Valérie Verdier Is the IRD’s New Chairman of the Board and CEO

Valérie Verdier has just been appointed Chairman of the Board and Chief Executive Officer of the French National Research Institute for Sustainable Development (IRD-France) by the Council of Ministers at their meeting on February 12, 2020. The appointment is in response to the nomination by Frédérique Vidal, Minister of Higher Education, Research and Innovation and by Jean-Yves Le Drian, Minister for Europe and Foreign Affairs, the government bodies which supervise the IRD. Verdier will chair the IRD Board of Directors and oversee management of the institute. She succeeds Jean-Paul Moatti, who has served as interim president of the IRD since his term ended in spring 2019.

At the time of her appointment, Verdier was working as Director of the Interactions Plants Micro-organisms Environment (IPME) joint research unit and headed up one of the five IRD scientific departments: Ecology, Biodiversity and Functioning of the Inland Ecosystems (ECOBIO). In this capacity, she contributed to the strategic positioning of the IRD’s scientific policy in favor of sustainable development and fair partnerships with researchers and research institutions in the Global South.

She also served as the scientific adviser to the IRD delegation to Occitanie and monitored dialogues with government supervisory authorities and all the scientific and institutional partners of the IRD. She has represented the IRD at the Foundation for Research on Biodiversity (FRB), MUSE I-SITE and the International Phytobiomes Alliance.

A phytopathologist by trade, Verdier holds a doctorate in plant science from Université Paris-Sud (1988) and an accreditation to direct research (HDR). She studies the interactions between phytopathogenic bacteria and tropical plants, an understanding of which is crucial to food safety. She has co-authored over 100 scientific publications and is world renowned for her fundamental contributions to understanding the mechanisms by which bacteria cause diseases, especially those afflicting cassava and rice and to the approaches developed to control them.

Verdier completed various short and extended international missions over the course of her career, including an assignment as the IRD representative in Colombia from 1998 to 2000. She has conducted research in Central Africa, West Africa, Latin America and the United States. In particular, she was an associate researcher at the International Center for Tropical Agriculture (CIAT) in Colombia from 1995 to 2001, associate researcher at the School of Global Environmental Sustainability from 2012 to 2013, and affiliate scientist at the International Livestock Research Institute (ILRI-BeCA) in Kenya in 2013. She was an associate expert at ANSES (French agency for food, environmental and occupational health and safety) from 2015–2018 and has been an associate researcher at the School of Global Environmental Sustainability from 2012 to 2013, and affiliate scientist at the International Livestock Research Institute (ILRI-BeCA) in Kenya in 2013. She was an associate expert at ANSES (French agency for food, environmental and occupational health and safety) from 2015–2018 and has been an associate researcher at Colorado State University (United States) since 2012.

Verdier received the Marie Curie Fellowship from the European Commission in 2010, and the Excellence in International Service Award from The American Phytopathological Society (APS) in 2014. She was appointed to the rank of Knight of the French Legion of Honour in 2016.

She has also worked as a coordinator of the JEAI program to mentor young researchers. She is deeply committed to training early-career researchers in developing countries, especially women.
Nematodes as Plant Pathogens

Robert M. Harveson, University of Nebraska

Nematodes have been highly successful parasites—knowledge and awareness of their effects are likely as old as human history, particularly those known to affect animals and humans. Among the earliest records of nematodes are references to the Guinea worm, which invaded the arms and legs of the human body, resulting in severe pain and inflammation.

Records have been found from Egypt as early as 1553–1550 CE describing a large roundworm thought to be Guinea worms, and some historians believe that the “fiery serpents” attacking Israelites mentioned in the Bible (Numbers 21:6–9) may also have been Guinea worms. In approximately 400 CE, Hippocrates also referred to roundworm parasites in humans that are now thought to be the large intestinal worm, *Ascaris*.

The smaller nematodes (free living and plant pathogenic) were not noted until microscopes were improved in the 17th century. The first known free-living nematode described was the vinegar eel by Borellus in 1656. Vinegar eels are nonparasitic and feed on bacteria and fungi in unpasteurized vinegar. Plant pathogens are often thought to be soil-residing root-infectors, but did you know that the first few nematodes observed causing disease in plants were those attacking above-ground parts of the host plants? Their story is the Rest of the Story.

