A Roadmap for Phytobiomes Research and Translation

In November 2015, an intensive writing workshop—attended by plant pathologists, soil scientists, microbial ecologists, animal scientists, and physical scientists from academia, industry, and private foundations—took place at the Samuel Roberts Noble Foundation in Ardmore, OK (see the January 2016 issue of Phytopathology News). Workshop discussions and writing sessions moved the multidisciplinary Phytobiomes Initiative closer to fruition by fleshing out a “Roadmap for Phytobiomes Research and Translation.” That roadmap, further enhanced by initiative leaders Guyn Beattie, Linda Kinkel, Jan Leach, Steve Lindow, and Kellye Eversole, with significant input from the multidisciplinary community, will be released formally to the public in late February 2016, when the APS Public Policy Board makes its annual visit to policy-makers and agency administrators in Washington, DC. The roadmap’s Executive Summary is presented below. The full Roadmap and appendices are posted at www.phytobiomes.org/roadmap.

The Phytobiomes Roadmap offers a new vision for agriculture where sustainable crop productivity is achieved through a systems-level understanding of diverse interacting components. Phytobiomes consist of plants, their environment, and their associated communities of organisms. Interactions within phytobiomes are dynamic and profoundly affect plant and agroecosystem health, which in turn impacts soil fertility, crop yields, and food quality and safety.

Global demands for food, feed, and fiber are expected to double in the next 35 years. In the same timeframe, we face a world of diminishing arable land, extreme weather events, unsustainable fertilizer inputs, uncertain water availability, and plateauing crop yields. We need new, innovative approaches to sustainably increase global crop productivity.

This Roadmap describes a strategic plan for acquiring knowledge of what constitutes a healthy, productive, and sustainable agroecosystem and translating that knowledge into powerful new tools in our crop management toolbox. Integration of these tools is needed to help increase food production from existing farmland while minimizing negative impacts on the environment, increase global arable land by rehabilitating marginal and degraded lands, and ensure sustained productivity and profitability of global food, feed, and fiber.

New EIC of Phytobiomes Journal Announced

APS is excited to announce that Carolyn Young will serve as the first editor-in-chief for the newly established APS journal, Phytobiomes. The transdisciplinary open access journal will cover research on any form of life associated with plants, as well as genomics, computational biology, climate change, and more. Young has been actively engaged in the Phytobiomes Initiative efforts both as a participant in the 2015 Phytobiomes Roadmap Writing Workshop and as a member of the Phytobiomes 2015 Meeting Steering Committee.

Young, a mycologist and plant pathologist, received her Ph.D. (2005), M.Sc. (1999), and B.Sc. (1993) degrees from Massey University, Palmerston North, in New Zealand.

She has 10 years of experience with Neotyphodium species and has cloned and characterized the genes required for the biosynthesis of the indole-diterpenes paxilline and lolitrem B. Her lab conducts research within the area of plant-microbe interactions, in particular with fungal endophytes of cool season grasses and with Phymatotrichopsis omnivora, a destructive plant pathogen of crops.

Since 2012, she has served as associate professor of the Forage Improvement Division of The Samuel Roberts Noble Foundation. In addition, she is an adjunct faculty member in the Department of Entomology and Plant Pathology at Oklahoma State University (2011–present).

Young is a member of APS, the American Microbiological Society, the Association for Women in Science, the Crop Science Society of America, the Genetics Society of America, and the Mycological Society of America. She is also the associate editor of Mycologia (2014–present), senior editor for Epichloë, Endophytes of Cool Season Grasses: Implications, Utilization and Biology, and an ad-hoc peer reviewer for 34 other journals.
Phytopathology News—Then and Now

Kenny Seebold, Valent U.S.A., kenneth.seebold@valent.com

Back in January, I began my stint as editor-in-chief of Phytopathology News, following in the footsteps of the illustrious Doug Jardine and other excellent editors before him. Like all of you, I’ve been reading Phytopathology News since becoming a member of APS and have always found it to be a great way to catch up on current events in our society, learn about new publications, and find out about career opportunities, meetings, and society activities. So, I think it’s fair to say that Phytopathology News is a very useful publication in its current form, but I also think it’s reasonable to look at what we’re doing now and identify areas that we could change to better serve the needs of our readers.

When Phytopathology News was launched in 1967, it came in print form and was mailed to individual subscribers. More recently, we adopted an electronic format that allows subscribers to access Phytopathology News online. So where do we go from here? One of my goals as editor-in-chief is to ensure that we not only provide content that is both useful and interesting to our readers, but also to explore new ways to deliver that content. So that’s where you, the readers, come in. My plan is to send out a survey to our readers in the coming months to ask what should stay in Phytopathology News, what might need to be changed, what should be added, and in what format should this information be delivered. We will then use the survey to shape the future direction of Phytopathology News. You don’t have to wait for the survey to share your ideas, either. Please feel free to send me suggestions or comments—I look forward to hearing from you.

This Roadmap aims at maximizing sustainable food production by generating, optimizing, and translating into practice new knowledge of phytobiomes. Steps to achieve this vision are to explore phytobiome components and their interactions; integrate phytobiome systems-based knowledge, resources, and tools; optimize phytobiome-based site-appropriate solutions; and apply phytobiome-based solutions in next-generation agricultural practices to sustain enhanced food production worldwide, with concurrent efforts to educate and engage scientists, public and private partners, growers, educators, and society.

To help guide these efforts, this Phytobiomes Roadmap outlines major gaps in knowledge, technology, and infrastructure for research and translation and identifies challenges to efforts to educate and train a workforce that will carry this field into the future.

We are currently witnessing a nexus of technologies that will enable advances in fundamental knowledge of phytobiomes and translation into sustainable crop production practices. Conceptual and technological advances in diverse fields of research, including “omics” sciences, systems biology, microbial ecology, data science, and precision crop management systems, are positioning researchers to achieve major leaps in characterizing, analyzing, and managing phytobiomes as integrated systems.

Strategic funding and public-private partnerships are needed to support critical research and infrastructure for developing phytobiome-based management approaches. Key research areas include fundamental studies of phytobiome components, interactions, dynamics, and functions; the generation of integrated systems-based models for phytobiome analysis and prediction; the development of practical phytobiome-based crop management strategies; and the establishment of collaborative global platforms for open communication among growers, researchers, industry, extension, agricultural consultants and advisors, and consumers. Filling the knowledge gaps will require interdisciplinary cooperation.

A new journal, Phytophases, will launch this year and an international phytobiomes alliance is being established to contribute to the coordination of research and communication among diverse disciplines and disciplinary initiatives relevant to phytobiomes. Working groups will be established to help develop priorities and standards for phytobiome research. Major thrusts will focus on forging international and public-private collaborations in foundational and translational phytobiome research and attracting and strengthening the phytobiome workforce. The goal is to generate and integrate knowledge of phytobiomes with next-generation technologies to empower both small- and large-holder farms to produce, sustainably and profitably, sufficient crops to meet the increasing global demand.
Annual Financial Report

Annual Audited Summary of APS Finances for Fiscal Year 2015

Steve Slack, APS Treasurer, slack.36@osu.edu

The Financial Advisory Committee (FAC) and APS Headquarters staff meet periodically to review financial matters related to the operation of the society and to refine the APS strategic financial plan. FAC, headquarters staff, and leaders of APS business centers update and revise the strategic financial plan annually to ensure that funds are available to support all activities of the society. An overall society to ensure that funds are available to support those goals, and monitor progress toward each goal. FAC continually asks the difficult questions such as which programs should break even and which are expected to generate surplus to invest in our programs and services that best benefit our members. This plan continues to work for the society, allowing us to invest in our future.

The FY15 profit from operations (excluding investments) was concluded with a surplus of $54,499. This net income from operations was before adjustment for the funded status of the APS pension plan of $952,322. This adjustment increased income and is based on an actuarial analysis with several variables and as such the amount can fluctuate significantly from year to year. The liability magnitude is currently lower due to freezing the plan June 30, 2015, and moving to a defined contribution plan with funds going into a traditional 403B.

The FY15 income and expense categories for the society are detailed in Table 1. Our total income ($5,218,553) was derived from eight sources as indicated in Figure 1, and our total operating expenses ($5,164,054) incurred during FY15 were partitioned as indicated in Figure 2. The income and expenses of the society for the most recent 11 FYs are presented in Table 2. The total assets of the society as of June 30, 2015, including restricted funds, were $9.9 million and liabilities totaled $4.7 million. This resulted in total net assets of $5.2 million.

