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Phytopathology News

October 2021 Volume 55 • Number 9

Plant Health 2021 Online in Review

James M. Bradeen, APS Internal Communications Officer, and Megan Boatman, APS Program Manager

The second ever fully online Plant Health meeting went off without a hitch August 2–6, 2021. (Special thanks to the APS Annual Meeting Board, APS staff, and the committees and individuals who made this possible!) What felt strange and novel last year with our recent shift to online, felt noticeably…normal this year. Plant Health 2021 Online saw 1,248 registrants—a robust turnout. Among meeting attendees, 87% were (or became) members, and a whopping 304 were first-time attendees (welcome to you all)! Impressively, Plant Health 2021 Online had a truly global reach, with participants in 39 different countries spanning nearly every time zone around the globe!

The 2021 program featured Keynote and Plenary speakers who truly embodied the meeting theme, Seismic Shifts in Disease Risk. Meeting programming kicked off on Monday with a Keynote presentation from **Sheng-Yang He** (Plant-Pathogen Warfare under Changing Climate Conditions) and a Plenary talk by **Marin Brewer** (Does Agricultural Use of Triazole Fungicides Contribute to Antifungal Resistance of *Aspergillus fumigatus* in Humans?). On Tuesday, we heard from Keynote Speaker **Honour McCann** (Emergence and Evolution of Agricultural Plant Pathogens) and Plenary Speaker **Liying Sun** (Cross-Kingdom Virus Infection: Mycoviruses Pave the Way for Spread into Multiple Fungal Hosts). Also included in the 5 days of scientific programming were 22 special sessions featuring 91 invited speakers and panelists. Session formats ranged from formal scientific presentations to interactive panel discussions. The technical program was robust, featuring 72 oral presentations in 15 technical sessions, with live attendance ranging from 76 to 197. However, Plant Health 2021 Online wasn't only about quantity; it also about high quality: attendee feedback indicated that, on average, 88% of those viewing live sessions were engaged throughout the entire session!

In a first, Plant Health 2021 also featured Research On-Demand, a new initiative from the Annual Meeting Board. Research On-Demand provided authors an

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Call for Officer Nominations

APS is seeking individuals with leadership experience and a background of service to the society who are respected in the field of plant pathology and have a vision for APS to serve on APS Council for the 2022 election. The submission deadline is **December 1, 2021**.

Full details are available online. ■

In This Issue

Phytopathology News

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Submission Guidelines: Address all editorial correspondence to: Kenny Seebold, Valent USA, 608 Havana Court, Lexington, KY 40511 U.S.A. Phone: +1.859.940.5184; E-mail: PhytoNewsEditor@scisoc.org. In order to ensure timely publication of your news items and announcements, please send in material six weeks prior to the date of publication. Material should be no more than six months old when submitted. Submission of materials as electronic files, via e-mail, will speed processing. For information on submitting electronic images contact Jordana Anker. Deadline for submitting items for the December 2021 issue is October 19, 2021.

PLANT PATHOLOGY'S PERPLEXING PAST: THE REST OF THE STORY

Research Plots and Scientific Discoveries

Robert M. Harveson, University of Nebraska, Panhandle REC, Scottsbluff

The revelation of new scientific concepts or discoveries has often occurred as a result of serendipitous events. However, serendipity also requires those who recognize the significance of the discovery and work to achieve positive applications of the information.

Over the last decade I have been studying and researching historical aspects of plant pathology, and as a result, I have come across a number of reports of accidental discoveries occurring from scientific research plots. I found this to be a compelling topic, and this article focuses on two examples illustrating this concept. One discovery was developed from continuous cropping, while the other occurred naturally. Their accounts are the rest of the story.

Fusarium Wilt of Flax

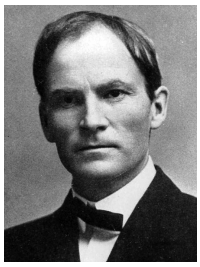
In the early 1900s, flax was viewed as a crop that was only capable of successful growth and production in undisturbed prairie soils. This was due, in great part, to a devastating wilt disease that always followed the crop's cultivation, appearing only after flax was grown continuously in the same fields. This disease was well-known in Europe but was successfully managed using a rotation system involving flax cultivation every 8 years. The first efforts to address this wilt disease in the United States came from North Dakota and Minnesota.

Over the winter of 1890–1891, **Otto Lugger** began studies in Minnesota attempting to control flax wilt with fertilizer and fungicide seed treatments, as well as to evaluate flax-infested straw as a source of infection. Lugger's simple experiments determined that the problem was biologically driven and, as he stated, "evidently alive" and not a result of any abiotic factor.

Upon arrival in North Dakota in 1893, agronomist **J. H. Shepperd**, who was aware of Luggers's results, agreed to devote a small plot of land ($^1/_8$ acre) to continuously grow flax each year until "something happens," thus beginning the story of plot 30 in the spring of 1894.

Bolley and Plot 30

Plot 30 is a small rectangular parcel of land measuring 400 ft × 110 ft and consisting of a gummy, finely textured soil, with high concentrations of clay. The plot has been continuously cropped to flax since 1894, with the exception of 1897 and potentially 1900, after records were lost.



H. L. Bolley

After 1895, "something happened" when flax yields began declining rapidly, dropping from 12.3 bu in 1898 to 7.4 bu in 1899. In 1900, all plants were dead or rapidly wilting by July 4. It was at this point that the plot was turned over to plant pathologist **H. L. Bolley**.

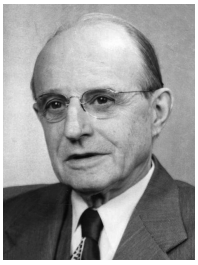
Using this small piece of highly infested, "flax sick" ground, Bolley identified the causal agent of the disease, declared it a new species he named *Fusarium lini*, and demonstrated that the disease was not caused by a depletion of nutrients or other fertility issues. He then utilized selective breeding by collecting surviving plants and, by 1908, was able to release seed for NDR 52 and NDR 73, the first wilt-resistant cultivars. This experimental ground, known in the college records as "Rotation Plot No. 30," is still in use today and was placed on the National Register of Historic Places in 1991.

Duggar and Plot 23

In 1943, **Benjamin M. Duggar** retired as emeritus professor from the University of Wisconsin at the age of 71 after a long and impressive career as a research plant pathologist. One year later, he accepted a consulting position with Lederle Laboratories. At the

Perplexing Past, continued on page 3

Perplexing Past, continued from page 2



Benjamin M. Duggar

time, newly discovered "wonder drugs" like penicillin and streptomycin were being widely employed to combat bacterial infections; unfortunately, they were not effective against all bacterial diseases.

Due to the recent discovery of streptomycin from a soilborne filamentous bacterium (*Streptomyces griseus*) by soil scientist **Selman Waksman** in 1940, Duggar began focusing on other soil-inhabiting organisms in an effort to identify another antibiotic chemical product. His group collected soil samples from all over the world and tested more than 3,500 samples before identifying another filamentous bacterium that secreted a gold-colored pigment. It exhibited antibiotic properties against a range of bacteria, exceeding both penicillium and streptomycin. Duggar named this organism *Streptomyces aureofaciens* (gold maker).

It was determined that the golden antibiotic chemical, named aureomycin, was active against 90% of known pathogenic bacteria, as well as other pathogens, such as chlamydias, rickettsias, and mycoplasmas, that were unresponsive to other antibiotics. Aureomycin (tetracycline) was introduced in 1948 as the first broad spectrum antibiotic, triggering the development of a new era of antibiotics for use in the treatment of human diseases. Amazingly, this bacterium originated from Plot 23 of Sanborn Field, the agricultural testing station located on the campus of the University of Missouri.

Conclusions

Why are research plots often the source of new discoveries? Is it because they generally are studied and monitored more closely from small areas, as opposed to larger production fields? Or, is it just fortunate happenstance? It is fascinating to me to ponder and hypothesize on "what if" questions in virtual history. It also entices me to wonder what other new findings may be lurking out there, waiting to be identified by inquisitive scientists. Now you know the *rest of the story*.

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APS Outstanding Volunteer Awardees Announced

The APS Outstanding Volunteer Award acknowledges APS members for excellent service in furthering the mission of APS through their volunteer efforts. This year's award recipients are **Nicole Gauthier** and **Olufemi (Femi) Alabi**.

Nicole Gauthier, University of Kentucky

Olufemi Alabi, Texas A&M University

Nicole has served in leadership roles in an array of APS society-wide committees and in the APS Southern Division. Through the Careers 101 series and other mentoring efforts, Nicole has had a significant impact on our APS members, especially our student and early-career professional members. Femi is honored for his role and efforts in making APS a more diverse and global society and for his visionary leadership and outstanding contribution to the historic formation of the new APS African Division. Congratulations Nicole and Femi! ■

APS Office of Education

Office of Education Seeks Webinar Series Acquisitions Editor

The Office of Education is seeking a webinar series acquisitions editor (AE). The AE will serve on the Office of Education (OE) board as a voting member for a 3-year term.

General responsibilities:

- Solicits suggestions from members for ideas for annual webinar series.
- Develops an elite series of webinars based on an annual theme. The themes will be discussed and approved by the OE.
- Identifies speakers who are experts in the thematic area of the desired webinars.
- Works with APS staff to complete final editing of the webinars and publishes them online.
- Annually reviews webinar catalog and removes outdated materials.