Wheat Gall Nematode

According to Gerald Thorne, the first definitive record of a plant parasitic nematode appears in William Shakespeare’s *Love’s Labor Lost*, in 1594, where he wrote “Sowed cockle, reap’d no corn.” This apparently is a reference to the wheat gall nematode (*Anguina tritici*). It was well known in England that the abnormal, easily seen, seed-like galls forming in the seed heads were a result of infection and would prevent the production of new plants. This condition was referred to in Britain as purples, pepper corns, or more commonly, cockles. It was also known in Germany as *Rotdenkranzle* (the cockle disease), stemming from the association of the cockles with seeds of the common weed, the cockle (*Agrostemma githago*) that often became mixed with wheat seed during and after harvest.

The English clergyman Turbevill Needham has generally been credited as the first to document a plant parasitic nematode in the scientific literature in 1743. However, he never recognized its role in plant disease. Instead, he interpreted his discovery as conclusive proof for the concept of spontaneous generation, for which he strongly believed. He crushed some shrunklen, blackened wheat grains and viewed them under a microscope in a drop of water, and was amazed to view a mass of dried inanimate fibers that suddenly came to life and began to twist and move.

Davaine’s Contribution

Several other workers followed with additional studies, but none contributed substantially to the knowledge base of the wheat gall disease until the physician Casimir Davaine in the mid-19th century. Last month (February 2020), I shared the story of Davaine’s work with both animal (anthurax) and plant bacteriology. However, his most lasting contribution to science may have been his studies with the wheat gall nematode. His pioneering experiments greatly improved the understanding of the nematode’s biology and life cycle. He recognized and described the complete developmental growth stages of the pathogen during the infection process, which significantly assisted in silencing the defenders of spontaneous generation.

Stem and Bulb Nematode

The German plant pathologist Julius Kuhn discovered another above-ground, endoparasitic nematode infecting the heads of Fuller’s teasel (*Dipsacus fullonum*) and published his results in the same year (1857) that Davaine reported his findings. That nematode is now known as the stem and bulb nematode, *Ditylenchus dipsaci*.

Symptoms of the disease were actually observed 2 years earlier by Schwertz in rye. He named this condition “stock,” in reference to the stiff, baton-like plant stems characteristic
of the disease, but never observed the nematode itself on affected plants. Kuhn found a nematode infecting the heads of teasel, naming it *Anguillula dipsaci* (species epithet based on the host genus *Dipsacus*) and further noted that the nematodes causing damage in rye were similar to the teasel pathogen. He then reproduced the disease in rye by placing nematode-infested teasel heads within the rows of the grain, thereby providing proof of pathogenicity in both crops by the same nematode.

**Conclusions**

It is not particularly surprising that the first nematode plant pathogens recognized were found infecting plant foliage and stems in the mid-1850s. Most of the early diseases described by that time (mildews, rusts, etc.) also were easily detected while causing foliar blights and leaf spots. Few researchers had yet investigated underground sources of plant problems. Soilborne root diseases that seriously threatened the sugar beet industry (sugar beet cyst and Rhizoctonia root rot) would soon be recognized and closely studied by Kuhn and others in central and northwestern Europe. Now you know the Rest of the Story.

**REFERENCES**


**Submit Your Entries for the Annual Art in Phytopathology Contest!**

*Cecilia Freitas*

The Art in Phytopathology contest is an arena to showcase artwork of students and members in the area of phytopathology. The beginning of the contest runs back to 2002, and hundreds of entries with unique creative expressions of art have been displayed since then. Historically, entries have spanned artistic media including photography, crochet, digital imaging, illustrations, and much, much more!

The Graduate Student Committee would like to invite all APS members to submit entries for the 2020 Art in Phytopathology contest—graduate student participation is especially encouraged. Art in any medium is welcome, but all artwork must be submitted in a digital format via email. Along with your piece, please also include your full name, job title, employer address, title of your artwork, written permission for APS to reproduce or publish your submission, and a brief description of your artwork (include medium, dimensions, what the art depicts, etc.).

You can submit the entries for the following categories:

- Art and Crafts
- Data Presentation
- Nature
- Humor
- Magnified
- Nature

Judges give each entry points based on creativity, aesthetic value, technical merit, originality, and relatedness to plant pathology. 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. Submissions are due June 21.

The winner for each category will receive $50, and the overall Best in Show winner will receive an additional $50. If you or your organization would like to help sponsor this contest, please email. Thank you for your continued support!

