APS SUPPORTS WOMEN IN SCIENCE

By the Numbers

By Kira Bowen, APS President, bowenkl@auburn.edu

Recently, I was able to tell my mother that I’d shaken hands with the governor of Alabama. In telling of this event, I stumbled over the governor’s name and had to repeat, “Yes, her name is Kay—Kay Ivey.” My mother was surprised to hear that the state of Alabama would have a governor who’s a woman. And I was surprised by my mom’s reaction. Is this a generational difference? Maybe. After all, my mother was well into adulthood when the Civil Rights Act of 1964 was enacted. I was still just a child in the 1960s. However, my mother also lives in one of the 22 U.S. states that has never had a woman governor; no wonder she was surprised.

Women as leaders are the minority in our government, and this is the situation in science, as well.

According to an article in the April 2018 issue of Scientific American, women are under-represented as leaders in science. Proof of this is abundant and multidimensional. For example, according to the Association of Medical Colleges, only 15–16% of all deans and department chairs in member institutions are women. The proportion of women who receive awards and honors in scientific societies (<25% according to AWIS) also reflects such under-representation or, perhaps, under-recognition. And yet, the National Science Foundation has noted that women in the life sciences (i.e., biological, agricultural, and environmental) have made up at least 40% of the workforce since 2003.

So, how are we doing in APS relative to representing and recognizing women? Better than most! In 2016, Sally Miller (The Ohio State University) was the tenth woman to serve as APS president (out of 108 presidents to that date). Since Dr. Miller’s election, three more women have been elected to the presidency of APS: Mary Palm, myself, and Lindsey du Toit are serving back-to-back terms as president. Indeed, by 2020, 50% of APS presidents over this decade will have been women. In each decade since 1981, 30–42% of councilors-at-large (also elected positions in APS) have been or are now women. One of the highest honors awarded by APS is that of Fellow. Through 2000, eight women had been named as APS Fellows (<3% of all Fellow awards). In the decade ending in 2010, 16% of the Fellow awardees were women; women comprise 23% of these awardees in the current decade, and we have 2 years to go!

Throughout my career, I have always felt that APS was an organization that supported and recognized my efforts and contributions. Leadership and awards data confirm this. Plant pathology has always been a practical and applied science. This pragmatic approach permeates APS and has perhaps made it easier for us to recognize talent and ability regardless of gender. Whatever the reason, I am proud of our society’s record and look forward to a diverse and very productive future.
Another Wonder Drug

Robert M. Harveson, University of Nebraska, rharveson2@unl.edu

Scholar and Teacher

Although largely unknown today, Benjamin Minge Duggar was a highly influential botanist in his day, constantly driven to learn and teach. He was born in the village of Gallion, Alabama, in 1872, the fourth of six sons. The precocious boy entered the University of Alabama at age 14, but after developing an interest in agriculture, he transferred to the Mississippi Agricultural and Mechanical College (now Mississippi State University), where he graduated in 1891 with a BS at the age of 19. Just 1 year later, he received an MS degree from Alabama Polytechnic Institute (now Auburn University). Always yearning for knowledge, Duggar obtained additional degrees from Harvard (BA, 1894; MA, 1895) and Cornell (PhD, 1898), and he made several extended trips to Europe to further his studies with prominent botanists of the day.

Duggar taught at several prestigious institutions, including Harvard, Radcliffe, and Cornell, and he served with the U.S. Department of Agriculture and with the State of Illinois as assistant state botanist. His love for teaching was further demonstrated by authoring three fundamental botany textbooks: General Botany, Plant Physiology, and Fungi Diseases of Plants. The latter, published in 1909, was the first American textbook and the first written in English devoted exclusively to plant pathology. (I proudly possess a battered first edition of this landmark book.)

Duggar’s achievements in the fields of botany, plant pathology, and plant physiology were both eclectic and prolific. He produced one of the first major comprehensive treatises on the fungal genus Rhizoctonia in 1915; discovered the conidial stage of the cotton root rot pathogen, moving the species from Ooszonia to Phymatotrichum; and pioneered the culture of mushrooms artificially. He was highly regarded by his peers and served on committees that founded the American Society of Agronomy (1907) and The American Phytopathological Society (1908). He also served as president of numerous other botanical societies.

Duggar held academic positions in plant physiology at Cornell University, the University of Missouri, and Washington University (St. Louis), where he also was director of the Missouri Botanical Garden; he finally settled at the University of Wisconsin in 1927. While at Missouri, Duggar’s interests turned to botanical physiology, including red pigment development in tomatoes, enzymes of the red alga Fucus vesiculosus, and nitrogen fixation in legumes. At Wisconsin, he focused on more basic research, conducting some of the first investigations on Tobacco mosaic virus, the physiological and biological effects of radiation on fungi, and quantum relations in the photosynthesis of the alga Chlorella.

In 1943, the 71-year-old Duggar retired as Emeritus Professor from the University of Wisconsin. And despite the impressive accomplishments he had already achieved, perhaps his greatest contribution to science and humanity was yet to come. That is the rest of the story.

Duggar’s Legacy

After retiring, Duggar turned down several lucrative offers to be a consultant. Then he was jolted out of retirement by his chance reading of an article about his career in a scholarly journal. The article stated, “Dr. Duggar will best be remembered for his noteworthy inquiry into the physiology of mushrooms.” He interpreted this comment to suggest that his career had been insignificant, and he vowed to be remembered for more than his work with mushrooms!

In 1944, Duggar accepted a consulting position with Lederle Laboratories. During this time, new so-called wonder drugs, such as penicillin and streptomycin, were widely used to combat bacterial infections, but they were not effective against all bacteria. Duggar focused on soil-inhabiting organisms to identify another antibiotic product similar to streptomycin (produced by the filamentous bacterium Streptomyces griseus), a discovery made in 1940 at Rutgers University by the soil scientist Selman Waksman.

