March/April 2017 • Volume 44, Number 2








# ASPB *News*

THE NEWSLETTER OF THE AMERICAN SOCIETY OF PLANT BIOLOGISTS

## Plant Biology 2017

**June 24–28**
**Honolulu, Hawaii**

**Broad-Ranging Workshops**

**Five Major Symposia**

**iMoss Satellite Meeting**

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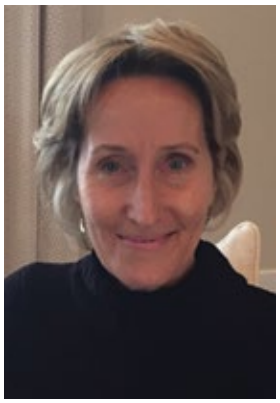
President's Letter

# How Should We Speak Up?

BY SALLY MACKENZIE
University of Nebraska–Lincoln

Now that we have all had a chance to learn a bit more about the Trump administration and its positions on science, it is time to launch the inevitable conversation about how best to respond. The appointment of Robert F. Kennedy to lead a task force to evaluate the safety of vaccines (Phillip et al., 2017), the appointment of Scott Pruitt to head the Environmental Protection Agency (Mack, 2017), the lack of response from the White House to communications from AAAS and other scientific organizations (Achenbach, 2017), and a number of other worrying trends have left the scientific community at a loss as to how to make sure our messages are heard by this administration.


*Sally Mackenzie*

On April 22, Earth Day, the March for Science will be held in Washington, D.C., and around the world (https://www.marchforscience.com) to make a statement about the essential contribution that evidence-based science makes to public policy. The March for Science was inspired by the Women's March on Washington on January 21, for which hundreds of thousands gathered to support women's rights. During that march, it became evident that many were marching to urge the administration to develop policies that are based on relevant science.

American scientists have generally steered away from political activism, perhaps feeling that the objectivism of science would be diminished if it becomes politicized. Consequently, the March for Science has so far received mixed reactions from the scientific community and various scientific societies (Greenfieldboyce, 2017).

Robert Young, a geology professor from Western Carolina University, wrote a *New York Times* editorial in opposition to the march, based on the argument that a public show of activism against a new Republican

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## Don't Forget to Cast Your Vote Online!

**ASPB members are invited to vote for a president-elect and elected member to serve on the ASPB Council, as well as for corresponding members. Please cast your vote by May 26, 2017, at http://excom.aspb.org.**




The *ASPB News* is distributed to all ASPB members and is also available online. It is published six times annually in odd-numbered months. Its purposes are to keep membership informed of ASPB activities and to reinforce the value of membership. The *ASPB News* is edited and produced by ASPB staff from material provided by members and other interested parties.

Copy deadline is the 5th day of the preceding even-numbered month (for example, April 5 for May/June publication).

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

**PRESIDENT'S LETTER**
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administration would only increase societal divisions around science. "The solution here is not mass spectacle, but an increased effort to communicate directly with those who do not understand the degree to which the changing climate is already affecting their lives" (Young, 2017). On the other side, Rush Holt, chief executive officer of AAAS, in a recent *Science* editorial, reminded scientists that they would be naive to avoid the fight by convincing themselves "that politics is dirty compared to the scientific enterprise, and they should therefore avoid the fight. Nor should scientists think that by standing back and letting the facts speak for themselves, they allow reason to prevail and proponents of flawed policies to wilt" (Holt, 2017).

It took less than two weeks for the March for Science to grow from an idea to a full-blown movement with hundreds of thousands of members. A handful of scientific societies has now grown to more than 25 in partnership with the March for Science, including AAAS, the American Geophysical Union, the American Society for Cell Biology, the Center for Biological Diversity, the Entomological Society of America, Sigma Xi, and the Society for Conservation Biology, to name a few (March for Science, 2017).

Organizers of the march believe that with the many scientific issues facing the new administration, now is the time to make the statement that support for evidence-based science is crucial to addressing many of our country's most pressing problems. "I've never seen the scientific community so concerned," said Rush Holt. "This goes way beyond funding. When officials use a phrase like 'alternative facts' without embarrassment, you know there's a problem" (quoted in Achenbach, 2017).

Which brings us to the question of ASPB. Like the community at large, ASPB members appear to hold a range of opinions on whether or not the Society should formally endorse the March for Science, and at this writing, the conversation continues. The wider plant science community represents a diverse group that may be as concerned about growing the U.S. agricultural economy as we are about species conservation or maintaining a funding environment that supports fundamental discovery as well as scientific advancement. It is crucial that we not ignore what is coming out of the White House on science, and it is important that we get actively involved.