This contest would not be possible without the time and efforts of our Graduate Student Committee and the Art in Phytopathology subcommittee: **Cecilia Freitas, Amelia Lovelace, and Emma Wallace.**

**Zoe Dubrow, Cornell University, Grand Prize 2019—Baking a Mycology Syllabus**

"The 2019 novel coronavirus outbreak is yet another example of how important it is to react quickly to contain a pathogen when a new disease emerges. In the case of plant pathogens, population genomic studies can provide important information on how to contain plant disease outbreaks. New DNA sequencing technologies and efficient computer algorithms have provided us with the necessary tools to perform population genomic studies even in pathogens with large genomes," explains Vinatzer.

The next *Phytopathology* focus issue issue will provide an opportunity for researchers of this subject to publish their research and receive maximum exposure. All submissions should address an original biological question that advances conceptual knowledge of pathogen population biology. Read the author instructions for more information.
The For Women in Science Award Recognizes Five Exceptional Researchers in the Life Sciences

On the occasion of the International Day of Women and Girls in Science (February 11), L’Oréal Foundation and UNESCO are announcing the winners of the 22nd For Women in Science awards, which honor five exceptional women scientists from different regions of the world. This year, the L’Oréal-UNESCO For Women in Science awards recognize the achievement of scientists in the field of life sciences: biotechnology, ecology, epigenetics, epidemiology, and infectiology.

Each of the five laureates will receive €100,000 at a ceremony on March 12, 2020, at UNESCO Headquarters in Paris. They will be recognized alongside 15 women scientists from all over the world from the International Rising Talents program.

For Women in Science: A commitment since 1998

Convinced that the world needs science, and that science needs women, UNESCO and L’Oréal Foundation actively support women in science, in order to increase their visibility, raise awareness of their talent, and inspire more of them to work in science.

Every year since its creation in 1998, the For Women in Science program has honored and supported five outstanding researchers from all regions, totaling 112 laureates to date. It has also supported more than 3,300 talented scientists, including doctoral candidates and post-doctoral researchers, in more than 118 countries.

Almost 260 talented scientists, doctoral candidates or post-doctoral researchers, are supported each year through the national and regional For Women in Science programs. The 15 most promising researchers of this group will be honored in a ceremony at the French Academy of Sciences on March 10.

Globally, women continue to represent only 29% of researchers. Although they are more numerous in certain disciplines, the glass ceiling remains a reality within research as a whole—and only 3% of Nobel Prizes for Science have ever been awarded to women.

2020 For Women in Science laureates

AFRICA AND THE ARAB STATES • Abla Mehio Sibai—Medicine and Health Sciences, Professor of Epidemiology, Faculty of Health Sciences, American University of Beirut, Lebanon, for her pioneering research and advocacy to improve healthy aging in low- and middle-income countries and their impact on health and social policy programs.

ASIA-PACIFIC • Firdausi Qadri—Biological Sciences, Senior Scientist, Head Mucosal Immunology and Vaccinology Unit, Infectious Diseases Division, International Centre for Diarrhoeal Disease and Research, Dhaka, Bangladesh, for her outstanding work to understand and prevent infectious diseases affecting children in developing countries, and promote early diagnosis and vaccination with global health impact.

EUROPE • Edith Heard—Biological Sciences, Director General of the European Molecular Biology Laboratory, Chair of Epigenetics and Cellular Memory at the Collège de France, Paris, France, and former Director of the Genetics and Developmental Biology Unit at the Institut Curie, Fellow of the Royal Society (UK), for her fundamental discoveries concerning the mechanisms governing epigenetic processes, which allow mammals to regulate proper gene expression and are essential for life.

LATIN AMERICA • Esperanza Martínez-Romero—Ecology and Environmental Sciences, Professor of Environmental Science at the Genomic Science Center of the National Autonomous University of Mexico, Mexico City, Mexico, for her pioneering work on the use of environmentally friendly bacteria to support plant growth for increased agricultural productivity and reduced use of chemical fertilizers.

NORTH AMERICA • Kristi Anseth—Biological Sciences, Distinguished Professor, Tisone Professor and Associate Professor of Surgery at the University of Colorado, Boulder, United States of America, for her outstanding contribution in converging engineering and biology to develop innovative biomaterials that help tissue regeneration and drug delivery.

