 2012. The goal of the symposium series is to enhance agricultural scientific literacy, stimulate collaboration and help build interest in plant breeding careers. The theme of the 2016 UNL PB Symposium is **'Exploiting and Enhancing Genetic Variation: Addressing the Future Challenges for Plant Breeding'**, featuring Sally Mackenzie UNL, Jim Holland USDA-ARS NCSU, Jesse Poland KSU, Timothy Close UCR and Wendy Srnica from Dupont-Pioneer, as well as four student speakers. The symposium is free, open to the public and offered via webinar to the broader scientific community around the world.

For more information:

<http://agronomy.unl.edu/pbsymposium>

**2016 Ohio-PKAL Annual Conference, Columbus, OH, May 21<sup>st</sup>, 2016:** [Ohio - Project Kaleidoscope \(OH-PKAL\)](#) would like to announce that the 2016 Ohio PKAL conference will be held at Capital University in Columbus, Ohio on May 21, 2016. This year's conference is entitled, *Evidence-Based Practices in Undergraduate STEM Education* and will have presentations from 9am - 5pm, Saturday May 21, 2016. Presenters are expected to be available at the time they are scheduled by the conference organizers. For more information:

<https://www.aacu.org/pkal/regional/ohio/2016/spring-conference>

**2016 CSPB/SCBV Annual General Meeting, Ontario, June 19-21, 2016:** The CSPB/SCBV Annual General Meeting for 2016 will be held at Queen's University in Kingston, Ontario. This will be a joint meeting with the [Canadian Association for Plant Biotechnology](#) (CAPB). Queen's campus is within walking distance to historic downtown Kingston, situated on the scenic shores of eastern Lake Ontario at the mouth of the St. Lawrence River and its nearby Thousand Islands. We are putting together an exciting program, so be sure to check back regularly for updates to our list of invited speakers, themes, and relevant information on registration, travel, and accommodation. For more information: <http://cspp-scpv.ca/meetings/2016AGM/>

**IPG Annual Meeting, University of Missouri, June 21-25, 2016:** The Interdisciplinary Plant Group (IPG) at the University of Missouri will hold its 33rd annual symposium entitled "Heterosis: Working toward a genetic, molecular, developmental and physiological basis. This symposium will bring together plant scientists working on hybrid vigor and related phenomena from many different angles using a variety of techniques including genetics, genomics, proteomics, metabolomics, physiology and breeding strategies. The species studied include Arabidopsis, maize, rice, tomato, wheat, sorghum, yeast and cassava among others. The goal of the meeting is to foster greater awareness and identification of gaps in the knowledge about heterosis that will need to be addressed by multi-disciplinary, collaborative research teams. The symposium will be held in the Christopher S. Bond Life Sciences Center on the University of Missouri campus in Columbia, Missouri. More information can be found at: [www.ipg.missouri.edu/symposium](http://www.ipg.missouri.edu/symposium).

For registration information, please contact Vicki Bryan at [bryanvj@missouri.edu](mailto:bryanvj@missouri.edu).

**22nd International Plant Growth Substances Association (IPGSA) meeting, Toronto, June 21-25, 2016:** This year's meeting will be held at the downtown St George campus of the University of Toronto. The IPGSA has a long history of international meetings from the first meeting in Paris in 1937 through to Toronto 2016. IPGSA meetings promise to present cutting edge research that will shape the field of plant hormone biology and agrichemical researches and set the directions for the future. Registration opens February 1<sup>st</sup>, 2016. For updates and more information, visit: <http://pages.wustl.edu/ipgsa>

**SOY2016, Columbus, OH, August 7-10, 2016:** The Ohio State University will host the 16th Biennial Conference of the Molecular and Cellular Biology of the Soybean in Columbus, Ohio. The Soy2016 conference will be held at the Hyatt Regency Columbus Hotel, located minutes away from OSU's main campus, and in walking distance to Columbus's finest shops and restaurants in the downtown and Short North districts. The program for the Soy2016 meetings will highlight the cutting-edge research by members of the soybean research community. Registration for this conference opens Friday, February 5<sup>th</sup>. For more information: [Soy2016](#)

## Accolades Section

**The American Association for the Advancement of Science (AAAS) recognizes two ASPB MW Section members for their distinguished research contributions:**

**Jerry D. Cohen**, Professor and Distinguished Graduate Teaching Professor in the Department of Horticultural Science at the University of Minnesota, was a 2015 Elected Fellow of the American Association for the Advancement of Science (AAAS) in the Biological Sciences section for his *“innovative contributions to understanding auxin metabolism in relation to plant growth and for the development of sensitive analytical approaches to elucidating complex biological processes.”*

**Reuben J. Peters**, Professor of Biochemistry, Biophysics and Molecular Biology at Iowa State University, was a 2015 Elected Fellow of the American Association for the Advancement of Science (AAAS) in the Biological Sciences section for his *“distinguished contributions to the field of natural products biochemistry, particularly for investigations of diterpenoid biosynthesis and physiological function in plant-microbe interactions.”*

These individuals will be recognized for their contributions to science and technology at the Fellows Forum to be held on February 13<sup>th</sup>, 2016 during the AAAS Annual Meeting in Washington, D.C.

**Valerie Haywood**, Senior Instructor in the Department of Biology at Case Western Reserve University, was elected to the ASPB Education Committee (2015 - 2019). Additionally this year, Dr. Haywood was named to the governing board of Ohio-Project Kaleidoscope (OH-PKAL), a regional network of the national PKAL organization.

The concept of taxonomic affinity has an important history, which biologists and historians of science have largely ignored. **Mary P. Winsor**, Professor Emeritus at the University of Toronto, has resurrected the ghost of Charles Darwin to make the point that in the first half of the 19<sup>th</sup> century, “affinity” meant something much more than overall similarity. Although the examples Darwin mentions are all zoological, the picture she paints applies equally powerfully to botanists in the decades before 1859. Winsor has composed an imaginary dialogue between Darwin and ornithologist Hugh Strickland, but her footnotes establish that every detail all is historically correct. Her three-part “Considering Affinity: An ethereal conservation” which E. O. Wilson declared “brilliant”, was published in three issues of *Endeavour*, vol. 39, 2015.

**Sarah Wyatt**, Professor of Environmental & Plant Biology at Ohio University, was elected Chair of the ASPB Education Committee. Dr. Wyatt has served on the Education Committee since 2012.

*Have you paid your \$5 dues to become a member of Midwestern Section of ASPB? If you are not already a 2015 member, join [here!](#)*



To advertise positions, share exciting news, or to be featured in our next newsletter, please send items to Valerie Haywood by April 1, 2016: [vxh20@case.edu](mailto:vxh20@case.edu)