Whether or not you feel it is appropriate to participate in the April 22 March for Science, it is important that you take action. That action might be to spend the summer designing a new course in "Science and Society" that will teach the importance of research and the scientific process to non–science majors or, perhaps, an offering to local lay audiences in your community. You might volunteer to participate with ASPB's Science Policy Committee to write your state's congress members or visit their offices to educate them about the value of plant science to the U.S. economy and environmental stability. You might let it be known that you are willing to give presentations to lay audiences to help clarify scientific misinterpretations about GMOs, climate change, vaccine science, or the importance of species diversity. There can be no doubt about the increasing mistrust of science by the American public. If that is to change, it will require meaningful effort by the scientific community. Hope to see you at the march! ■

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# Plant Biology 2017

**June 24–28**
**Honolulu, Hawaii**

## Early-Bird Registration Ends April 30

Register today (http://plantbiology.aspb.org/attend/register/) and join the hundreds of plant biologists who will flock to Honolulu, Hawaii, June 24–28 to share data, network, and enjoy the beautiful conference venue.

# What's New and Exciting at Plant Biology 2017?

### In addition to the usual fabulous lineup of talks, this year's agenda includes the following exciting opportunities:

- **Entering the job market or looking to expand your lab or build collaborations?** Visit the electronic jobs board, question-and-answer sessions on careers, sessions on interviews and résumés, and the workshop "Developing an International Research Collaboration."
- **Interested in career choices beyond academia? Looking to leverage your academic discoveries into applied products that revolutionize crop science or bioenergy?** Major Symposium V is dedicated to entrepreneurship for plant scientists. You can also attend stimulating workshops on "Ag Bio Tech Products" and "Launching a Startup."
- **Looking for tips on publishing your research?** Attend "Introducing ASPB's Third Journal" to learn about *Plant Direct,* the latest addition to ASPB's lineup of flagship journals, headed by editor-in-chief Ivan Baxter from the Danforth Center. Smooth the path to publication by attending the workshop on "Common Author Errors and How to Avoid Them" and "Talk Story and Communication," a skills-focused workshop aimed at improving science communication targeted at a range of audiences.
- **Want to hear and think about the direction of plant biology?** Don't miss "A Discussion of the Future of Plant Science." This interactive session will be hosted by the Plant Science Research Network.

## Broad-Ranging Workshops

Listen, participate, and learn at Plant Biology 2017. Beyond the career- and publishing-focused workshops described above, there will be workshops for those interested in honing their bioinformatics skills—"Analysis, Bioinformatics, and Computation in the Classroom"; "RNA-seq Data Analysis"; and "Bioinformatics Workshop"—and in networking and outreach—"Broader Impact Program Tools," "Women in Plant Biology Breakfast and Luncheon," and "Primarily Undergraduate Institution Workshop."

## Fantastic Talks and Where to Find Them

The program for Plant Biology 2017 includes diverse talks in five major symposia:

### Away from the Brink—Towards the Sustainable Use of N and P in Agriculture

**Organized by Michael Udvardi,** Samuel Roberts Noble Foundation

### Evolution of Cellular Development

**Organized by Liam Dolan,** University of Oxford

### The Chemical Dictionary of Plants: Origin and Translation

**Organized by Natalia Dudareva,** Purdue University, and **Eran Pichersky,** University of Michigan

### Plants and Fungi: Friends or Foes?

**Organized by Barbara Valent,** Kansas State University

### Plant Scientist: Entrepreneur

**Organized by Sally Mackenzie,** University of Nebraska–Lincoln

## Concurrent Symposia

Just a few of the important topics planned for the Concurrent Symposia include

**Epigenetics,** chaired by Ortrun Scheid

**RNA structure,** Sally Assmann

**Organellar biology,** Inhwan Hwang

**Gravitational biology,** Stan Roux

**Nutrient transporters,** Jian Feng Ma

**Root development under stress,** Su-May Yu

**Reproductive development,** Hong Ma

**Metabolism,** Clint Chapple


Michael Udvardi


Liam Dolan


Natalia Dudareva


Eran Pichersky


Barbara Valent


Sally Mackenzie

## Annual Awards Symposium

A highlight of the 2017 program is the annual Awards Symposium, featuring the following talks:

**"The 4th Dimension of Transcriptional Networks—Time"**
**Gloria Coruzzi,** New York University

**"Auxin Transport–Mediated Polarity and Patterning in Plants"**
**Jiří Friml,** Institute of Science and Technology Austria

**"Content, Amplification, and Networks: Roles for Scientists in Public Communication"**
**Kevin Folta,** University of Florida
Kevin will receive the ASPB Leadership in Science Public Service Award.

For more information, visit the conference website at http://plantbiology.aspb.org/schedule-at-a-glance/, and watch for symposium profiles in the ASPB blog (http://blog.aspb.org/).

## iMoss Satellite Meeting

Scientists interested in learning more about nonseed plants (including mosses, liverworts, hornworts, lycophytes, and ferns) should arrive in Hawaii a bit early to participate in the iMOSS satellite meeting of the International Molecular Moss Science Society, June 22–24, 2017, at the Hawaii Convention Center. Register for iMOSS and learn more at http://plantbiology.aspb.org/imoss-2017/.

