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INTERNATIONAL SOCIETY FOR PLANT PATHOLOGY

ISPP NEWSLETTER

ISSUE 54 (9) SEPTEMBER 2024

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INTERNATIONAL SOCIETY FOR PLANT PATHOLOGY (ISPP) www.isppweb.org

GLOBAL PLANT HEALTH ASSESSMENT - PHASE II: THE FUTURE OF PLANT HEALTH

SERGE SAVARY, ON BEHALF OF THE GPHA SCIENTIFIC SECRETARIAT

The Global Plant Health Assessment (GPHA) was initiated by members of the ISPP some four years ago. The mobilisation of a collective of nearly 100 scientists in the field of plant health has generated assessments of the states and trends of plant health in a number of agricultural (field crops, orchards), forest (temperate and tropical), urban forest, and peri-urban plant systems. The assessments have also addressed the impacts of plant health on ecosystem services (provisioning; regulating; and cultural). A book under two formats, publications, and communications to conferences have reported the results achieved.

These results highlight the effects of disease on a common good – plant health, which benefits to all and is not owned by anyone. There are gaps, however. These concern especially the urban forests and peri-urban agriculture. Turning to services, the regulating and cultural services of plant health remain under-documented in the GPHA. Yet the core issue of the actual impact of pathogens on provisioning still is loosely addressed.

Beyond past trends and current status, climate change, globalisation, and institutional shifts are bound to have large effects on plant health and on the consequences that plant health has on services. This is why the second phase of GPHA emphasises on the future.

Phase II of the Global Plant Health Assessment "The Future of Plant Health", conducted under the aegis of the ISPP, is conceived to operate with two collectives: a collective of individual scientists, addressing the gaps of the early years, and a collective of projects, addressing the future of plant health in a co-ordinated fashion.

The first Workshop of GPHA II will be held in Toulouse on 20-21-22 November 2024. The goal of the workshop is to develop an overall strategy to implement GPHA phase II. Activities during the workshop will consider: research projects networking; shared platform of methods; updating information and methods on disease-losses; and shared teaching materials to be used to train a new generation of plant health scientists.

Colleagues interested to be involved in GPHA activities can find documents related to GPHA Phase II and to the upcoming workshop in Toulouse on the GPHA website at: <u>https://sites.google.com/view/global-plant-health-assessment/home</u>



Asian Conference on Plant Pathology 2024 (ACPP2024) in Changchun, China, August 2024

ZHAO PENG AND WENXIAN SUN, ACPP2024 ORGANISING COMMITTEE

The Asian Conference on Plant Pathology 2024 (ACPP2024) was successfully held at the Anhua Holiday Inn Convention Center from 3-7 August 2024 in Changchun, Jilin Province, China. Organised by the Chinese Society for Plant Pathology and co-hosted by Jilin Agricultural University, and other research institutes, the conference brought together over 780 experts and scholars in the field of plant pathology from 24 countries or regions. Participants came from China, South Korea, Japan, Thailand, Vietnam, Bangladesh, India, Kazakhstan, Singapore, Israel, Australia, the United States, France, the United Kingdom, Canada, Germany, and more. The theme of the conference was "Crop Health in Modern Agriculture."

The opening ceremony ACPP 2024 featured speeches from notable figures, including Jinzhang Wang, Executive Secretary of China Association for Science and Technology; Rui Du, President of Jilin Agricultural University; Yong-Hwan Lee, President of the International Society for Plant Pathology; and You-Liang Peng, Honorary President of the Chinese Society for Plant Pathology. They welcomed international attendees and highlighted the importance of collaboration in advancing plant pathology innovation, enhancing sustainable disease control, and supporting food and environmental security.



Opening Ceremony in the main conference hall.



International Society for Plant Pathology



Left: Opening Address by Wenxian Sun. Right: Welcome Address by Yong-Hwan Lee.

The conference program included 10 plenary talks, 9 country and region reports, 99 concurrent session presentations, and 205 posters. Plenary speakers from around the world discussed the latest developments in plant pathology. Concurrent Sessions covered a wide range of topics, including Plant Pathogenic Fungal & Oomycete Diseases, Plant Pathogenic Bacterial Diseases, Plant Pathogenic Virus Diseases, Plant Nematode Diseases, Disease Control, Plant Pathogens and Mutualists, Plant Hormone Biology, Plant Immunity and Resistance, Genomics and Phytobiome, and Effector Biology. Additionally, the country and region report session provided insights into national strategies for plant disease management.