2020 For Women in Science 15 Rising Talents

AFRICA AND THE ARAB STATES
Laura-Joy Boulous—Neuroscience Levant, Saint-Joseph University, Lebanon
Nowsheen Goonoo—Biomedicine Sub-Saharan Africa, University of Mauritius
Nouf Mahmoud—Health Sciences Levant, Al-Zaytoonah University of Jordan
Georgina Nyawo—Molecular Biology, Medical Microbiology Sub-Saharan Africa, Stellenbosch University, South Africa

ASIA PACIFIC
Rui Bai—Biological Sciences China, Westlake University
Huanqian Loh—Physics Singapore, National University of Singapore
Mikyung Shin—Biomaterials Republic of Korea, Sungkyunkwan University

LATIN AMERICA
Paula Giraldo Gallo—Physics Colombia, University of the Andes
Patricia Medeiros—Biological Sciences Brazil, Federal University of Alagoas

NORTH AMERICA
Elizabeth Trembath-Reichert—Earth Science/Environmental Science United States of America, Arizona State University

EUROPE
Vida Engmann—Material Engineering Denmark, University of Southern Denmark
Serap Erkek—Molecular Biology/Epigenetics, Young Talents Awards—Turkey, Cancer Epigenomics Laboratory, Biomedicine and Genome Center
Jennifer Garden—Chemistry, Young Talents Awards—United Kingdom, University of Edinburgh
Cristina Romera Castillo—Marine Sciences, Young Talents Awards—Spain, Institute of Sea Sciences
Olena Vanceva—Mathematics, Young Talents Awards—Ukraine, Institute of Mathematics of the National Academy of Science of Ukraine
Early Career Scientists from Around the World Participated in a 2-Week Short Course

Margarita Marroquin-Guzman

Twenty-three participants from Benin, Cameroon, Colombia, Côte d’Ivoire, Ethiopia, France, Mali, Morocco, Nigeria, Senegal, Uganda, United States, and Zimbabwe gathered during the “Advanced Crop Improvement (ACI): Meeting Challenges for Food Security” course held from October 27 to November 9, 2019, at the AfricaRice Regional Training Center in St. Louis, Senegal. Participants (12 women/11 men) included MS and PhD students and postdoctoral fellows from diverse disciplines such as plant pathology, plant breeding, entomology, agricultural economics, biotechnology, agronomy, and plant biology.

Discussions on how advanced technologies can be incorporated into crop improvement and the sociological and economic issues for their acceptance by farmers and consumers enhanced the theoretical and practical learning. Given the diverse range of participants’ expertise, comprehensive lectures were given on everything from climate change to pathology to bridge specialized understanding with the bigger picture. Topics like breeding history, local food trends, and soil structure all play a role in navigating solutions for the rice industry.

The course offered opportunities for participants to have a better understanding of the complexity of adopting new technologies in the developed and developing worlds. It also described how the science of crop improvement intimately links to food security, national and international politics of food and agriculture, and science communication. As part of a team project that was guided by a reporter/communications expert, participants interviewed consumers, growers, millers, marketers, and scientists on issues related to crop production, nutrition, and the adoption of new technologies. These interviews were used for the production of podcasts (listen to them here. But the audio from the interviews wasn’t just handed over to a team of experts. Participants from the course collected their interviews and took them back to the training center for lessons on how to edit and arrange their podcasts, leaving them with a finished audio artifact and skills that they could take with them in the future.

The practical learning offered during the ACI course also included a loop-mediated isothermal amplification (LAMP) assay for disease diagnosis, and a genome editing lab exercise. In the field, participants also experienced what it’s like to work in a rice paddy. Teams learned about maintaining agricultural machinery, planted seedlings by hand, and got stuck in the mud! Beyond the science and practical learning, this course was a great opportunity for cultural exchange between the participants, who were always together in the training center, traveling on the bus or exploring Senegal, learning from its fantastic people, colorful dresses, and delicious food.