Table 1. Audited Summary of Income and Expenses—6/30/15 (Twelve Months)

<table>
<thead>
<tr>
<th>Category</th>
<th>Income</th>
<th>Expenses</th>
<th>Net Before Overhead</th>
<th>Net After Overhead</th>
</tr>
</thead>
<tbody>
<tr>
<td>Member Services</td>
<td>401,021</td>
<td>749,089</td>
<td>15% (348,068)</td>
<td>(632,185)</td>
</tr>
<tr>
<td>Phytopathology</td>
<td>921,033</td>
<td>378,408</td>
<td>7% 542,625</td>
<td>374,016</td>
</tr>
<tr>
<td>Plant Disease</td>
<td>927,895</td>
<td>447,346</td>
<td>9% 480,549</td>
<td>294,420</td>
</tr>
<tr>
<td>Phyto News</td>
<td>3,054</td>
<td>36,241</td>
<td>1% (33,187)</td>
<td>(38,216)</td>
</tr>
<tr>
<td>MPMI</td>
<td>803,418</td>
<td>391,199</td>
<td>8% 412,219</td>
<td>252,710</td>
</tr>
<tr>
<td>Plant Mgmt Network</td>
<td>388,685</td>
<td>163,063</td>
<td>3% 225,622</td>
<td>122,407</td>
</tr>
<tr>
<td>APS Press</td>
<td>826,777</td>
<td>975,857</td>
<td>19% (149,080)</td>
<td>(364,372)</td>
</tr>
<tr>
<td>Annual Meeting</td>
<td>800,370</td>
<td>569,396</td>
<td>11% 230,974</td>
<td>55,294</td>
</tr>
<tr>
<td>Auxiliary Meetings</td>
<td>30,110</td>
<td>25,777</td>
<td>0% 4,333</td>
<td>(9,575)</td>
</tr>
<tr>
<td>Innovation</td>
<td>0</td>
<td>158,501</td>
<td>3% (158,501)</td>
<td>0</td>
</tr>
<tr>
<td>G &amp; A</td>
<td>116,190</td>
<td>1,269,177</td>
<td>25% (1,152,987)</td>
<td>0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>5,218,553</td>
<td>5,164,054</td>
<td>(54,499)</td>
<td>54,499</td>
</tr>
</tbody>
</table>

Table 2. Comparison of The American Phytopathological Society fiscal years 2005 to 2015 before reserve allocation

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Income</th>
<th>Expenses</th>
<th>Surplus (Deficit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY05</td>
<td>$3,959,027</td>
<td>$3,819,096</td>
<td>$139,931</td>
</tr>
<tr>
<td>FY06</td>
<td>$4,289,974</td>
<td>$4,219,957</td>
<td>$70,017</td>
</tr>
<tr>
<td>FY07</td>
<td>$4,338,746</td>
<td>$4,278,728</td>
<td>$57,018</td>
</tr>
<tr>
<td>FY08</td>
<td>$4,734,346</td>
<td>$4,712,582</td>
<td>$21,764</td>
</tr>
<tr>
<td>FY09</td>
<td>$4,931,056</td>
<td>$4,572,696</td>
<td>$544,660</td>
</tr>
<tr>
<td>FY10</td>
<td>$4,176,883</td>
<td>$4,152,696</td>
<td>$24,187</td>
</tr>
<tr>
<td>FY11</td>
<td>$4,922,737</td>
<td>$4,865,060</td>
<td>$57,677</td>
</tr>
<tr>
<td>FY12</td>
<td>$5,223,752</td>
<td>$4,766,446</td>
<td>$457,306</td>
</tr>
<tr>
<td>FY13</td>
<td>$4,888,696</td>
<td>$4,849,155</td>
<td>$39,541</td>
</tr>
<tr>
<td>FY14</td>
<td>$4,931,056</td>
<td>$4,525,740</td>
<td>$405,316</td>
</tr>
<tr>
<td>FY15</td>
<td>$5,218,553</td>
<td>$5,164,054</td>
<td>$54,499</td>
</tr>
</tbody>
</table>
Sneak Peek at 2016 APS Annual Meeting
“Science to Practice” Plenary Session

The APS Annual Meeting will once again feature an exceptional group of speakers during its “Science to Practice” Plenary Session to take place on Monday, August 1, from 8:00-10:00 a.m. This impressive plenary session is the feature event of this year’s theme “Science to Practice,” which celebrates the role of plant pathologists in identifying, understanding, and solving critical problems in plant health worldwide. The following plenary speakers will provide excellent examples highlighting contributions to science that translate into solutions for plant health problems in agricultural systems in the United States and abroad, a session you won’t want to miss!

Margaret (Peg) Redinbaugh, USDA ARS research leader and research plant molecular geneticist, and adjunct professor, The Ohio State University, Wooster, OH

Redinbaugh will present the story of maize lethal necrosis (MLN), a disease that has recently broken out in East Africa, threatening a staple food and key determinant of food security for smallholder farmers. She will describe the significant progress of an international team of researchers utilizing traditional and advanced approaches to identify the disease, define epidemiological factors associated with the outbreak, and develop control strategies.

Linda Kinkel, Professor, University of Minnesota, St. Paul, MN

Kinkel will present metagenomic and phenotypic compositional, functional, and network data on plant microbiomes within distinct environments. She will discuss how these data can enhance our understanding of the dynamic ecological and evolutionary processes that influence microbiome characteristics and how these data can guide the development of novel approaches for disease management.

Leena Tripathi, Plant biotechnologist, International Institute of Tropical Agriculture Bioscience Center, Nairobi, Kenya

Xanthomonas wilt is an invasive disease that has devastated banana, a major staple food crop, throughout East Africa in the past decade. Tripathi will describe how basic and applied research approaches have contributed to the development of management options for this disease, from advanced diagnostics to cultural practices to transgenic disease-resistant plants.

Submit Your Abstract by March 15

Oral technical and poster submissions for the APS Annual Meeting, “Science to Practice,” will be accepted through March 15, 2016. This year’s meeting will focus on translating advances in basic research to field applications. APS encourages submissions that highlight the translational aspects of plant pathology from basic research to field-based solutions, especially in the context of complex production systems, how we communicate scientific advances to growers and other stakeholders, and new approaches to the training of future plant pathologists in research and outreach. Hints for a successful abstract submission are now available at www.apsnet.org/meetings/annual/abstracts.

New Category Added to Art in Phytopathology Contest

Submissions for 2016 due July 1

Art in Phytopathology is sponsored by the Graduate Student Committee, Valent USA, and BASF showcases the artwork of students and members in the area of phytopathology. Since its inception in 2002, hundreds of entries have been displayed. This past year at the 2015 APS Annual Meeting, 41 works of art were entered into the competition ranging in media from crochet to digital imagery to illustrations. All of the 2015 submissions can be accessed at www.apsnet.org/members/apsleadership/comm/Pages/ArtinPhytoResults.aspx.

The Graduate Student Committee would like to solicit submissions for the 2016 Art in Phytopathology contest! All APS members are welcome to submit artwork and graduate student participation is especially encouraged. Art in any medium is welcome, but all artwork is submitted in a digital format. The winners will be announced at the 2016 APS Annual Meeting in Tampa, FL, and awards will be distributed in September. Thank you Valent USA and BASF for funding this competition!

There are four permanent categories: Arts and Crafts, Nature, Digitally Altered, and Humor. Starting this year, we will have a fifth category that changes annually. This year the theme is “Creative Ways to Display Data.” Judges give each entry points based on creativity, aesthetic value, technical merit, shade and color, originality, and relatedness to plant pathology. Winners in each category are awarded a $50 check and the best in show wins an additional $50.

Submissions will only be accepted in a digital format. Two- or three-dimensional art must be digitally photographed for online submission. All artwork must be original, related to the general theme of plant disease, and created by a current member of APS. Each entrant may submit up to three pieces. APS reserves the right to use, reproduce, or publish submitted artwork. A slideshow of the digital entries will be displayed at the annual meeting right before the Plenary Session and posted on the APS website after the meeting.