Remarkably, Duggar was able to recruit soldiers and sailors in the middle of World War II to collect soil samples from numerous sites worldwide: Europe, middle Asia, northern Africa, and South America. Duggar’s group tested more than 3,500 soil samples before identifying an organism in 1945 that produced a gold-colored pigment. This substance exhibited antibiotic properties against an enormously wide range of bacteria—more than either penicillin or streptomycin. Duggar named his organism Streptomyces aureofaciens (“gold maker”), identifying it as a relative of Waksman’s S. griseus. Curiously, although Duggar tested samples from all over the world, his bacterium was found closer to home. It originated from plot 23 of Sanborn Field, the agricultural testing station of the University of Missouri.
E-POSTERS
Testing the Waters at Plant Health 2019!

APS Annual Meeting Board Members Sydney E. Everhart, everhart@unl.edu, and Kelly Ivors, kelly.ivors@driscolls.com

We are excited to announce that at the next APS Annual Meeting, Plant Health 2019, you will have the option to upload a digital copy of your poster, called an “e-poster,” which will be viewable to meeting attendees throughout and shortly after the meeting. The e-posters will be accessible through both the annual meeting app on your mobile device and a few e-poster viewing screens in the poster hall to demonstrate access to any e-poster on demand.

More time to look at posters
Making e-posters available online will enable you to access the digital versions of posters from the comfort of your hotel room or a nearby café. The regular poster session will continue to be held in the exhibit hall, with authors being physically present for specified periods of time during the meeting. In addition, this year the poster hall will open a little bit earlier and close a little bit later each day, giving you a few more hours to view the printed posters. To reduce the costs of poster boards and open up space for other activities, there will still be two poster-hanging times. As at previous meetings, the physical posters will be rotated, with half hung up during the first half of the meeting and half hung up during the second half of the meeting. However, making the e-posters available to view electronically will dramatically increase the number of hours that each poster is available for viewing.

Plan ahead!
If you wish to have your poster available as an e-poster, as well as a printed poster, you will be asked to upload a PDF of the poster about 1 week before the meeting. In addition, you will have to bring your printed poster and have the presenting author available at the poster during the scheduled poster presentation time.

Does your poster have sensitive data?
If your poster contains data that you don’t want to share electronically, you don’t have to upload it; the e-poster is an optional format. If you want to provide both formats, you can redact the information from the e-poster that you don’t want to show.

Bottom line
The e-poster is a new option to make posters more viewable and accessible to attendees of Plant Health 2019. We are testing the e-poster format this year to see how well it is received by attendees. Our goals in offering this innovation are to improve your APS meeting experience and to be cost effective by using the latest technology available. If successful, e-posters will provide much greater flexibility for meeting space requirements, which means greater flexibility in selecting facilities for future APS meetings.

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Harveson, continued from page 133

After 3 years of continued testing, the golden antibiotic chemical, christened “aureomycin,” was shown to be active against 90% of pathogenic bacteria and against pathogens that did not respond to other antibiotics, such as chlamydias, rickettsias, mycoplasmas, and even several viruses. Aureomycin was introduced in 1948 as the first broad-spectrum antibiotic, which triggered development of a new era of antibiotics for use in the treatment of human diseases.

Duggar’s legacy has definitely surpassed mushroom cultivation! And now, you know the rest of the story.

REFERENCES

Mark Your Calendars for Upcoming 2019 APS Division Meetings

Participating in APS divisions is one of the best ways to stay connected with your colleagues in plant pathology. Each division has an annual meeting, which provides the perfect opportunity for networking and learning the latest about regional issues and efforts. Division meetings also offer the perfect settings for graduate students to get presentation experience at a professional meeting. Check out these upcoming meetings, and watch for updates from the other divisions online.

SOUTHERN DIVISION MEETING
• February 7–9, 2019
Hilton University of Florida Conference Center, Gainesville
Abstract Deadline: December 3, 2018

POTOMAC DIVISION MEETING
• March 20–22, 2019
Atlantic Sands Hotel and Convention Center, Rehoboth Beach, Delaware

NORTHEASTERN DIVISION MEETING
• April 3–5, 2019
State College, Pennsylvania

CARIBBEAN DIVISION MEETING
• May 6–10, 2019
Melía Marina Varadero, Cuba
Abstract Deadline: February 15, 2019

PACIFIC DIVISION MEETING
• June 24-27, 2019
Fort Collins, CO

NORTH CENTRAL DIVISION MEETING
• August 2019
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Plant Health 2019 • August 2019

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“Browsing the virtual e-posters sounds like a great alternative to online shopping!”
—MARK GLEASON, Iowa State University

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Why Does Light Matter?

by David Gadoury, Cornell University

Microbial pathogens have been attacking plants for millions of years and have been doing so amidst endlessly repeated and natural cycles of light and darkness. Is it any wonder then that pathogens have adapted to sense, interpret, and use light to direct their activities? On such a scale of time, there is nothing in their evolutionary experience that yet equips them to deal with exposure to electrical lighting or the imposition of glass or plastic materials between them and the sun. These materials fundamentally alter the spectral distribution of light, remove some wavelengths entirely, reduce solar intensity, and radically change the temporal distribution of light and darkness. We have become adept at manipulating the lighting environment to enhance plant growth. But what are we doing to pathogens, and what opportunities for practical suppression are we missing by ignoring the close connections between light and plant diseases? A collaborative research team is trying to answer these questions at a number of research centers across the United States and around the world.

Nearly a dozen oral and poster presentations at the 2017 APS Annual Meeting in San Antonio covered the uses of UV light against powdery mildews and mites, the benefits of UV-transmitting plastics, the design and operation of machines to apply UV light under field conditions, similar units for greenhouse uses, the interactions of UV dose and daily light integrals, the accurate measurement of UV dose, and the molecular aspects of blue light-mediated DNA repair. There was also a well-attended Idea Café entitled “Why Light Matters.” At ICPP2018 in Boston, Aruppillai Suthaparan received the 2018 APS Hewitt Award for his pioneering work on light-based therapies, particularly the nighttime use of UV to suppress powdery mildews across a broad range of crops.

