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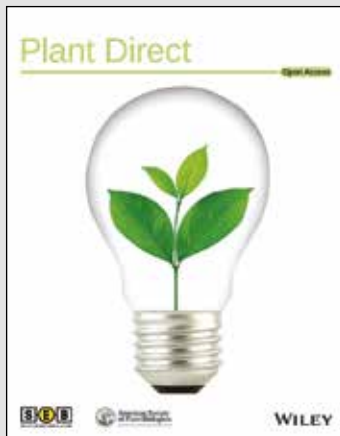
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# ASPB *News*



THE NEWSLETTER OF THE AMERICAN SOCIETY OF PLANT BIOLOGISTS

## ***Plant Direct* Receives First Impact Factor**



Although *Plant Direct*, as an open access, sound science journal, does not consider impact factor as a critical measure of value, having an impact factor is important for many of our authors. So we are very happy to have received an impact factor of 1.725 and grateful for the support of our partners at ASPB, the Society for Experimental Biology, and Wiley. ■

## President's Letter

# The Transparency Project: Next Stop—Nominations

BY JUDY CALLIS  
ASPB President, University of California, Davis

In this President's Letter, I would like to update you on the status of revising the nomination process for elected leadership positions at ASPB. In response to a desire to develop a ballot nomination process with a dedicated focus on increasing inclusion and diversity, last fall then-President Rob Last formed an ad hoc committee to research procedures currently used by other scholarly societies and to develop proposals for a revised nomination process.

The committee developed two different nomination processes that are now open for comment by you—the membership. We welcome input on the relative merits of the two options. Your comments will help us develop a robust process of which we can all be proud. A complete description of the options and a survey link for your comments



can be found at <https://bit.ly/comments-nominations>.

Below is a summary of the committee's discussions and proposal. The text is extracted and edited from the complete document drafted by the Ad Hoc Nominations Committee and edited by the Board of Directors, available at the link above.

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## ASPB Council

Council members highlighted in blue also serve on the Board of Directors.

<b>President</b>	Judy Callis
<b>Immediate Past President; Chair</b>	Rob Last
<b>President-elect</b>	Maureen McCann
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	Clint Chapple
	Laura Wayne
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<b>Chair, Minority Affairs Committee</b>	Gustavo MacIntosh
<b>Chair, Publications Committee</b>	Neil E. Olszewski
<b>Chair, Women in Plant Biology Committee</b>	Laura Wayne
<b>Chair, Education Committee</b>	Erin Friedman
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<b>Midwestern Section</b>	Gustavo MacIntosh
<b>Northeastern Section</b>	Carolyn Lee-Parsons
<b>Southern Section</b>	Ashlee McCaskill
<b>Western Section</b>	Kulvinder Gill
<b>Mexico Section</b>	Rubén Rellán Álvarez
<b>Early Career Plant Scientists Section</b>	Rishi Masalia
<b>Environmental and Ecological Plant Physiology Section</b>	Andy VanLoocke
<b>Primarily Undergraduate Institutions Section</b>	Leeann Thornton
<b>Ambassador Alliance</b>	Sunil Kumar

## ASPB Staff

<b>Chief executive officer</b>	Crispin Taylor, ctaylor@aspb.org
<b>Chief financial officer</b>	Clara Woodall, cwoodall@aspb.org
<b>Executive and governance affairs administrator</b>	Sylvia Lee, slee@aspb.org
<b>Accounting manager</b>	Teressa Leath, tleath@aspb.org
<b>Senior staff accountant</b>	Jotee Pundu, jotee@aspb.org
<b>Senior staff accountant</b>	Francky Rakotomanana, francky@aspb.org
<b>Director of meetings and events</b>	Jean Rosenberg, jean@aspb.org
<b>Conference coordinator</b>	Teresa Myers, tmyers@aspb.org
<b>Senior membership manager</b>	Shoshana Kronfeld, shoshana@aspb.org
<b>Community engagement administrator</b>	Katie Rogers, krogers@aspb.org
<b>Web systems manager</b>	Mark James, mjames@aspb.org
<b>Legislative and public affairs director</b>	vacant
<b>Executive coordinator, Plant Science Research Network</b>	Natalie Henkhaus, nhenkhaus@aspb.org
<b>Education coordinator</b>	Winnie Nham, wnham@aspb.org
<b>Director of publications</b>	Nancy A. Winchester, nancyw@aspb.org
<b>Publications assistant</b>	Diane McCauley, diane@aspb.org
<b>Subscriptions manager</b>	Suzanne Cholwek, suzanne@aspb.org
<b>Subscriptions assistant</b>	Linda Palmer, lpalmer@aspb.org
<b>Managing editor</b>	vacant
<b>Science writer, <i>Plant Physiology</i></b>	Peter Minorsky, peminorsky@aspb.org
<b>Production manager, <i>Plant Physiology</i></b>	Jon Munn, jmunn@aspb.org
<b>Peer review manager, <i>Plant Physiology</i></b>	Ashton Wolf, awolf@aspb.org
<b>Senior features editor, <i>The Plant Cell</i></b>	Nan Eckardt, neckardt@aspb.org
<b>Features editor, <i>The Plant Cell</i></b>	Mary Williams, mwilliams@aspb.org
<b>Production manager, <i>The Plant Cell</i></b>	Susan Entwistle, susan@aspb.org
<b>Peer review manager, <i>The Plant Cell</i></b>	Annette Kessler, akessler@aspb.org

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Contact: Nancy A. Winchester, Editor, *ASPB News*, 15501 Monona Drive, Rockville, MD 20855-2768 USA; nancyw@aspb.org; 301-296-0904.

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**Proposal for Revising the Nomination and Ballot Process**

At the August 2019 ASPB Council meeting, it was suggested that an ad hoc committee research and develop improvements to our nominations process for candidates for president, secretary, and elected member of the Council. In consultation with President Judy Callis, this committee was formed in fall 2019 by Rob Last (Michigan State University, now past president and Council chair) and included, in alphabetic order, Stephanie Klein (Pennsylvania State University, Early Career Plant Scientists [ECPS] Council member), Marta Laskowski (Oberlin College, Primarily Undergraduate Institutions representative), Neelima Sinha (University of California, Davis), Klaas van Wijk (Cornell University), and Laura Wayne (Corteva Agriscience, Board of Directors representative, Women in Plant Biology Committee chair).

This committee first reviewed the current nominations process as set forth in the ASPB Constitution and Bylaws (<https://aspb.org/about/constitution/>), shared thoughts about the 2019 ballot, and discussed some of the major issues brought up after voting was opened in 2019 (see “Why Change the ASPB Nomination Process?” at <https://bit.ly/whychange-nominations>). Committee members next collected information on how other societies solicit nominations for their annual ballots and compared their procedures. The committee developed two different proposed processes.

Both options include an expanded Nominations Committee consisting of five voting members:

- the president-elect, who serves as chair
- the current president
- a Council representative, elected by the Council from among the committee chairs and section representatives
- a representative of the Equity, Diversity, and Inclusion Committee (EDIC, the new name proposed by the Minority Affairs Committee and on the 2020 ballot; see the January/February President's Letter for discussion about the name change), elected by the EDIC
- an Early Career Plant Scientists Section representative, elected by the ECPS Section.

The past president will participate on the Nominations Committee as an ex officio, nonvoting member. He or she and the staff liaison can provide institutional memory and advice. The EDIC, ECPS, and Council representatives will be elected by the close of the annual meeting each year. The expanded Nominations Committee members' terms will commence the following October 1.

One of the committee's roles will be to ensure diversity of the leadership body through their selection of the annual slate of candidates. The committee will consider in their deliberations the current composition of leadership and of major committees, including the Council, Board of Directors, and Board of Trustees, in their selections under one of two options.

**Option 1**  
**The candidate with the most nominations from the membership is selected as one candidate. The second candidate is selected by the Nominations Committee.**

Nominations are solicited from the membership, and the nominee with the highest number of nominations is one candidate. Should there be a tie, the Nominations Committee selects the nominee from the tie. If that candidate declines to run, the candidate with the next highest number of nominations is selected.

The second candidate is nominated by the Nominations Committee. This choice is part of a strategy to create a balanced and inclusive ballot that promotes diversity of the leadership body. This candidate could be selected from the list of member-nominated individuals, but this is not a requirement. If the candidate declines to run, this process will be repeated to select the second candidate.

**Option 2**  
**The Nominations Committee selects both candidates.**

Nominations are solicited from the membership, and the Nominations Committee may also nominate candidates, who will receive full consideration. The Nominations Committee reviews the complete list and creates one or more rank-ordered lists of eligible candidates. The discussion to generate the rank-ordered list or lists includes a strategy to create an inclusive ballot that promotes diversity of the leadership body. Should either of the top two ranked candidates decline to run, the Nominations Committee selects the next candidate from the ranked list.

Please send in your comments on these proposed nomination processes through the link provided above. Now I will stop talking and start listening (see picture on page 1). ■

## 2020 ASPB Election Results

Many thanks to those members who took the time to vote this summer, and hearty congratulations to our new Board members! Their new service roles for ASPB will begin on October 1, 2020. Look for more information about our new leaders in the next issue of the *ASPB News*.

**Incoming President-elect**  
**Katayoon (Katie) Dehesh**  
University of California, Riverside

**Incoming Secretary-elect**  
**Stacey Harmer**  
University of California, Davis

Congratulations, too, to the newly elected ASPB Enid Mac-Robbie Corresponding Members: Asaph Aharoni, Hsou-min Li, and Hitoshi Sakakibara!