Please send your artwork as an e-mail attachment to phytopathart@gmail.com, including your full name, job title, employer address, title of your artwork, permission for APS to reproduce or publish your submission, and a brief description of your artwork (include medium, dimensions, what the art depicts, etc.). Entries must be submitted by July 1, 2016. If you have any questions, please send them to Elisha Allan-Perkins (eballan@cns.umass.edu). Thanks to our Graduate Student Committee Art in Phytopathology subcommittee: Allan-Perkins, Mel Carter, Shashika Hewavitharana, and Karasi Mills.
Nominate an Outstanding APS Volunteer!

It is time to nominate an APS member for the Outstanding Volunteer Award. The award recognizes members for excellent service in furthering the mission of APS through their volunteer efforts. It’s time for you to tell us who these individuals are so APS can show them our appreciation. Don’t let them go unnoticed!

To make your nomination, simply send a nomination letter to the attention of the APS Councilor-at-Large Lindsey du Toit (dutoit@wsu.edu) with “APS Volunteer Award” in the subject line by May 15, 2016. Only APS members are eligible. The nomination letter should be saved as a .pdf document and should be no more than one page. In the letter, include a description of your nominee’s recent volunteer activities (within the last five years) and how the nominee excelled in the quality, timeliness, and/or scope of these activities. Please note that current council members of APS are not eligible for this award and senior editors are not eligible in their area of responsibility. Nominations will be reviewed by the councilors-at-large. More than one award may be given annually. The recipient(s) will receive an APS plaque and will be honored during the 2016 APS Annual Meeting by the current APS president. If you have any questions, please contact du Toit.

Recent Webcasts from the Plant Management Network

In support of its nonprofit publishing mission to enhance the health, management, and production of crops through quality, science-based information, the Plant Management Network (PMN) recently produced a series of webcasts on plant health for the upcoming growing season. Subscribe to PMN for full access to these and more than 200 other webcasts, as well as the Plant Health Progress journal, Plant Disease Management Reports, and a range of other applied resources for the agricultural and horticultural sciences. Visit www.plantmanagementnetwork.org/subscriptions.

FOCUS ON CORN
- Estimation of Efficacy Functions for Products Used to Manage Corn Rootworm Larval Injury, Nicholas Tinsley, University of Illinois at Urbana-Champaign
- RNA Interference as a Pest Management Tool for Western Corn Rootworm, Ana Maria Vélez, University of Nebraska-Lincoln

FOCUS ON COTTON
- Detection of Virus Diseases of Cotton, Akhtar Ali, The University of Tulsa
- Improving Soil Health in Cotton Cropping Systems, Steve Woodruff, USDA-NRCS
- Managing Soil Compaction in Agricultural Fields, Randy L. Raper, Oklahoma State University
- Cover Crop Use in Cotton: Weed Suppression and Subsequent Crop Tolerance, Jason K. Norsworthy, University of Arkansas
- Harvest Aid Considerations in Texas Cotton, Wayne Keeling, Texas A&M University

FOCUS ON POTATO
- Pythium Leak of Potato, Lyndon Porter, USDA-ARS
- “It’s Significant to Me!” The Purpose of Using Statistics in Agricultural Research, Jeff Miller, Miller Research
- Optimizing Shank Injection Fumigation Using Metam Sodium, Neil C. Gudmestad, North Dakota State University

FOCUS ON SOYBEAN
- Alternative Liming Materials, Josh McGrath, University of Kentucky
- Soybean Stem Canker: Re-emerging? Febina Mathew, South Dakota State University
- Soybean Vein Necrosis Virus, Damon Smith, University of Wisconsin-Madison
- Big Data and Implications at the Farm, John Fulton, The Ohio State University

FOCUS ON TOMATO
- Recent Viroid Disease Outbreaks in Greenhouse Tomatoes in North and Central America and Their Management, Kai-Shu Ling, USDA-ARS

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Phytopathology News 33
Phytopathology Survey Results Summary

Krishna V. Subbarao, Phytopathology Editor-in-Chief; kvsubbarao@ucdavis.edu

Periodic surveys are a means to introspect and gauge the opinion of members and authors to improve functioning of the editorial boards and to increase the value of APS journals to the authors and readers. Keeping with this tradition, in July 2015, a survey on Phytopathology was sent to all APS members (4,430) and authors (including nonmembers) (9,829) who had previously published in Phytopathology. I thank everyone who completed the survey for their time and input. The results have been compiled and analyzed and a summary is provided below.

The main goals of this survey were to assess the current status of Phytopathology, to evaluate whether the journal is meeting the needs of the memberships and authors, the importance of various criteria authors use to submit manuscripts to Phytopathology, potential new subject matter areas to increase submission, authors’ satisfaction with the peer-review process in Phytopathology, to seek suggestions for improving the peer-review process and author experience, authors’ opinions concerning page charges, and to evaluate potential interest in the dissemination of Phytopathology content, including via tablets and smartphones. A strong majority of the respondents agreed that Phytopathology historically has been and continues to be the lead journal reporting fundamental advances in plant pathology research. This is also backed by the Journal Citation Impact Factor, which for the first time exceeded 3.0 in 2016.

I am pleased to report that we have made progress over the past year on each of these counts while maintaining the standards of excellence that is a hallmark of Phytopathology. Our focus has been and will remain to be open to all submitted manuscripts, to have the manuscripts reviewed by qualified reviewers, and for senior editors to make judgements on the manuscripts reflecting the professional comments of the reviewers and to obtain additional reviews should the initial reviewers be split in their recommendations. If individual ad-hoc reviewers have set the bar too high or made unprofessional comments, senior editors have the right and a responsibility to edit our comments that could be construed as biased and unprofessional and base their decisions solely on appropriate comments from the reviewers. Ultimately, it is the responsibility of the senior editors to accurately convey the reasoning behind their decision to authors in a manner that is respectful and clear. When these standards are followed during the peer-review process, authors are bound to respect the decisions as well. As part of the Journals Task Force formed to assess the future of APS Journals, consultant Simon Inger painstakingly tracked the fate of 77 manuscripts that were reviewed and rejected by Phytopathology to determine whether they were published in other journals. The results clearly indicate that the decision to reject by Phytopathology indeed was the correct one in most cases. About 34% of these manuscripts did not find an alternate
home. Only 5% of rejected manuscripts were published in journals with a higher impact factor than *Phytopathology*; 6% that were resubmitted after major revisions were eventually published in *Phytopathology* and the remaining 55% were published elsewhere. So, the editorial process in *Phytopathology* has worked consistently well through the years despite the erroneous perception that has persisted.

When asked to rate the importance of criteria determining where to submit manuscripts (scale of 0 to 4), the most important criteria identified were “subject matter of the journal” at 3.34 and “reputation of the journal” at 3.28. Other criteria rated highly were “speed to publication” (3.00), “electronic subscription access by institutions and individuals” (2.90), “audience size of the journal” (2.90), “good past experience as an author with the journal” (2.86), and “indexing by ISI, Medline, etc.” (2.80). “Impact Factor > 3.00” (2.71) and “immediate open access” (2.67) were two other criteria that respondents thought important in determining where to submit their manuscripts. Scoring lower in importance was “page charges” (2.49); read more on that below.

Another question presented for comments was “What areas of research not currently covered in *Phytopathology* would you like included in the scope of the journal?” This question elicited a range of responses from several “no additions needed” to topics such as diseases in natural ecosystems, nematology, seedborne pathogens, genomics, and interactions of plant pathogens with insect vectors, forest pathology, and ecology and evolutionary biology of plant pathogens. *Phytopathology* remains open to manuscripts in these and other areas, and the limited publications in these disciplines in *Phytopathology* is because of the limited submissions on these topics.

The topic of page charges drew a wide range of responses. The largest percentages of responders were willing to pay between $500 and $1,000 (32%) or less than $500 (27%) to publish an article in the journal of their choice. Other amounts selected were between $1,000 and $1,500 (18.0%), $0 (17%), and more than $1,500 (5%). *Phytopathology* is a publication of APS, a nonprofit, member-run society; the success of the journal and of the society in general are inextricably linked as income from the journals keeps the society’s finances strong. Page charges for *Phytopathology* for APS members are $50 per page for the first six pages, $80 for each additional page, $20 per figure for black-and-white images, $500 each for the first and second color figures, and $250 for each subsequent color figure. The average manuscript length in the past few years has been 9–10 pages, resulting in page charges to members of $620–$700 plus figure charges. This amount compares favorably to page charges of journals published by the American Society for Microbiology ($700–$800 for 9–10 pages) and open-access journals, such as PLoS ONE ($1,495 flat fee per publication depending on submitting institution). While journals, such as *Molecular Plant Pathology* and *Plant Pathology*, that are published by for-profit companies do not charge page charges, many do charge for color figures (e.g., John Wiley and Sons, Inc. journals charge $218 for the first color figure and $73 for additional color figures). It is obviously an author’s choice if the payment of page charges alone influences their selection of journal for a manuscript. APS is doing its best to maintain page charges at a level that keeps the society and the journals viable.