Light effects on pathogens are often inseparably linked to circadian biology. While related, the two are under separate controls at the genetic level. In the case of obligate biotrophs, it can be challenging but not impossible to separate direct effects on the pathogen from effects mediated through the host. In a few examples, diurnal effects are built into many advisory systems. However, we are just scratching the surface of how we can manipulate the lighting environment or use new knowledge of its effects to better manage microbial pathogens.

At ICPP2018, more than 300 people attended a concurrent session entitled “Why Light Matters: New Concepts, Tools, and Practices to Suppress Plant Pathogens and Enhance Plant Health.” Invited speakers covered the latest research and applications on the sensing, interpretation, and use of light by microbial pathogens and how light-based therapies are being explored as a means of suppressing plant diseases. The session was moderated by David Gadoury of Cornell University. The number of people exploring this research area continues to increase, and the recent advances in lighting technology, robotics, photobiology, and molecular methods make this an especially exciting time to participate in the work. More information on this research area is available at LightAndPlantHealth.org.

FEATURED MEMBER BENEFIT
Free APS webinars

Get free access to live and on-demand webinars on science and professional development. Topics of recent webinars have included project reporting, effective grantsmanship, collaborating with middle and high school teachers, and teaching new courses.

The next APS webinar is on successfully communicating your research project. Get tips on how to write a research paper that distinguishes between the steps in conducting a research project and the steps in communicating it.

The webinar fee for nonmembers is $50. Save and attend webinars for free when you renew your APS membership! ■

For details and to register, visit apsnet.org/webinars
Sylvester O. Aigbe

Sylvester is an associate professor of plant pathology at Ambrose Alli University (AAU) in Nigeria. He obtained his first degree in botany and a doctorate degree in plant pathology from the same university. He also obtained an MSc degree in agricultural biology (major in plant pathology) and an MPhil degree in plant pathology from the prestigious University of Ibadan, Nigeria. At international scientific conferences, including an APS annual meeting, Sylvester developed the vision and passion of starting a plant pathology society in Nigeria. This passion eventually materialized in October 2011, when he led the formation of the Phytopathological Society of Nigeria (PSN). Under his leadership, PSN was incorporated on April 17, 2013, and has organized four annual conferences, published four volumes of its *Journal of Phytopathology and Plant Health*, and signed a memorandum of understanding (MoU) with The American Phytopathological Society (APS) in August 2016. Sylvester recently led PSN in adding another new journal of plant disease to its collection, focusing mainly on applied plant disease research. His passion and zeal for PSN activities has endured over the years, despite the numerous challenges and huge sacrifices he has had to make in a developing economy. Sylvester received an ICPP2018 Bursary Assistance Award and a BSPP 2018 Travel Award. He has been an APS member since 2015.

**What prompted you to become a member of APS?**

My need for professional support and encouragement from a society such as APS and my desire to connect with the leading scientists in plant pathology in the United States and elsewhere prompted me to become a member.

**What is the most valuable benefit of APS membership?**

The most valuable benefit of APS membership is the opportunity to connect and network with the leading scientists in plant pathology from all over the world, some of whom may eventually become your mentors and collaborators. APS resources and networking will support your professional development to be a leader in plant pathology, both in your country and internationally.

**How has your APS membership supported and enriched your work in plant pathology?**

My APS membership has supported and enriched my work in plant pathology by affording me the opportunity to connect and network with the leading scientists in plant pathology; some of them are now my friends and mentors. The continuous support and ongoing encouragement I have received from my APS network have inspired me to be a leader in plant pathology in my country—a leader considered worthy to be invited by ICPP2018 to give a POD talk as a Phytopathologist of Distinction. APS also motivated me to organize one of the most well attended and successful ICPP2018 workshops. Through encouragement from APS, I secured an ICPP2018 Bursary Assistance Award and received the 2017 APS Books for the World Award.

Before joining APS, I was a young, lonely, uninspired plant pathologist in Nigeria and contemplated quitting the profession. My pleasant experience with APS rekindled my interest and supported my forging ahead. My pleasant experience with APS encouraged me to also become a member of the British Society for Plant Pathology, from whom I secured a travel grant to support my ICPP2018 participation. I also hold an Honorary Research Fellow position with the University of Aberdeen, Scotland, UK, for the molecular study of oomycetes pathogens associated with cocoa from Nigeria and the molecular study of fungal pathogens on exotic vegetables in Aberdeen supermarkets.

**What are the benefits of an APS membership for plant pathologists in Nigeria and beyond?**

Membership in APS facilitates easy participation in APS annual meetings, which will in turn provide opportunities for connecting and networking with the world’s leading plant pathologists. APS resources will support the professional development of plant pathologists in Nigeria and beyond to become leaders in plant pathology, both in their countries and internationally. APS will encourage and inspire them to remain and succeed in the profession. This is because APS members represent a broad range of specialties, from pushing frontiers in the accuracy and speed of field diagnosis to increasing the understanding of plant pathology through laboratory research. Similarly, APS annual meetings are the largest and the best, taking place in the best locations. APS membership therefore will expose plant pathologists in Nigeria and beyond to the latest cutting-edge research, the techniques and high-tech equipment in plant pathology, and knowledge and experiences that will sharpen their plant pathology research and teaching skills to produce better results in their environments. The awareness that you are a part of history in the making, part of a much larger APS movement that is redesigning and reconstructing hitherto uncharted paths to the glorious future of plant pathology, will not only be challenging to the plant pathologists in Nigeria and beyond but will also eventually be most rewarding and fulfilling.