# Plant Scientists Elected to the 2020 Class of the National Academy of Sciences

BY YUN-TING KAO  
Plantae Fellow

**F**ounded in 1863, the National Academy of Sciences is one of the oldest scientific membership organizations in the United States; it is charged with advising the nation on science and technology issues. Every year, NAS elects new members in recognition of their distinguished and continuing achievements in original research, and NAS membership is considered one of the highest honors for a scientist.

This year, nine plant scientists have been elected in the new class of 120 members and 26 international members. There are now 2,403 members and 501 international members across science and technology fields. We asked the newly elected plant scientists about how the news of their election to NAS reached them, what inspires their research, and their advice for early career researchers. Please join us in recognizing their contributions to the plant science community.

## Elizabeth Ainsworth

Elizabeth (Lisa) Ainsworth is the research leader of the Global Change and Photosynthesis Research Unit at USDA-ARS and adjunct professor of plant biology and of crop sciences, University of Illinois at Urbana-Champaign (UIUC).

After Lisa got the phone call from Jim Carrington informing her that she had been elected a member



*Elizabeth (Lisa) Ainsworth*

of NAS, she joined the NAS Zoom conference with her daughters (ages 9 and 11). “I was completely surprised and totally overwhelmed! It was amazing that I could point out many of my scientific heroes to my daughters,” said Lisa. She thanks her supportive family, mentors, collaborators, and colleagues throughout her career.

At a young age, Lisa worked in her father’s corn and soybean fields, where she first was exposed to genetics. As an undergraduate student at the University of California, Los Angeles, she studied plant biology and became interested in physiology and ecology. With well-aligned research interests, she joined Steve Long’s lab at UIUC to study how climate change impacts crops, a topic she feels deeply passionate about and continues to study at USDA. Lisa was among the first to do



*Alice Barkan*

research at the Soybean Free Air Concentration Enrichment (SoyFACE) facility, which can simulate the projected atmospheric composition (e.g., of CO<sub>2</sub> and ozone) in the year 2050 (and beyond) in open-air fields.

In addition to research, Lisa is a strong advocate of science through outreach opportunities. She said, “Two of the outreach opportunities in particular have really changed the way I think about science. The first is working with Jo Pride, a 93-year-old citizen scientist and member of the Osher Lifelong Learning Institute. Jo’s spirit is contagious, and she reminds all of us in the lab of just how much we have to learn in a lifetime. The second is working with Andrew Leakey and the team at the Carl R. Woese Institute for Genomic Biology to develop Pollen Power,

a week-long camp for junior high school kids to learn about climate change, pollen biology, microscopy, and science in general. The junior high campers made pollinations in the corn field, created hair clips from fiber optics, and used green screens to produce science news broadcasts of the ‘Pollen News at 9’ or the ‘Climate Forecast in the Jurassic Period.’ Watching junior high school campers seeing themselves as scientists as well as discovering their considerable scientific abilities has been a distinct privilege.”

Lisa advises early career researchers to identify the questions that inspire them and find mentors who support their career goals. She said, “Be strategic; learn the tools that can be used to address those questions. Be flexible and open-minded; it is possible to carve out the path that works best for each person.”

Lisa first joined ASPB in 2002, and she is actively involved in the Society, serving on the Executive Committee (2013–2016), the Publications Committee (current), and the editorial board of *Plant Physiology* (2011–2018). She was the recipient of the 2019 NAS Prize for Food and Agriculture Sciences.

## Alice Barkan

Alice Barkan is a professor of biology and a member of the Institute of Molecular Biology at the University of Oregon.



Inspired by several excellent undergraduate courses, Alice became fascinated by bacterial gene regulation (e.g., phage lambda and the lac operon): “I was particularly intrigued by the elegant genetic experiments that led to such profound mechanistic insights.” Another influential course led to her fascination with viruses; subsequently, during her PhD, she studied gene expression in a tumor virus, which was an important model system for eukaryotic gene expression.

Alice moved to the plant molecular biology field for her postdoc. “I was fortunate to have the opportunity to work with Bill Taylor on an expansive project—genetic dissection of chloroplast biogenesis in maize—which brought these threads together: interactions between a small ‘invading’ genome and a host genome, mechanisms of bacterial gene expression (sort of), the lure of genetics as the starting point for discovery, and a wide-open playing field.”

Alice’s interest in chloroplast biogenesis persists. Her team studies the molecular crosstalk between the nuclear and chloroplast genomes, with a focus on mechanisms of chloroplast gene expression and its regulation.

When the new members of NAS were announced, Alice was working at her computer as usual. She was mildly annoyed by the sudden burst of “spam” phone calls from unknown senders around the country, and she declined all of them. When a congratulatory email came into her inbox, she thought it was a mistake! “I feel enormously honored to be recognized in this way by esteemed colleagues in NAS, and grateful to the many

talented members of my lab over the years who have been stimulating collaborators on our collective scientific journey,” said Alice.

Alice advises early career researchers to “choose problems you are truly curious about. If you wish to become an academic researcher, seek a postdoctoral project that is expansive rather than highly focused.” She adds, “Read the primary literature deeply and critically, not just review articles! Formulate your own opinions about the take-home messages from the foundational studies you are building on, and apply that same level of rigor to interpreting your own data.” When the current tool set is limiting, “be adventurous”—follow where the data lead, and develop (or incorporate) new methods. Peers are important assets; Alice recounted, “Many of my most important lessons have come from watching my lab coworkers approach scientific problems and deal with technical challenges.” Lastly, work “smart” to avoid working excessively long hours; don’t sacrifice the other things that make your life rich!

Alice first joined ASPB in 1991, and she was winner of the the Lawrence Bogorad Award for Excellence in Plant Biology Research in 2018. She has also served on the editorial board of *The Plant Cell* (2003–2009 and 2011–2019).

### **Spencer C. H. Barrett** (International Member)

Spencer Barrett is a university professor emeritus of ecology and evolutionary biology at the University of Toronto and a former Canada research chair in evolutionary genetics. His team studies the ecological and genetic mechanisms underlying evolu-



*Spencer C. H. Barrett*

tionary transitions in reproductive systems, including selfing from outcrossing, dioecy from hermaphroditism, and sex ratio and sex chromosome evolution. Also, he has a long-standing interest in contemporary evolution and local adaptation in invasive plants.

Because of the COVID-19 lockdown, Spencer has been in the United Kingdom since March. He got the phone call on his election to NAS while finishing supper. He recalled, “I was so stunned by the call that I had to go for a long walk along the Kennet and Avon Canal to calm down! I was surprised but also delighted, perhaps because it was not something I expected.”

Spencer grew up around flowers, as his father was a keen gardener. Walks in the English countryside and a fascination with natural history, particularly plants, inspired him to become a plant biologist. After spending a year doing research on the biology of weedy rice species in Swaziland and making collections of the local flora, as well as conversing with other scientists, Spencer decided to pursue a

research career in plant science.

Over the years, Spencer has found that his most fulfilling activity is working with graduate students to formulate thesis questions and come up with novel ways of testing hypotheses in evolutionary biology. He said, “There is nothing I like better than being in the field with students and thinking hard about what experiments we can do on the plant populations we are investigating. I have been very fortunate to have done this with some wonderful graduate students in many parts of the world, including Africa, South America, Australia, and China.”

Spencer advises early career researchers to “focus on a research topic or problem that excites you, and where there are many unresolved questions, and work hard to become a ‘mini-expert’ on the topic. Also, go regularly to the best scientific meetings in your area, and try to know on a personal level the major players in the field.”

Spencer is an elected fellow of the Royal Societies of Canada and London and a foreign honorary member of the American Academy of Arts and Sciences. He is currently editor-in-chief of *Proceedings of the Royal Society of London B: Biological Sciences*.

### **Xiaofeng Cao**

(International Member)

Xiaofeng Cao is a distinguished professor in the Chinese Academy of Sciences (CAS) Center for Excellence in Molecular Plant Sciences, codirector of the CAS–John Innes Centre of Excellence for Plant and Microbial Science, and head of the Center for Genome Biology in

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the CAS Institute of Genetics and Developmental Biology.

Sparked by curiosity about the mysteries in nature, Xiaofeng was determined to be a scientist since middle school. After finishing college, she joined the late Lungfei Yen's lab for a master's degree and was deeply inspired by his research and philosophy: "Professor Yen urged me to use new technology and methods in my research and keep up with the development of biotechnology. In addition, he respected colleagues and supported many young scholars. My time in his lab nurtured my self-confidence and made me embrace the challenge of new research questions."

During her PhD studies, Xiaofeng spent time in Liam Dolan's lab as a visiting scholar at the John Innes Centre (United Kingdom), and he always encouraged Xiaofeng to attend scientific meetings to meet other scientists and broaden her intellectual horizons. In 1999, she started working with Steve Jacobsen at the University of California, Los Angeles, on epigenetics. She noted, "I went into the epigenetics field by accident. DNA methylation seemed interesting to me, but there was not much known at the time. I felt really lucky that Steve and I worked hard together to uncover many interesting findings."

Using *Arabidopsis* and rice as model systems, Xiaofeng studies the molecular mechanisms of epigenetic regulation in plant development with a focus on how histone modification and small noncoding RNAs regulate gene expression. Her team pioneered control of *Arabidopsis* flower-



Xiaofeng Cao

ing time via histone methylation. In addition, they discovered the connection between histone methylation and the specificity of the retrotransposon target site and further demonstrated the impact of transposon in controlling important agricultural traits in rice. They are now studying the role of epigenetics in how plants adapt to stresses, such as low temperature and saline-alkali soil.