The lectures, field experiences, and discussions were facilitated by 16 instructors from AfricaRice, Colorado State University, Cornell University, IRD (Institut de recherché pour le développement), ISRA (Institut Sénégalais de Recherches Agricoles), and the University of Düsseldorf. The workshop was co-organized by Jan Leach (Colorado State University, USA), Nani Khadi Drame (AfricaRice, Senegal), Adam Bogdanove (Cornell University, USA), and Boris Szurek (IRD France), and was supported by funding from the United States (National Science Foundation and The Griffin Foundation), France (Agropolis Foundation, IRD, and the Montpellier University of Excellence [MUSE]), and the CGIAR RICE Research Program.
**APS Welcomes New Webinar Editor-in-Chief**

**Doug Jardine and Lisa Vaillancourt**

Doug: After being named APS’s first Webinar Editor-in-Chief (EIC) in 2016, I was charged with developing a webinar series aimed at the professional development of graduate students and early career professionals. Our first webinar, “Project Reporting and Writing Impacts: Who Cares? You Should” was held in May 2017, with a total of 178 registrants. Since then, we have had an additional 13 webinars with approximately 1,150 registrations—understanding that often multiple people watch at a single registered site—approximately 20% of those registrants live outside the U.S. By the time you read this, we will have completed “Intro to R for Plant Pathologists,” which is our first attempt to take an annual meeting workshop and deliver it as an online webinar. With my retirement from Kansas State University at the end of February 2020, it is time to turn the reins over to a new EIC. With that, I would like to introduce APS’s second Webinar EIC, **Lisa Vaillancourt** of the University of Kentucky (UK).

Lisa: To begin, I would like to congratulate **Doug Jardine** on his retirement and thank him for making the webinar series a reality. Now, a little background about me—I received an MS from the University of Illinois under **Jack Paxton** and a PhD from Purdue University under the supervision of **Bob Hanau**. I did postdoctoral work with **Carlene Raper** at the University of Vermont. In 1996, I joined the faculty of the Department of Plant Pathology at the University of Kentucky as an assistant professor—I have been a full professor since 2009. My research is primarily focused on molecular mechanisms of pathogenicity and population genetics and genomics in *Colletotrichum* and *Fusarium* pathogens of fruits and grain crops.

The professional development webinars under Dr. Jardine have been extremely successful, and I hope to continue that record of success. The original goal of the webinar series was to provide career advice and guidance primarily for students, postdocs, and early career professionals. I have been a plant pathologist now for more than 25 years and could hardly be considered an early career professional, yet I continue to learn new things every day. What it means to be a plant pathologist seems to be changing rapidly.

Grant funds are becoming increasingly scarce for academicians, while mergers and downsizing are ubiquitous in industry. Meanwhile, government positions are subject to more disruption than ever before due to frequent budget freezes and departmental reorganizations. Thus, in addition to continuing to solicit ideas for additional webinars specifically targeting early career professionals, I’d love to expand the format to include topics that will also focus on mid- and late-career professionals. Some examples could include making a shift to an administrative role; forming and sustaining large research collaborations; changing career paths or research areas; learning new techniques or experimental approaches; recruiting and mentoring diverse students and postdocs; addressing mental health needs of ourselves and our personnel; and developing outreach programs. I am open to suggestions for ideas from all of you, especially if you are interested in being a presenter—please send me an email. I look forward to expanding on Dr. Jardine’s success and making the APS Webinar Series one of the greatest values for APS members.

**APS Foundation**

**Donors of Distinction**

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.

**Walt Mahaffee**

“Others helped me when I was a student, and I’ve been passionate about helping successive generations of students ever since. I benefited tremendously from the connections I made serving on APS committees and while organizing meetings and I want to ensure that others get those same opportunities. I was a student before there were named student travel awards and actually worked with **Anne Dorrance** at Ohio State University and **Steven Clough** with USDA-ARS in Urban, IL, and foundation to develop the named student travel awards for APS Foundation. While I think it is great to be selected by your peers to receive a foundation award—the monetary part of any award is nice too—the real value of these awards are the connections that help students build and encouraging them to be active members of APS. It’s so easy to look around at APS meetings today and see former awardees who are gifted scientists, department chairs, teachers, and advisors. Foundation helped make that happen.”

Walt Mahaffee is a USDA-ARS research scientist at Oregon State University in Corvallis and a member of the APS Foundation Board of Directors.

**Marc Fuchs**

“I support APS Foundation because it empowers students. The success of our students is essential to the health of our profession. In our department, it has been a part of the culture to be involved in APS, and engagement through the awards process is a key element of this participation because it connects students to their peer group outside of their own department. You might go to an APS meeting to meet the leaders of your profession. However, you’ll also meet your fellow students from around the world, and they are the ones who will become your most valued colleagues for the rest of your career. APS Foundation has helped hundreds of students to succeed, and so it merits our support.”