**Your participation in APS helped inspire you to create the Phytopathological Society of Nigeria (PSN). How has your experience as an APS member informed PSN?**

My APS membership, which facilitated my easy participation in APS annual meetings, created new excitement, inspiration, and fulfillment for me as a plant pathologist based in Nigeria. Before becoming a member of APS, I was discouraged and thought about quitting plant pathology. This was due to the lack of a plant pathological society in Nigeria that could encourage and support members of the profession—a comparatively smaller number, compared with the United States, Canada, and Britain. My APS membership rekindled my interest in the profession. Having the desire to keep my new-found love alive and to share it with my fellow plant pathologists back home, I was inspired to create the PSN, a society that has now signed an MoU with APS and is encouraging and supporting plant pathologists in Nigeria and beyond.

The new “APS Membership Matters” series introduces a variety of APS members who share their experience as a member of APS and the plant pathology community as a whole. Do you have a story to tell? We’d love to hear from you! Email the editor at phytonewseditor@scisoc.org.
Plant Health 2019 Abstract Submission Process Opens in February

Make plans to share your science with your colleagues at Plant Health 2019, the APS Annual Meeting, by presenting your work with a poster or oral presentation in Cleveland, Ohio, August 3–7, 2019. Watch for additional details and the submission form opening in February 2019!
A Compelling Assignment for Sharing Plant Pathology with the Wider World!

By Chakradhar Mattupalli, PPB Intern

As I look back on my 2-year internship with the APS Public Policy Board (PPB), I am glad for the opportunity to share my insights and say how much I enjoyed interacting with other members of APS leadership. My background working in the agricultural banking industry has always made me mindful of the funding sources that supported my research projects. This motivated me to apply for the APS–PPB early career internship. However, it didn’t take too long to realize that this internship had more to offer than just improving my understanding of policy aspects that directly impact plant pathologists.

The PPB acts as a voice for APS in Washington, DC. Monthly conference calls are held to deliberate on scientific issues of current and imminent importance to the members of APS, and these discussions guide the advocacy efforts of the PPB. These conversations gave me the opportunity to work more closely with board members and collaborate on ideas to communicate the board’s advocacy areas through channels such as Phytopathology News articles. Along the way, I also benefited from the rich professional experience of the board members and received additional mentoring and advice to shape my career path. As an early career scientist, I couldn’t have wished for more than to work in a group in which everyone wants you to succeed!

An opportunity that I took on early in my internship was to act as a liaison between the Office of Public Relations and Outreach (OPRO) board and the PPB. A productive outcome from this interaction was the conceptualization and development of a short video aimed at teaching and fostering interest in phytobiomes. It has been really satisfying to work on a goal shared by both PPB and OPRO, which is to educate the public and APS members about the concept of phytobiomes through a 3-minute visual. In addition, my fellow interns and I led, organized, and ran the PPB booth at the annual meetings of APS; this was just one of many opportunities to put my organizational skills into action.

One of the memorable parts of the internship was the visit to Washington, DC, in which PPB members met with many federal agency representatives and legislators in March to advocate for funding for agricultural research and other issues. These meetings were eye-openers for me! Preparations are initiated 6–7 months prior to the actual meeting dates. PPB seeks input from APS members and drafts advocacy topics, which are timely, of high impact, and represent the opinion of majority of the society. During the DC visit, PPB members actively participate in more than 30 marathon meetings in only 3 days, requiring flawless planning and execution. Each meeting is point based and highly targeted to the agency, so that the board’s message is not just heard but understood.

My favorite parts were the meetings in which I led or co-led the discussion. Being involved like this was a great way to expand my skills in advocacy, cooperation, and liaising between diverse groups. During these meetings, I identified several internships and training opportunities offered through various federal agencies, all targeted to broadening workforce skills; I co-authored an article communicating these opportunities to APS members after the visit.

My internship taught me that affecting public policy is a highly incremental process. However, I also believe that each member of APS can get involved and make a positive impact on this process by creating awareness among a broader audience on how we strive to keep plants healthy!

In closing, I highly recommend that graduate students and early career scientists take advantage of this unique opportunity provided by the PPB to develop their leadership, writing, organizational, and advocacy skills.

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APPS Foundation

Donors Generously Donate More Than $90K!

Thank you to the APS Foundation donors, whose combined donations totaled more than $90,000 in fiscal year 2018!

These donations have lasting effects on the many individuals who receive support. For every dollar that’s donated, more than 90% goes directly back to stimulate the field of plant pathology.

We encourage all of our members to donate and contribute to the future of plant pathology. Every amount has a significant impact.

Apply for an APS Foundation Award

The APS Foundation is now accepting applications for several 2018 and 2019 awards.

Applications for the awards must be submitted online.

- **Plant Pathology Experiential Award**: Individual and department—Awards for graduate students and post-docs to promote career and development experiences outside academia. Applications due February 15, 2019.
- **J. E. Melhus Award**: Designed to support the graduate student symposium at the annual meeting. Applications due January 31, 2019.
- **Schröth Faces of the Future**: Supports the “Faces of the Future” symposium at the annual meeting. Applications due January 31, 2019.
- **JANE Research Award**: Research funding for cooperation between U.S. and developing-country scientists.
- **International Travel Award**: Support for an early career to midcareer scientist from a developing country to attend the APS Annual Meeting. Applications due February 15, 2019.

Apply today!

And don’t forget: Last call! Several APS award application periods are open through December 1, 2018.
The 2018 APS Pacific Division Meeting was held jointly with the Conference on Soilborne Plant Pathogens (CSPP) from June 25 to 27 in Portland, Oregon. The meeting was preceded by a field trip to the Tualatin Valley, a rich, diverse agricultural area west of Portland, where attendees had the opportunity to observe diseases affecting important crops in the area, including small fruits, ornamental plants, and hazelnuts.

Before the meeting, a career development program (Careers 101), led by Christopher Wallis (USDA–ARS, Parlier, California), was organized for students. It focused on learning tips for improving and enhancing scientific presentations and for developing and honing “soft skills” during graduate school and later on during post-doc projects.