Many congratulatory emails from NAS members and colleagues all over the world delivered the news to Xiaofeng. "I am so thrilled to receive such wonderful news. It is my great honor to be elected. I wish my election could encourage more female students to consider a career in science," said Xiaofeng. She feels passionate about increasing women representatives in science, as only 6% of academicians are women in the CAS. She encourages young women to be "active, independent, self-confident, and innovative."

Xiaofeng first joined ASPB in 2014, and she has served on the editorial board of *The Plant Cell* since 2010. She also serves



Gregg Howe

on the editorial boards of many other journals, including *Journal of Genetics and Genomics*, *Science China Life Sciences*, *National Science Review*, and *Current Opinion in Plant Biology*.

### Gregg Howe

Gregg Howe is a university distinguished professor at Michigan State University (MSU) and MSU Foundation professor. He is a member of the Department of Biochemistry and Molecular Biology, the MSU-DOE Plant Research Laboratory, and the MSU Plant Resilience Institute.

Gregg was attending a student's committee meeting via Zoom when he received the congratulatory phone call and was urged to join the NAS Zoom conference. After fumbling around to switch Zoom meetings with shaky hands, he was welcomed by dozens of smiling faces of the newly elected and other NAS members. "It was an unforgettable moment," he said. When the NAS Zoom conference ended, he rejoined—in a bit of a daze—his student's committee meeting. "Being elected to NAS is a great honor. More broadly,

however, it's a recognition of the hard work and dedication of many talented students and collaborators I've worked with over the years," said Gregg.

When Gregg was a graduate student at the University of California, Los Angeles, he attended a seminar by the late Clarence "Bud" Ryan about two newly identified chemical elicitors of the tomato wound response: an 18-amino-acid peptide called systemin and the volatile compound methyl jasmonate. Even though Gregg knew nothing about the topic at the time, the seminar sparked his interest in the regulatory basis of induced plant defense responses. And 30 years later, Gregg is still working to understand the molecular mechanisms by which these compounds influence plant-insect interactions.

When asked about his passion, Gregg mentioned that he really enjoys spending time outdoors and exploring the natural world through backpacking, canoeing, and traveling to wilderness areas. Although the stay-home order put these outdoor activities on hold, he has discovered that walking is a great way to explore the local community, stay in shape, and just think.

Gregg first joined ASPB in 1997. He served on the editorial board of *Plant Physiology* from 2005 to 2015 and on the Early Career Award Committee from 2004 to 2008. He encourages early career researchers to identify an important "big question" that really excites them: "Pursue your work in an environment that fosters intellectual independence and career development. Good things will follow!"



Elizabeth Kellogg

### Elizabeth Kellogg

Elizabeth (Toby) Kellogg is the Robert E. King Distinguished Investigator at the Donald Danforth Plant Science Center in St. Louis, Missouri. She is passionate about understanding the factors that determine how domesticated cereal crops differ from their wild relatives and from one another, especially in their morphology. Her team uses comparative genomics to identify key genetic components that can lead to increasing biodiversity in wild grasslands and improving environmental adaptation in important food crops.

Two early encounters strongly influenced Toby's research trajectory. First, Jim Birchler showed her a picture of a bushy maize mutant with many tillers and leaves. Toby, who was trained in herbarium taxonomy, was asked what she would do if she found the plant in the wild. After she responded that she would put it in another genus, he told her that the morphology was caused by a change at a single locus. It struck her that "some apparently dramatic morphological changes



Loren Rieseberg

might be quite simple genetically." The other experience was reading articles by John Doebley and Adrian Stec about their use of quantitative trait locus mapping to identify the domestication loci in maize in the early 1990s. She realized that this could be a powerful, universal approach to discover the genes underlying traits in other systems.

Toby was in the middle of a Zoom meeting with her lab when she got the phone call from colleague Pam Soltis. She recounted, "In the back of my mind, I was wondering what Pam could be calling me about—maybe she needed me to serve on a committee? Or perhaps write a review? I was astonished when she said that I had been elected to NAS. The NAS Zoom conference was even more astonishing. I think I managed to say thank you but was too stunned to say much else."

"Science is a privilege, and discovery is a gift." Toby described research as a community effort: "We are able to pursue our scientific goals because of immense support from the society in which we live, in the form of institutions (universities, government agen-

cies) and grant dollars. My own work has been the product of input and support from students, postdocs, colleagues, collaborators, friends, and family."

Toby first joined ASPB in 1994, and she has served on the editorial board of *Plant Physiology* since 2005. Toby encourages early career researchers to be curious: "Influential discoveries are often built on a foundation of dozens of careful observations and focused experiments, many of which would have been done with limited resources. Identify gaps in knowledge and explore with the resources in hand. There are always ways to contribute to science."

### Loren Rieseberg

Loren Rieseberg is the University Killam Professor of Botany and director of the Biodiversity Research Centre at the University of British Columbia. His team uses sunflowers to study the ways species arise and persist, the genetic basis of crop domestication, and the evolutionary changes that causally drive plant invasions.

On field trips to Baja California, Mexico, Loren's MSc adviser Ed Schilling introduced him to a specular clade of Mexican sunflowers. Therefore, when Loren needed to choose a plant group for his PhD study, sunflowers seemed like a natural choice. He recounted, "This decision was strengthened by consideration of the rich history of evolutionary studies in the group by Charles Heiser, who was Ed Schilling's PhD adviser."

When Loren was a PhD student, he was impressed with the power of chloroplast DNA analyses under way in Jeff Palmer's lab at the University of Michigan. His adviser, Doug

Soltis, arranged for Loren to learn the requisite techniques for comparative DNA analyses in the Palmer lab. It was a formative experience for Loren and served as the foundation for his future research in evolutionary genomics: "Jeff was a generous and inspiring host and became a lifelong friend. In addition, I was fortunate to interact with a number of other scientists who were working with Jeff at the time, including Mark Chase, Dan Crawford, and Bob Jansen, who further promoted my interest in comparative genomics and evolution." When Loren returned to the Soltis lab, he was fortunate to have an open-minded and generous adviser who provided financial support, advice, and encouragement for this new research venture.

An email reached Loren first about the NAS election—"Results just in . . . Congratulations, very much deserved!"—when he was sitting in his favorite chair at home reading a manuscript. He was thrilled but also worried that some mistake had been made. Shortly thereafter he got a phone call from Doug Soltis, who confirmed the good news. "My family were not so impressed," Loren recalled; "my daughter's sensible questions were 'Where is the trophy?' and 'How can this be an important award if there is no trophy?'" He thanked the people who made the research happen: "I am pleased to be elected to NAS. However, my many wonderful graduate students, postdocs, and collaborators are largely responsible for the research accomplishments this award recognizes. Thus, they deserve the credit rather than me."

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As editor-in-chief of *Molecular Ecology*, Loren serves as a conduit for communications among authors, reviewers, readers, and the community as a whole. He points early career researchers to an essay by E. O. Wilson titled “Scientists, Scholars, Knaves and Fools” (*American Scientist*, Winter 1998) in which Wilson wrote, “The work of real science is hard and often for long intervals frustrating,” but there is “no drug more addictive” than the thrill of discovery. Loren seconds this sentiment: “Science is a demanding career, but also an extremely fulfilling one. However, prepare for emotional highs and lows. Your grants and papers will be scrutinized by other scientists, who are trained to be highly critical. Thus, try not to take criticism of your work personally—although in my experience, this advice is difficult to heed.”

### Kazuo Shinozaki (International Member)

Kazuo Shinozaki is senior adviser to the RIKEN Center for Sustainable Resource Science (CSRS) and group director of the Gene Discovery Research Group of RIKEN CSRS, Japan. He is also a university professor at Nagoya University, Japan.

Kazuo moved to RIKEN in 1989 to study the molecular basis of how plants respond to environmental stresses with his wife, Kazuko Yamaguchi-Shinozaki. Through analyzing genome-wide regulatory mechanisms in stress-responsive gene expression, the team has studied many drought-inducible genes, discovered abscisic acid (ABA)-independent

and ABA-responsive regulatory systems in response to drought stress, and identified key genes in ABA signaling and regulatory mechanisms. In addition to work on ABA, they recently discovered that the peptide CLE25 functions in long-distance root-to-shoot signaling in drought response. They have illustrated the complex, well-organized gene networks of plant responses and adaptation to environmental stresses not only in drought, but also in salinity, cold, heat, and other stresses.

Beyond the molecular mechanisms, Kazuo is now interested in understanding stress response and adaptation at the whole plant level by integrating *-omics* studies, phenotyping, and data science. He envisions using the genes his group has discovered in molecular breeding to increase drought tolerance in the field. He observed, “International collaboration with researchers in agriculture and breeding becomes more important than ever. Based on new directions of advancement, I believe plant biology can contribute to the United Nations Sustainable Development Goals, especially future food production in global warming.”

It was 3:00 a.m. Japan time when Kazuo was elected an international member of NAS. He slept well, so he missed the NAS Zoom conference. The next morning, he woke up with many congratulatory emails in his inbox. He confirmed the good news on the NAS homepage and got a formal email about the election from NAS soon after. “I was so glad to know that my contributions to plant stress biology and functional genomics are highly evaluated by NAS members. I felt so happy to be recognized inter-



Kazuo Shinozaki



Barbara Valent

nationally. I felt a sense of accomplishment on that day and replied to the emails of my friends. I also shared this great news with my wife. The news was really good for mental health in the stay-home week in the Tokyo area because of the COVID-19 pandemic,” said Kazuo.