Marc Fuchs is a professor of plant pathology at Cornell University.
Research Scientist

We seek a highly motivated individual to work at the Beltsville Agricultural Research Center within the Plant Germplasm Quarantine Program (PGQP), Animal and Plant Health Inspection Service (APHIS), in Beltsville, Maryland. The PGQP has the only federal plant quarantine facility in the United States for the importation of certain plant propagules prohibited from commercial importation. The function of the PGQP is to establish and maintain foreign germplasm and cultivars under appropriate safeguarding conditions, conduct validated tests for pathogen identification, implement therapy if necessary, and distribute plant propagules free of exotic and destructive pathogens.

The incumbent will be developing and employing high-throughput sequencing (HTS) protocols for the detection of pathogens of quarantine and regulatory significance in imported germplasm. The project involves establishing correlations between HTS results and standard laboratory diagnostic methods (i.e., PCR); providing guidelines for using HTS in advanced virus diagnostics. Prefer applicants who have documented knowledge of HTS technologies and experience with genomic data analysis. Knowledge of virology/plant virology, rapid amplification of cDNA ends (RACE), cloning, library construction, and viral genome annotation is highly desirable. Experience in pathogen detection and diagnostics is also preferred. The incumbent will be part of a growing team working at the front-end of HTS-based diagnostics with unique bioinformatics capabilities, access to an in-house Nextseq 500 Illumina sequencer, and access to a wide range of quarantine plant germplasm, laboratory, and greenhouse, infrastructure. The position offers the unique opportunity to conduct discovery, characterization, report of viruses and other pathogens. Travel to conferences and training is also supported.

This position is temporary—initial funding is one year—anticipated to be renewed annually based upon performance and funding availability.

Qualifications Required: Ph.D. in Virology, Plant Pathology, Molecular Biology, or related field. Must be able to carry on research independently and have experience working with HTS procedures and/or molecular biology techniques. Excellent writing and oral communication skills documented by publications are expected.

Salary: 75,000+ benefits

Application deadline: The position is available immediately. The posting deadline is Feb 29, 2020, and applications will be reviewed as received.

Application process: Qualified applicants should submit a short letter of interest, curriculum vitae including publication list and the names of three current, professional references with email addresses and telephone numbers. Application material and any questions can be emailed to Dr. Oscar Hurtado-Gonzalez. For full consideration, the application process must be completed on the website. No citizenship restrictions applied. All positions are security-sensitive. Applicants are subject to a criminal history investigation, and employment is contingent upon the institution's verification of credentials and/or other information required by the institution's procedures, including the completion of the criminal history check.

Extension Plant Pathologist, Montana State University

The Department of Plant Sciences and Plant Pathology seeks an individual who will: a) Develop an outstanding extension education program covering disease management strategies for row crops. The extension education program should be supportive of county agents and address needs of growers, agricultural professionals, agribusiness, trade associations, and the various commodity groups associated with crop responsibilities; b) Develop an applied research program that is innovative and relevant to stakeholder needs and extension responsibilities; and c) Participate in the state Integrated Pest Management program.

Required Qualifications—Experience, Education, Knowledge & Skills

• Doctor of Philosophy degree in Plant Pathology or closely related field.
• Demonstrated interest in outreach activities.
• A record of peer reviewed publications.

Preferred Qualifications—Experience, Education, Knowledge & Skills

• Extension, research, and instructional experience in plant disease management.
• Ability to produce and assimilate research-based information for pest management recommendations.
• Evidence of productive interactions with industry, agencies, and academic groups.
• Evidence of participation in externally funded collaborative extension and/or research activities.
• Ability to develop innovative programs leading to increased County Extension Agent capacity in plant disease management.
• Evidence of potential for successful mentoring of graduate students.
• Experience in crop production systems.

FIND THE LATEST JOBS IN PLANT PATHOLOGY
Search online for new job opportunities in the field of plant pathology using the APS Job Center. Visit the APS Job Center.
FOCUS ISSUE!
Submission deadline is June 15, 2020.

Pathogen Biology and Epidemiology.

Enabled Advances to Increase Insight into Pathogen Biology and Epidemiology.