The meeting had a total of 59 oral and 32 poster presentations and was a great success. It opened with a symposium entitled “Foliar Diseases That Lurk Belowground” and included outstanding presentations from invited speakers Everett Hansen (Oregon State University, Corvallis), Tom Gordon (University of California, Davis), and Tom Forge (Agriculture and Agri-Food Canada, Summerland, British Columbia). The symposium was followed by exceptional presentations from 2017 student award winners of each APS division and also CSPP winners. Eighteen students participated in the APS Pacific Division student presentation competition and 13 in the graduate student travel award competition.

Congratulations go to the following Pacific Division awardees:

• 1st Place, Oral Presentation: David Wheeler, Washington State University, Pullman
• 2nd Place, Oral Presentation: Jason Carter, University of California, Davis
• 3rd Place, Oral Presentation: John Bryan Webber, Oregon State University, Corvallis
• 3rd Place, Oral Presentation: Shankar Shakya, Oregon State University, Corvallis
• 1st Place, Poster Presentation: Nejra Solo, University of Idaho, Moscow

Divisional forum representatives and 2017 APS Division Student Award Winners. Top left to right: Gilberto Olaya (Syngenta Crop Protection and Divisional Forum Rep., Caribbean Division), Jay Pscheidt (Oregon State University, Corvallis, and APS Divisional Councillor), Jim LaMondia (Connecticut Agricultural Experiment Station and Divisional Forum Ex-Officio), Natalie Goldberg (New Mexico State University and Former Divisional Forum Rep., Pacific Division), Albert Culbreath (University of Georgia and Divisional Forum Chair and Divisional Forum Rep., Southern Division), and Ashok Chanda (University of Minnesota and Divisional Forum Rep., North Central Division). Bottom left to right: Kelsey Andersen (APS Southern Division winner), José García Gonzalez (APS Potomac Division winner), Andrea Garfinkel (APS Pacific Division Winner), and Chelsea Harbach (APS North Central Division Winner).

• Graduate Student Travel Awards: Raphael Adegbola (Washington State University), Leslie Holland (University of California, Davis), Arunabha Mitra (Washington State University), and Morgan Gray (University of California, Riverside)

Special thanks go to members of the local organizing committee: Inga Zasada (USDA–ARS, Corvallis), Jerry Weiland (USDA–ARS, Corvallis), Virginia Stockwell (USDA–ARS, Corvallis), Amy Peetz (USDA–ARS, Corvallis), and Jay Pscheidt (Oregon State University, Corvallis).

DeBary Children’s Science Book Awardees Announced

The committee for The American Phytopathological Society DeBary Award for Outstanding Children’s Science Books is happy to announce this year’s awardees. View all winning and nominated books online.
Awards

Alex Batson, an MS student in the Department of Plant Pathology, Washington State University (WSU), received the Seed Production Pathology and Seed Health Fellowship for the current fall semester in recognition of his scholastic achievements, leadership, and future promise in the field. The fellowship is funded from a donation by Richard and Marcia Morrison; Richard spent 35 years as a plant pathologist in the seed industry. As a graduate student at WSU, Batson is studying effector genes in Fusarium oxysporum f. sp. spinaciae, the causal agent of Fusarium wilt of spinach in Lindsey du Toit's program at the WSU Mount Vernon Northwest Research and Extension Center. He started as a time-slip employee in this program in the spring of 2017 and enrolled as an MS student in the fall semester of 2017.

Steve Koike has been awarded the 2018 Outstanding Contribution to Agriculture Award by the California Association of Pest Control Advisors (CAPCA). This prestigious award is given to individuals who have made meaningful differences in support of California agriculture. Steve has been recognized for the plant pathology research and problem-solving expertise that he has provided to growers, pest control advisors, and others in his previous work with UC Cooperative Extension and now with TriCal Diagnostics.

Collaboration

Neha Potnis, assistant professor of entomology and plant pathology at Auburn University, presented to the Department of Plant Pathology and Environmental Microbiology on August 27 as part of the fall 2018 seminar series. Potnis arrived at University Park on Friday, August 24, and met with department head Carolee Bull to discuss research opportunities and potential funding. In addition, Potnis met with graduate students and faculty and provided graduate school advice to members of the Blooms and Shrooms club. Potnis also met with Sara Klee, a current graduate student who was formerly mentored by then-PhD student Potnis.

Potnis's presentation provided insights into the development of successful disease management strategies in relation to the understanding of the factors underlying pathogen emergence, adaptation, and spread.

Mark Mazzola, USDA–ARS scientist and adjunct professor in the Department of Plant Pathology at Washington State University, recently presented an invited keynote address at the 10th Australasian Soilborne Diseases Symposium in Adelaide, Australia. Mazzola's presentation was entitled “Development and Application of Biologically-Based Methods to Control Soil-Borne Diseases.”

Gathering

Plant Pathology Graduate Students from Washington State University, Auburn University, and the University of Tennessee Convene in Central Washington

On July 12, 2018, 12 graduate students from Auburn University (AU) and three graduate students from the University of Tennessee (UT) joined 13 graduate students from Washington State University (WSU) in the Yakima Valley of Washington to learn about cherry diseases, grapevine diseases and nematodes, pea and bean diseases, and hop diseases. The tour was part of the WSU course Field Plant Pathology and Mycology (PLP 525) coordinated by Lindsey du Toit in the Department of Plant Pathology and the AU course Field Survey taught by Kathy Lawrence.