Interested members should contact **Monica Lewandowski** by **October 20, 2021**. ■

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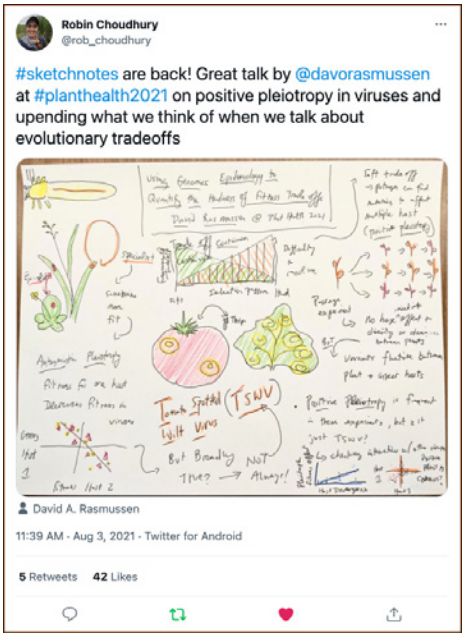


opportunity to up their ePoster game, leveraging a platform that incorporates multiple formats such as PowerPoint, video, images, and links to social media or other supporting sites. Nearly 540 abstracts were featured in this virtual poster format.

We are still waiting for final meeting survey results, but it is clear that many aspects of Plant Health 2021 Online were incredibly successful and valuable in the virtual format. For example, Committee Week was very well received. APS committees met virtually the week before the scientific program. The virtual format and reduced scheduling conflicts enabled robust, global participation. Multiple committees saw attendance numbers above 100, proving that this is an element of the virtual meeting that we must continue in future years. The Idea Cafés were also popular in virtual format . In a traditional format, Idea Cafés take place in the lively exhibit hall around a 10-person table. Popular sessions in the past have suffered from lack of space and overall volume control—practical restrictions that are irrelevant in the online environment. Plant Health 2021 Online featured 10 Idea Cafés with attendance numbers at an all time high, ranging from 31 to 83. The success of these events in the virtual environment demonstrates the desire of the APS Community to informally engage around hot topics in our community. (Watch future issues of *Phytopathology News* for complete Plant Health 2021 Online survey results!)

Sponsorships

Finally, a heartfelt "Thank you!" to all of the sponsors of Plant Health 2021 Online! Special recognition goes to Corteva and Bayer—both sponsors championed sessions that were highly attended and received high

remarks in attendee satisfaction. Sponsoring organizations are integral to the success of APS and the annual meeting. Sponsorships support the meeting program through representation of the research and work happening in the industry, while also providing opportunities to connect students and young professionals with industry careers and partnerships and hosting networking events for all attendees. These sponsorship dollars also help to keep the registration rates more affordable for all attendees through their positive impact on the meeting budget.

While in-person meetings are certain to be part of APS for years to come, it is likely we will see continued innovation and more online content in future meetings. We are looking forward to next August and Plant Health 2022! See you there! ■

Call for 2022 Award Nominations

APS regularly honors individuals who have made significant contributions to the science of plant pathology. We invite you to familiarize yourself with the various APS Awards and nominate someone you feel deserves special recognition. Award nominations for 2022 will be accepted through **December 1, 2021**. Please review the award guidelines and nomination instructions prior to submitting your nomination.

Full details are available online. ■

Final Call for Councilors' Challenge Submissions

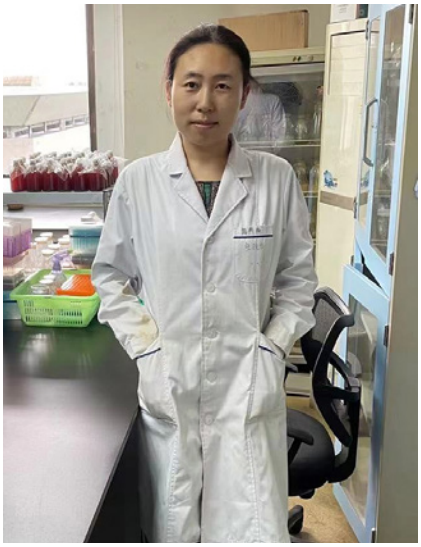
Submit your idea for developing a mentoring toolkit for professionals in phytopathology.

Learn more and submit your idea by October 13, 2021. ■

Phytopathology First Author Biography Series

Xiaohua Du Uncovers the Mechanism of Induced Systemic Resistance Using a Quorum Sensing Molecule Produced by *Rhodopseudomonas palustris* Against Tobacco Mosaic Virus

Peter Abrahamian and Mladen Cucak

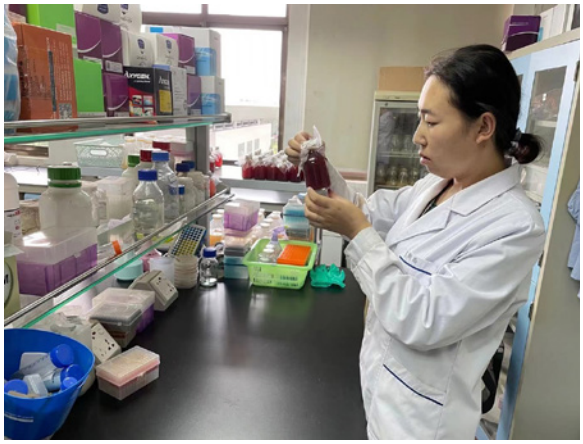


The *Phytopathology* assistant feature editors are shining a light on some of the great graduate student researchers who have recently published in *Phytopathology* by featuring a series of student author biographies in *Phytopathology News*. We are starting this series by highlighting the 2020 Best Student Paper awardee and honorable mentions.

Best Student Paper Awardee **Xiaohua Du** received the award for her first-author research article "*Rhodopseudomonas palustris* Quorum Sensing Molecule pC-HSL Induces Systemic Resistance to TMV Infection via Upregulation of NbSIPK/NbWIPK Expressions in *Nicotiana benthamiana*." Xiaohua was a student in the Hunan Plant Protection Institute at the Hunan Academy of Agricultural Science in Changsha, Hunan Province, China, where she was advised by **Dr. Yong Liu**. Xiaohua, who is originally from Inner Mongolia, China, completed her B.S. degree in agronomy from the Inner Mongolia University for the Nationalities.

Xiaohua's Ph.D. research has focused on the characterization of p-Coumaroyl-homoserine lactone (pC-HSL), a quorum sensing molecule produced by *R. palustris*. In her research, she identified that pC-HSL can induce systemic resistance against invading viral infection by tobacco mosaic virus. In addition, pC-HSL results in upregulation and activation of various kinases and transcription factors associated with increased accumulation of reactive oxygen species in virus-infected plants.

Currently, Xiaohua is continuing her research at the Hunan Plant Protection Institute as a lab researcher, where she will continue to dissect and understand signaling pathways involved in pC-HSL-mediated plant defense response. Beyond the scope of her Ph.D. research, Xiaohua is interested in the role *R. palustris* strain GJ-22 plays in contributing to this systemic resistance. When she is not in the lab, you can find Xiaohua playing the Chinese zither or *guzheng*. ■



PDMR Volume 15 Now Complete! 202 New Efficacy Reports Added

A biannual APS publication, *Plant Disease Management Reports* (*PDMR*) facilitates the rapid dissemination and archiving of information on cultural, chemical, and biological control of plant diseases. The latest volume, now complete, contains a total of 584 reports.

Browse Reports by Section

- Tropical, Vegetables, and Miscellaneous Crops
- Field, Cereal, and Forage Crops
- Nematicides (all crops)
- Ornamentals and Trees
- Pome Fruits, Citrus, Small Fruits, Stone Fruits and Nuts
- Seed Treatments (all crops)
- Turfgrass

Search all Volume 15 reports.

Submit to Volume 16 Beginning in Early November!

Learn about the submission process and review a sample report. Then, submit your own report when the next submission period opens on November 5, 2021. ■

My Experience as an Early Career Intern with the Public Policy Board

Coralie Farinas, Plant Pathology Scientist, Ball Horticultural Company

The Public Policy Board (PPB) is composed of 14 members and 2 interns from APS. Expert plant pathologists, graduate students, or consultants, they all provide phenomenal services that help maintain the relationship between APS members and the legislative and executive branches of government. To do this, PPB remains up-to-date on bill proposals, comments sought by APHIS, advocacy efforts of organizations, and concerns of APS members. PPB meets monthly virtually and organizes yearly visits to Capitol Hill to meet with representatives. It also provides comments to federal agencies, advocates for funding, organizes workshops, and trains passionate interns who want to learn more about science policy. I was one of these interns, and because I often get asked, I propose to share my experience in a tangible and, hopefully, inspiring way (spoiler: get involved with PPB!).

I joined PPB as a Ph.D. student, with the passion to be a voice for science on issues regarding the global plant trade and emerging pests. When looking for opportunities to learn about science policy, I enrolled in a graduate minor in management and public policy and, shortly thereafter, applied to become an APS PPB early career intern to gain experience in my field, and this is just what I obtained!