## Location and Logistics

**DATES:** The meeting will be held June 24–28, 2017, in Honolulu, Hawaii, at the Hawaii Convention Center (http://plantbiology.aspb.org/about-the-hawaii-convention-center/).

**TRAVEL:** The convention center is convenient to Honolulu Airport and is served by ground transportation (http://plantbiology.aspb.org/about-hawaii/). Once you are in Honolulu, you can explore the natural beauty and rich history of the island of Oahu or hop a quick flight to one of the neighboring islands.

**REGISTRATION:** Register by April 30, 2017, for early-bird rates (http://bit.ly/2gKzZpM), and submit your abstract by May 24 to be included in the online program book and receive a poster number.

**HOUSING:** Conference attendees qualify for special discounts at the conveniently situated Hilton Hawaiian Village (http://plantbiology.aspb.org/honolulu-information/hotels/).

**CHILD CARE:** Available at the convention center.

## Oahu for Plant Biologists

In addition to their famous opportunities for swimming, surfing, hiking, fine dining, and examining local culture, the Hawaiian Islands offer a range of pristine destinations for the plant minded. Without leaving Oahu, you can

- Visit one of the botanical gardens on the island (Ho'omaluhia Botanical Garden, Lili'uokalani Botanical Garden, Koko Crater Botanical Garden, or Foster Botanical Garden), many of which are within a 30-minute drive of the Convention Center (http://bit.ly/2lh1MeK/).
- Take a stroll through a tropical rainforest in Lyon Arboretum (http://manoa.hawaii.edu/lyonarboretum/) or tour a xeriscape in the Koko Crater Botanical Garden (http://bit.ly/2mwJacz).
- Tour a coffee plantation (http://waialuaestate.com/) or visit a tropical macadamia nut farm (http://www.macnutfarm.com/).

For more information on plant biology tourism on Oahu, check out the ASPB blog (http://bit.ly/2lZ0AAo). Opportunities vary depending on the island you visit, so check carefully—and remember to make a

**Watch your email and follow @ASPB and #plantbio17 on Twitter for updates.**

## Dates to Remember

**April 30, 2017:** Registration deadline for early-bird rates (http://bit.ly/2gKzZpM)

**May 24, 2017:** Deadline for submission of abstracts to be included in the online program and receive a poster number

**May 27, 2017:** Deadline for discount hotel rates (http://plantbiology.aspb.org/honolulu-information/hotels/)

**June 12, 2017:** Final deadline for abstract submissions

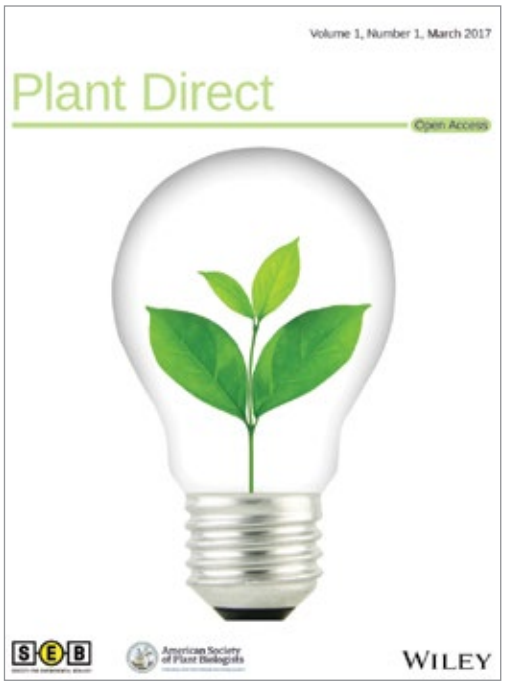
**June 12, 2017:** Deadline for standard registration

**June 24–28, 2017:** On-site registration during Plant Biology 2017

Visit http://plantbiology.aspb.org for more info on rates and deadlines.

# Introducing *Plant Direct*

BY IVAN BAXTER
Editor-in-Chief, *Plant Direct*




**plantdirectjournal.org**

As the editor-in-chief, I am excited to introduce *Plant Direct* (plantdirectjournal.org) a new journal from Wiley and the societies behind *Plant Physiology*, *The Plant Journal,* and *The Plant Cell*. Although there is a crowded landscape of journals to choose from, we believe that *Plant Direct* fills an unserved role for the plant community. We seek to be the sound science plant journal for the community of ASPB members, Society for Experimental Biology (SEB) members, and the authors who publish in our society journals. By "sound science," we mean that instead of trying to determine the novelty or impact of a paper, we will judge manuscripts based on whether the experiments and analysis are performed to an acceptable technical standard and described in adequate detail in standard English, how well the conclusions are supported by the data, and whether the manuscript and contents meet all ethical and research integrity standards (as the person who will have to deal with it if it occurs, can we please not violate the last one, pretty please?).