Efficiencies are being stressed in all APS endeavors. The last set of survey questions was meant to gauge interest in new modes of information of *Phytopathology* content. Approximately 71% of all survey responders read in-press, accepted articles as part of *Phytopathology* First Look. In May 2015, *Phytopathology* began a new section called Ahead of Print. This section features post-galley, fully formatted articles as they would appear in a future issue of *Phytopathology*. Only the volume and page numbers are not available. Both First Look and Ahead of Print articles have a DOI number and are fully citable. Approximately 53% of survey responders read all APS journals electronically and 39% read APS journals both in print and electronic format. The potential to publish manuscripts in formats accessible by e-readers, tablets, or smartphones is evolving. These formats incorporate additional media (e.g., videos, etc.) and enhancements to figures in manuscripts. APS Council approved the recent upgrades to full-text html delivery for our journals which provides a mobile-friendly browsing, searching, and reading experience optimized for use on iOS, Android, and Blackberry devices. At the present time, nearly 80% and 57% of survey respondents owned smartphones and tablets or e-readers, respectively. About 72% of respondents also opined that they will read the journal articles on these devices.

In summary, the results of the July 2015 *Phytopathology* survey indicate that the journal maintains a place of high significance within the plant pathology community. The *Phytopathology* Editorial Board and APS staff are constantly working to maintain and improve the journal experience for authors (reduce time and increase quality of the peer-review process) and readers (First Look and Ahead of Print availability, new electronic formats, etc.). I welcome all comments and complaints, suggestions for improvement, and pals on the back and even brickbats! Contact me (kvsubbarao@ucdavis.edu) anytime to discuss ideas or issues relevant to *Phytopathology*. APS is a member-run society and the strength of its journals is derived from the dedicated APS staff, quality of science submitted by its member authors, and the quality and dedication of the volunteer editorial boards and reviewers. The page charges from the journals largely strengthen the society as well. I am therefore asking that all APS members, and in particular *Phytopathology* authors, remember this member-run concept and respond with willingness to contribute to the success of the journal with your manuscript submissions and with your commitment to review manuscripts. ■

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**U.S. Borlaug Fellows Call for Applications**

The U.S. Borlaug Fellows in Global Food Security graduate research grant supports exceptional graduate students who are interested in developing a component of their graduate research in a developing country setting and in collaboration with a mentor from an international agricultural research center or a qualifying national agricultural research system unit. U.S. citizenship is required, and applicants must be enrolled in an accredited U.S. graduate program at the time of application. A list of previous recipients is available online at www.purdue.edu/discoverypark/food/borlaugfellows.

Applications are due April 11, 2016. Applications are available at www.purdue.edu/borlaugfellows. Questions may be sent to borlaugfellows@purdue.edu. ■
**Featured APS PRESS**

**Bookstore Title: The Science of Grapevines, Second Edition**

*The Science of Grapevines, Second Edition,* introduces the reader to the grapevine’s physical structure, organs, functions, and its interactions with the environment. The book starts with botanical descriptions, morphology, anatomy, and growth cycles of the grapevine, then quickly bridges to basic concepts in growth and development, water relations, photosynthesis and respiration, mineral uptake and utilization, and carbon partitioning.

These concepts are then applied to plant-environment interactions, including canopy dynamics, yield formation, fruit composition, stress from drought and flooding, nutrient deficiencies, extreme temperatures, and the impact and response to other organisms.

This book represents the latest anatomical and physiological information, allowing the user to scientifically understand the complex plant behind one of the world’s most management-intensive crops. *The Science of Grapevines, Second Edition,* is available at www.shopapspress.org for $159. APS members can take advantage of their 10% discount.

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**Submit Your Next Manuscript to Plant Health Progress**

*A multidisciplinary journal of applied plant health*

*Plant Health Progress (PHP)*, a peer-reviewed journal of APS, is a multidisciplinary science-based resource covering the many aspects of applied plant health management in agriculture and horticulture, including plant pathology, entomology, and nematology. *PHP* is currently located on the Plant Management Network (PMN), a suite of resources widely read by the world’s many researchers in the applied crop sciences—plus extension agents, policymakers, and practitioners. This makes *PHP* an excellent location for science-based information that applies to the field. *PHP* gives authors:

- Rapid publication upon acceptance
- Low page charges
- A rigorous peer review
- Indexing in CAB Abstracts and CrossRef
- Free publication of color images and video

*PHP* is also widely promoted to thousands of researchers through the APS Research Update and to thousands of practitioners through the *PMN Update*.

In addition to research and reviews, *PHP* publishes diagnostic guides, perspectives, letters to the editor, and briefs documenting the discovery of new or invasive pests. *PHP* is also an excellent venue for symposium proceedings, particularly for those highlighting research that applies to the field. Proceedings are promoted to the media, commodity groups, and extension channels at no extra cost.

Submit your next manuscript to *Plant Health Progress* today. Learn more and view our submission guidelines at [www.plantmanagementnetwork.org/php](http://www.plantmanagementnetwork.org/php); contact Pamela Roberts, *PHP* editor-in-chief (pdr@ufl.edu), to discuss submission of your articles(s).

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**International Programs**

**Twelfth Annual OIP Silent Auction**

This year’s Silent Auction, brought to you by the Office of International Programs (OIP), will be held July 31 from noon to 6 p.m. It’s time to start planning what items you might like to donate. In its twelfth year, the auction is an exciting way to support APS and all proceeds raised directly support the Global Experience Program, which enables APS plant pathologists to collaborate with scientists in developing countries.

Over the years, the ever-growing OIP Silent Auction has raised more than $30,000. This year, you can also sponsor the auction in addition to donating your unique cultural items. Encourage your organization to sponsor the event and help make an impact! Items are due via the online donation form by July 1, 2016 ([www.apsnet.org/members/outreach/oip/Pages/SilentAuction.aspx](http://www.apsnet.org/members/outreach/oip/Pages/SilentAuction.aspx)).

Let’s make 2016 the most successful year yet!

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**Books for the World Program Awardees Announced**

The year 2016 marks the third round of awards for the Books for the World program. Books for the World is an APS Foundation fund, managed jointly by the foundation and the APS Office of International Programs (OIP). Books for the World was established to provide resources from the APS online bookstore to scientists, extension educators, diagnosticians, instructors, and others in developing countries, with a focus on materials to enhance plant disease diagnostics and integrated pest management. Applicants submit brief proposals that are evaluated by a review panel. This year, two proposals were funded.

- **Agnghor Nee Therese Atcham** at the National Polytechnic Institute Felix Houphouet-Boigny in Ivory Coast will receive six APS compendia to use in training students and diagnosing diseases of key vegetable and field crops.
- **Tinatin Doolotkeldieva** at the Kyrgyz-Turkish Manas University, Kyrgyzstan, will receive two compendia and two additional texts to aid in student training and for diagnosing problems in important crops. They will be housed in a new disease clinic and also used in the development of training programs for growers.

Information about applying for the award is available at [www.apsnet.org/members/foundation/apply/Pages/BooksfortheWorldAward.aspx](http://www.apsnet.org/members/foundation/apply/Pages/BooksfortheWorldAward.aspx). The APS Foundation and OIP would like to make this an annual award continuing into the future, which will be possible only with continued donations to the fund. If you are interested in donating to this fund to support future awards, please visit [www.apsnet.org/members/foundation/giving/funds](http://www.apsnet.org/members/foundation/giving/funds). If you have further questions, you can contact the program coordinator Megan Kennelly at kennelly@ksu.edu or +1.785.532.1387.
Anyone who has been part of a hiring or recruitment process knows that most organizations, both in the private and public sectors, invest a lot of time developing strategies or efforts to promote diversity. Diversity is a hot topic and has become a priority in the workforce. It is inspiring to see the progress made toward promoting and embracing diversity initiatives and it is difficult to imagine how, until relatively recently, a homogeneous workforce was not only acceptable but nearly standard. Nowadays, it is common for job applications to request a diversity statement or for employers to ask candidates how they would fit into a diverse environment, manage diversity, or build an inclusive work atmosphere.