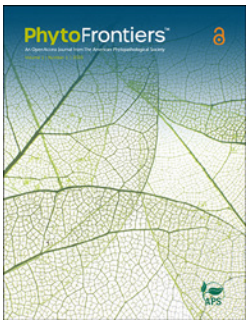
During the first few months of my internship, I followed a Communication Bootcamp for Scientists in Washington, DC, with the American Institute of Biological Sciences (AIBS). They helped me organize a tour of our Diagnostic Clinic at The Ohio State University (OSU) for our congressional representative (*Phytopathology News*, January 2020). Next, I helped organize a graduate student poster presentation at the Botanical Garden in Washington, DC, as part of the annual PPB visit to Capitol Hill. Later, I participated in a collaborative effort with other scientific organizations to preserve, or even increase, the number of NSF Graduate Research Fellowship Awards for FY21. To wrap up my first year, and with guidance from PPB members, we collaborated with APHIS to write an article for *Phytopathology News* (July 2020) to inform APS members about new APHIS regulations.

During my second year as an intern, our monthly conference calls taught me how to develop coalitions with other scientific societies, organize virtual meetings with federal agencies to help maintain relationships, and write position letters and white papers. I want to reinforce the collaborative nature of PPB. It isn't a one (wo)man effort—it is founded on appreciation for one's willingness and expertise. As within APS in general, this is where our strength lies.

I have now graduated from OSU and am working with a global seed and ornamental plant production company, Ball Horticultural. I continue to strive for the harmonization of the global plant and seed trade, promoting science-based decisions. Even though I am still intimidated when representing the plant sciences while meeting with congressional representatives and federal agency leaders, I am now equipped with this unique experience as a PPB intern.

I highly encourage everyone to reach out to PPB members and engage in conversations, whether it be to raise concerns, to propose ideas, or to get acquainted with the PPB's activities. Thanks for reading about my PPB experiences! ■

PhytoFrontiers™ Publishes Third Issue and Welcomes New Associate Editor-in-Chief Natalia Peres



The third issue of the broad scope, open access APS journal *PhytoFrontiers*™ is now available, with 11 new articles covering basic to applied aspects of plant health. Editor-in-Chief **Steve Klosterman** highlights two picks below.

"Genetic Variability of *Haplaxius crudus*, Based on the 5′ Region of the Cytochrome c Oxidase Subunit I Gene, Sheds Light on Epidemiology of Palm Lethal Decline Phytoplasmas"

Alessandra R. Humphries, Marina S. Ascunce, Erica M. Goss, Ericka E. Helmick, Charles R. Bartlett, Wayne Myrie, Edwin A. Barrantes, Marco A. Zumbado, Alex E. Bustillo, and Brian W. Bahder

Brian Bahder and colleagues found that American palm cixidd (*Haplaxius crudus*) were moving between Jamaica and Florida and transmitting lethal yellowing disease and lethal bronzing disease.

Steve Klosterman: "This study confirms the distribution of the vector *H. crudus* and demonstrates that lethal yellowing and lethal bronzing are more common on palm trees in the

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southern half of Florida relative to other locations examined in the southern United States. This research provides much needed additional information on the genetic diversity of *H. crudus* to assess its distribution and highlights the need for robust sampling throughout the Caribbean."

"Epidemiological Characterization of Lettuce Drop (*Sclerotinia* spp.) and Biophysical Features of the Host Identify Soft Stem as a Susceptibility Factor"

Bullo Erena Mamo, Renée L. Eriksen, Neil D. Adhikari, Ryan J. Hayes, Beiquan Mou, and Ivan Simko

Bullo Erena Mamo and colleagues investigated lettuce–environment–*Sclerotinia minor* interactions in two tolerant and four susceptible *Lactuca* genotypes to determine putative risk factors and targets for sclerotia control.

Steve Klosterman: "Though many studies have indicated the potential for cell wall strengthening in reducing disease susceptibility, this work clearly demonstrates a correlation between increased basal stem strength of some lettuce cultivars and increased disease resistance."

See all 11 articles here.

Introducing Natalia Peres

Natalia Peres has been on the *PhytoFrontiers* editorial board since the journal launched in 2020 and now serves as associate editor-in-chief. Learn more about Natalia below.

1) Tell us a little about yourself—where are you from, where are you now?

Originally from a coastal city in Brazil, I am now a professor at the University of Florida Gulf Coast Research and Education Center, where I focus on strawberry diseases.

2) What drew you to the *PhytoFrontiers* editorial board?

I was interested in working on a journal with a broad plant health scope. As a faculty with extension responsibilities, I also like the fact that *PhytoFrontiers* provides a space for plant pathologists to publish negative results, which sometimes can be just as meaningful or important.

3) Why should people read and publish in *PhytoFrontiers*?

As mentioned, *PhytoFrontiers* was developed to have a broad plant health scope and is an option for those who wish to publish research that is out of scope of the other APS journals. It is also an ideal place for authors looking for rapid publishing in an open access journal.

4) What do you look forward to most about being associate editor-in-chief?

I look forward to closer interaction with the great list of highly experienced scientists on the editorial board—all of whom are current or past senior editors of other APS journals. I'm also excited to learn about great high-quality research on plant health from scientists worldwide.

Learn more about *PhytoFrontiers*. ■

Inaugural Business Meeting and Launch of the APS African Division

Serendipity, time, persistence, vision, and sacrifice were key to the journey that led to the inaugural business meeting and launch of the APS African Division, the first new APS Division in more than 30 years. The meeting, held virtually via Zoom on August 18, 2021, from 9:00 to 11:30 a.m. Central Time, was attended by 185 participants from 29 countries.

On the agenda were remarks by African Division President **Olufemi Alabi**, who described the group's membership composition as including members of African descent working anywhere in the world and global members from anywhere with an interest in projects in Africa. He also described the group's genesis and its vibrant online networking activities. Thanks to a continued surge in interest, the group has had to transition from its maxed-out WhatsApp account of more than 250 members to a new Telegram account. He also introduced the current executive committee members and expounded on their vision for the future of the division. Following these remarks, the APS Immediate Past President **Dr. Mark Gleason** gave updates on APS activities, including the launch of a diversity award, opportunities to present podcasts, and APS Council's delight over the creation and launch of this new division.

The meeting featured oral technical presentations from two African students, **Dr. Faith Ayobami Bankole**, a graduate student at the Obafemi Awolowo University, Nigeria, and **Dr. Khumbuzile N. Bophela**, a recent Ph.D. graduate at the University of Pretoria, South Africa. Presentation of awards was performed by **Dr. Molemi Rauwane** (APS-AD secretary/treasurer). The winning presentation given by **Dr. Bophela** was titled "Pathogenomics of *Pseudomonas* Strains within the *Pseudomonas syringae* Species Complex That Are Associated with Bacterial Canker of Stone Fruit Trees in the Western Cape, South Africa." The first-place winner was awarded a one-year free APS membership, a plaque, and a $50 APS Press Gift Card.

The main attraction of the business meeting was a vibrant panel discussion on the topic "Advancing Mutually Beneficial North/South Collaboration in Phytopathology." The panel of four distinguished scientists was moderated by **Dr. Mamoudou Sétamou**, Texas A&M University Kingsville Citrus Center, Weslaco, TX, and Fellow of the African Academy of Sciences. The panelists were **Dr. Jacquie van der Waals**, University of Pretoria, South Africa; **Dr. Douglas Miano**, University of Nairobi, Kenya; **Dr. Laura Boykin Okalebo**, BioTeam-Uganda, and a TED senior fellow; and **Dr. Ranajit Bandyopadhyay**, International Institute of Tropical Agriculture, Ibadan, and APS Fellow. Over the course of 75 min, the panel engaged the attendees and did justice to the topic by sharing their personal experiences on north/south research

African Division, continued on page 8

African Division, continued from page 7

collaborations, including the ingredients for establishing successful collaborative research programs, the possible challenges/barriers to success, and how to overcome these challenges. A common thread from the panel discussion was that young African scientists wishing to establish successful collaborations with their global counterparts should endeavor to make their programs visible to attract partners with similar interests, network through participation in international meetings, identity and form partnerships with potential collaborators with shared purposes and goals, form partnerships that are mutually beneficial, and have clearly defined scopes and expectations for all partners involved, including how credit would be shared. Greater involvement of women in plant pathology and the readiness to involve the private sector in north/south collaborative research are key ingredients of success. Finally, it is important that north/south collaborative research should emphasize R&D efforts that could be sustained locally beyond the lifespan of a specific project.

The panel discussion was followed by announcements from **Dr. Lourena Maxwell** (APS-AD president-elect) and closing remarks from Divisional Forum Representative **Dr. Sally Mallowa**. They thanked the attendees, student presenters and competition judges, panel moderator and panelists, the APS leadership and staff, and all whose volunteer efforts made this historic meeting a huge success. They also urged members to continue the conversation and networking activities via the APS African Division Online Community page and the African Phytopathologist Telegram and Twitter accounts. ■

Presenters at the inaugural business meeting and launch of the APS African Division (APS-AD), held virtually on August 18, 2021. First row (top, L-R): Dr. Sally Mallowa (APS-AD Divisional Forum Rep), Dr. Olufemi Alabi (APS-AD President), Dr. Mustafa O. Jibrin (APS-AD Vice-President and Communications Manager), Dr. Lourena Maxwell (APS-AD President-Elect). Second row (L-R): John Oladokun (APS-AD Student Rep), Dr. Ranajit Bandyopadhyay (Panelist), Dr. Jacquie van der Waals (Panelist), Dr. Douglas Miano (Panelist). Third row (L-R): Dr. Khumbuzile N. Bophela (Student Presenter), Dr. Laura Boykin Okalebo (Panelist), Dr. Mamoudou Sétamou (Panel Moderator), Dr. Faith A. Bankole (Student Presenter). Fourth row (L-R): Dr. Willard Mbewe (APS-AD Regional Rep), Dr. Molemi Rauwane (APS-AD Secretary/Treasurer).