*Plant Direct* is a society journal, and we think the service-to-community part of our mission statement is incredibly important. Publishing has changed dramatically over the past two decades, and many of the services that journals have provided are no longer essential. The single most important service that journals provide now is managing the peer review process. But the effort of peer review at a sound science journal is done entirely by the community; active scientists are both the editors and reviewers (helped out by the great management staff at Wiley). When the community is doing the work, the community should reap the benefits. Our societies support our community, and the two sponsoring societies, ASPB and SEB, will be able to use the revenues from this journal to support their important work in education, outreach, networking, and the advancement of plant science.

Starting a new journal also allowed us to look at the way we run our journals with a fresh eye. The past 20 years have seen a wide variety of innovations in scientific publishing, including journals moving online and the proliferation of open access journals. Nonetheless, for many researchers the publishing process continues to be slow, frustrating, and wasteful of authors' and reviewers' time. Manuscripts pass through multiple stages of review and revision, sometimes spanning multiple journals, each using new reviewers. Although this process improves many papers, it also greatly delays when the science becomes available to the scientific community. There are three features of *Plant Direct* that will improve the speed, efficiency, and openness of the publication process:

1. strong promotion of preprint posting at submission;
2. referred reviews from *Plant Physiology*, *The Plant Cell,* and *The Plant Journal*—that is, manuscripts will be easily transferred for consideration along with any accompanying reviewer reports; and
3. publication of anonymous reviewer reports upon acceptance.

These features will speed scientific communication in two ways. The preprint is visible to the scientific community immediately, although readers must judge for themselves the work's technical merit. This visibility has major benefits for authors, especially junior scientists applying for fellowships, grants, and jobs, by showing their great science to the world. It also benefits readers who are not in the author's close-knit network and thus may not be able to put the author's hard work to use to move their field forward until it is published as a peer-reviewed article. We think that preprints offer such a strong benefit to the community that we will give you a discount on your publication charges if your manuscript is posted on a preprint server at the time of submission to *Plant Direct*.

The other features of *Plant Direct* speed the publication process by reducing or eliminating steps that contribute to delays. Allowing transfer of manuscripts from referring journals, or from the bioRxiv preprint server, will save authors the hassle of entering manuscript metadata multiple times. Referred reviews from participating journals allow the

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# Engineers, Plant Biologists, and Data Scientists Assemble in Tucson for Inaugural Phenome 2017 Conference

BY NATALIE HENKHAUS
Executive Coordinator, National Plant Science Council

The inaugural Phenome 2017 conference was held February 10–14, 2017, in beautiful Tucson, Arizona. The theme, Connecting the Bioeconomy, was developed as a direct outcome of the Plant Science Decadal Vision (http://bit.ly/1Fj1IC3) and was organized by the National Plant Science Council and the North American Plant Phenotyping Network, with meeting management provided by ASPB. The program steering committee included April Agee Carroll, Oliver Fiehn, Carolyn Lawrence-Dill, Sally Mackenzie, Josh Peschel, Jesse Poland, Nathan Springer, Lloyd Sumner, and Chris Topp. Thank you to all of the organizers!

*Congratulations to the students and postdocs who were awarded a Phenome 2017 Travel Award!*

*The Phenome 2017 steering committee (from left to right): Chris Topp, Carolyn Lawrence-Dill, Josh Peschel, April Agee Carroll, Lloyd Sumner, and Sally Mackenzie.*

*Not pictured: Oliver Fiehn, Jesse Poland, and Nathan Springer.*

More than 250 scientists attended from industry, government, and academia. Travel awards for more than 30 students and postdocs were made possible with support from NSF, the DOE's Advanced Research Projects Agency–Energy, the Midwest Big Data Hub, and LI-COR Biosciences. A total of 85 speakers presented their research, including early career researchers selected to give short presentations, or "lightning talks," during sessions.

You can continue the conversation on Plantae by joining the Phenome 2017 group (open to all). If you are not already a member of Plantae or have other questions, please contact Melanie at community@plantae.org. The Phenome meeting is also on Twitter! Follow us at @PlantPhenomics, and share your experience at #phenome2017.

More information on future Phenome meetings will be posted later this year at www.aspb.org and www.phenome2017.org. ■

# ASPB Member Wolf B. Frommer Awarded Prestigious Humboldt Professorship

*Wolf Frommer*

Plant molecular biologist Wolf B. Frommer, professor in the Department of Plant Biology at Stanford University, former director of the Carnegie Institution for Science, and former coeditor of *The Plant Cell* (1998–2006), has received an Alexander von Humboldt Professorship. The Humboldt Professorship is awarded by the Alexander von Humboldt Foundation (http://bit.ly/2nNnfNZ) and financed by the Federal Ministry of Education and Research of Germany. The award of €5 million, one of the most highly endowed in Germany, is given to leading international researchers and seeks to facilitate the conduct of cutting-edge research at German universities on a long-term basis.