Boris Vinatzer, Remco Stam, and Boris Vinatzer are now seeking submissions to the 2021 focus issue. Boris Vinatzer, Remco Stam, and Boris Vinatzer are now Focus Issue Editors, Marin Brewer, Pierre Gladieux, Erica Goss, Neha Potnis, Remco Stam, and Boris Vinatzer are now seeking submissions to the 2021 focus issue, “Population Genomic- and Phylogenomic-Enabled Advances to Increase Insight into Pathogen Biology and Epidemiology.” Submission deadline is June 15, 2020.

BE INCLUDED IN THE NEXT PHYTOPATHOLOGY FOCUS ISSUE!
Focus Issue Editors Marin Brewer, Pierre Gladieux, Erica Goss, Neha Potnis, Remco Stam, and Boris Vinatzer are now seeking submissions to the 2021 focus issue, “Population Genomic- and Phylogenomic-Enabled Advances to Increase Insight into Pathogen Biology and Epidemiology.” Submission deadline is June 15, 2020.

RAPID TECHNIQUE ALLOWS FOR SAME-DAY MANAGEMENT DECISIONS ESSENTIAL TO PREVENTING SPREAD OF INSECT-TRANSMITED PATHOGENS.

New Plant Health Progress article describes a field-adaptable DNA extraction and pathogen diagnostic method that reduced the time from collection of insects to a positive identification of the presence of a pathogen from several days—sometimes up to two weeks—to less than 1 hour. Freely available through the end of March!

EXCLUSIVE OFFER FOR APS AUTHORS: 10% DISCOUNT ON ALL CHARLESWORTH SERVICES.

Charlesworth Author Services offers a range of editorial and translation services, with an average turnaround of 2 days for up to 6,000 words and up to 6 days for longer manuscripts. All APS members are entitled to a 10% discount on all Charlesworth services.

Phytopathology
Does the Latent Period of Leaf Fungal Pathogens Reflect Their Trophic Type? A Meta-Analysis of Biotrophs, Hemibiotrophs, and Necrotrophs
P-A. Précigout, D. Claessen, D. Makowski, and C. Robert

International Plant Pathology: Past and Future Contributions to Global Food Security
R. Nelson

Transcriptional Profiling of Diffusible Lipopeptides and Fungal Virulence Genes During Bacillus amyloliquefaciens EZ1509- Mediated Suppression of Sclerotinia sclerotiorum
A. Farzand, A. Moosa, M. Zubair, A. R. Khan, M. Ayaz, V. C. Massawe, and X. Gao

Genome Sequence Resource for Spiroplasma citri, Strain CC-2, Associated with Citrus Stubborn Disease in California

Plant Disease
The Atoxigenic Biocontrol Product Aflasafe SN01 Is a Valuable Tool to Mitigate Aflatoxin Contamination of Both Maize and Groundnut Cultivated in Senegal

Occurrence and Extent of Boscalid Resistance in Populations of Alternaria alternata from California Pistachio Orchards
H. F. Avenot and T. J. Michailides

Susceptibility of Garden Trees and Shrubs to Armillaria Root Rot

Evaluating Quantitative Trait Locus Resistance in Tomato to Multiple Xanthomonas spp.
E. Bernal, D. Liabeuf, and D. M. Francis

MPMI
Bridging the Gap Between Single-Strain and Community-Level Plant-Microbe Chemical Interactions

Dissection of Cell Death Induction by Wheat Stem Rust Resistance Protein Sr35 and Its Marching Effector AveSr35
S. Bolus, E. Akhunov, G. Coaker, and J. Dubcovsky

Transcriptome Profiling of the Rice Blast Fungus Magnaporthe oryzae and Its Host Oryza sativa During Infection

Phyllosphere Colonization by a Soil Streptomyces sp. Promotes Plant Defense Responses Against Fungal Infection

Phytobiomes
The Effect of Rotating Apple Rootstock Genotypes on Apple Replant Disease and Rhizosphere Microbiome
G. Deakin, E. Fernández-Fernández, J. Bennett, T. Passey, N. Harrison, E. L. Tilston, and X. Xu

Mycolological Insights Into Wetland Fungal Communities: The Mycobiome of Camassia in the Pacific Northwest
G. Freeb, D. Schlatter, T. Paulitz, and F. Dugan