2021 APS Pacific Division Highlights

The very first virtual APS Pacific Division Meeting was held June 16–18 and included two days of scientific presentations, online professional development opportunities, and opportunities to interact with plant pathologists working in industry. A symposium titled Detection and Diagnostics of Emerging and Invasive Diseases was followed by presentations from 20 students and 9 members. Congratulations are due to the following Student Oral Competition winners:

- First place: **Lindsey Pedroncelli**, University of California, Riverside
- Second place: **Alex Wong**, Oregon State University
- Third place: **Chelsea Newbold**, Oregon State University

Two additional awards were presented during the June 18 business meeting:

- Lifetime Achievement Award: **Jay Pscheidt**, Oregon State University
- Distinguished Service Award: **Natalie Goldberg**, New Mexico State University

Many thanks to **Katie Hamel** at APS headquarters for coordinating and providing technical support for this virtual meeting. The location for the 2022 meeting of the APS Pacific Division will be determined soon. ■

People

Degrees

Sajal R. Sthapit recently completed requirements for a Ph.D. degree in plant pathology at Washington State University (WSU). His committee consisted of **Deven See** (chair), **Scot Hulbert**, **Timothy Murray**, and **Kevin Murphy** (WSU Department of Crop and Soil Sciences). Sthapit's dissertation was titled "Population Structure, Genetic Diversity, and Signatures of Selection in U.S. Wheat Populations." He received his B.S. degree in biology from the College of Wooster, OH, in 2005 and M.S. degree in sustainable development and conservation biology from the University of Maryland in 2007. From 2007 to 2009, Sthapit worked as a program associate at Ecoagriculture Partners, Washington, DC, writing standalone reports,

People, continued on page 10

Donors of Distinction

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Meet some of the amazing people who support APS Foundation. Learn more about who they are and why they give their time and resources to support others.

Taylor Klass

From the very beginning of my plant pathology graduate school experience, my advisors and mentors encouraged and made it possible for me to attend the APS Annual Meetings. In APS, I found a supportive environment where I could gain friendships and a network outside of my university. I also found a generous community that financially supported me in attending the 2019 APS meeting through the H. J. Dubin Student Travel Award in honor of the Peace Corps. It has been such a joy to become involved in APS through volunteering with the Office of International Programs and serving as vice chair and now chair of the Graduate Student Committee. Being involved in APS grounds me and reminds me of my purpose and passion as a plant pathologist. I want other students to have that opportunity and to experience all APS has to offer, which is why I support APS Foundation.

***Taylor Klass** is a Ph.D. student in plant pathology at THE Ohio State University. She chairs the APS Graduate Student Committee and is a member of the APS Foundation Board of Directors.*

Graduate Students: Apply to be Featured in *Phytopathology News*!

For each issue of *Phytopathology News*, the APS Graduate Student Committee chooses a graduate student to be featured in a spotlight article. Applicants are chosen based on their involvement in APS as student members and their expected graduation dates. The committee strives to integrate students into society affairs and activities and recommends ways to address student concerns. Submit your application for consideration on the submission webpage.

Neal Van Alfen and Pam Kazmierczak

My wife, **Pam Kazmierczak**, and I have been members of APS throughout our professional careers. Like many, we have been members of other professional organizations, but we have always considered APS to be our family and looked forward to the fellowship of the annual APS meetings. In our retirement from research, as we think back to the discussions and excitement of the new knowledge shared at the paper and poster sessions, and at the symposia, our memories are not so much of the details of the research that was discussed, but of the people. The people were almost without exception supportive, helpful, and encouraging to those sharing their research. This is the culture of APS, but it isn't necessarily the culture of all professional organizations. I have had the experience of working with academic departments and professional organizations ranging from the social sciences to the basic sciences and have found that the supportive culture of APS is unique.

The named travel awards that support the travel of graduate students to APS meetings are an excellent vehicle to preserve the memory of those who have contributed so much to what I have called the culture of APS. Almost all of the funds are in memory of our personal friends who should be remembered for their contributions to APS, so it is difficult to choose just a few to support, such as the funds named for **Tsune Kosuge**, my major professor, and **Janell Stevens Johnk**, a wonderful, talented Cooperative Extension specialist tragically killed early in her career in an automobile accident on her way to an Extension meeting. I hope each member of APS will support the future of APS by donating to our named travel awards and, in the process, keep the memory alive of those who created this positive, supportive culture.

***Neal Van Alfen** is the former head of the Department of Plant Pathology and Microbiology at Texas A&M University, dean of the College of Agricultural & Environmental Sciences of the University of California, Davis, and president of APS. **Pam Kazmierczak** was the research scientist who made it possible for Neal to assume roles other than teacher and research scientist.* ■

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book chapters, and policy briefs describing the role of agriculture in greenhouse gas emissions and its potential for mitigation of climate change. From 2010 to 2015, he worked at Local Initiatives for Biodiversity, Research, and Development (LI-BIRD) in Pokhara, Nepal, in several positions, including program coordinator of knowledge management and capacity building; program coordinator of biodiversity and ecosystem services; and deputy director of program operations for implementation of multiple agriculture and natural resource management research and development projects in Nepal. Sthapit joined See's program in spring 2016 for his Ph.D. program. He received Goldsworthy Wheat Research Fund from the WSU Department of Plant Pathology. Sthapit is seeking a postdoctoral associate position in a university or a position within a research-oriented nonprofit organization.

Honors

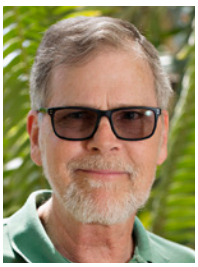
Scot Hulbert, professor and former chair of the Department of Plant Pathology, Washington State University (WSU), was recently named a member of the Washington State Academy of Sciences, together with six other WSU faculty. Hulbert is currently an associate dean and director of the Agricultural Research Center, College of Agriculture, Human, and Natural Resource Sciences, WSU. He received this recognition for discoveries revealing the molecular mechanisms by which pathogens defeat plant defense responses to infection, facilitating development of durable resistance to historically devastating foliar diseases of wheat and rice and for identification and genetic mapping of one of the first known traits for resistance in wheat to a root disease.

Obituaries

Arlen D. Davison, 88, professor emeritus and extension plant pathologist, former chair of the Department of Plant Pathology, Washington State University (WSU), passed away on July 12, 2021, in Pullman, WA. Davison was born in Hastings, NE, the eldest son of **Lannis D.** and **Esther M. Davison** and grew up in Laramie, WY. Following graduation from Laramie High School, he earned a B.S. degree in agronomy in 1955 and an M.S. degree in plant pathology in 1956 from the University of Wyoming and a Ph.D. degree in plant pathology and entomology from Oregon State University in 1962. Davison worked as an extension plant pathologist at the University of Arizona from 1963 to 1967 before coming to WSU, where his research focused on agricultural industries and urban gardening problems of western Washington. During his time at WSU, Davison worked with the Western Washington Research and Extension Center (WWREC) in Puyallup as an extension plant pathologist. Davison served as the State Extension Agriculture and Natural Resource Program leader in 1973, as a legislative liaison to the Washington State legislature from 1986 to 1999 and on the Washington State Agricultural Pesticide Advisory Board. He established a Plant Disease Clinic with **Roy Davison** and helped found the Master Gardeners' clinics and volunteer program. Davison was the chair of the Department of Plant Pathology at WSU from 1981 to 1986 and returned to Puyallup in 1986 to become superintendent of WWREC and served as assistant dean of the College of Agriculture and Home Economics for the Puyallup, Mt. Vernon, Vancouver, and Long Beach units of WSU until his retirement in 2003. In addition to several academic journal articles and nearly a hundred extension publications, Davison coauthored the book *How to Identify Rhododendron and Azalea Problems*. In 2002, he was named an Outstanding Alum by the College of Agriculture and Home Economics at the University of Wyoming in recognition of his part in the creation of the concept and development of the original Master Gardener Program.

Davison's volunteer activities included the Boy Scouts of America, Kiwanis, and Northwest Trek (a wildlife park). During the Lewis and Clark Bicentennial, he developed and presented programs at Trek and to service clubs, public schools, libraries, and churches. In addition, he was skilled in leather crafts, making Lewis and Clark costumes and period clothing for Cowboy Action Shooting, in which he participated for 10 years. He also enjoyed success in landscape oil painting. A lifelong member of the Presbyterian Church (USA), he served as an ordained elder in First Presbyterian Church in Puyallup, a member of the choir and on local and Presbytery committees. He cochaired a pastor nomination committee and a capital stewardship campaign. He also served as a reserve infantry officer, attaining the rank of captain before being honorably discharged.

While enjoying a successful career in higher education at three universities, Davison's greatest joy and satisfaction was in and with his family. He and **Nancy** shared a devoted and happy marriage of 63 years. There is no greater reward than having the love and devotion of one's children and grandchildren. Arlen is survived by his son **Timothy** and wife **Brenda**, grandsons **Keith (Heather)**, **Sean (Lauri)**, and **Kyle**; son **Robert** and wife **Cynthia**, granddaughter **Emma** and grandson **Lannis**; daughter **Sarah Davison Hatley** and husband **Kevin**, granddaughters **Lauren** and **Rebecca** and grandson **Ryan (Abby)**; and great-granddaughters **Kristen**, **Lily**, and **Cora**, and great grandson **Jackson** due in mid-September. Davison was preceded in death by his loving wife Nancy and his brother **James C. Davison**.