As director of two centers in RIKEN (Plant Science Center from 2005 and then CSRS from 2013) for the past 15 years, Kazuo has led plant biology to advance and become one of the most visible research fields in RIKEN. “Many RIKEN leaders have moved to universities to lead plant biology in Japan. I am very proud of this accomplishment in RIKEN,” said Kazuo.

Kazuo first joined ASPB in 1989. He emphasizes the importance of “identity and originality” to early career researchers. He said, “Challenge your original ideas and implement new technologies to expand your research and development. On top of molecular analyses, we have obtained quite large data sets on genomes, transcriptome, proteome, and metabolome.

Now information technology and imaging technology have advanced our methods to analyze complex plant behavior to respond to environmental changes. Biotechnology and agricultural science are important frontiers for the application of basic research outputs and give us new ideas for research projects.”

### Barbara Valent

Barbara Valent is a university distinguished professor of plant pathology at Kansas State University. Her team has been using the rice blast fungus, *Magnaporthe oryzae*, as a model system to study plant-fungal interactions via molecular genetic and cell biological analyses. Combining live-cell microscopy and genomic approaches, they have identified key factors and processes involved in biotrophic fungal invasion and signaling as well as host genes involved in recognition of fungal invasion. For the past decade, her lab also has studied wheat blast, a disease caused by the *Magnaporthe oryzae* *Triticum* pathotype. Her research facilitates the development of new strategies to fight rice and wheat



blast to advance food security.

Barbara has always had a passion for fungi that includes collecting and eating wild mushrooms. When she was an undergraduate, a course on molecular plant–microbe interactions by Peter Albersheim opened her eyes to fungi as plant pathogens. As a graduate student studying biochemical oomycete–plant interactions, she was inspired by the book *Genetics of Host–Parasite Interaction* by Peter Day, which prompted her to consider genetic approaches to her research. She then became a postdoc in Gerry Fink’s lab, which had just transformed yeast at the

time, pioneering modern fungal molecular genetics. In Gerry’s lab, she chose to devote her career to the rice blast fungus. Her passion for the fungus was sealed on a trip to visit Japanese rice fields with Hajime Kato in 1982. “He taught me to scout for the fungus and identify it in early stages of infection. I also absorbed the passion of pioneering blast researcher Frances Meehan Latterell, who taught me methods for isolating and working with the fungus that I still use,” said Barbara.

A phone call from NAS member Sheng Yang He reached Barbara when she was working on a grant proposal. She joined

the NAS Zoom conference, where she was welcomed by many members of both plant-focused NAS sections. She recounted, “It was an overwhelmingly wonderful and satisfying feeling that has lasted for many days! It is a tremendous honor and a validation of all of the hard work, and the work that the people in my lab have done.”

Barbara encourages early career researchers to “choose a research problem that matters to the world and also excites your passion. It’s critical to stay in touch with the field biology of your organism (pathosystem) in order for your research to be

relevant in the real world. Fungi are microbes that have the ability to rapidly adapt to life in laboratories, and it is critical to maintain and study the fungus in its original form out there in nature.” Before she joined Kansas State University, she was a principal investigator at DuPont, and she noted, “Doing research in industry taught me to value both foundational and applied research, and moving to academia allowed me to pass my passion along. And the blast fungus has never failed to amaze!” ■

## Fond Farewell to Jennifer Regala, ASPB Managing Editor



Jennifer Regala and Nancy Winchester in San Jose during Plant Biology 2019.

Jennifer Regala, ASPB managing editor, has taken a position with the American Urological Association as its director of publications/executive editor. Although we will miss Jennifer and have many fond memories of working with her, we know she is going on to exciting new opportunities, and we wish her all the best.

Jennifer joined ASPB in February 2018. She oversaw all production and peer operations for the journals, including the work of four staff members and numerous vendors. She served as a right-hand person to the director of publications and the chief editors and as staff liaison to the editorial boards of *The Plant Cell* and *Plant Physiology*. During her time at

ASPB, she cultivated a strong social media presence for the journals and integrated journal content into other Society marketing efforts. She participated in numerous publishing webinars and helped develop training programs for the associate features editors for both journals. In addition, she was an ambassador for ASPB when speaking at many high-profile scholarly publishing meetings.

Jennifer says she will miss the plant biology community dearly and will continue to read the journals, follow our scientists on Twitter, and keep in touch with ASPB colleagues who have become dear friends. ■

ASPB members share a common goal of promoting the growth, development, and outreach of plant biology as a pure and applied science. This column features some of the dedicated and innovative members of ASPB who believe that membership in our Society is crucial to the future of plant biology. If you are interested in contributing to this feature, please contact ASPB Membership at [info@aspb.org](mailto:info@aspb.org).

**Name:** Sessen Daniel Iohannes

**Title:** Master's student in molecular biotechnology

**Place of Work or School:** Scuola Superiore Sant'Anna, Pisa, Italy

**Member Since:** December 2019

**Research Area:** Crop Genomics

**What would you tell colleagues to encourage them to join ASPB?**

ASPB membership is a unique opportunity for students, early career researchers, and beyond to broaden academic and career perspectives in plant science, to build strong networks with peers and mentors, to acquire key skills in science communication and education, and to engage in co-creation of knowledge, public outreach, and leadership. For instance, the specific plant science knowledge and tool set I have gained, my interactions with inspiring role models who have made significant contributions to the field, and my fruitful collaborations with fellow ASPB members have been milestones in my academic path and have allowed me to embrace key professional and personal development values. Thus, I highly encourage students and early career researchers to cherish this amazing opportunity.

**Was someone instrumental in getting you to join ASPB?**

My experience with the Society started after I was admitted to the ASPB Convirion Scholars Program, to which I was intro-

duced by 2018–2019 Convirion scholar Emmanuel Iwala. I believe that this sort of outreach by former scholars and ASPB members is essential to communicate the opportunities offered by ASPB, therefore motivating people to join.

**Have you enhanced your career, lab, research, or education using ASPB, the Plant Biology meeting, section meetings, Plantae.org, The Plant Cell, Plant Physiology, or Plant Direct?**

The opportunities and resources provided by ASPB have enhanced my academic career in several ways. First, the opportunity to participate in the Convirion Scholars Program, including the workshops and other program features, helped me improve my science writing and communication, project management, and professional development skills. Second, the resources, networks, and forums provided on Plantae.org have allowed me to gain exciting research insights, to become aware of career and funding opportunities, and to communicate my research activities and interests in plant science in general and neglected and underutilized species (NUS) genomics



in particular. Lastly, the opportunity to attend Plant Biology 2020, where I have been selected to give a poster presentation, will enable me to network with the plant science community and further build up my research perspectives in crop genomics.

**How or why did you get into plant science?**

My interest in plant science, and crop genomics in particular, followed a quite unconventional path. I originally became interested in genetics and molecular biology during my high school years in my hometown, Asmara, Eritrea, by reading the works of outstanding biologists such as François Jacob (his book *The Logic of Life: A History of*

*Heredity* definitely influenced me), Pardis Sabeti, and Christian Happi, who inspired me to broaden my understanding of genetic principles and tools and their role in uncovering the complexity of biological systems. Throughout my bachelor's studies in the Biology Department at the University of Pisa, I became more and more excited by the prospect of implementing quantitative genetics approaches, and in particular quantitative metagenomics, to deal with the human microbiome.

At Scuola Superiore Sant'Anna, where I am pursuing my master's degree, I joined an exciting research environment, led by Mario Enrico Pè, focused on

*continued on page 12*

Welcome to the *ASPB News* “Unsung Heroes of Plant Biology” column! These stories, brought to you by the ASPB Ambassador Program, showcase the vital contributions of non-tenure-track scientists in plant biology. Please contact Shawna Rowe, ASPB ambassador and column editor, at roweshaw@gmail.com with questions or comments.

## Gaëlle Cassin-Ross, PhD

Sheng Yang He Lab, Michigan State University

BY SHAWNA L. ROWE

ASPB Ambassador, PhD Candidate, Michigan State University

On the top floor of the Molecular Plant Sciences building, flanked by an expansive plant research complex, Gaëlle Cassin-Ross keeps the wheels turning in one of the most prestigious plant research labs in the country. Functioning partly as a postdoc, Gaëlle works half-time managing Sheng Yang He’s research group at Michigan State University (MSU).

Gaëlle was born in the suburbs of Paris and grew up in Guadeloupe, a beautiful archipelago in the Caribbean. When she moved back to France to complete her education, Gaëlle found her passion in research. After completing her BS and MS, she moved to the University of Sciences in Montpellier, France, to complete her PhD specializing in plant physiology and molecular biology. “I always wanted to do basic research and then develop easy applications. I always wanted to see that bridge.” After completing her PhD, Gaëlle joined Jianping Hu’s lab at MSU as a postdoctoral researcher. There, she continued to pursue her passion as a plant physiologist investigating peroxisome functioning.

Three years into her postdoc, Gaëlle began a collaboration

with Sheng Yang He’s research group focused on plant–pathogen interactions. Despite her love of research and the vibrant postdoc community at MSU, Gaëlle’s priorities shifted after the birth of her first child. As a self-described career-focused person, she found herself no longer wanting to do what she had spent her whole life working toward. When asked about the difficulty of this moment, Gaëlle offered the following wisdom: “There is no shame in whatever you become, as long as you stay true to yourself. My journey was not linear, but in my heart, I know how I feel about it because I never lie to myself. Don’t be a passive person in your own life.”