Wolf studies the molecular mechanisms of nutrient and metabolite membrane transport in plants. In addition to cloning and identifying the proteins involved in the movement and sequestration of biologically important metabolic compounds, his lab is also interested in characterizing the regulatory networks that control these processes.

The Humboldt Foundation annually gives up to 100 awards to leading researchers around the world. Awardees spend up to one year conducting research at a German research institution. ■

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***PLANT DIRECT***
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editor to benefit from previous reviews and may remove altogether the need to send the manuscript out for review, thereby reducing reviewer workload. The publication of reviewer comments will make the process more open and help to ensure the integrity and transparency of the review process.

We are also going to be working with our author, reviewer, and editor community to identify and implement new ways to reduce the bottlenecks in the publication process. We will host a series of discussions in spring/summer 2017, both online (at Plantae.org) and at scientific meetings, to brainstorm new ideas and gauge the support for these ideas and ideas already in circulation. Please let us know your thoughts on these efforts as well as how we can make the publishing process better. We are also interested in ideas on how to incorporate mentorship and training of postdoctorals and graduate students into the publishing process.

Let me conclude by asking you, the plant community, to join us as we launch this community journal. Please send us your manuscripts, review our manuscripts, and tell us how we can make the journal and the community better. We are excited to get this venture started and hope that you will be, too. ■

Welcome to the *ASPB News* "Luminaries" column. Student and postdoc members are invited to submit their ideas for a 500- to 750-word interview they might like to conduct with a prominent scientist. Contact Membership Committee Chair Jill Deikman at jill.deikman@monsanto.com, who will help you develop some questions to frame your story. If we publish your interview, you will receive a $50 Amazon gift card.

# Joanne Chory

## Professor and Director of Plant Molecular and Cellular Biology Laboratory, Salk Institute, and Howard Hughes Medical Institute Investigator

BY PRATEEK TRIPATHI
ASPB Student Ambassador, The Scripps Research Institute, La Jolla, California

**What got you interested in plant biology in general, and what influences directed you to your specific area of research?**

Toward the end of graduate school, during which I studied photosynthetic bacteria, I became interested in getting hands-on experience in eukaryotic genetics. I visited six labs looking for a place to do a postdoc: three Drosophila labs and three plant labs. Drosophila was a very competitive field. Even back in 1983, everybody was studying either early development or neurosciences. By that time, Gerry Rubin and Allan Spradling had developed a collection of transposon-tagged genes. The field was about ready to take off, but I wasn't sure that I was ready to jump into that very competitive world.

On the other hand, plants were a wide-open field. Of the labs I visited, something about Fred Ausubel's felt right, and so I joined his lab about a year later, in 1984. Neil Olszewski and I started Arabidopsis work in Fred's lab and were soon joined by four excellent PhD students: Rhonda Feinbaum, Eric Richards, Dan Voytas, and Eva Huala. We each had our own project.

I wanted to work on signaling. The choice of signaling system was simple because at that time, there was only one receptor known in plants—phytochrome—and a lot was known about phytochrome's properties as a photoreceptor. At the other end of the signaling pathway, the first light-responsive elements in the promoters of light-regulated genes had just been identified. As a bacterial geneticist, to me this seemed like a perfect situation because it gave us a chance to find the middle of the signaling pathway. And so I proposed to hook up a light-regulated promoter to some selectable markers, stably transform the constructs into Arabidopsis, and look at their segregation. The seeds would then be mutagenized and screens done for mutants in phytochrome's signaling pathway. I was excited!

In hindsight, this was a very naive experiment to propose because at that point no one had ever transformed or regenerated Arabidopsis! It was almost 2 years later before I had regenerated seeds that were appropriate to perform genetic studies. This kind of risky experiment often gets overlooked for funding today. We have to keep reminding people of the scores of unexpected results that are possible using genetic screens.

*Joanne with her two advisers, Sam Kaplan (left) and Fred Ausubel.*
PHOTO BY JOE BELCOVSON AT THE SALK INSTITUTE

**Who influenced your scientific thinking early in your career, and how?**

Three people influenced me early. Both of my advisers, Sam Kaplan and Fred Ausubel, ran labs of similar style: 20 people, with a mixture of students and postdocs. Having come from a big family of six children (four brothers, a sister, and me), I understood that in a lab of this size, I would be left alone to think about my results. I wrote every first author paper with which I was involved (and sometimes it took a while to get the story right!), yet both Sam and Fred cared enough about us

that their labs never felt like "sink or swim" labs. I have used that philosophy in my own lab for almost 30 years.

The third person who influenced me early in my career is my husband, Stephen Worland. He pushed me to be more ambitious, to have a positive attitude, and to have a forward-moving momentum. If I had married someone else, I might be sitting on a beach on some remote island today!