Many businesses are steadily increasing diversity in their workforce to become more competitive. Diversity can be used to describe differences among individuals based on gender, race, ethnicity, cultural and socioeconomic background, sexual orientation, and physical ability or attributes, such as distinctive learning and communication styles or professional experience. Workers with different backgrounds generally increase productivity; diverse teams are much better at generating creative ideas and coming up with out-of-the-box approaches for problem solving. Moreover, diversity often translates into diversity of thought, allowing for businesses or programs to adopt new skills and attitudes, promote innovation, and quickly adapt to market changes or emerging challenges.

In our current society, cultural intolerance is generally frowned upon. It is also true that work places today are much more diverse than they were a decade ago. Does this mean that work environments are more inclusive? Are program leaders and staff members well versed in diversity? Not necessarily. Despite the progress made in equal opportunity employment and recruitment initiatives targeting broader demographics, many organizations invest resources into increasing diversity simply because it is considered “the right thing to do” and not because they see the intrinsic value in having a more diverse workforce. Worse, administrators may speak and preach diversity but, in reality, practice cosmetic diversity—the portrayal of a culturally diverse workforce to attract a wider clientele, serve stakeholders’ interests, or because diversity is synonymous to being politically correct.

There are many reasons companies and institutions pay lip service to diversity, but fail at building a diverse and inclusive work environment. By nature, humans feel threatened by that which is different from the norm or by situations that push them out of their comfort zone. Most people prefer to work with colleagues who think similarly; under the impression that communication is more effective and tasks can get done a lot faster. Too much diversity without the leadership skills to manage a complex group of individuals can result in negative work environments where frequent miscommunications and conflicts may not only hinder productivity, but also have the potential to spiral out of control and develop into extremely unpleasant situations.

An inclusive work environment goes beyond the recruitment and hiring process. It means that an individual’s differences and abilities are acknowledged and respected. Similar to a teacher ensuring an inclusive classroom setting, a program leader is responsible for creating a work environment that encourages participation and makes employees feel safe and valued by their organization and peers. A savvy leader will make every member of his or her organization feel empowered and the onus is on the leader to recognize, encourage, and promote the different skills and communication styles in their team. For example, if they notice that critiquing a colleague’s work in front of others makes them uncomfortable, the team leader must find an alternate means for that individual to provide their feedback, such as a private written response. In return for creating a more supportive environment, the leader, and organization as a whole, benefit from improved employee perception of their workplace—and it is no secret that happier employees are generally more productive.

A tactic to manage and embrace diversity successfully is leading by example. A leader must serve as a role model for his or her employees by supporting collaborations with colleagues with different backgrounds, professional disciplines, and welcoming a broader range of experiences and perspectives. This means that as a leader, you must first learn to recognize your own limitations, pursue new partnerships, and be willing to adapt to different personalities and work styles.

It is also critical to create a supportive work environment where everyone, regardless of social or cultural background, feels respected and valued as a team member. Encourage your staff to participate in decision-making processes and problem solving that involves the entire organization or program. If all employees feel that their opinion matters, they will be more likely to embrace and work to fulfill your goals. Furthermore, instill cultural awareness within your staff. Promote respect and appreciation for different cultures by demonstrating interest toward your employees’ backgrounds. For example, consider hosting a social event where staff brings authentic food dishes that represent their background.

Creating a diverse and inclusive work environment is a long-term commitment. The process can be messy and requires more effort than reading a few articles or attending a mandatory human resources seminar. For any team or organization, the commitment to increasing diversity leads to myriad benefits, including greater innovation, better ability to communicate with diverse stakeholders, and improved creative outputs. In the process, the leader will need to venture outside their comfort zone, explore other viewpoints with an open mind, admit to their own naïveté, and, most importantly, continually learn and adapt. While this may be a challenge, those who value the benefits of building and maintaining a diverse workforce will make this commitment and, in so doing, reap the rewards of increased collaboration and productivity that are best achieved by a culturally diverse team. ■
OPRO’S FALL CONFERENCE CIRCUIT

Spreading the Good Word of Plant Pathology

Fall 2015 was busy for the APS Office of Public Relations and Outreach (OPRO). Members past and present took time to participate in the FFA, the Agriculture Future of America (AFA), and the National Association of Biology Teachers (NABT) conferences, all within weeks of each other.

First up was the 2015 National FFA Organization Convention held in Louisville, KY, October 28–30, with 64,000 FFA members and guests in attendance. OPRO members Tim Durham (Kansas State University) and Anna Testen (The Ohio State University [OSU]) attended on behalf of APS to share their passion for plant pathology with agriculture educators and students.

The “What Plant Pathogen Are You?” game, developed by Monica Elliott (University of Florida) and Monica Lewandowski (OSU) was a new addition to the booth. The game was an unqualified hit, drawing many curious participants. In addition to helping attendees find their plant pathogen soulmate, Durham and Testen shared other resources with interested participants, including a newly developed career card. Ag educators received information on plant pathology teaching resources found at www.plantdisease.org.

Several students, including high-schoolers and undergraduates, came to the APS booth with an agenda: to talk about pursuing careers in plant pathology! Booth supplies were bundled up and shipped to the NABT conference site in Providence, RI (with a hiccup, read on!), while a more specific set of supplies winged its way to past OPRO Director Doug Jardine (Kansas State University), who kindly volunteered to represent his former board at the AFA conference in Kansas City. The Agriculture Future of America (AFA) conference was November 5–8, and is specifically geared toward undergraduates (AFA) conference was November 5–8, and is specifically geared toward undergraduates with an interest in an agricultural career path. Jardine reported that the Opportunity Fair was great; the AFA is a small conference, but those students who did stop by the booth stayed for a long chat about plant pathology. In fact, Jardine has received follow-up notes from students interested in plant pathology graduate school programs.

Finally, the season culminated in the NABT conference, November 11–14. OPRO members exhibiting were Rubella Goswami (Delaware State University) and Nicole Donofrio (University of Delaware), who got to enjoy a peaceful train ride to beautiful Providence, RI. While the conference was a great success, and Goswami and Donofrio enjoyed using the “Leads” app on their iPhones (yes, you can collect all the attendee’s information by taking a picture of their nametags with an app on your phone!), there was a moment of panic when they learned that the freight train bringing their precious container of booth materials coming from FFA… had derailed! What are the chances? Roughly 12 hours later, they were setting up our booth with printed banners and information cards printed at a neighboring FedEx store, all executed flawlessly by APS staff member Lauren McGinty mysteriously during the night. They were as ready as they could be for the “soft opening” on Thursday, and right as meeting attendees were coming in the door, the conference movers triumphantly wheeled in the missing OPRO container! Board members quickly grabbed giveaways, posters, and the critical game pieces and stickers for the “What Pathogen Are You?” game just in time. Similar to FFA, conference attendees loved the game, were able to explore our website for teaching materials, and picked up posters for their classrooms. Several APS members were even in attendance, and it was excellent to connect with them. They had many great discussions with educators ranging from middle school through undergraduate levels, from as close as Boston to as far as China. OPRO is looking forward to heading back to the NABT conference in Denver, CO, and attending the Science and Engineering Festival in Washington, DC, in 2016!

APS Foundation

2016 Student Travel Awards Applications Due March 21

Presenting an oral or poster presentation at the 2016 APS Annual Meeting in Tampa? If so, apply for an APS Student Travel Award! Awards of $500 are available to students in all disciplines of plant pathology, at any stage of education. The online application process for the 2016 APS Student Travel Awards opened in February and will close on March 21 at noon CST. Advisor letters are due March 25 at noon CST. Students who received an award in 2015 are not eligible until 2017. Details on the application process are available online at www.apsnet.org/members/foundation/apply/pages/studenttravelawards.aspx.

For more info, contact Anna Testen (testen.2@osu.edu), chair of the APS Graduate Student Committee. ■
Meetings

Upcoming New Phytologist Symposia

Plant Developmental Evolution, May 2016

The relatively new field of plant evolutionary-developmental biology (“evo-devo”) seeks to understand how and why plant morphological characters have evolved to produce the tremendous diversity of form in living plants. This meeting, to be held May 15–19, 2016, in Beijing, China, will draw together researchers in plant evo-devo for an exchange of ideas, current research, and discussion of future directions for the field. Keynote speakers include Beverley Glover, University of Cambridge; Mark Rausher, Duke University; and Miltos Tsiantis, Max Planck Institute for Plant Breeding Research. Visit https://newphytologist.org/symposia/37 for more information.