Staying true to herself, Gaëlle opened a business teaching French to kids in the greater Lansing, Michigan, area. Combining her research skills with her love for her mother tongue, she used her training to critically evaluate the language-learning field and created an immersive, research-based, three-step French language program called “Listen. Absorb. Speak.™” Her business, Aux Petits Soins™ (<https://www.apsfrenchclass.com/>), has been a huge success, and Gaëlle has continued grow-



ing her business and teaching people about French language and culture.

With her business in its early stages and her children growing, Gaëlle began to consider what came next. Sheng Yang He contacted her in search of the perfect fit for a lab manager–type position, and in 2015 Gaëlle took the position. She reflected, “I didn’t go to school to become a lab manager, but it’s perfect for me. I am not just a mom, I am not just a researcher. Really, I strive to strike balance.”

Despite juggling multiple identities, she is clearly part of

the backbone of the He lab. As a key member of a highly productive research group, her job duties extend far beyond placing orders. Her vast, intimate knowledge of the lab’s research field allows Gaëlle to anticipate the needs of her lab mates. When the research requires a great deal of protein work or days of qRT-PCR, for example, she knows what reagents and materials to acquire.

Gaëlle gives as much as she can in all aspects of her life. When asked about Gaëlle, a fellow lab member and PhD student said, “She’s very dedicated and hardworking. Without her, we wouldn’t be able to operate as we do. She’s been essential in making sure that we have a system for organizing all of our lab resources, delegating lab duties, and navigating the complicated Howard Hughes Medical Institute system.”

Lab manager positions are known to be challenging and undervalued; however, Gaëlle’s experience has been different. Gaëlle says that she never feels unappreciated and that her work is deeply respected by others in her community. She is often recognized in presentations for

*continued on page 12*



## MEMBERSHIP CORNER *continued from page 10*

quantitative genetics approaches to uncover crop diversity, evolution, and adaptation. I have become increasingly enthralled by agricultural biodiversity and the enormous potential of its conservation, characterization, and valorization to address key issues such as food security and climate change. The prospect of pursuing this type of research, which could be translated into impacts in Eritrea, has been instrumental in my transition from microbial genomics to crop genomics.

### **How do you gather scientific information? What are your sources?**

I gather scientific information via papers and news from several scientific journals, science blogs and forums, and scientific societies' and individual scientists' social media pages. I think it is essential to compare different sources, to cross-check information, and, above all, to use scientific reasoning and critical thinking when choosing and conveying scientific information.

### **How important is social media to your education or career as a plant scientist? In what ways?**

Social media is a powerful tool to both gain insights from the science community and communicate one's research activities and interests. I have to admit, though, that I am not a proficient social media user yet and that I have only recently started to harness channels such as Twitter and LinkedIn to build up my plant science community networks. I definitely aim to enhance my use of social media platforms to communicate my research and interests, reach out to peers and advisers, learn from the community, and engage in plant science discussions.

### **What advice would you give to a plant scientist just starting out?**

As a student and plant scientist-in-training myself who still has lots to learn, I would advise peers to really embrace new learning, personal, and professional development opportunities (such as those offered by ASPB); to get involved in plant science discussions; and to pursue science communication and outreach

endeavors. We are part of the plant science community, and we can make a difference. A mentor recently told me, "We, especially as underrepresented minorities in STEM, tend to be undermined too often. We must play the game to a higher level in order to prevail, because we are educating people to overcome their ignorance and prejudices." I couldn't agree more with this statement.

### **What do you still have to learn?**

I don't think there's actually an end to the learning process and to opportunities for personal and professional growth. Regarding my own field of research, I would like to enhance my analytic, project management, teamwork, and leadership skills and engage more in science communication.

### **What do you think is the next "big thing" in plant biology?**

In my opinion, new advances in quantitative genomics entailing an integration of high-throughput molecular and physiological phenotyping, deep learning models, and synthetic biology are set to become a cutting-edge and

compelling topic in plant biology. Indeed, the ability to systematically dissect crop variability, to efficiently identify functional variants in natural populations and predict molecular and physiological phenotypes given genomic data, and to engineer combinations of beneficial alleles will pave the way toward a new era in plant breeding that has the potential to revolutionize agriculture.

### **What do you see as the most important role for scientific societies such as ASPB?**

The most important role for scientific societies is, in my opinion, science communication and public outreach. Although the misinformation and bogus scientific claims that spread today through various media seem endless, I believe that scientific societies can play a key role in bringing the science community together, spreading reliable information, and ultimately contributing to scientific progress. ■

## UNSUNG HEROES *continued from page 11*

her contribution to the research activities of the He lab.

In stressing the importance of making people feel valued, Gaëlle noted that the freedom she is afforded helps her thrive. She makes it her goal to help manage

the interpersonal relationships in the lab as well as the resource needs. With the trust of the PI and the rest of the lab, she is empowered to identify problems and come up with efficient and effective solutions.

In addition to pursuing her professional passions, Gaëlle has

cultivated other hobbies over the years. Until her children were born, she practiced various forms of dance and played both the piano and the guitar. For now, she says, her hobbies are focused on being a mom and a wife. "I can't wait for my kids to be old enough for me to find some free

time for myself. [But] I think these hobbies help me in my business. You never know which skills you'll use in your life!" ■

## Policy Update

BY VICTORIA HABER  
Lewis-Burke Associates, LLC

The information in this article was accurate at the time of writing.

### House Passes Fifth Coronavirus Package

On May 15, the House of Representatives passed a fifth coronavirus response package, the Health and Economic Recovery Omnibus Emergency Solutions (HEROES) Act (H.R. 6800), by a mostly party-line vote of 208 to 199. This \$3 trillion spending package was developed by House Democrats without any input from House Republicans and is intended to reflect broad Democratic priorities heading into future negotiations. A centerpiece of the HEROES Act is nearly \$1 trillion in funding for state and local governments, as well as additional unemployment benefits, food and housing assistance, aid to schools and universities, and medical research funding.

Provisions especially relevant to the ASPB community include the following:

- \$125 million for NSF Research and Related Activities “to prevent, prepare for, and respond to coronavirus,” including \$1 million for a study on the spread of disinformation related to COVID-19 and up to 2% of funds for management, administration, and oversight of the bill’s funding.
- \$4.75 billion to support additional COVID-19 research and offset start-up costs of biomedical research laboratories. The bill would also allow NIH to carry over fiscal year (FY)

2020 funds into FY2021 to ensure continuity of grant funding for multiyear awards.

Senate Majority Leader Mitch McConnell (R-KY) does not plan to take up the HEROES Act in the Senate, and the White House has threatened a veto if the legislation was to advance. Both Republicans and the White House oppose many of the spending proposals and insist that any negotiations on another pandemic response should not proceed until there has been more time to gauge the effectiveness of the four prior enacted packages. Aside from the House’s May 28 passage of a bill to make technical fixes to the Paycheck Protection Program created in the Coronavirus Aid, Relief, and Economic Security (CARES) Act (Public Law 116-136), there has been no legislative progress, beyond continued discussions, on further COVID-19 response packages.

Other issues that will require attention from Congress include the FY2021 defense authorization bill, permanent funding for the Land and Water Conservation Fund, reauthorization of national security surveillance provisions including the Foreign Intelligence Surveillance Court, and the federal funding appropriations process for FY2021. These non-COVID-related issues will be competing with oversight of existing relief efforts and attempts to provide additional stimulus spending. Further complicating

the legislative calendar are an August recess and a November election that will limit the number of legislative days available.

#### Source and Additional Information

- Lewis-Burke’s full analysis of the HEROES Act is available at <https://tinyurl.com/y9kymxko>.

### Congress Moves Forward on FY2021 Appropriations Process

Following over two months of uncertainty as the COVID-19 pandemic upended the legislative agenda, there are signs that the FY2021 appropriations process may finally be moving forward. Congressional appropriators have now received their funding allocations, known as 302(b)s. These figures provide the necessary framework within which appropriations subcommittees will draft their individual spending measures. At the time of this writing, it is anticipated that subcommittees will start marking up their bills in late June and into July.

This development was made possible by recent negotiations over the amount of total funding available to appropriators. Under the terms of the budget agreement reached last summer, an increase of only \$5 billion was forecasted in FY2021 for the entire discretionary budget (currently \$1.3 trillion). Further limiting flexibility was the fact that several billion dollars had already been committed to support increases

at the Department of Health and Human Services and the Department of Veterans Affairs (VA). However, Senate appropriators have indicated that VA spending will be separated from the formal FY2021 appropriations process and included in a future supplemental spending measure, allowing an additional \$12.5 billion for the nondefense discretionary (NDD) portion of the budget. This is not a major increase when measured against current NDD spending (\$621.5 billion), but it would allow for potential increases in FY2021 at agencies important to ASPB such as NSF, DOE, USDA, and NIH.

### NIFA Director Announces Departure

After leading the National Institute of Food and Agriculture (NIFA) since October 2018, Scott Angle will leave the agency to become vice president for the University of Florida College of Agricultural and Life Sciences in July 2020. USDA is currently working to name an acting director while NIFA develops transition planning. While at NIFA, Angle was a resource for the agricultural research community and a trusted partner during a time of adjustment and transition as the agency relocated to Kansas City. Angle’s efforts to make NIFA more efficient and transparent are ongoing, and the agency is anticipated to release recommendations and proposed changes later this summer.