**What do you think are good career moves for young scientists?**

First, let's consider some careers that are available to young scientists:

- teaching at many levels: K–12, community college, small liberal arts college, large public university with predominantly undergraduate students, and large research university, public or private, with a PhD program
- running a lab in a university, college, hospital, national laboratory, or nonprofit research institute
- running a lab in a small or large industrial setting
- business development in the biotech or pharmaceutical industry
- science policy making at the city, state, or federal level
- lobbying
- patent law
- science writing and journal editing.

Any of these careers would be a good one, but I'd like to point out a couple of high-impact choices that are often overlooked. Teaching is very rewarding because a good teacher has very high impact. However, almost all public school teachers, whether good or bad, are underpaid, making teaching a less desirable choice.

Another area that is often overlooked is policy making. Just think what kind of impact you could have—say, on the environment—if you worked behind the scenes in a U.S. senator's office doing the research that helps that senator formulate policy on climate change or controlled burns in forests of our national parks. Or you could write the bill that gives fair salaries to your classmates who became teachers!

**If you were able to repeat your years as a graduate student or early years as a postgraduate student, would you do anything differently?**

I started graduate school in the late 1970s, a time when biologists knew almost no mechanisms. A different question that I find easier to answer is, What would I study if I were to go to graduate school now? One area that I've been fascinated by is chemical ecology. To understand the mechanisms behind the languages of plants among each other and between plants and the insects, birds, and animals that they have coevolved with would be very cool.

The lifestyle of plants is so different from our own. During evolution, humans came out of nowhere to completely dominate the planet. I am getting the feeling that we may disappear just as fast. Plants, on the other hand, duplicate and diversify at both the gene and organismal levels. They are the masters of adaptation!

**What journals do you regularly follow?**

I don't read journals anymore, which is a bad thing, and I think that's why I miss published papers. But I try to keep track using alerts that track key words or author names. It is hard to keep on top of so many journals. But I still read *Nature* and *Science* on a regular basis, especially for news.

**What scientific discoveries over the past couple of years have influenced your research directions?**

First, next-generation sequencing has made us all genome scientists. When I started my lab, it took three people five years to do a mutant screen and clone the defective gene. The most recent screen we did identified more than 10 genes at the sequence level in about one year. In the latter case, we got the entire pathway, not just a single gene. A second such discovery is miniaturization of samples for proteome and metabolome studies.

**What do you think will be the next big thing in plant biology?**

Getting all the data that exist out there into shape in a format that is accessible to everyone and across platforms: transcriptome, proteome, and metabolome. We are missing so much analysis of data that already exist. It is imperative to have it all together to dig deeper into the biology of plants. I hope someone will take up this cause.

**As an employer, what are the key qualities you look for in a potential team member?**

Personally, I look for a person whom I don't have to push. That's the perfect postdoc or student for me. This person has to be self-driven, independent, and collaborative within and outside the group.

**What advice would you give to a student interested in plant biology today?**

Enjoy the experience of discovery, learn the language of science, and get hands-on experience. Learn some basic science about plants, and work on real problems that will save our Earth and environment.

**What experience or training do you think is most important to have?**

The experience of doing rigorous science in a rigorous environment is essential. Go to a good lab, ask tough questions, and plan meticulously. Once you know the question, consider precise controls and anticipate possible outcomes. To design and do the best possible experiment is one of the milestones on a path to becoming a great scientist.

**What is the single most important factor for a successful career in plant biology?**

Success is one of the hardest things to predict. You have to be smart, believe in yourself, and keep on moving forward, even if things are not working. A little bit of luck in the right environment helps. You have to have a lot of grit.

**What advice would you give educators to encourage young people to explore science and plant biology?**

I would ask educators to please teach the part of their textbooks that involves plants! When the school year or semester is ending and teachers are running out of time, they tend to drop the chapter on photosynthesis or plant development and biochemistry. I can illustrate my point with two stories.

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# Policy Update

BY LAUREN BROCCOLI
Lewis-Burke Associates, LLC

## Trump Administration: First 100 Days

On January 20, Donald J. Trump was inaugurated as the 45th president of the United States. As the federal government prepared for the transfer of power, the Senate was already evaluating President Trump's cabinet nominations. At the time of this writing, Senate committees of jurisdiction held confirmation hearings for Ryan Zinke, nominee for secretary of the interior; Scott Pruitt, nominee for administrator of the Environmental Protection Agency (EPA); and Wilbur Ross, nominee for secretary of commerce. In the next few weeks, confirmation hearings for cabinet officials, including secretary of agriculture nominee and former governor of Georgia Sonny Perdue, will continue. Meanwhile, most federal agencies will operate under interim bureaucratic leadership until political appointments commence.

Some agencies, such as EPA and USDA, have been directed to freeze external communications and distribution of new contracts and grants. At the time of writing, this was expected to be a temporary pause to allow for the new administration to evaluate programs and set priorities and is consistent with prior presidential transitions.