Colonization of the Terrestrial Environment, July 2016

The purpose of this symposium is to explore the contribution that plants and mycorrhizal fungi make to the colonization of the terrestrial environment. There will be a number of invited and selected talks (chosen from submitted poster abstracts). Keynote speakers include Liam Dolan, University of Oxford; Ned Friedman, Harvard University; and Tim Lenton, University of Exeter. There will also be dedicated time for a poster session and conference dinner. More information on the meeting, to be held July 25–27, 2016, in Bristol is available at https://newphytologist.org/symposia/38. The travel grant submission deadline is Thursday, April 21, 2016. The poster abstract submission deadline is May 19, 2016.

2016 National Plant Diagnostic Network Meeting

The National Plant Diagnostic Network (NPDN) was established in 2002 to enhance agricultural security by protecting the health and productivity of plants in agricultural and natural ecosystems in the United States. With the support of NIFA and other agencies, NPDN has grown into an internationally respected consortium of plant diagnostic laboratories. This year, NPDN will hold a national meeting in Washington, DC, March 8–12, 2016, to allow plant pathologists across the country to gain advanced skills in cutting-edge diagnostic technologies, a working knowledge of current changes in the taxonomy of plant pathogens and pests, and an awareness of newly emerged plant pathogens and pests. Among the keynote speakers will be Sonny Ramaswamy, director of NIFA, and Osama El Lissy, deputy administrator of APHIS PPQ. Please visit the conference website for more information and to register at http://conference.ifas.ufl.edu/npdn.

People

Student Awards & Degrees

Mary Helen Ferguson, a Ph.D. candidate in the Department of Plant Pathology and Crop Physiology at Louisiana State University (LSU) and the LSU AgCenter, recently won the prestigious C. W. Edgerton Award. She was nominated by her advisor, Professor Christopher A. Clark. She won this award for her outstanding academic and professional achievements, especially her significant contributions toward our understanding of Xylella fastidiosa in rabbiyte blueberry, its impact on yield and fruit quality, and recommendations about when and how to most reliably detect the bacterium.

Staci Lynne Koberstein recently completed the requirement for an M.S. degree in plant pathology at Washington State University. Her thesis was entitled “Molecular marker identification in Oculimacula yalliundae using next-generation sequencing.” Her thesis committee consisted of Timothy Murray (chair), Tobin Peever, Weidong Chen, Deven See, and Daniel Skinner. Oculimacula yalliundae is a fungal pathogen causing eyespot or strawbreaker foot rot on cereal crops. Koberstein identified 2,018 simple sequence repeat (SSR) loci in isolate 90-45-7 and 2,020 SSR loci in isolate 90-49-1 of O. yalliundae. She designed primers for 33 loci that were polymorphic between the two isolates, with which she made a cross, and identified 10 unlinked loci segregating at a 1:1 ratio in the progeny population. These SSR markers are useful in studying the origin, migration patterns, and diversity of this pathogen. Koberstein grew up in Gig Harbor, WA, and received a B.A. degree in biology from Gonzaga University in 2012. She hopes to find a job related to fungal genetics.

Spencer H. Marshall recently completed the requirements for an M.S. degree in plant pathology at Washington State University (WSU). His committee consisted of Naidu Rayapati (chair), Dennis Johnson, and Scott Adkins (USDA ARS, Fort Pierce, FL). Marshall’s thesis was entitled “Genetic diversity of Tomato spotted wilt virus.” Tomato spotted wilt virus (TSWV) causes economically important diseases in a wide range of agricultural and horticultural crops worldwide. His studies found a greater genetic diversity of TSWV than previously shown within the United States and laid the foundation to further elucidate genome-wide genetic diversity and molecular epidemiology of TSWV. Marshall received the Thrips Tospoviruses Educational Network Fellow scholarship to attend the 10th International Symposium on Thysanoptera and Tospoviruses, May 16–20, 2015, Asilomar, CA.

Stacy Mauzey recently completed the requirement for an M.S. degree in plant pathology at Washington State University (WSU). Her thesis was entitled “Characterization of Rathayibacter agropyri, a bacterial pathogen of Agropyron smithii,” and the study was under the supervision of Timothy Murray and Brenda Schroeder. Mauzey received the 2013 National Science Foundation graduate research fellowship and a travel award to present her research on the genus Rathayibacter at the 60th Annual Conference on Soilborne Plant Pathogens in March 2014 at the Dominican University of California in San Rafael.

People, continued on page 40
Prissana Wiriyajitsomboon completed her Ph.D. degree in plant pathology in 2015 from Michigan State University under the supervision of Mary Hausbeck. Her dissertation is entitled “Characterization of Setophoma terrestris causing pink root in onion, disease management, and age-related resistance.” Wiriyajitsomboon has joined the Department of Microbiology at Kasetsart University in Bangkok, Thailand, as a lecturer. Her responsibilities include both teaching and research focusing on the study of the biology of plant-pathogenic fungi and how to control them.

New Positions

Dan Anco joined the Department of Agricultural and Environmental Sciences at Clemson University as a peanut specialist and assistant professor on September 1, 2015. Born and raised in Illinois, his undergraduate education came from Lewis University, where he majored in environmental science after a tallgrass prairie restoration internship shifted his interest toward plants. He became involved in agriculture at The Ohio State University, where both M.S. and doctoral degrees in plant pathology were awarded. After graduation, Anco held a post-doctoral research position at the USDA Horticultural Research Laboratory in Fort Pierce, FL. Anco is stationed at the Edisto Research and Education Center in Blackville, SC. His extension and research programs address peanut production issues and have a focus on disease epidemiology and management.

Terry L. Niblack has accepted a position as acting senior associate dean for the College of Food, Agricultural, and Environmental Sciences at The Ohio State University (OSU). Niblack joined OSU as professor and chair of the Department of Plant Pathology in 2011. Niblack is active in teaching, research, and extension and has been working with colleagues in Ohio and throughout the Midwest on the biology and management of the soybean cyst nematode and other plant-parasitic nematodes of agronomic crops. Larry Madden, distinguished professor of plant protection, is currently the acting chair of the department, and Guo-Liang Wang, professor of plant pathology, is serving as acting associate chair.

Collaboration

Justin Pita, associate professor of UFR Biosciences, Université Félix Houphouët-Boigny, Côte d’Ivoire, visited the Department of Plant Pathology and Environmental Microbiology at The Pennsylvania State University (PSU) January 18–19 and presented a seminar entitled “Food security for Africa through plant disease diagnostic networks and plant pathogen surveillance,” about a new project that he is spear-heading in West Africa.

West Africa Virus Epidemiology (WAVE) is a Bill and Melinda Gates Foundation-sponsored project to take proactive measures to prevent disease in root crops in West Africa. Initially the project is focusing on the important staple crop cassava, with a goal of understanding and preventing the spread of virus diseases that have heavily impacted parts of East Africa but have not yet been found in West Africa.

Pita, a former research associate at PSU, also visited friends and colleagues in the Center for Infectious Disease Dynamics. PSU will play a role in the WAVE project, contributing expertise in plant virus evolution that can inform patterns of epidemiology and spread.

Award

Mohammad Babadoost, a professor in the Department of Crop Sciences at the University of Illinois, Urbana-Champaign (UIUC), received the following three awards in 2015: Senior Faculty Award for Excellence in Extension from the College of Agricultural, Consumer, and Environmental Sciences, UIUC; Sheh Distinguished Faculty Award for International Achievement from UIUC; and honorary professor from the Azerbaijan State Agricultural University, Republic of Azerbaijan. During 2014–2015, he also helped to host 15 new international members of APS, including five members from each of the Republics of Azerbaijan, Georgia, and Kazakhstan.