*continued on page 14*

## POLICY UPDATE *continued from page 13*

### *Source and Additional Information*

- The full announcement can be found at <https://tinyurl.com/yd7xxh2p>.

### **New USDA Biotech Regulations, Upcoming EPA Rules**

On May 18, USDA and the Animal and Plant Health Inspection Service (APHIS) released the final version of the agency's update to the Coordinated Framework for the Regulation of Biotechnology. APHIS initially released a proposed rule on this topic in 2019 but withdrew it to address significant stakeholder concerns. The revision, called the Sustainable, Ecological, Consistent, Uniform, Responsible, Efficient (SECURE) rule, pertains to the importation, interstate movement, and environmental release of genetically engineered organisms under the Plant Protection Act (Public Law 106-224). USDA is one of three agencies party to the Coordinated Framework, along with the Food and Drug Administration (FDA) and the Environmental Protection Agency (EPA).

By updating Parts 330, 340, and 372 of the *Code of Federal Regulations*, the SECURE rule is intended to align regulations with advances in genetic engineering and increased understanding of the risks associated with plant pests. Carrying out instructions from the July 2019 Executive Order on Modernizing the Regulatory Framework for Agricultural Biotechnology Products, this rule seeks to reduce the regulatory burdens for producers, sellers, and innovators and is the first comprehen-

sive revision to the Coordinated Framework since its introduction in 1987.

Although the current statute explicitly lists taxa that ought to be considered plant pests, the revised rule represents a new approach to biotechnology regulation guided by an emphasis on risk as opposed to process, with APHIS choosing to exempt products that could have been created through conventional or traditional breeding. The rule also gives the administrator the power to propose additional exemptions based on what could be achieved through conventional breeding and also includes specific exemptions for microbial pesticides. Producers of products that do not meet exemption criteria are required to apply for permits through APHIS per Section 340.5 of the rule. In addition to increased exemptions, the rule creates a new regulatory status review provision (Section 340.4) that allows APHIS or any member of the public to request a review or rereview of a genetically engineered plant previously found to be subject to regulation to determine whether that plant product should be granted an exemption.

Consistent with the federal rulemaking process, this rule will remain open for public comment for 90 days. After the first 30 days, APHIS will begin to transition its stakeholder engagement process by ending the "Am I Regulated?" stage. At the end of 90 days, on April 5, 2021, the rule will go into effect with Sections 340.4 and 340.5, which pertain to the new regulatory status review and permitting processes. On April 5, the permitting process will open for all crops, and the regula-

tory status review process will open for corn, soybean, cotton, potato, tomato, and alfalfa, with the preexisting petition process continuing for other crops through September 30, 2021.

Although the USDA rules are more relevant to plants, the EPA, which governs pesticides as part of the Coordinated Framework, is in the process of fulfilling its responsibilities under the Executive Order and is on track to release new rules on agricultural biotechnology later this summer. Meanwhile, the FDA has yet to release a proposed timeline for updated rules.

### *Sources and Additional Information*

- The full text of the final rule can be found at <https://tinyurl.com/yxq9dfnq>. The full text of the proposed rule can be found at <https://tinyurl.com/y44uqovp>.
- The SECURE rule can be found at <https://tinyurl.com/y994ujfa>.
- The Executive Order can be found at <https://tinyurl.com/y3xaa7y>.

### **AFRI Releases Modified RFA for Education and Workforce Development Program**

The National Institute of Food and Agriculture (NIFA) released a modified request for applications (RFA) for the Agriculture and Food Research Initiative (AFRI) Competitive Grants Program, focused on Education and Workforce Development. The program, Rapid Response to Novel Coronavirus (SARS-COV-2): Innovating Formal and Non-Formal Educational Experiences in Food and Agricultural Sciences During the Time of Social Distancing,

seeks proposals that will address "the need to develop and deploy rapid, reliable, and readily-adoptable strategies in workforce preparation through formal K-14 education, as well as in youth development through non-formal (e.g., extension) education to cultivate interest and competencies in STEM and agriculture during this challenging time."

Applications are to be submitted no later than 5:00 p.m. EDT on August 20.

### *Source and Additional Information*

- The complete modified RFA can be located here, on pages 19-21, <https://bit.ly/2CQZt0I>.

### **AFRI Releases RFA for Foundational and Applied Science Program**

On July 17, AFRI released an RFA for its Foundational and Applied Science (FAS) Program, one of AFRI's three annual RFAs. The program will distribute \$290 million each year for FY2021 and FY2022 to support research and extension proposals to advance basic and applied research in agricultural sciences across a number of disciplines. Additionally, the RFA adds new priority areas for all programs outlined in the 2018 Farm Bill:

1. Plant Health and Production and Plant Products (\$66 million);
2. Animal Health and Production and Animal Products (\$55 million);
3. Food Safety, Nutrition, and Health (\$39 million);
4. Bioenergy, Natural Resources, and Environment (\$33 million);
5. Agriculture Systems and Technology (\$29 million);



6. Agriculture Economics and Rural Communities (\$34 million); and
7. \$32 million for crosscutting programs.

Deadlines vary for each grant proposal. Additionally, there is a one-to-one cost share required for applications that are commodity-specific and those that fail to address research issues in a national context. For equipment grants, the total amount of federal funding may not exceed 50 percent of the total cost. Additional specifications regarding the cost sharing requirement for equipment grants are provided in the full RFA.

Eligible applicants under this solicitation include but are not limited to State Agricultural Experiment Stations, colleges and universities (including junior colleges offering associate degrees or higher), university research foundations, and other research institutions.

*Source and Additional Information*

- The full RFA is available at <https://bit.ly/2OXVemJ>. ■



## ASPB Legacy Society Founding Members Newly posted bios available

Biographies for the following Legacy Society Founding Members are available to read at <https://aspb.org/aspb-legacy-society/>.

Kenneth Boote  
Bob Buchanan  
Gary Heichel  
Donald McCarty

John Mullet  
Louis Sherman  
Elizabeth Vierling



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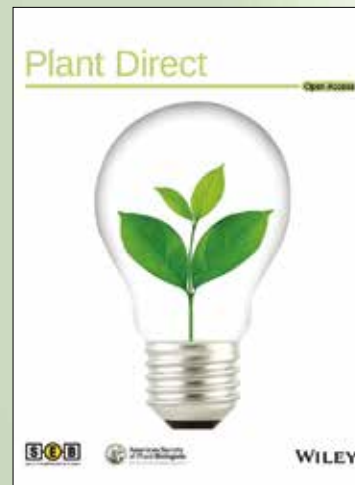
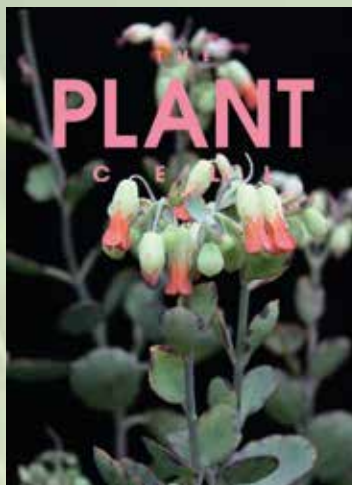
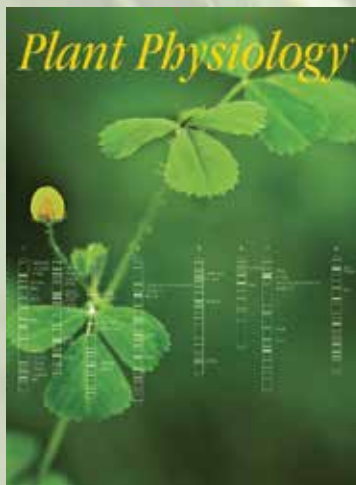
**Focus Issue on  
Transport and Signaling**

**Edited by Yi-Fang Tsay, Michael R. Blatt, Matthew Gilliam, Christophe Maurel, and Nicolaus von Wirén**

**Submission deadline: November 2, 2020    Publication: May 2021**

For more information, go to <https://bit.ly/303WPgR>.

To submit an article, go to <http://pphys.msubmit.net/>.



## ASPB Offers Full Portability Among Family of Journals

**A**SPB is pleased to announce that authors who have received an editorial decline decision from any journal in the ASPB suite of titles will have the option to transfer their submission to any other ASPB journal.

ASPB publishes three journals: *Plant Physiology* (founded in 1926), *The Plant Cell* (founded in 1989), and *Plant Direct* (founded in 2017). Although these journals use very similar peer review processes and editorial oversight mechanisms, until now authors have only had the opportunity to transfer submissions declined by *Plant Physiology* or *The Plant Cell* to *Plant Direct*. As of July 2020, authors who have submitted an article to any of these journals can transfer their submission to another journal in the ASPB family of titles.

Whether or not to transfer a submission is the author's choice. Authors will have the ability to transfer

only their manuscripts, along with associated metadata and any related editorial comments. Alternatively, with the consent of the reviewers, the articles may be ported with their reviews.

This portability initiative will be conducted as a two-year trial. The Society anticipates that the ease of transfers among journals will alleviate the burden on reviewers and allow authors to transfer their important research more easily between journals. ASPB staff will closely track various metrics throughout the trial period to analyze the success of the initiative.