President Trump has also signed several executive orders on immigration and federal regulations that have implications for the scientific community. Full details on these actions are on the ASPB Science Policy blog (http://blog.aspb.org/category/policy/), as well as a statement regarding ASPB's participation in a community letter from an extensive group of professional scientific and engineering organizations and universities (http://bit.ly/2lYOW95). The letter urged the Trump administration to rescind the immigration order and work with the community toward the development of "an immigration and visa policy that advances U.S. prosperity and ensures strong borders while staying true to foundational American principles as a nation of immigrants."

Looking ahead, ASPB and the scientific research community await President Trump's first budget request or any official policy statement that will provide a blueprint for the new administration's federal research priorities. ASPB Legislative and Public Affairs continues to track and monitor these developments closely. Please check the ASPB Science Policy blog for the latest news and additional details on executive orders and confirmation hearings.

## Former Georgia Governor Sonny Perdue Nominated for Agriculture Secretary

On January 18, President Trump announced his selection of Sonny Perdue as his nominee for secretary of agriculture. Perdue grew up on a farm in Georgia and earned both his undergraduate degree and doctorate in veterinary medicine from the University of Georgia. Before running for office, he worked as a small business owner.

Perdue began his career in politics in 1990, being elected as a Democrat to the Georgia State Senate and running successfully for governor as a Republican in 2000. At the end of his two terms, he was named the Biotechnology Industry Organization 2009 Governor of the Year for his focus on increasing agricultural sustainability, developing alternative fuels, and supporting biomedical research. Since then he has run the company Perdue Partners, which is in the global agricultural commodities trade.

At the time of writing, the Senate Agriculture Committee had not yet scheduled a confirmation hearing, but it was expected to be held sometime in February.

*Source and Additional Information*

- A biography on Governor Perdue is available at https://tinyurl.com/jt5lf3r.

## House Agriculture Committee Announces New Members and Subcommittee Assignments

The House Agriculture Committee's returning chairman Michael Conaway (R-TX) and returning ranking member Collin Peterson (D-MN) recently released the roster of new members and subcommittee assignments for the 115th Congress. For the majority, six freshman Republicans were added to the Committee: Jodey Arrington (R-TX), Don Bacon (R-NE), James Comer (R-KY), Neal Dunn (R-FL), John Faso (R-NY), and Roger Marshall (R-KS). For the minority, five freshman Democrats were added: Dwight Evans (D-PA), Darren Sota (D-FL), Tom O'Halleran (D-AZ), Jim Panetta (D-CA), and Al Lawson (D-FL).

Rodney Davis (R-IL) will remain as chairman of the Subcommittee on Biotechnology, Horticulture, and Research, while Michelle Lujan Grisham (D-NM) will replace Susan DelBene (D-WA) as ranking member. This subcommittee has jurisdiction over USDA Research, Education, and Economics.

*Source and Additional Information*

- The full announcement is available at https://tinyurl.com/hnjt4j8.

## House Science Committee Announces New Members and Subcommittee Assignments

In January, the House Science Committee's returning chairman Lamar Smith (R-TX) released the roster of new majority members for the 115th Congress. At the time of writing, the Democrats had not yet released the list of new members for this committee, although ranking member Eddie Bernice Johnson (D-TX) was likely to remain in the leadership role. The majority added the

following freshman members to the committee: Daniel Webster (R-FL), Jim Banks (R-IN), Andy Biggs (R-AZ), Roger Marshall (R-KS), Neal Dunn (R-FL), and Clay Higgins (R-LA).

The House Science Committee has jurisdiction over NSF, the Environmental Protection Agency, and DOE research and laboratories.

*Source and Additional Information*

- More information is available at the House Science Majority website: https://tinyurl.com/h7afeae. ■

# Mary Alice Kessler

## 1920–2017

On February 11, former ASPB employee Alice Kessler quietly passed away in her sleep. Alice was the mother-in-law of Annette Kessler, manuscript manager for *The Plant Cell.* Alice came to work for ASPB in the early 1970s, back when headquarters was located in a tiny garret on the grounds of FASEB. She continued working after the move to the Gude estate and retired in 1987. Alice leaves behind four children and their spouses, 10 grandchildren, eight great-grandchildren, and a multitude of friends; all will miss her.

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**LUMINARIES**
***continued from page 11***

First, when my kids were in elementary school, each year, at the end of the year, they would take a statewide test to determine whether they had achieved proficiency at their grade level. In fifth grade, students were asked a question about photosynthesis and had to choose the correct answer from five possible answers. Statewide, fewer than 20% of the students chose the correct answer!!

The second is a true story told to me by Emeritus Professor Russell Doolittle, who taught biochemistry for more than 40 years at the University of California, San Diego. Doolittle, a world-renowned biochemist, used the textbook written by Professor Lubert Stryer of Stanford to teach his class. Because they were friends, Doolittle would help Stryer find errors in new editions of his textbook. One year, Doolittle's students found an error in the photosynthesis chapter of Preedition 4. It turned out that the same mistake had appeared in all four editions and had never been reported. No one was teaching photosynthesis!