The tour started with the cherry research orchard at the Roza Farm of the WSU Prosser Irrigated Agriculture Research and Extension Center. Gary Grove (WSU Department of Plant Pathology) shared information on cherry diseases, including powdery mildew, and fire blight of pome fruit trees. The students then joined Michelle Moyers and Katherine East (WSU Department of Horticulture), Inga Zasada (USDA–ARS nematologist), and Cynthia Gleason (WSU Department of Plant Pathology) to learn about grapevine powdery mildew and nematodes. The afternoon tour included a visit to pea and bean disease trials with Lyndon Porter and Phil Miklas (USDA–ARS plant pathologist and bean breeder, respectively), including the impressive long-term bean “purgatory” breeding trial, and visits to hop yards to learn about hop production and diseases from David Gent (USDA–ARS plant pathologist) and Paul Merritt (Golden Gate Hop Ranches).

The evening was celebrated with a BBQ organized by Bill Cobb of Cobb Consulting. The BBQ was sponsored by McGregor's and held at Bill and Marie Cobb's house in WSU graduate students taking Field Plant Pathology and Mycology were joined on July 12, 2018, by students from AU and UT taking the AU course Field Survey to learn about diseases in orchards (top left), pea and bean production (top right), grapevine production (middle left), and hop production (middle right). The students were then treated to a BBQ at the home of Bill and Marie Cobb in Kennewick (lower left). Bill, a crop consultant, generously arranged for a plant pathology carrot cake to celebrate the gathering of plant pathologists (lower right).
Kennewick, Washington. There, students got to see and hear Bill’s impressive 1954 hot rod, which he races each year at the Salt Lake Flats in Utah, as well as a demonstration by the neighbor’s agility dogs. The evening was capped off with a delicious “plant pathology” carrot cake!

In Memory

We are saddened that Jonathan Walton passed away on October 18, 2018, after a brief illness. Jonathan began his career at Michigan State University (MSU) in 1987, when he joined the MSU–DOE Plant Research Laboratory and the Plant Biology Department (at the time, Botany and Plant Pathology) as an assistant professor. He was promoted to associate professor in 1992 and then to full professor in 1997. In 2003, Jonathan was awarded the MSU Distinguished Faculty Award. He served as president of the International Society for Molecular Plant-Microbe Interactions from 2003 to 2005 and from 2007 to 2010 was the editor-in-chief for the society’s journal Molecular Plant-Microbe Interactions. In 2007, Jonathan was named the MSU assistant director for the Great Lakes Bioenergy Center and in 2011, its MSU director. In 2008, Jonathan became a Fellow of The American Phytopathological Society, and in 2012, he was elected Fellow of the American Association for the Advancement of Science.

Jonathan was a pioneer and an internationally recognized leader in the study of plant–pathogen interactions. He worked on the corn-pathogenic fungus Cochliobolus carbonum. Applying organic chemistry, biochemistry, molecular biology, and genetics, his work has led to a comprehensive understanding of the disease syndrome caused by this fungus: production of a host-selective toxin by the fungus, the mode of action of the toxin, and the mechanism of plant resistance against the toxin. Notably, he identified the biochemical basis of the first disease resistance gene in plants. Later, he worked as member of the Great Lakes Bioenergy Research Center on fungal cell wall-degrading enzymes used for the conversion of plant lignocellulosic materials into biofuels. Most recently, Jonathan used genome sequencing to identify genes encoding the biosynthesis of cyclic peptide toxins, such as α-amanitin and phallodin, in deadly mushroom species of Amanita, Lepiota, and Galerina. He was developing novel strategies for using cyclic fungal toxins as therapeutic drugs and just completed a book on the molecular biology of these mushrooms, The Cyclic Peptide Toxins of Amanita and Other Poisonous Mushrooms.

Jonathan was an outstanding mentor and friend to many students and post-docs. He also hosted visiting scholars from countries around the world and was a sought-after collaborator. He taught both challenging graduate courses and large introductory biology classes. During the past 3 years, he was instrumental in developing the molecular plant science graduate program at MSU and became its inaugural director.

Just before his death, Jonathan expressed how much he enjoyed his work environment and how fortunate he felt in his job to interact with his colleagues, staff, and friends at the Plant Research Laboratory and the Department of Plant Biology.

He will be dearly missed.

Submitted by Christoph Benning, Michigan State University

Grad Student Spotlight: Yasser Nehela

Type of degree program enrolled in (master’s or PhD)?
PhD.

What year are you in graduate school?
Second year. Passed my thesis defense to graduate in the fall of 2018.

What is your academic department/section called at your institution?
Plant Pathology Department. I am located in the Citrus Research and Education Center, IFAS, University of Florida.

Who is your major professor?
Nabil Killiny.

How have you been involved in the APS organization?
I am a member of both APS and the APS Southern Division and attended ICP2018.

Could you provide a short research description on your thesis work?
My PhD research project focuses on the metabolic responses of citrus plants to the bacterial pathogen ‘Candidatus Liberibacter asiaticus’ and its insect vector, Diaphorina citri. Mainly, I am using integrative metabolomics, transcriptomics, and bioinformatics to understand the citrus response(s) against Huanglongbing (citrus greening disease).

What’s something interesting that most people don’t know about you?
After I finished high school, I wanted to attend the faculty of fine arts to develop my hobby of drawing and painting and to learn about interior design and graphics. However, I joined the faculty of agriculture, University of Tanta, to be a phytopathologist who paints pathogens and their hosts :)”

What are some of your interests outside science?
I enjoy painting, photography, graphic design, and definitely playing with my kids :)

What is your hometown?
Tanta, Egypt.

What is your favorite pathogen/plant disease?
‘Candidatus Liberibacter asiaticus,’ the potential pathogen of Huanglongbing (citrus greening disease).

If you know you are pursuing a specific career sector and want that shared, what is it?
I am enjoying teaching too much. Before I arrived in the U.S.A., I was working as an assistant lecturer of plant pathology, Department of Botany, Faculty of Agriculture, University of Tanta.

How did you become interested in the field of plant pathology?
Phytopathology is such a diverse, challenging, and worthwhile career that I really consider as the right field for me. If we consider the infected plants as a patient, the phytopathologist is the doctor. When I was first considered phytopathology as a career, I thought that I would prefer the green methods (no pesticides) for disease control as an area of expertise; therefore, I pursued my MSc degree correlated with this subject.