Presentation

Mary Ruth McDonald was the invited keynote speaker for the Swedish National Plant Protection Conference (Nationell Vaxtskyddskonferens) held in Uppsala, Sweden, on November 10, 2015. The topic of the presentation was “The Future of Plant Protection.” The coauthors were plant pathologist Bruce D. Gossen, entomologist Cynthia Scott-Dupree, and weed scientist Clarence Swanton. While in Sweden, McDonald had the opportunity to meet with other researchers, plant protection professionals, and graduate students. McDonald is a professor in the Department of Plant Agriculture, University of Guelph, Ontario, Canada, and is research program director for Plant Production System. Her Muck Crops IPM team recently received the International IPM Award of Excellence at the 7th International IPM Symposium held in Salt Lake City, UT, in March 2015.

In Memory

Carl H. Beckman, of Wakefield, RI, passed away peacefully on April 15, 2015. Carl graduated from the University of Rhode Island (URI) after serving in the Army during World War II. He received a doctorate in plant pathology from the University of Wisconsin, Madison. He began his career as a professor and plant pathology researcher at URI and worked for the United Fruit Company (now Chiquita Brands International) before returning to URI. Carl served on the editorial boards of Phytopathology, Physiological Plant Pathology, and APS PRESS. He was selected by the APS Monographs and Review Committee to revise and update J. C. Walker’s monograph, Fusarium Wilt of Tomato, which later was expanded into the Nature of Wilt Diseases of Plants. A long-time member of APS, he was named a Fellow of the society in 1989. He is survived by his four daughters, three granddaughters, and two grandsons. The Carl H. Beckman Scholarship Fund has been established at URI to provide qualifying graduate students in plant pathology with much needed financial assistance. Donations may be made to the Carl H. Beckman Scholarship Fund, c/o URI Foundation, 79 Upper College Road, Kingston, RI 02881.
Andy Leadbeater, who was born in 1957, served Syngenta and its legacy companies for 35 years. He passed away in 2015. Andy joined Ciba-Geigy at Whittlesford in the United Kingdom as a field trials officer in 1980, after completing his degree in biological sciences at Birmingham University.

Andy's career gave him many opportunities to deepen his professional skills in plant pathology and to fulfill his love of travel and the Swiss way of life. He started his close connection with Switzerland in 1989 with an 18-month assignment as a regional technical manager in Basel. After returning to the United Kingdom for six years as head of fungicide and insecticide development, Andy returned to Switzerland to join Novartis in 1996; initially as head of global fungicide development and then in 1999 as head of field development Europe. In 2004, he became head of fungicides product biology and continued to lead the global development of Syngenta’s chemical and biological fungicides until now.

Throughout his career, Andy had a strong external presence as a respected technical leader across the industry. Since 2000 he represented the industry on the European and Mediterranean Plant Protection Organization (EPPO) Working Party. He also chaired the Fungicide Resistance Action Committee (FRAC International) since 2007 and represented Syngenta on the Stewardship Committee of Crop Life International since 2012. Andy was influential in the development of resistance management and product stewardship strategies across the industry, helping to secure the long-term effectiveness of many fungicide products for growers around the world.

Andy will be remembered not only for his deep technical knowledge, but also for his thoughtful and patient approach to his work and the people around him. He was generous with his experience and could always be relied upon to provide support and help his colleagues through their challenges. Andy and his family put down strong roots in Switzerland and became Swiss citizens in 2011. Andy was an active member of APS and participated in many of the society’s annual meetings. We will remember Andy Leadbeater for his technical excellence, his positive outlook no matter the difficulty, and his willingness to mentor new practitioners in the field of resistance management.

Lansing E. Williams, professor emeritus in plant pathology at the Ohio Agricultural Research and Development Center (OARDC) and The Ohio State University (OSU), passed away on December 31, 2015, in Wooster, OH. Lansing was instrumental in the establishment of the Department of Plant Pathology in 1967. He chaired the building committee for Selby Hall, the department’s current facility in Wooster, which was dedicated in 1971. He served as president of the APS North Central Division (1983), vice president (1982), and secretary-treasurer (1974–1975).

Williams was born in 1921 in Roane County, WV. He received his B.S. degree from Morris Harvey College (now the University of Charleston) in West Virginia. He served in the U.S. Marine Corps, primarily in the Pacific theater, from 1942 to 1946. After World War II, Williams earned his M.S. and Ph.D. degrees from OSU.

Williams began his faculty career in 1954 at the Department of Botany and Plant Pathology in Wooster, which was at the time the Ohio Agricultural Experiment Station. He served as professor and associate chair of the department from 1968 until his retirement in 1988. During this period, the department doubled in size.

Williams’ career is marked by several notable accomplishments in field crop diseases. Early in his career, he worked with John L. Lockwood on Stewart’s wilt of sweet corn and later did extensive work on soil mycoflora and soilborne diseases with August F. (Fritz) Schmithenner. Williams and colleagues were the first to report Colletotrichum graminicola on field corn in the United States. Williams was also involved in seminal work with corn viruses and led the OARDC corn virus research team. He and L. J. Alexander isolated and named maize dwarf mosaic virus (MDMV) and the maize dwarf mosaic disease in 1963–1964. He worked with breeders in OSU’s Department of Agronomy to screen corn lines for tolerance or resistance to the disease; one of the selections was widely adopted to alleviate the problem. Williams was also part of a group that isolated wheat streak mosaic virus (WSMV) from corn and published the first report of WSMV on corn in Ohio. The kernel red streak disease associated with this virus caused great concern in Ohio and the Corn Belt in the mid-1960s. Williams, Lowell R. (Skip) Nault, and other entomologists established that the red streaks on corn kernels were caused by feeding of the wheat curl mite, the vector of the wheat streak mosaic virus.

In the late 1960s and early 70s, Williams investigated the moldy corn-swine feeding problem in Ohio and other states and became involved in research on mycotoxins in grain. He also coordinated Ohio research during a southern corn leaf blight epidemic and headed the Ohio corn leaf blight watch from 1968 to 1970.

In his retirement, Lansing was active in the Wooster community and spent several years researching the department’s history. He and colleague C. Wayne Ellett coauthored a book, *A History of the Department of Plant Pathology, The Ohio State University, Ohio Agricultural Research and Development Center*, published in 1996. Lansing was preceded in death by his wife, Mildred. He is survived by his two children and their families.

Jack Allen Lewis passed away on May 4, 2015, after a long struggle with multiple sclerosis (MS). In spite of his difficulties with MS late in his career, Lewis was an accomplished soil scientist with USDA ARS in Beltsville, MD. He was a member of the Soil Borne Diseases Laboratory (SBDL) and its successor, the Biocontrol of Plant Diseases Laboratory (BPDL), until he retired in 1999 after 34 years of service. He joined the USDA laboratory, headed by George C. Papavizas, in 1965. Jack’s professional career in soil microbiology started at Rutgers University, New Brunswick, NJ, where he earned a Ph.D. degree under his major advisor, Robert L. Starkey, in the Department of Agricultural Microbiology. He also earned a B.S. degree from Brooklyn College in 1960 and an M.S. degree from the University of Connecticut in 1962.

Lewis worked as a team leader and team member, responsible for basic and applied research with emphasis on the ecology of biological control agents, including fungi, bacteria, and actinomycetes and their interrelationships with soilborne plant pathogens in integrated pest management systems. The objectives of his research also included the development of delivery systems for introduction into agricultural ecosystems or as seed treatments with formulated biocontrol agents.

Lewis’ research achievements are documented in more than 125 peer-reviewed original research and review articles and numerous abstracts. During his 34 years of service with ARS, he was a leader or participant in team research to investigate...
biological, chemical, and integrated approaches for control of soilborne diseases of economic crops. He performed extensive research on the biology and ecology of numerous pathogens. His contributions with the biocontrol fungi, Trichoderma and Gliocladium, and especially the potential for their use in innovative formulation technology, represent outstanding accomplishments in this specialized area of research. He was a team member in the development of Gliogard and Soilgard by private industry. As a member of this team, he received an ARS Technology Transfer Award for the research on this work in cooperation with a private firm in 1991, a certificate of merit for superior performance in conducting and reporting research on delivery systems of biocontrol agents and on novel biocontrol agents in 1991, and a Federal Laboratory Consortium Award on delivery system development in 1992. He was awarded three U.S. Patent Office awards for formulation inventions in 1987, 1990, and 1991. This work led to a first in the field for the registration by the U.S. EPA for a commercial formulation to control soilborne plant pathogens.