Dr. Thomas R. Gordon, distinguished professor emeritus at the University of California, Davis, died after an extended illness on June 27, 2021. Tom was born on January 30, 1951, in Los Angeles, CA, to **Hugh** and **Virginia Gordon**. He was raised in Los Angeles and graduated from California State University–Northridge with degrees in biology (B.S., 1974) and botany (M.S., 1976). He received a Ph.D. degree in plant pathology in 1981 from UC Davis, where **John Duniway** mentored his doctoral research. He subsequently served as a postdoctoral researcher with **Robert Webster** at UC Davis, and then joined the UC Berkeley Plant Pathology Department in 1985 as an assistant professor. Following the college reorganization at Berkeley, Tom transferred to the Department of Plant Pathology at UC Davis in 1996, where he continued development of distinguished programs in teaching, research, administration, and service.

Tom's research focused on plant pathogenic fungi. His more than 160 publications reveal the exceptional quality and depth of his research, providing information germane to disease management while contributing to fundamental principles of plant pathology. He had a long-standing program on pitch canker of Monterey pine, caused by *Fusarium circinatum*, as well as projects on wilt diseases caused by *F. oxysporum* and *Verticillium dahliae*. He was recognized nationally and internationally as an authority on these diseases and was especially regarded in the *Fusarium* research community. The breadth of research topics associated with his lab included pathogen

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genetics and genomics, insect vectors, disease management, ecological implications of natural plant defenses, and many more. Tom and his colleagues also made important contributions to the biology and management of vascular wilt diseases in lettuce and strawberry. He mentored many students and postdocs who have gone on to have productive careers.

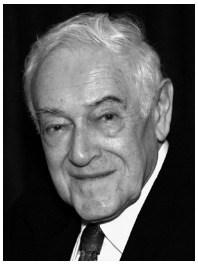
Tom's ability to share his knowledge also was reflected in his extraordinary contributions to plant pathology and mycology education. He was an innovative and popular teacher. His "signature" course, Mushrooms, Molds and Society (Science and Society 30) was an undergraduate general education class that introduced fungi and their societal roles and eventually grew to over 500 students per offering. In 2013, he was awarded the UC Davis Academic Senate Distinguished Teaching Award for Undergraduate Education—one of the most prestigious campus awards.

Tom often used alternative media to promote plant pathology, as well as bring good cheer to the department at various gatherings. His video, "The Role of Recognition in Host-Parasite Interaction," illustrated central concepts in plant pathology and received the 2010 Judge's Choice Award from APS and a first prize in the international competition sponsored by Chlorofilms (ASPB). The film exemplifies his philosophy that analogies and humor can render otherwise obscure concepts interesting and easy to understand. Other videos he produced combined humor, often with playful critique of campus politics or other current events.

Throughout his career, Tom was deeply committed to the department, university, agricultural industry, and his profession. His contributions to APS included service as a senior editor for APS PRESS and participation in various APS symposia. He served as an unselfish and extremely effective chair of the Plant Pathology Department for eight years, and contributed to numerous department, college, university, and statewide committees. He was named an APS Fellow in 2014 in recognition of his accomplishments in research, teaching, and service.

Tom retired in 2019 and continued to remain active in research and writing papers until shortly before his death. Tom was a beloved professor and colleague, and upon learning of his death, many spoke of his brilliance, creativity, and humor and his thoughtful and caring manner. Tom was predeceased by his parents and his wife, **Beverly McFarland** (Ph.D., UC Davis, 1981), who passed away in 2017. He is survived by his son, **Steven**, his sisters **Julie Monson** and **Beatrice Reay**, and several nieces and nephews. A celebration of Tom's life and career was held at UC Davis on July 24, 2021.

—Richard M. Bostock, Cassandra Swett, and David M. Rizzo



On April 2, 2021, renowned Canadian plant virologist **Dr. Marvin Weintraub** passed away in his beloved Vancouver at the age of 96. Marvin was one of Canada's most accomplished plant virologists, a talented administrator, and an inspiring educator.

Marvin was born in Radom, Poland, in 1924. Arriving in Toronto in 1930, Marvin, with his only sibling Jerry, received a first-rate education at the public school of Harbord Collegiate.

Always the humanist, he first considered a career teaching Latin and Greek but, through the influence of his brother, switched to science at the University of Toronto (U of T). Marvin received his B.A. degree, with honours, in biology in 1947 and his Ph.D. degree in botany in 1950. His thesis, "Leaf Movements in Mimosa," was published two years later in the *New Phytologist*—the first of more than 70 publications he authored and coauthored. During his studies, he not only wrote a high school text on botany, but married his future wife of 72 years, **Rita Enushevsky**, who was then a brilliant M.A. sociology student at U of T. As an interesting aside, his brother **Dr. Jerry Weintraub** became a highly acclaimed entomologist in Lethbridge, AB.

After receiving his Ph.D. degree, Marvin would recount how plant virology jobs were scarce, such that he sent out hundreds of job applications. He was ultimately successful in joining the Laboratory of Plant Pathology in St. Catharines, then under the directorship of **G. H. Berkeley**. His U of T professors in their reference letters were prescient in projecting Marvin's success. They early on recognized his remarkable combination of teaching qualities and his broad and deep thinking—a polymath who, in his research, drew on different disciplines. For example, one wrote:

> On graduation he approached me with a problem I was inclined to consider rather too difficult for a Ph.D. thesis. He was anxious to attack it however and has done so with persistence and ingenuity…. I believe he has to a marked degree the industry, imagination, clear thinking and wholesome self-criticism that make for fruitful scientific work…his pleasing, dignified personality augur well for success as a teacher…. His wife has a brilliant and attractive personality and will, I am sure, be an important factor in his success.

Seventy years later, after an illustrious career, the Legislative Assembly of British Columbia recognized his 95th birthday in Standing Order 25B:

> Dr. Weintraub was elected a fellow of the New York Academy of Sciences and lectured around the world for scientific exchange programs. His scientific work has contributed to fighting agricultural diseases around the world, helping reduce world hunger and assisting farmers in finding solutions to complex agricultural problems. Awarded the Queen's Silver Jubilee Medal in 1977 for his scientific achievements, he was at that time recognised as one of Canada's leading scientists.

In his research capacity, Marvin focused on two primary areas: the role of virus inhibitors on virus infection and the cytopathology of virus-infected plants, using electron microscopy. His work on the affect and nature of virus inhibitors led to the codiscovery, with **Dr. J. D. Gilpatrick**, of a novel type of systemic acquired resistance in carnation. They published their findings in 1952 in *Science*, which opened up new areas of research and generated hundreds of papers. Their research established that upper asymptomatic leaves from carnation infected with an isolate of *Carnation mosaic virus* that caused local lesions were resistant to subsequent infection with the virus. More interesting was that these compounds provided broad-spectrum antiviral activity (including some RNA and DNA viruses as well as viroids). They also proved that the resistant leaves did not contain transmissible virus, and later, Marvin, with **Dr. W. G. Kemp**, showed that the antiviral activity could move across graft unions (1955–1961).

Later in the 1960s, with **Dr. H. Ragetli**, Marvin was able to purify two organic compounds, which they suggested were proteinaceous with antiviral activity when applied to the leaf surface prior to infection. The two proteins were later purified by Stirpe et al. (1981) and have since been shown to be type 1 ribosome-inactivating proteins similar to saporins. These compounds are now being investigated to design targeted toxins for tumor therapy.

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In 1956 Marvin spent a sabbatical year as a research fellow at the Virus Laboratory at UC–Berkeley, where he worked with Nobel Prize winner **Dr. Stanley** and **Dr. C. E. Yarwood**. It was there that he developed his lifelong interest in electron microscopy and its application to the study of plant viruses.

In 1960, Marvin was asked to head the Virus Chemistry and Physiology Section of the newly opened Vancouver Research Station (VRS). Dr. Ragetli also joined what became affectionately known by family and friends as "The Lab." One of Marvin's first accomplishments was establishing an electron microscopy facility for the study of plant viruses.

In 1971, he was asked to become director of the VRS and illustriously served in this capacity until his retirement in 1989. It was as director that his remarkable talent for administration came to fruition. Marvin advanced a strategic plan to develop VRS as a center for virus research, with scientists in all three Units of Virus Chemistry, Plant Pathology, and Entomology involved in some aspect of virology. He stressed the importance of collaboration across all three units. VRS became the "crown jewel" of Canada's agricultural research. By all accounts, under his tenure, VRS became a leading plant virus research station.

As director of VRS, Marvin was responsible for the "family-like" work environment that was welcoming to all. He pioneered the elevation of the technician to a position of peer and shared coauthor status with them in papers. Notwithstanding his onerous administrative duties, he continued research into metabolic and fine structural changes in virus-infected cells and continued to publish. He initiated and participated in exchange programs such as the 1981 Canada-France Scientific Exchange Program and, most notably, his multiyear support of Peruvian agricultural research and his work in Nicaragua and China.

His most moving science travel adventure was being designated as the 1968 Eminent Scientist on Exchange to USSR under the National Research Council of Canada during the height of the Cold War. His meetings with eminent virologists at the leading centers led to his fascinating 40-page report to the NRC. All who are interested in the history of plant science in the Soviet Union under communism will find his report a fascinating read. It was on this trip that he was given an electron microscope photo of a bacteriophage in the shape of a Star of David by a renowned virologist who was unable to otherwise disclose her Jewish heritage.