I sincerely encourage educators to give students hands-on experience with plants. Start early! For example, teach first graders about plant plasticity by having them germinate and grow seeds in the light or dark and describing what they see. By eighth grade, students have the manual dexterity and the context to inoculate alfalfa with compatible and incompatible Rhizobia strains and look for nodules. Teachers can then use the students' observations to discuss host–pathogen interactions, symbiosis, competition, coevolution, and even sustainability!

**How do you look at the future of basic plant science as part of a policy-making body?**

For plant biologists, understanding the mechanisms by which plants grow or not, adapt to new environments, or defend themselves against pathogens is paramount. Using model organisms such as Arabidopsis is the only way to find the major pathways involved in growth, defense, and so forth. Moreover, Arabidopsis has tools for determining the in vivo function of proteins. Almost all mechanistic information and pathways in plants have been described by researchers studying Arabidopsis.

In contrast, breeders, crop physiologists, and lobbyists are motivated by traits. Traits have dominated the thinking of competitive grant programs in USDA and the National Plant Genome Initiative to the exclusion of funding for Arabidopsis mechanism-based studies. This policy may need to be reconsidered as we prepare to feed upwards of 10 billion people while the earth is experiencing weather extremes. If warming trends continue as during the past decade, California may no longer be a wine-producing state, or Iowa the best place to grow corn on Earth. ■

palm network
promoting active learning & mentoring

# The PALM Network Grant

up to $2000 per fellow / $500 mentor stipend
$1000 meeting travel each for fellow and mentor

## What Does the PALM Grant Provide?

The Promoting Active Learning & Mentoring (**PALM**) Network Grant provides faculty and postdoctoral fellows with resources that allow them to gain hands-on experience and long-term mentorship in bringing evidence-based, effective active learning strategies into their own classrooms.

## PALM fellows will:

- Identify and secure partnerships with experienced mentors who have already reformed their classrooms
- Submit a complete proposal according to the parameters of the evaluation rubric found at palmnetwork.org
- Schedule dates to visit their mentor's institution, and complete the identified work within 9 months of receiving the award notification
- Develop an active learning–based module for one of their classes with guidance from their mentor, and implement it
- Submit videos (using smartphone or tablet) of teaching before and after the mentoring experience for analysis
- Consider best options and timing for disseminating materials to others in their institution and in the greater scientific community, including publication
- Report on activities to colleagues at a gathering of the PALM Network, as well as at a national, regional, or sectional meeting of their respective scientific society
- Participate in surveys over several years so the PALM Network can assess the extent and persistence of change in classroom practice

## *2017 Palm Applications Will be Accepted on a Rolling Basis*

**More information** and **eligibity requirements** available at

**palmnetwork.org**

PALM is funded by NSF Research Coordination Network in Undergraduate Biology Education grant #1624200.

# Fascination of Plants Day
# May 18, 2017

**Plant Science ❖ Agriculture ❖ Forestry ❖ Plant Breeding ❖ Biodiversity ❖ Nourishment and Nutrition ❖ Plant Protection ❖ Environmental Conservation ❖ Renewable Resources ❖**

**Everybody is welcome to join this initiative, which started with extraordinary success in May 2012 and continued to grow across the world in 2013 and 2015.** We invite you to organize for the 18th of May 2017 a fascinating activity related to plants attracting and interacting with the public. Just contact your National Coordinator (**plantday@aspb.org**) to discuss and access all supporting material for the Fascination of Plants Day. We invite many others who would like to contribute to the Fascination of Plants Day to join in, ranging from schools to horticulture, research institutions to the media.

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**www.plantday.org** #PlantDay **plantday@aspb.org**

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Fascination of
Plants Day
May 18, 2017

## Want to share your fascination of plants with the world?

Participate in the ASPB Fascination of Plants Day 2017 Contest by uploading a photo or video using the hashtag **#plantdayUSA**. The most liked photos and videos on Facebook, Twitter, and YouTube will be awarded prizes, so make sure to share and like your favorites!

**More information at http://bit.ly/2muzotE.**

ASPB staff are dedicated to serving our members.
We welcome your questions and feedback.

**For quick response, email us at info@aspb.org.**

*ASPB News* (ISSN 1535-5489; Online ISSN 1544-9149) is published bimonthly by the American Society of Plant Biologists, 15501 Monona Drive, Rockville, MD 20855-2768 USA, telephone 301-251-0560, fax 301-279-2996. Members' dues include a subscription price of $2 per year to *ASPB News.* Subscription price to nonmembers is $30 per year. Periodicals postage paid at Rockville, MD, and at additional mailing offices. Postmaster: Please send address changes to *ASPB News,* 15501 Monona Drive, Rockville, MD 20855-2768 USA.