Lewis was a member of APS serving on the Biological Control Committee. As a member of the APS Potomac Division, he served on the Program, Auditing, and Awards Committees. He was also a member of the International Organization for Biological Control of Noxious Animals and Plants and the Society for Controlled Release of Bioactive Materials. He worked with the North Central Regional Project on Biological Control of Soilborne Plant Pathogens in Integrated Crop Management as secretary, vice chair, and chair, the Eastern Research Conference on the Ecology of Root-Infesting Microorganisms, and the International Workshop on Trichoderma and Gliocladium. Lewis worked cooperatively with scientists in Pakistan, Japan, Mexico, and Israel. These projects were sponsored by USAID PL-480 in Pakistan, U.S.-Israel BSF and BARD, and O.I.C.D. in Mexico. He served as a regional editor for the journal Soil Biology and Biochemistry.

Jack was born on April 8, 1939, in Brooklyn, NY, son of Arthur and Pauline Lewis, and was married to his wife Carol for 47 years. Jack also leaves two daughters and four grandsons. Jack is very much missed by his loving family and friends and former colleagues.

Submitted by Robert Lumsden, USDA ARS, retired.

Assistant Professor, Microbiome of Plant Systems

Colorado State University’s College of Agricultural Sciences Department of Bioagricultural Sciences and Pest Management seeks a tenure-track assistant professor to study plant microbiome evolution, adaptation, ecology, and/or host-microbe interactions. The position will take innovative approaches to studying the functional and structural basis of microbiomes as they relate to agricultural systems. Minimum requirements include a Ph.D. degree in a relevant field from an accredited institution, demonstrated knowledge of the plant microbiome, and excellent communication skills and publication record. See full job description and application instructions at http://jobs.colostate.edu/postings/29603. For full consideration, apply by February 28, 2016. CSU is an EO/AA employer and conducts background checks on all final candidates. See full job description and application instructions at http://jobs.colostate.edu/postings/29603.

Assistant/Associate/Full Specialist Plant Pathology

The School of Plant Sciences at the University of Arizona has an opening for an assistant extension specialist, continuing eligible, 12-month appointment, with an expected start date of July 1, 2016. The position is located in Tucson. The primary emphasis of this position is extension (70%) and research (30%). The candidate is expected to establish an effective and relevant extension program with statewide responsibility. This program will integrate problem-solving, issue-driven research with engaged outreach and measured outcomes that change behaviors or conditions with respect to plant disease management in Arizona. The successful candidate’s program should demonstrate innovation, initiative, professional expertise, and a working relationship with colleagues and stakeholders, including direct engagement that supports program priorities, planning, and assessment. Activities will include identification, prevention, and control of plant diseases in Arizona. The incumbent will conduct research on disease etiology, ecology, and management of agriculturally/ economically important Arizona crops. The successful candidate is expected to pursue a vigorous, extramurally funded research and outreach program in plant pathology to solve plant disease problems using modern and novel research and educational tools. Approaches may integrate traditional/alternate management strategies, using cultural, biological, and chemical tactics. The successful applicant will have the opportunity to engage in departmental or interdisciplinary collaboration with campus and county faculty and IPM connections through the Arizona Pest Management Center. Excellence will be demonstrated by measured outcomes and impacts and contributions to the discipline of plant pathology. Overall, the candidate is expected to provide the school and college with leadership and national recognition for independent and collaborative scholarly activity and excellence in cooperative extension in the field of plant pathology, with emphasis on solving problems of importance to the state, the region, and the nation. Minimum and preferred qualifications and an application is available online at https://uacareers.com/postings/8253. Applicants should submit a statement of current and future professional interests, CV, list of publications, copies of their three most important research publications and three most important extension or equivalent outreach/educational publications, copies of undergraduate and graduate transcripts, and names and contact information of at least five professional references. For questions, contact Ursula Schuch, Search Committee Chair, uschuch@email.arizona.edu.
Field Evaluation of Plant Defense Inducers for the Control of Citrus Huanglongbing
Jinyun Li, Pankaj Trivedi, and Nian Wang
*Krishna Subbarao, Phytopathology, editor-in-chief*

The Role of Cytokinin During Infection of Arabidopsis thaliana by the Cyst Nematode Heterodera schachtii
Carly M. Shanks, J. Hollis Rice, Yan Zubo, G. Eric Schaller, Tarek Hewezi, and Joseph J. Kieber
*John McDowell, MPMI, editor-in-chief*

Kenneth E. Frost, Anna C. Seidl Johnson, and Amanda J. Gevens
*Alison Robertson, Plant Disease, editor-in-chief*

Survival of Micro sclerotia of Calonectria pseudonaviculata and C. henricotiae Exposed to Sanitizers
N. Shishkoff
*Pamela D. Roberts, Plant Health Progress, editor-in-chief*

Evolution, Diversity, and Taxonomy of the Peronosporaceae, with Focus on the Genus Peronospora
Marco Thines and Young-Joon Choi
OPEN ACCESS!

Toward a Reduced Reliance on Conventional Pesticides in European Agriculture
Jay Ram Lamichhane, Silke Dachbrodt-Saaydeh, Per Kudsk, and Antoine Messéan
OPEN ACCESS!

Bacterial Wilt of Dry-Edible Beans in the Central High Plains of the U.S.: Past, Present, and Future
Robert M. Harveson, Howard F. Schwartz, Carlos A. Urrea, and C. Dean Yonts
OPEN ACCESS!

Toward a Reduced Reliance on Conventional Pesticides in European Agriculture
Jay Ram Lamichhane, Silke Dachbrodt-Saaydeh, Per Kudsk, and Antoine Messéan
OPEN ACCESS!

Host Range of Fusarium Dieback and Its Ambrosia Beetle (Coleoptera: Scolytinae) Vector in Southern California
Akif Eskalen, Richard Stouthamer, Shannon Colleen Lynch, Paul F. Ragman-Jones, Mathias Twizeyimana, Alex Gonzalez, and Tim Thibaul
OPEN ACCESS!

Effectors as Tools in Disease Resistance Breeding Against Biotrophic, Hemibiotrophic, and Necrotrophic Plant Pathogens
Vivianne G. A. A. Vleeshouwers and Richard P. Oliver
OPEN ACCESS!

Genome-Wide Association of Rice Blast Disease Resistance and Yield-Related Components of Rice
Xueyan Wang, Melissa H. Jia, Pooja Ghai, Fleet N. Lee, and Yulin Jia
OPEN ACCESS!

Modulation of Host Immunity by Beneficial Microbes
Christos Zamioudis and Corné M. J. Pieterse
OPEN ACCESS!

Effect of Foliar Fungicides on Hail-damaged Corn
OPEN ACCESS!
Calendar of Events

**APS-Sponsored Events**

**MARCH 2016**
- 23-25 Potomac Division Meeting. Richmond, VA. www.apsnet.org/members/divisions/pot

**JUNE 2016**
- 7-9 North Central Division Meeting. Roseville, MN. www.apsnet.org/members/divisions/nc
- 28-30 Pacific Division Meeting. LaConner, WA. www.apsnet.org/members/divisions/pac

**JULY 2016**
- 30-Aug 3 APS Annual Meeting. Tampa, FL. www.apsnet.org/meet

**OCTOBER 2016**

**Other Upcoming Events**

**MARCH 2016**
- 30-Apr 2 Genetics of Maize-Microbe Interactions Workshop. College Station, TX. https://gmdw.tamu.edu

**APRIL 2016**
- 24-28 18th Reinhardsbrunn-Symposium on Modern Fungicides and Antifungal Compounds. Friedrichroda, Germany. www.reinhardsbrunn-symposium.de/

**MAY 2016**
- 22-25 Plant and Microbe Adaptation to Cold. Seattle, WA. http://cm.wsu.edu/chome/pmac

**JUNE 2016**
- 26-29 6th International Conference on Algal Biomass, Biofuels, and Bioproducts. San Diego, CA. www.algalbb.com

**JULY 2016**

**SEPTEMBER 2016**
- 12-14 Euro-Mediterranean Agrobacterium Meeting. Gif-sur-Yvette, France.

**OCTOBER 2016**
- 23-28 XVII International Botrytis Symposium. Santa Cruz, Colchagua Valley, Chile. http://w.xvii.botrytisymposium.agronomia.uchile.cl

**Important APS Dates to Remember**

**MARCH 2016**
- 15 APS Annual Meeting Abstracts due
- 17 New Products & Services application due
- 21 APS Student Travel Award applications due

**MAY 2016**
- 15 Applications due for Outstanding Volunteer Award