Marvin was impassioned in his encouragement of VRS scientists to develop their own collaborations. During his tenure there were more than 30 scientists from all parts of the globe on sabbaticals working with VRS scientists.

Marvin was an honorary professor at UBC in the Department of Plant Science and collaborated with the UBC Plant Sciences Department and Simon Fraser University to offer a joint course in Plant Virology. He was appointed by the minister of agriculture as the chief liaison officer to the Department of Agriculture for British Columbia to align national and provincial priorities.

Marvin was an associate editor of *Virology* and reviewed plant virus manuscripts for the *Canadian Journal of Botany*, *Canadian Journal of Plant Pathology*, *Phytopathology*, and *Science*. He was a member of many Department of Agriculture national and international committees and was an external thesis advisor for students at numerous institutions, including the University of Madras, Natal, and Hebrew University. There were, in fact, few aspects of Canadian plant virus research, academia, or administration without his participation and, therefore, his wise and kindly imprint. Marvin was awarded the 1977 Queens Silver Jubilee Medal for his scientific contributions.

Marvin and Rita raised four children, **Laura**, **Mark**, **Lisa**, and **John**, although tragically Laura and Lisa predeceased him, as did his beloved granddaughter **Dani**. His only true love, Rita, predeceased him in 2020.

Marvin found the most satisfying career in plant virology. He would wish all our readers as meaningful, creative, and stimulating a career as he was blessed to experience. He gave much to the field but was always grateful for the support of the Canadian Department of Agriculture and many international agencies and governmental departments in other countries, and his fellow scientists, publishers, academics, technicians, stenographers, and physical plant maintenance workers, but perhaps most importantly, the students with whom he could share all of his hard-earned knowledge and wisdom and to whom the future beckoned.

A man of Martin's rigorous mind, open heart, and impassioned determination in all of his endeavors is indeed rare. All who knew him benefitted; all who knew him will forever miss him.

—Dr. Robert Martin, Dr. Sara Spiegel, Dr. Steve Haber, Dr. Robert Lewis, Mark Weintraub Q.C., Julia Roudakova, John Weintraub

Marvin's son Mark, will be more than pleased to hear from any of our readers about his father and will send, upon request to msw@cwilson.com, the report on Marvin's Eminent Scientist 1968 visit to the USSR; Marvin's 28-page history of the VRS, a comprehensive list of his publications, and a photograph of the Star of David Bacteriophage noted above. ■

Graduate Student Spotlight: Austin McCoy

What type of degree program are you enrolled in?

Ph.D., Michigan State University.

What year are you in graduate school?

I am in my fifth year as a Ph.D. student, with an expected graduation date of May 2022.

What is your academic department/section called at your institution?

Department of Plant, Soil and Microbial Sciences.

Who is your major professor?

Dr. Martin Chilvers.

How have you been involved in the APS organization?

I have not been very involved on the society level (other than attending meetings) but have been very involved at the department and university level with our graduate student plant pathology group (SPORE).

Please provide a brief description of your research.

My research focuses on the molecular detection and integrated management of oomycete root rot pathogens, primarily of soybean and corn. I have recently published a pathotype survey and fungicide testing of *Phytophthora sojae* in Michigan, identifying a decline in effective resistance genes to the sampled population (*Plant Disease*).

What are some of your interests outside of science?

Hiking, mushroom foraging, fossil hunting.

What is your hometown?

Anderson, IN, USA.

What is your favorite pathogen/plant disease?

Phytophthora root and stem rot of soybean.

How did you become interested in the field of plant pathology?

I took a class at Purdue University called The Microbial World taught by **Dr. M. Catherine Aime**, which got me interested in fungi. From there, I worked in the Arthur Fungarium and Kreibel Herbarium at Purdue University during my undergraduate studies, where I had the opportunity to see lots of fungal specimens up close, increasing my interest in mycology. After taking many plant pathology classes, I ended up working in the Purdue Plant and Pest Diagnostics Lab my senior year, where my love of plant pathology really grew!

Do you have any social media handles that you want to share?

E-mail: mccoyaus@msu.edu
Twitter: @AG__McCoy ■

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

Classifieds

Assistant Professor—Crop Entomology
University of Arkansas (Fayetteville, Arkansas)

Current University of Arkansas System employees, including student employees and graduate assistants, need to log into Workday on My Apps. Simply enter "Find Jobs" in the Workday search bar to view open positions.

All Job Postings will close at 12:01 a.m. CT on the specified Closing Date (if designated). To view the job posting closing date please return to the Search for Jobs page.

If you close the browser or exit your application prior to submitting, the application process will be saved as a draft. You will be able to access and complete the application through My Draft Applications located on your Candidate Homepage.

Type of Position: Faculty—Tenure/Tenure Track
Work-study Position: No
Job Type: Regular
Sponsorship Available: Yes
Institution Name: Division of Agriculture of the University of Arkansas

The University of Arkansas System Division of Agriculture is a statewide campus, with faculty based on university campuses, at Research and Extension Centers, and in every Arkansas county. It consists of the Arkansas Agricultural Experiment Station (AES) and the Arkansas Cooperative Extension Service (CES) and is home to more than 1,400 employees. The Division was established in 1959 and is headed by the vice president for agriculture. The Division headquarters is located in Little Rock with the rest of the University of Arkansas System Administration. As an employer, the University of Arkansas System Division of Agriculture offers a vibrant work environment and a workplace culture that promotes a healthy work–life balance.

Below you will find the details for the position. To apply for the position, please click the Apply link/button.

If you have a disability and need assistance with the hiring process and require reasonable accommodations, please contact the Division's Office of Inclusion, Access, and Compliance at bbatiste@uada.edu.

For general application assistance or if you have questions about a job posting, please contact Human Resources at +1.501.671.2219 or +1.479.502.9820.

Department: ENPL | Entomology and Plant Pathology
Department's Website: https://enpl.uark.edu
Summary of Job Duties: The successful candidate is expected to develop a robust, extramurally funded research program focusing on management and understanding

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of arthropod pests that impact food and/or fiber crops. Preferred areas of research specialization could include, but are not limited to, integrated pest management, landscape ecology, insecticide resistance, grain storage pests, remote sensing, and novel pest control methods. The candidate is expected to demonstrate successful grantsmanship, report research results in peer-reviewed publications, and present research at national, regional, and grower meetings. Teaching of graduate and undergraduate level courses, especially in areas of applied pest management (e.g., integrated pest management), will be required. The candidate will interact with producers in the state and integrate with other extension efforts. The candidate is expected to mentor graduate students, provide service to the institution and state as appropriate, and collaborate effectively with departmental research and extension faculty and colleagues in related disciplines. The incumbent will focus on arthropod pests of agricultural products of importance to Arkansas, such as corn, cotton, rice, soybeans, or feed grains, and problems of other crops (e.g., peanuts, fruits, vegetables) where appropriate. However, research specialization is not limited to a specific commodity.

Qualifications

Minimum

- A doctoral degree in entomology or related discipline.
- Research experience in crop entomology.
- Strong oral and written communication skills.
- The ability to conduct independent and collaborative research.

Preferred

- Experience in a land-grant institution.
- Preference will be given to candidates with a demonstrated ability to work effectively across disciplines in entomology and agricultural systems.

Additional Information for Candidates

The Department of Entomology and Plant Pathology of the University of Arkansas System Division of Agriculture and the University of Arkansas, Fayetteville, invite applications to fill a 12-month, tenure-track faculty position (70% research, 15% teaching, 15% extension) with an emphasis on research in arthropod pests of crop plants. The University of Arkansas, Fayetteville, is a land-grant institution and the flagship university of the University of Arkansas System.

Female and minority candidates are encouraged to apply. The position is located at the University of Arkansas main campus in Fayetteville. All interested candidates must submit an application online at https://jobs.uark.edu and include: 1) a cover letter; 2) a statement of research interests; 3) a statement of teaching philosophy; 4) curriculum vitae; and 5) names and contact information of three professional references.

Potential candidates are encouraged to contact **Dr. Neelendra Joshi** with questions about the position.

Applications received by October 15, 2021, are assured full consideration. Information regarding the Department of Entomology and Plant Pathology is available online at https://enpl.uark.edu.

Salary Information: Commensurate with education and experience.

Required Documents to Apply: Cover Letter/Letter of Application, Curriculum Vitae, List of three Professional References (name, email, business title), Statement of Research Philosophy, Statement of Teaching Philosophy.

Optional Documents: Unofficial/Official Transcript(s).

Recruitment Contact Information: Dr. Neelendra Joshi, Associate Professor.

All application materials must be uploaded to the University of Arkansas System Career Site. Please do not send to listed recruitment contact.

Pre-employment Screening Requirements: Motor Vehicle Reports Check.

The University of Arkansas System Division of Agriculture may conduct pre-employment background checks on certain positions for applicants being considered for employment. The background checks may include a criminal background check and a sex offender registry check. Required checks are identified in the position listing. A criminal background check or arrest pending adjudication information alone shall not disqualify an applicant in the absences of a relationship to the requirements of the position. Background check information will be used in a consistent, nondiscriminatory manner consistent with the state and federal law.