ASPB's CEO, Crispin Taylor, says, "Lessening burdens on authors and reviewers is a priority for ASPB and its journals, and I am delighted that we have added this time- and energy-saving tool to our growing suite of author-focused services."

The editors-in-chief of the three journals agree that journal portabil-

ity addresses important concerns of the authors and reviewers. Mike Blatt (*Plant Physiology*) notes, "I am pleased to see that this trial gets under way and hope that it will benefit all three journals. I look forward to reviewing the take-up going forward." Ivan Baxter (*Plant Direct*) says, "It's great that we can reduce the burden on reviewers by utilizing the same reviews for multiple journals." Blake Meyers (*The Plant Cell*) reports, "I am happy that we can now offer our authors a seamless mechanism to transfer their work and find the best-fitting journal. This will save authors, reviewers, and editors time and effort, while providing publishing options that fit a wide variety of papers. I see many benefits for the community of plant biologists who both support and benefit from the ASPB journals."

We welcome author feedback as this new initiative gets under way! ■

## Plant BLOOME 2020 Winners

**A**SPB established the Plant BLOOME (Plant Biology Learning Objectives, Outreach Materials, & Education) grant program with the goal to enhance public awareness and understanding of the essential roles of plants in all areas of life (<http://bloome.aspb.org>). Congratulations to the 2020 ASPB Plant BLOOME grant recipients!

### Bridging the Gap Between Scientists and the Public Through the Production and Dissemination of Science Zines

**PI: Max Barnhart**  
**Co-PI: Simone Lim-Hing**  
*University of Georgia*

A major challenge in communicating science to the public is providing easily accessible content for people to engage with as part of their daily lives. There are many barriers preventing science from being easily accessible to the public. Science writing can be difficult to understand and hidden in places the public does not have access to. Outreach activities that enable dialogue between scientists and the public are held infrequently or are difficult for people to find. We believe that science should be available within arm's reach in a community while also being accessible and fun to interact with. To achieve this, we aim to print several issues of a science zine and freely distribute them to public spaces, such as coffee shops and restaurants, in the city of Athens, Georgia.

Zines are short, informal magazines that are commonly



*Max Barnhart*



*Simone Lim-Hing*



*Kris Callis-Duehl*



*Renee Dale*

used to educate communities about social movements and are cost-efficient to produce. The zine format also makes content approachable for general audiences by being artistic, trendy, and fun. We are creating a zine that uses all of these elements to present important topics in science, specifically research taking place at the University of Georgia with a strong emphasis on plant biology.



*Sandra Arango-Caro*

Physical copies of the zine will be widely distributed across Athens, and digital copies will be used to expand our reach beyond the immediate community we serve.

To create this zine, we are working with members of the Athens Science Observer (ASO), a student-run organization that has been publishing science blog posts and other material on its website since 2015. ASO has

dozens of students committed to creating unique and exciting scientific content. By bringing student-created science content to the public in the form of a zine, we hope to engage with people who would otherwise not be reached through scientific outreach.

### Educational Video Game Integrates Concepts in Plant and Mathematical Biology for High School Students

**PI: Kris Callis-Duehl**  
**Co-PIs: Renee Dale and Sandra Arango-Caro**  
*Donald Danforth Plant Science Center*

The goal of this project is to bring plant and mathematical biology to the high school classroom through a video game covering several science and math curriculum standards. Integrated assessments and an educator handbook will be included to maximize the game's utility in the classroom. We hope

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**PLANT BLOOME 2020 WINNERS**  
*continued from page 17*

that the success of this project will enable other plant systems (and models!) to be made approachable for a broader audience.

Renee Dale envisioned this project as a PhD candidate at Louisiana State University. She is a mathematical biologist and modeled the drought stress response signaling pathway in *Arabidopsis*. This pathway, one of many complex and hidden behaviors in plants, seemed a good candidate to help combat plant blindness in students using technology to make such invisible behaviors appreciable. Having struggled with math anxiety herself, Renee wanted to develop a game to make math more approachable and less likely to elicit negative knee-jerk responses. The game is therefore designed to “hide” math, revealing mathematical modeling concepts as the player progresses.

This project is led by Kris Callis-Duehl, a principal investigator at the Danforth Center who is responsible for project oversight and reporting. Renee, a postdoctoral researcher in the Baxter and Topp labs at Danforth, conceived of the project and will be responsible for the majority of the design and work, and Sandra Arango-Caro will be ensuring educational rigor.

**Enhancing Plant Science Education Through Course-Based Undergraduate Research Experiences and Botanical Case Studies**

**Lead PI: Jessica Lucas**

*University of Wisconsin–Oshkosh*

This project will enhance plant science education within the University of Wisconsin System. I will create, implement, assess, and disseminate an original plant science course-based undergraduate research experience (CURE) and a series of botanical case studies.

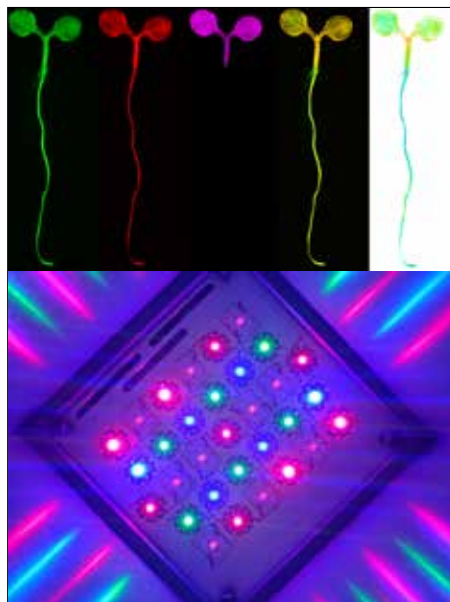


*Jessica Lucas*

Each case study will accentuate core concepts in plant biology and highlight essential relationships between plants and humans. The overarching intellectual aims of this project align with recommendations stated in AAAS's Vision and Change for Undergraduate Biology initiative, which emphasizes action items to focus on student-centered learning, intro-

duce students to research early, and reiterate core concepts and competencies throughout the curriculum.

This project begins at the University of Wisconsin–Oshkosh in a gateway biology class, Bio 105, which I teach. In the first year of this project, 150 college students will learn using the case studies, and 60 students will participate in the CURE. These learning experiences will increase students' understanding, mastery, awareness, and appreciation of plant science. Students will also gain competencies in essential lab equipment and software while improving their aptitude in scientific literacy, quantitative reasoning, and critical thinking. Student learning and attitudes will be assessed through pre- and posttests with established concept inventories supplemented with plant-specific questions. ■



## *Plant Physiology*<sup>®</sup>

### **Call for Papers**

## **2021 Focus Issue on Sensors and Controllers: For and from Plants**

**Editors: Markus Schwarzländer and Matias Zurbriggen**

**Submission deadline: February 1, 2021    Publication: August 2021**

For more information, go to <https://bit.ly/SensorsControllers>

To submit an article, go to <http://pphys.msubmit.net/>.

# Announcing the 2020 Summer Undergraduate Research Fellows (SURF)

The ASPB Summer Undergraduate Research Fellows (SURF) program funds promising undergraduate students so they can conduct research in plant biology during the early part of their college career over the course of 10 consecutive weeks. This year's SURF recipients will present their research at Plant Biology 2021. Congratulations to the 2020 Summer Undergraduate Research Fellows and their mentors!

## SURFers from Doctoral Granting Institutions



**Martin Alani**

*Cornell University*

**Project:** *Movement of Cardenolides Through the Plant and Beyond in Erysimum cheiranthoides*

**Mentor:** Georg Jander

I am grateful to be chosen for the ASPB SURF award. It is very special that ASPB continues to support undergraduate research despite the crisis we are living in. The learning experience I've received through research has been incredible, and I want to thank my mentor for encouraging me with my project and helping throughout the application process. I am looking forward to returning to my *Erysimum* plants and investigating the transport of cardenolide defensive molecules.



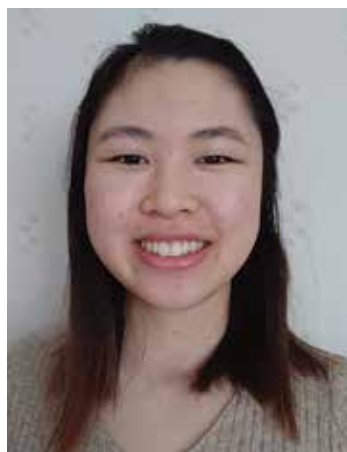
**Veronica Casey**

*University of Illinois at Urbana-Champaign*

**Project:** *How Do Susceptible Strains of Xanthomonas Become Resistant to Copper?*

**Mentor:** Sarah Refi Hind

I am excited to spend the summer further exploring plant biology with the support of my mentor and ASPB. I have already learned so much from conducting undergraduate research, and I cannot wait to learn more about plant-pathogen management. With the SURF award, I feel confident in my desire to pursue higher education and a career in research.



**Hui Wen Lisl Chew**

*University of California, Davis*

**Project:** *Identification and Biochemical Characterization of Switchgrass P450 Genes with Predicted Involvement in Stress Resilience*

**Mentor:** Philipp Zerbe

I am honored to receive the ASPB SURF award. Participating in this program will allow me to further my research and give me the opportunity to share my research with other plant scientists.



**Emily Johnson**

*Purdue University*

**Project:** *Examining the Role of PKL in DNA Damage Repair in the Homologous Recombination Pathway*

**Mentor:** Joe Ogas

I am honored to receive the SURF award and excited to continue my research studying plant genetics and biochemistry. Research is something that continues to fascinate me, and I look forward to my next step as an aspiring scientist. This opportunity will provide me with experience and prepare me for graduate school and future endeavors.