Do you have any social media handles that you want included?
LinkedIn.

Learn more about the APS Graduate Student Committee initiatives and student opportunities. Connect with the committee on Twitter @plantpathgrads and Facebook.
Assistant Professor and Extension Specialist

The Department of Plant Pathology and Microbiology at Texas A&M University and Texas Tech University are seeking an assistant professor and extension specialist to be located at the Texas A&M Research/Extension Center in Lubbock. This is a 12-month, non-tenure-track appointment comprised of 75% extension for Texas A&M and 25% teaching in the Department of Plant and Soil Science and Texas Tech. The successful candidate will lead and coordinate extension education in plant disease management for the Texas high and rolling plains, teach an undergraduate and graduate-level plant pathology class at Texas Tech, and serve as a mentor to graduate students. Active interaction with growers, members of commodity groups, and other agricultural professionals is a major focus.

The successful applicant will focus on disease management issues primarily in cotton, peanuts, and other crops important in the Texas Panhandle using innovative, cost-effective strategies, including new fungicides or fungicide combinations, variety testing, and cultural practices. The faculty member will be responsive to the educational and applied research needs of commodity groups in the Texas Panhandle. In this position, the individual will work closely with other researchers and Texas A&M AgriLife Extension Service Specialists to identify plant pathogens that may cause new disease problems in the state, such as FOV4. He or she will participate in the cotton-breeding program at Lubbock. Effective extension educational programs and materials will be developed, including applied field research, demonstrations, publications, workshops, conferences, electronic creations, and mass media techniques. Information generated will be used to develop a distinguished publication record in peer-reviewed scientific journals. It is expected that external funding will be generated to support applied research. This position requires extensive interaction with clientele through one-on-one contacts, site visits, and timely communication via phone, text, and e-mail.

This position is supervised by the head and the associate head for extension in Plant Pathology and Microbiology. The candidate will supervise staff, students, post-doctoral research associates, and other employees as appropriate.

Qualifications: A PhD in plant pathology is required, with an understanding of extension. Being able to work both independently and collaboratively is required. Excellent written, oral, and communication skills are required.

Applications must be submitted online here (Job #R-012778). Application materials include a cover letter, a curriculum vitae, transcripts. Three reference letters should be sent directly to Dr. Leland (Sandy) Pierson, Department Head, Texas A&M University 2132 TAMU, College Station, TX 77843-2132, or emailed to lspierson@tamu.edu. Questions concerning the position may be referred to Dr. Pierson.

Post-Doctoral Research Associate: Fungal Genetics

A post-doctoral research associate position in fungal genetics is available in the Department of Crop Sciences at the University of Illinois at Urbana–Champaign. The position is available in Dr. Mideros’s laboratory of plant pathology. The position will be part of the funded USDA/DOE Plant Feedstock Genomics for Bioenergy project entitled “Conserved genetic mechanisms for biotic stress in sorghum.” The selected scientist will be responsible for identifying key fungal pathogenesis genes present in maize isolates of Setosphaeria turcica (syn. Exserohilum turcicum) that allow sorghum to avoid infection. The overall objective of the project is to gain a systems-level understanding of the pathosystem by leveraging natural genetic variation, host specificity of the pathogen, and transcriptome analysis to improve biotic stress resistance in sorghum.

Responsibilities

• Conduct greenhouse experiments with maize, sorghum, and/or wheat inoculated with fungal pathogens.
• Extract high-quality DNA and RNA, and prepare libraries for Illumina sequencing.
• Develop a fungal bi-parental population.
• Conduct gene expression analysis with RNAseq data and genetic mapping with GBS data.
• Write research and review articles for peer-reviewed journals.
• Follow literature relevant to the project, and independently adjust and troubleshoot protocols based on up-to-date information.
• Mentor and guide graduate and undergraduate students.
• Work as part of a team of scientists.

Requirements

• A PhD in plant pathology, crop sciences, plant biology, or a related field.
• First author on a minimum of two peer-reviewed articles related to plant–microbe interactions.
• Experience with basic molecular biology techniques: DNA and RNA extraction.
• Experience with statistics and bioinformatics tools and familiarity with command line operations. Preferably, specific experience with tools to call SNPs, analyze transcriptome data, and/or conduct genetic mapping.
• Two years of experience in a plant pathology laboratory: media preparation, pathogen growth, sterile technique, microscopy.
• Two years of experience conducting inoculated greenhouse experiments.
• Excellent organizational skills and strong attention to detail.

To apply: Submit a single PDF application to Dr. Mideros. The application file should include a cover letter highlighting how your experience, reflected in your publications and your CV, fit the requirements of the position, and contact information for three professional references. Three confidential letters of recommendation will be requested by the Department of Crop Sciences from the listed references.

FIND THE LATEST JOBS IN PLANT PATHOLOGY

Search online for new job opportunities in the field of plant pathology using the APS Job Center. Visit the APS Job Center.

Phytopathology News

It’s Never Too Early to Renew!

Don’t wait to renew your membership! Renewing keeps your membership current into the new year. Make it your resolution to renew early, and check it off before 2019! It’s easy to renew online at apsnet.org/renew. Before you check out, be sure to enroll in Auto-Renew to ensure your membership never expires.

Don’t get caught with your plants down. Renew today!
**SPOTLIGHT**

Read the Latest Issue of *Phytophthora Journal*

Authors, submit your research soon for reduced page charges.