The University of Arkansas System Division of Agriculture commits itself to policies of affirmative action and diversity with respect to both employment opportunities and program participation. The Division complies with these policies not merely because of legal requirements, but because we believe that such practices are basic to human dignity. As such, the Division welcomes all applicants to apply without regard to race, color, sex, gender identity, sexual orientation, national origin, religion, age, disability, marital or veteran status, genetic information, or any other legally protected status. Candidates must have proof of legal authority to work in the United States on the first day of employment. All applicant information is subject to public disclosure under the Arkansas Freedom of Information Act.

Please apply here for consideration.

Department Head

North Carolina State University (Raleigh, North Carolina)

The College of Agriculture and Life Sciences at North Carolina State University invites applications for the position of **Head of the Department of Entomology and Plant Pathology**. The Department Head will provide creative and exemplary leadership in Department administration and the recruitment, and development of faculty and staff, as well as planning and evaluation of the Department's academic, research, extension, and outreach programs. The Department Head will also be responsible for the allocation and accounting of departmental budgets. The Department Head will be expected to promote an inclusive and diverse environment for all members and to nurture a positive departmental work climate. The Department Head will be actively involved in fundraising and other development activities to support the Department's programs. The Department Head will also serve as the lead representative and advocate in interactions with College and University administrators, industry and commodity groups, and other stakeholders. The Department Head is expected to promote collaborations and partnerships with other University departments, as well as private industry and state, national, and international agencies to position the Department as a global leader in entomology and plant pathology. Inclusiveness and diversity are critical to the success of the university and in engagement outside the university. Therefore, the selected candidate will be expected to foster an environment that is welcoming of all groups.

North Carolina State University is a land-grant institution with strong extension, research, and teaching programs in the agricultural and life sciences. Current university enrollment is nearly 26,000 undergraduate students and over 10,000 graduate students. The Department of Entomology and Plant Pathology is composed of over 40 faculty who direct a diverse portfolio of programs. Collectively, these strengths not only serve our clientele and our science but also provide a rich environment for graduate education and training that can be tailored to the specific career interests of the student, whether they prefer training in the basic sciences or are preparing for a career in extension or industry. The Department offers master's and doctoral degree programs in both Entomology and Plant Pathology, as well as an extensive portfolio of undergraduate courses in both disciplines. Department faculty maintain an impressive record of research that includes an average of $15 million in competitive grant expenditures per year

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over the last three years. Areas of expertise include applied and basic ecology, biocontrol, chemical communication and ecology, epidemiology, enhancing host resistance, evolutionary biology, genetic pest management, host-parasite relations, insect rearing, integrated and precision pest management, landscape ecology, microbiome form and function, nematology, population genetics, resistance management, taxonomy, toxicology, and virus/vector relationships. Eighteen faculty members provide extension support through the Department to support stakeholders in agriculture (animal production, field crops, nursery production, small fruit crops, specialty crops, vegetable crops), forest health, and urban entomology.

Qualifications and Skills: Minimum eligibility requirements include a Ph.D. degree in a relevant scientific discipline; Associate Professor rank or at least 10 years of experience and promotion after their doctorate; and experience in developing, implementing, and evaluating strategic administrative goals and managing budgets. Preferred qualifications include a Ph.D. degree in Entomology, Plant Pathology, or Nematology or substantial experience working as a professional entomologist, plant pathologist, or nematologist; experience in fundraising or strategic advancement, including securing competitive grants from public sponsors and support from private foundations, industry, commodity groups, or individuals. Required skills include demonstrated leadership and ability to actualize decisions; evidence of commitment to diversity and inclusion and the land-grant mission of North Carolina State University, as put forth in the College and Agriculture and Life Sciences Mission Statement; and excellent communication skills demonstrated by mentoring students and younger faculty, fostering an inclusive community of scholarship, and advocating to advance the success of colleagues and the unit.

How to Apply: Inquiries, nominations, and applications are invited and may be directed to **Frank Barragan**, Recruitment Services Manager, Executive Search Services, +1.919.515.4365 and fbbarrag@ncsu.edu, or to **Dr. Jeff Mullahey**, Committee Chair and Department Head of Crop and Soil Sciences, +1.919.515.2647 and Jeff_Mullahey@ncsu.edu. Position information and application process (position # 00000196) are available at. Candidates should provide a curriculum vitae, cover letter, and the names and contact information of three references. References will not be contacted without prior knowledge and approval of candidates. Confidential review of applications will begin in October 2021 and will continue until the position is filled.

Plant Pathologist

Commonwealth of Pennsylvania
(Harrisburg, Pennsylvania)

The Position

Are you interested in plant pathogens and plant health? Would you enjoy working in both field and laboratory? This may be the position for you—apply today! The incumbent serves as program lead in specialized plant certification programs for freedom from plant pathogens within the Plant Health Division, which includes nematology, virology, mycology, bacteriology, disease diagnostics, and disease survey. The incumbent is responsible for coordinating and performing the functions of the certification programs, which involves both field and laboratory work.

Description of Work

The incumbent in this position communicates with growers, landowners, plant inspectors and state officials to obtain infor mation for certification programs; identifies plant pests in the field based on symptoms and signs, and in the laboratory using macroscopic, microscopic, biochemical, serological, and molecular techniques, and bioassays; and provides advanced plant sample diagnostic support and technical expertise to assist inspectors with the interpretation of results.

The incumbent participates in state and national surveys for new or reemerging high-consequence plant pathogens; participates in the development of regulatory policies pertaining to plant pathology programs; participates in preparation of computerized reports using databases and word processing; and reports results orally and in writing to appropriate officials and other audiences.

This position assists with maintenance and management of plant pathology laboratories and greenhouses; makes oral and written presentations to the general public, growers groups, and scientific organizations on information pertinent to plant certification programs and plant pathology issues; prepares technical and scientific articles for journals and growers related to concerns in plant pathology; and provides training, technical information, and guidelines on plant diseases to plant inspectors and other staff.

Full-time employment
Work hours: 8:00 a.m. to 4:00 p.m., Monday through Friday; 30-min lunch.

Required Experience, Training, and Eligibility
Qualifications

- **Minimum Experience and Training Requirements**—Master of Science in Plant Pathology; **or** Master of Science in a related field that includes 15 college credits in Plant Sciences; **or** Bachelor of Science in Plant Science or a related field with 15 college credits in Plant Sciences; and one year of professional experience in Plant Pathology.
- PA residency requirement is waived for this position.
- Do **not** submit resumes, cover letters, and similar documents. These documents will **not** be reviewed and the information contained therein will not be considered for the purposes of determining your eligibility for the position or to determine your score. Information to support your eligibility for the position must be provided on the application (i.e., relevant, detailed experience/education).
- If you are claiming education in your answers to the supplemental application questions, you must attach a copy of your college transcripts for your claim to be accepted toward meeting the minimum requirements. Unofficial transcripts are acceptable.
- Must be able to perform essential job functions.

Veterans: Pennsylvania law (51 Pa. C.S. §7103) provides employment preference for qualified veterans for appointment to many state and local government jobs. To learn more about employment preferences for veterans, visit the website and click on the Veterans' Preference tab or contact us by email at ra-cs-vetpreference@pa.gov.

Telecommunications Relay Service (TRS): 711 (hearing and speech disabilities or other individuals).

The Commonwealth is an equal employment opportunity employer and is committed to a diverse workforce. The Commonwealth values inclusion as we seek to recruit, develop, and retain the most qualified people to serve the citizens of Pennsylvania. The Commonwealth does not discriminate on the basis of race, color, religious creed, ancestry, union membership, age, gender, sexual orientation, gender identity or expression, national origin, AIDS or HIV status, disability, or any other categories protected by applicable federal or state law. All diverse candidates are encouraged to apply.

Examination Information

- Completing the application, including all supplemental questions, serves as your exam for this position. No additional exam is required at a test center (also referred to as a written exam).
- Your score is based on the detailed information you provide on your application and in response to the supplemental questions.

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Classifieds, continued from page 15

- Your score is valid for this specific posting only.
- You must provide complete and accurate information or
  - Your score may be lower than deserved.
  - You may be disqualified.
- You may only apply/test **once** for this posting.
- Your results will be provided via email.

Research Plant Pathologist (Post-Doctoral)

USDA ARS, Southeastern Fruit and Tree Nut Research Laboratory (Byron, Georgia)

The U.S. Department of Agriculture, Agricultural Research Service, Southeastern Fruit and Tree Nut Research Laboratory, Byron, GA, seeks a Research Plant Pathologist (Post-Doctoral, GS-11, salary commensurate with experience) with expertise in molecular biology. The incumbent's primary responsibility is to conduct research on the population genetics and the genetics of pathogenicity of the pecan scab fungus (*Venturia effusa*). The incumbent will plan and design appropriate experiments, perform them, and analyze and report results. The incumbent will be responsible for searching scientific literature for principles, methods, and procedures and selecting appropriate approaches for the research goals. Occasional travel—local and domestic—will be required for fieldwork and scientific meetings and conferences. The position is projected to begin on October 1, 2021 (with some flexibility). Applications will be reviewed as they arrive until September 30, 2021. USDA-ARS is an Equal Opportunity Provider and Employer.