*continued on page 20*

2020 SURF WINNERS  
continued from page 19



**Leo Koenigsfeld**

*University of Missouri–Columbia*

**Project:** *Examining the Role of Auxin in the Tassel-less 4 Mutant in Zea mays*

**Mentor:** Paula McSteen

The opportunity provided by the SURF grant will be an invaluable experience for my continuing growth as a plant scientist. The application process was very informative, and I look forward to learning to use various lab techniques as part of my project. I am extremely grateful for the opportunity ASPB has provided me through the SURF program.

## SURFers from Primarily Undergraduate Institutions



**Jo Bui**

*Kenyon College*

**Project:** *Determining the Role of COP1-like Genes in Seasonal Regulation of Sexual Reproduction in Physcomitrella patens*

**Mentor:** Karen Hicks

As an international undergraduate student, I have very limited access to research opportunities outside my institution. Sharing my SURF findings at the annual ASPB conference will enable me to connect with the larger plant science community, and I'm excited to realize its potential to advance my career in plant genetics.



**Roberto Flores**

*Loyola University Chicago*

**Project:** *Genetic Basis of Partner Choice in Medicago truncatula*

**Mentor:** Michael Grillo

I am honored to receive the SURF award, which will provide me an opportunity to dedicate my time to gaining a better understanding of genetic, plant, and evolutionary biology and to sharpen my laboratory skills. The opportunity to present my research will help prepare me for graduate school, and I plan on applying to doctoral programs this fall. ■

**Call for Papers**

*Plant Physiology*<sup>®</sup>

## 2021 Focus Issue on Architecture and Plasticity

Edited by Ronald Pierik, Christian Fankhauser, Lucia Strader, and Neelima Sinha

Submission deadline: January 8, 2021    Publication Date: July 2021

For more information, go to <https://bit.ly/2Ddmw5G>.

To submit an article, go to <http://pphys.msubmit.net/>.



# Ján A. Miernyk

1947–2020

BY JAY THELEN  
University of Missouri

Ján A. Miernyk was born October 4, 1947, in Boulder, Colorado, to Mary Miernyk and Dr. William H. Miernyk. Ján lived in the Boston area for most of his childhood while his father completed his PhD in economics at Harvard University and began his teaching career at Northeastern University. In 1962, the family returned to Boulder, where Ján graduated from high school. His higher education began at Fort Lewis College in Durango, Colorado, and continued at the University of Colorado Boulder. He excelled in American football at both colleges, and though he experienced injuries that led to arthritic pain later in life, he spoke fondly of his “playing days.”

He went on to complete his BA in biology and MS in plant physiology at West Virginia University in Morgantown, studying cytokinin metabolism with D. F. Blaydes. It was there that he met and married Sally Reilly, with whom he moved to Tempe, Arizona, to continue his graduate education. Ján earned his PhD in plant cell biology from Arizona State University in 1980 working in Dick Trelease’s lab. Ján and Dick made formative advancements in the biochemical understanding of glyoxysome biology, including the compartmentalization of enzymes associated with seed oil mobilization and gluconeogenesis.

Ján continued his scientific training in 1980 as a postdoc-



toral research fellow in the Biology Research Department at Queen’s University in Kingston, Ontario, working in the lab of David Dennis. During this time, Ján biochemically characterized many of the plastid glycolytic enzymes from developing castor seed leucoplasts, unequivocally establishing that plastids harbor a parallel glycolytic pathway necessary for various anabolic pathways.

In 1983 Ján joined Doug Randall’s lab at the University of Missouri as a Monsanto post-doctoral fellow sponsored by the Interdisciplinary Plant Group, which was in its early genesis. Although Ján was a postdoc with Doug for only a year before joining the seed biosynthesis team at the USDA–ARS lab in Peoria, Illinois, what developed was a career-long collaboration in plant metabolic regulation, notably the study of what Ján described as the “ultimate nano-machine”—pyru-



*Ján in his beloved classic 1962 Ford Falcon.*

vate dehydrogenase, an 8-MDa supercomplex. Ján and Doug studied this fascinating complex (both the plastid and mitochondrial homologs) biochemically and, in the early 1990s, using molecular biology. Ján and Doug became lifelong colleagues, collaborators, and friends.

I was a graduate student in Doug’s lab in the late 1990s, so one could say I was comentored by Doug and Ján. And what an experience that was! Despite his sometimes rough veneer, Ján was quick and effusive with his praise. He had a deep, enduring passion for plant science. As evidence, he made the drive from Peoria to Mizzou twice a month for 15 years to plan and conduct experiments, help formulate grant proposals and manuscripts, and challenge

*continued on page 22*



*Jan on vacation with Eliot Herman in Valencia, Spain (ca. 1990), enjoying an excellent wine.*

PHOTO BY ELIOT HERMAN

**JÁN A. MIERNYK**  
*continued from page 21*

young graduate students and post-docs to ask questions and rethink conclusions.

Ján was a supervisory research molecular biologist who enjoyed an accomplished career at the USDA-ARS for 33 years, starting in 1984 at the Northern Regional Research Center in Peoria, then transferring to the ARS unit at the University of Missouri in 1999, where he was also an adjunct professor in the Department of Biochemistry. He loved his work and was known for his expertise in plant biochemistry, with 156 scientific publications, 7,691 reads, and 3,351 citations. He mentored many people in their scientific careers and was

a tireless reviewer and editor for many journals, including the *Biochemical Journal* and the *Journal of Biological Chemistry*. It was at the University of Missouri that he met his second wife, Elizabeth Hoyos-Miernyk, with whom he shared a love of science, plants, reading, cooking, and culture.

Ján loved sports and in his younger years was a wrestler in addition to playing football. In later years martial arts played a big role in his life. He studied under a Bruce Lee student at IMB Academy in Los Angeles and had a black belt in Okinawan karate under Okinawan Grandmaster Taika Oyata. He both competed and taught, including free classes at Mizzou for students and faculty.

Ján was a longtime fan of muscle cars, and none of his cars remained stock for long, acquiring new “shoes,” pinstripes, or pipes. In retirement he enjoyed restoring and modifying a 1962 Ford Falcon, which was shown at SEMA in 2017, with Jan enjoying a VIP visit to the show. On Saturday mornings when they were in town, his grandsons would sit with him to watch car shows. Ján loved music, which could move him to tears. He was a craft beer enthusiast, inventing a personal scoring scheme and cataloging new breweries he encountered on his travels; he sometimes “dragged” his colleagues on miles-long walks through strange cities in search of them. Jan had a passion for travel and for experiencing the food, music, language,

and people of other cultures. After tracing his roots to a small village in eastern Slovakia, he insisted on being called Ján, with the accent on the a.

Ján was preceded in death by his parents, William and Mary, and his sister, Judith Miernyk. He is survived by his daughter Briana Saucier of Tampa, her husband Brad Saucier, and their sons Bradley and Brendan; his wife Elizabeth Hoyos-Miernyk, her daughter Juliana Aguilar, Juliana’s husband Richard Aguilar, and their sons Esteban and Joaquin; his sister Jeanne Miernyk and her husband Paul Birman of San Francisco, California; and his brother Jim Miernyk of Portland, Oregon.

“Walk in beauty.” ■

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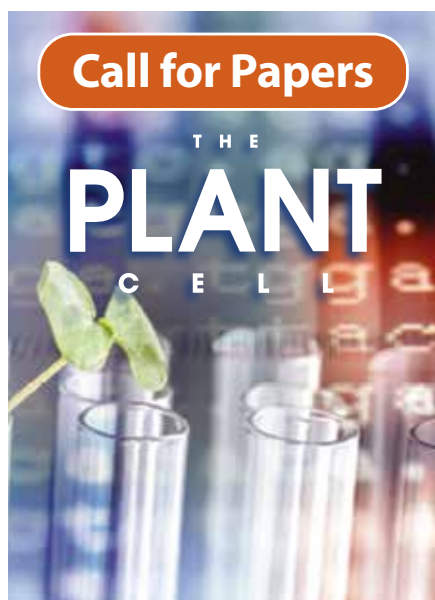
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## 2021 Focus Issue on the Biology of Plant Genomes

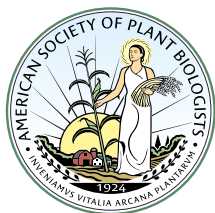
**Editors:** James Birchler, Siobhán Brady, C. Robin Buell, Jim Leebens-Mack, Nan Eckardt, and Blake Meyers

**Deadline for Submission:** September 1, 2020; **Publication:** April 2021

**To submit an article, go to <http://tpc.msubmit.net/>.**

Advances in genome sequencing have yielded insights into many aspects of plant biology: elucidating the course of evolutionary history, uncovering novel metabolic pathways, defining transcriptional complexity, and serving as the basis for a broad range of tools, techniques, and comparative studies. Building on our long-running series of Large-Scale Biology articles, which showcase many advances in plant biology from genomics-based studies, we are inviting submissions to a Focus Issue on the Biology of Plant Genomes to be published in January 2021. These articles may describe the sequencing and analysis of plant genomes of particular interest, comparative genomics, genome evolution, advances in genome modification, epigenomics and genome-wide studies of chromatin, large-scale analyses of RNA in a genomic context, systems or synthetic biology on a genomic scale, or any of these topics as applied to plastid or mitochondrial genomes.

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