Continuous Monoculture Shapes Root and Rhizosphere Fungal Communities of Corn and Soybean in Soybean Cyst Nematode-Infested Soil
N. Strom, W. Hu, S. Chen, and K. Bushley

Plant Health Progress
Soybean Canopy Coverage, Population, and Yield Responses to Seed Treatment and Cultivar Resistance to Phytophthora sojae in Nebraska
V. C. Garnica and L. J. Giesler

Corynespora cassiicola Isolates from Soybean in Alabama Detected with G143a Mutation in the Cytochrome b Gene
M. N. Rondon and K. S. Lawrence

A Survey of Virginia Vineyards Revealed High Incidences of Grapevine Rusestris Stem Pitting-Associated Virus, Grapevine Red Blotch Virus, and Two Mealybug Species
T. Jones and M. Nita

*Editor's Pick*  Open Access
### Graduate Student Spotlight: Renata Belisario

**What type of degree program are you enrolled in?**
PhD

**What year are you in graduate school?**
I am in my second year.

**What is your academic department/section called at your institution?**
Department of Plant Pathology

**Who is your major professor?**
Dr. Lisa Vaillancourt

**How have you been involved in the APS organization? (committees, chairs, division meeting activity, national meeting activity, etc.) Be specific please.**
Recently, I got involved in the APS outreach team to develop infographics for the International Year of Plant Health to help raise awareness. Ten monthly themes have been identified within which many different messages can be crafted. Together with M.Sc. Melissa Molho, we created the content for the January infographic, which is now released! I am also participating in the infographic translation team. In regard to conferences, I am going to attend the Southern Division Meeting this February for the first time and make an oral presentation of my current project; I also attended APS Plant Health 2019 and presented a poster.

**Please provide a brief description of your research.**
Anthracnose stalk rot is a fungal disease of corn that can cause lodging and completely destroy a crop. I am examining a *Colletotrichum graminicola* mutant produced in the lab which is unable to cause disease in maize plants. The hypothesis is that the mutant is not able to secrete effectors and consequently, it does not shut down the plant's defense system.

**What’s something interesting most people don’t know about you?**
I started practicing aerial silks when I was 15 years old and it became a true passion!

**What are some of your interests outside of science?**
Aerial silks, swimming, mushroom hunting, and podcasts.

**What is your hometown?**
I am originally from Belo Horizonte, Brazil, but I am currently living in Lexington.

**What is your favorite pathogen/plant disease?**
*Colletotrichum graminicola*/corn anthracnose

**How did you become interested in the field of plant pathology?**
The biology and agriculture fields are broad, and I realized that along with my passion for plants and microorganisms, I could study how plants become diseased. What really appeals me is that plant pathology is closely bound to other sciences, such as botany, genetics, and microbiology. So, we can integrate information to develop insights into disease control and global food supply.

**Do you have any social media handles that you want included?**
I have Twitter, Instagram, and a professional account for science communication and women empowerment.

### Other Upcoming Events

#### MARCH 2020
- 23–27 16th Congress of the Mediterranean Phytopathological Union, Limassol, Cyprus
- 25–27 Conference on Soilborne Plant Pathogens, San Luis Obispo, CA
- 29–Apr 3 7th International Bacterial Wilt Symposium, Montevideo, Uruguay
- 29–Apr 3 Biofumigation 7 Symposium—International Symposium on Biocidal and Non-Biocidal Plants to Improve Soil Health, Crans-Montana, Switzerland

#### AUGUST 2020
- 8–12 Plant Health 2020, Denver, Colorado
- 23–25 APS Pacific Division Meeting, Denver, Colorado

### APS-SPONSORED EVENTS

#### MARCH 2020
- 11–13 APS Northeastern Division Meeting, Northampton, Massachusetts
- 11–13 APS Potomac Division Meeting, Winchester, Virginia

#### JUNE 2020
- 10–12 APS Caribbean Division Meeting, Corrientes, Argentina
- 23–25 APS North Central Division Meeting, Lincoln, Nebraska

#### AUGUST 2020
- 7–12 14th International Conference on Plant Pathogenic Bacteria (ICPPB2020), Assisi, Italy

#### MAY 2020
- 30-Jun 13 2020 Practical Summer Workshop in Functional Genomics, Columbus, OH

#### JUNE 2020
- 12–16 Phyllosphere 2020, Davis, California, USA