**Phytopathology**

- Fine-Scale Population Genetic Structure and Within-Tree Distribution of Mating Types of *Venturia effusa*, Cause of Pecan Scal in the United States / Clive H. Bock, Carolyn A. Young, Katherine L. Stevenson, and Nikki D. Charlton

- Antagonistic Activity and the Mechanism of *Bacillus amyloliquefaciens* DH-4 Against Citrus Green Mold / Kai Chen, Zhonghuan Tian, Yuan Luo, Yunjiang Cheng, and Chao-an Long

- Spatial Analysis of Rice Blast in China at Three Different Scales / Fangfang Guo, Xinglong Chen, Minghong Lu, Li Yang, Shiwei Wang, and Bo Ming Wu

**Plant Disease**

- Finding the Gaps: An Assessment of Concepts, Skills, and Employer Expectations for Plant Pathology Foundational Courses / Brantlee Spakes Richter, Anissa Poleatewich, Maya Hayslett, and Kathryn Stofer

- Comparison of Whole Plant and Detached Leaf Screening Techniques for Identifying Anthracnose Resistance in Strawberry Plants / Melinda A. Miller-Butler, Barbara J. Smith, Ebrahimi M. Babiker, Brian R. Kreiser, and Eugene K. Blythe

- Temporal Genetic Differentiation of *Cercospora beticola* Populations in New York Table Beet Fields / Noel L. Knight, Niloofar Vaghefi, Zachariah R. Hansen, Julie R. Kikkert, and Sarah J. Pethybridge

**TRENDING**

**Phytophthora journal**

- Identification of Plant Compounds Involved in the Microbe-Plant Communication During the Coinoculation of Soybean with *Bradyrhizobium elkanii* and *Delftia sp. strain JD2* / Célica Cagide, Braulio Riviezza, Manuel Minteguiaga, María A. Morel, and Susana Castro-Sowinski

- Effects of Mating Types with Contrasting Phosphorus Use Efficiency / Eliane A. Gomes, Ubiarco G. P. Luna, John F. Quensen, Sylvia M. de Sousa, Christiane A. Oliveira, Jiayong Guo, and et al.

- Root-Associated Microbiome of Maize Genotypes with Contrasting Phosphorus Use Efficiency / Eliane A. Gomes, Ubiarco G. P. Luna, John F. Quensen, Sylvia M. de Sousa, Christiane A. Oliveira, Jiayong Guo, and et al.

**Editors’ Picks**

- Application of Game Theory to Explore the Dynamics of Host-Pathogen Association in Phytophyllosis / Man S. Kim, Huan Zhang, and Won Bo Shim

- Cotton Leaf Curl Disease: Which Whitefly Is the Vector? / Li-Long Pan, Xi-Yun Cui, Qun-Fang Chen, Xiao-Wei Wang, and Shu-Sheng Liu

-Belowground Chemical Signaling and Plant–Microbe Interactions / Harald Scharn, Phytopathology editor-in-chief

- Effect of Virulence of Root Rot Pathogens and Cultivar Resistance on Disease Occurrence in Dry Beans / Anthony O. Adesemoye, Travis Orrell, and Srikanth Kodati


- Hazelnut Yield Protection Using Fungicides Against Eastern Filbert Blight / Jay W. Pichedh, John P. Bassinette, Stephanie Heckert, and Steve A. Cluskey

**Phytopathology News**

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apsjournals.apsnet.org
Call for Applications for 2019 Storkan-Hanes-McCaslin Foundation Awards

The Storkan-Hanes-McCaslin Foundation Awards are named in honor of Richard C. Storkan, Gerald L. Hanes, and Robert L. McCaslin. Each had a long history of cooperation with the scientific community, and all were pioneers in developing effective soil fumigation through experimental research.

The foundation was established in 1987 to support graduate student research. To date, $534,500 has been awarded to 84 promising scientists. In addition to receiving unrestricted cash awards (which range from $5,000 to $10,000 and can be used for any purpose that will benefit the education of the student, including personal expenses), new awardees will receive round-trip fares to the 2019 APS Annual Meeting in Cleveland, Ohio, where they will be presented their awards at a luncheon attended by their research advisors, previous awardees, and members of the foundation committee.

Congratulations to the 2018 Storkan-Hanes-McCaslin Foundation Award winners

- **Kelly N. Hrywkiw**, University of British Columbia. Proposal title: Of forests and *Phytophthora*, elucidating the host-pathogen interaction through dual RNA-sequencing
- **Ram B. Khadka**, The Ohio State University. Proposal title: Combined effects of inundative biocontrol and anaerobic soil disinfestation (ASD) using non-host cover crops as carbon sources for clubroot management in cruciferous crops
- **Megan McCaghey**, University of Wisconsin–Madison. Proposal title: Controlling *Sclerotinia sclerotiorum* in *Glycine max* by targeting oxalic acid production using host-induced gene silencing

A major aim of the foundation is to encourage research by offering financial assistance to graduate students who are working on soilborne diseases of plants. The research must be done in the United States, Canada, or Mexico. Foundation policy is to contribute to the education of the student. Grants are made on a yearly basis and may be renewed after review by the committee. Since the award is highly competitive, unsuccessful applicants are encouraged to update their proposals for future consideration. The research for which the award is given is expected to be performed by the applicant during the academic year 2019–2020, and a one-page progress report is due 1 year from the date of the award. The foundation would appreciate being acknowledged in research publications stemming from this award.

To be considered for funding, each proposal should be carefully prepared in accordance with the instructions given below and submitted electronically, no later than May 1, 2019, to Michael Stanghellini (chair of the Selection Committee—email address: michael.stanghellini@ucr.edu).

Each applicant should submit a combined file that provides the following materials:

- a short, two- to three-page research proposal containing a concise statement of the objectives, methods, and materials and the projected impact of the proposed research (Note: A budget is not required.)
- a one-page résumé (i.e., brief description of education and research background, plus a telephone number and email address)
- a letter of recommendation from the applicant’s major professor or research director

Preference will be given to those proposals with innovative, creative, and/or novel research approaches to the stated objective(s) and to the overall quality of the written proposal (organization, correct English grammar and spelling). Funding will begin September 1, 2019.

Calendar of Events

**APS-SPONSORED EVENTS**

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**OTHER UPCOMING EVENTS**

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