Applicants must be citizens of the USA.
All applicants must provide:

1. Resume/CV
2. Ph.D. transcripts
3. 1-page dissertation
4. List of publications

Email your application to clive.bock@usda.gov

Contact:
Clive H. Bock, PhD, Research Plant Pathologist, USDA ARS SEFTNRL, 21 Dunbar Rd, Byron, GA 31008, USA

Tel: +1.478.956.6409
Fax: +1.478.956.6459
E-mail: clive.bock@usda.gov

Research Specialist

Virginia Polytechnic Institute and State University (Winchester, Virginia)

Job no: 517368
Work type: Staff
Unit: Alson H. Smith, Jr. AREC
Location: Winchester, Virginia
To apply use link: https://careers.pageuppeople.com/968/cw/en-us/job/517368/research-specialist

Job Description

Provide technical support in fruit pathology research field plots and laboratory experiments, applying experimental and maintenance treatments, collecting data, and summarizing results.

Required Qualifications

Associate's or B.S. degree in plant pathology/biology/plant health/plant protection or related discipline or equivalent relevant work experience in fruit tree orchard management. Ability to lift up to 55 lb. Willingness to obtain commercial pesticide applicator's certification. Familiarity with general laboratory operation. Use of basic computer programs like Word and Excel. Ability to keep comprehensive, up-to-date, and accurate work record notebooks. Demonstrated ability to accurately and legibly record and summarize numerical or other data collected in the field, greenhouse, or lab.

Preferred Qualifications

Experience with pesticide application to field or orchard crops using air-blast or hydraulic sprayers (operation of handgun and backpack sprayers). Building experience in field plant pathology research focused on fruit crops. Experience driving 50+ horsepower tractors and calibrating and applying pesticides with air-blast sprayers.

Pay Band: 3
Appointment Type: Regular
Salary Information: Commensurate with education and experience
Review Date: September 27, 2021
Additional Information: The successful candidate will be required to have a criminal conviction check, as well as documentation of COVID-19 vaccination. Occasional weekend duties as dictated by research.
Physical Demands: Ability to lift up to 55 lb; climbing; working in outside elements (Ex: weather); considerable walking, standing, bending, stooping; working or traversing uneven terrain.

About Virginia Tech

Dedicated to its motto, *Ut Prosim* (That I May Serve), Virginia Tech pushes the boundaries of knowledge by taking a hands-on, transdisciplinary approach to preparing scholars to be leaders and problem-solvers. A comprehensive land-grant institution, Virginia Tech is an inclusive community dedicated to knowledge, discovery, and creativity. The university offers more than 280 majors to a diverse enrollment of more than 36,000 undergraduate, graduate, and professional students in eight undergraduate colleges, a school of medicine, a veterinary medicine college, Graduate School, and Honors College. The university has a significant presence across Virginia, including the Innovation Campus in Northern Virginia; the Health Sciences and Technology Campus in Roanoke; sites in Newport News and Richmond; and numerous Extension offices and research centers.

Virginia Tech does not discriminate against employees, students, or applicants on the basis of age, color, disability, sex (including pregnancy), gender, gender identity, gender expression, genetic information, national origin, political affiliation, race, religion, sexual orientation, or veteran status, or otherwise discriminate against employees or applicants who inquire about, discuss, or disclose their compensation or the compensation of other employees or applicants, or on any other basis protected by law.

If you have a disability and desire an accommodation, please contact Tony Wolf at vitis@vt.edu during regular business hours at least 10 business days prior to the event.

Advertised: September 3, 2021 on Virginia Tech and September 7, 2021, on APS Job Board
Applications close: Open until filled ■

Calendar

APS-SPONSORED EVENTS

OCTOBER 2021

Application Deadline for Webinar Series Acquisitions Editor (AE)

Webinar: Changes in Virus Prevalence Over Time in Different Crop Types

DECEMBER 2021

Deadline for APS Officer Nominations

Deadline for 2022 APS Award nominations

AUGUST 2022

Plant Health 2022

Research Notebook

SPOTLIGHT

Free Workshop on Manuscript Reviewing

Peer-review of scientific research articles is the cornerstone of science. Join Editors-in-Chief **Alexander Karasev** (*Plant Disease*), **Shaker Kousik** (*Plant Health Progress*), and **Nian Wang** (*Phytopathology*) to better understand the reviewer's role and responsibilities in the peer-review process in the free online workshop APS Journals—Reviewing a Manuscript 101.

Microgreens Episodes Four and Five! Using Genomics to Fight Citrus Greening Disease

Listen to parts one and two of a three-part series featuring **Jennifer Lewis**, an adjunct professor at the University of California Berkeley. Lewis leverages the field's current knowledge of genetics and bioinformatics to discover potential methods to fight the devastating citrus greening disease, also known as huanglongbing (HLB). She also discusses the role of side projects in research. Listen to the podcasts here or find and subscribe to *Microgreens* on your preferred podcast platform.

New Issue of *PhytoFrontiers*™

The third issue of the broad scope, open access journal *PhytoFrontiers* is available now. See all 11 articles here.

Raining Microbes? New Study Finds Rain-Borne Bacteria Colonize Plants

A study recently published in *Phytobiomes Journal* by **Marco Mechan-Llontop** and **Boris Vinatzer** examined rain as a reservoir of phyllosphere bacteria. Their analysis showed that inoculating plants with the rainwater microbial communities increased the abundance of more than 100 bacterial taxa, indicating that microbes in rain can successfully colonize and grow on the surface of plants. ■

apsjournals.apsnet.org

TRENDING

Phytopathology

Assessing Changes and Associations in the *Xanthomonas perforans* Population across Florida Commercial Tomato Fields via a Statewide Survey
J. M. Klein-Gordon, Y. Xing, K. A. Garrett, P. Abrahamian, M. L. Paret, G. V. Minsavage, et al.

Septoria Nodorum Blotch of Wheat: Disease Management and Resistance Breeding in the Face of Shifting Disease Dynamics and a Changing Environment
R. C. Downie, M. Lin, B. Corsi, A. Ficke, M. Lillemo, R. P. Oliver, et al.

Sixty Years from the First Disease Description, a Novel Badnavirus Associated with Chestnut Mosaic Disease
A. Marais, S. Murolo, C. Faure, Y. Brans, C. Larue, F. Maclot

Plant Disease

Characterization of Current *Fusarium oxysporum* f. sp. *vasinfectum* Isolates from Cotton in the San Joaquin Valley of California and Lower Valley El Paso, Texas
J. Diaz, J. Garcia, C. Lara, R. B. Hutmacher, M. Ulloa, R. L. Nichols, and M. L. Ellis

How the Global Tea Industry Copes with Fungal Diseases—Challenges and Opportunities
A. K. Pandey, G. D. Sinniah, A. Babu, and A. Tanti

Identification and Description of a New Pathogen Causing Flower Dry Rot on *Passiflora edulis* in China
Y. Liu, J. Tang, and Y. Zhou

MPMI

Coronatine Contributes to *Pseudomonas cannabina* pv. *alisalensis* Virulence by Overcoming Both Stomatal and Apoplastic Defenses in Dicot and Monocot Plants
N. Sakata, T. Ishiga, S. Masuo, Y. Hashimoto, and Y. Ishiga

Chromosome-Scale Genome Sequence of *Alternaria alternata* Causing Alternaria Brown Spot of Citrus
Y. Gai, H. Ma, Y. Chen, L. Li, Y. Cao, M. Wang, et al.

Expansion of Internal Hyphal Growth in Fusarium Head Blight-Infected Grains Contributes to the Elevated Mycotoxin Production During the Malting Process
Z. Jin, S. Solanki, G. Ameen, T. Gross, R. S. Poudel, P. Borowicz, et al.

Plant Health Progress

High Efficacy and Low Risk of Phytotoxicity of Sulfur in the Suppression of Strawberry Powdery Mildew
R. B. Onofre, D. M. Gadoury, and N. A. Peres

Soybean Root-Knot Nematode: A Diagnostic Guide
A. M. Gorny, W. Ye, S. Cude, and L. Thiessen

Effect of Planting Population on Stem Diseases of Soybean in Iowa and Wisconsin
Y. R. Kandel, X. A. Phillips, J. M. Gaska, S. P. Conley, and D. S. Mueller

Phytobiomes

Inoculation of Stigma-Colonizing Microbes to Apple Stigmas Alters Microbiome Structure and Reduces the Occurrence of Fire Blight Disease
Z. Cui, R. B. Huntley, N. P. Schultes, B. Steven, and Q. Zeng

Distinguishing Between the Impacts of Heat and Drought Stress on the Root Microbiome of *Sorghum bicolor*
H. M.-L. Wipf, T.-N. Bùi, and D. Coleman-Derr

Molecular Barcoding Reveals the Genus *Streptomyces* as Associated Root Endophytes of Apple (*Malus domestica*) Plants Grown in Soils Affected by Apple Replant Disease
F. Mahnkopp-Dirks, V. Radl, S. Kublik, S. Gschwendtner, M. Schloter, and T. Winkelmann

PhytoFrontiers™

Genetic Variability of *Haplaxius crudus*, Based on the 5′ Region of the Cytochrome c Oxidase Subunit I Gene, Sheds Light on Epidemiology of Palm Lethal Decline Phytoplasmas
A. R. Humphries, M. S. Ascunce, E. M. Goss, E. E. Helmick, C. R. Bartlett, W. Myrie, et al.

Assessing the Effect of Phenotyping Scoring Systems and SNP Calling and Filtering Parameters on Detection of QTL Associated with Reaction of *Brassica napus* to *Sclerotinia sclerotiorum*
F. Shahoveisi, A. Oladzad, L. E. del Río Mendoza, S. Hosseinirad, S. Ruud, and B. Rissato ■

= *Editor's Pick* = *Open*