Following the presentations, Yong-Hwan Lee commended the conference as a high-quality academic event, noting the productive exchanges among participants. New officers of the Asian Association of Societies for Plant Pathology (AASPP) 2024-2027 were announced: President, You-Liang Peng (China); Past President, Yong-Hwan Lee (Korea); Vice President, Kook-Hyung Kim (Korea); Vice President, Pham Van Du (Vietnam); Secretary, Wenxian Sun (China); and Treasurer, Cheng-Gui Han (China). A flag handover ceremony marked the transition of leadership, with Vietnam set to host ACPP 2027. You-Liang Peng, the newly elected President of AASPP, pledged to promote the development of plant pathology in Asia. The conference concluded with a closing speech by Wenxian Sun, Vice President of Jilin Agricultural University, who expressed gratitude to the participants and volunteers for their contributions to the conference.



Left: Flag Handover from Yong-Hwan Lee, Current President to You-Liang Peng, New President of AASPP. Right: New President Address by You-Liang Peng.

SIAN CONFERENCE ON PLANT PATHO

Crop Health in Modern Agriculture





Opening Ceremony in the main conference hall With Local Organizing Committee: From Left, Dexin Wei; Changqing Chen; Haibin Yuan; Wenxian Sun; Yong-Hwan Lee; You-Liang Peng; Cheng-Gui Han; Dayong Li.



OBITUARY OF OLGA KUKINA, 1982-2024

Dr. Olga Kukina was born on May 4, 1982 in Ukraine. She defended her doctorate in entomology at the Dokuchayev Agricultural University in Kharkiv, Ukraine. After graduating, she began working as a biology and chemistry teacher at the Skovoroda Pedagogical School, Ukraine. From 2012 she worked as a scientist at the Department of Entomology, Phytopathology and Physiology of the Ukrainian Institute of Forestry and Forest Melioration (URIFFM). She also participated in international scientific projects, e.g. in the Ukrainian-Swedish "Forest regeneration and sustainability at the Forest/Steppe border, aimed to control desertification in Ukraine".

Despite her young age, Olga was the author or co-author of approximately 100 scientific and popular science publications, and the results of her research were used to prepare recommendations for forest management.



In Poland, she was based at the Forest Research Institute in Sękocin Stary, near Warsaw, during a several-month scientific internship organised by the Polish Phytopathological Society with funds from the International Society for Plant Pathology <u>ISPP Resilience Bursary</u>, ending with the joint publication of two scientific articles.

Dr. Kukina also participated in the work of the Forest Protection Department in the implementation of projects for the General Directorate of State Forests in Poland. She was known as a very nice, sensitive person, always willing to help despite the illness she was struggling with, caring for her daughter and difficult war experience.

Unfortunately, Dr. Kukina passed away prematurely at the age of 42 (1982-2024).

The International Society for Plant Pathology conveys deepest condolences to her family and friends



RESEARCHERS DEPLOY AI TO IMPROVE STRAWBERRY DISEASE DETECTION

UNIVERSITY OF FLORIDA BLOGS, 15 AUGUST 2024

The University of Florida scientists work year-round to support an industry with a \$500 million-a-year farm-gate value in Florida. Among their research endeavors, UF/IFAS scientists search for ways to help growers control diseases that can damage strawberries. For over a decade, Florida farmers have used the UF/IFAS-designed Strawberry Advisory System (SAS) to tell them when to spray fungicides to prevent plant diseases. SAS works with data generated by Florida Automated Weather Network stations near farms – in this case, near strawberry fields. SAS uses leaf wetness duration to help growers estimate the risk of their fruit getting infected with a fungal disease.

In <u>newly published research</u>, Won Suk "Daniel" Lee, a professor of agricultural and biological engineering and Natalia Peres, a professor of plant pathology, show how artificial intelligence (AI) can improve leaf wetness detection.



The AI system that uses an algorithm to detect leaf wetness on strawberries. Leaf wetness is an indication of fungal diseases (Photo credit: Daniel Lee, UF/IFAS).

Continuous moisture and temperatures higher than 65 degrees, combined, give growers a sign that damaging diseases such as botrytis and anthracnose are imminent.

A system developed by the researchers took photos of a reference plate, which detects water more directly than the method currently used in SAS. Scientists trained the algorithm to use the images and detect wetness. They found that AI technology improves the accuracy of wetness detection.

Nearly 96% of the time, the algorithm found moisture on the reference plate in comparison with manual observations, and a nearly 84% accuracy rate was observed when comparing with the current sensors and models in SAS.

"Ultimately, we want to replace the current wetness sensors with an imaging system because the current sensors are difficult to calibrate and not always reliable," said Lee, corresponding author of the study. "Using the AI system, we can detect wetness and consequently forecast the disease better, so we can help growers. The implementation of this advanced detection system within SAS may improve decisions about fungicide applications and may facilitate the implementation of leaf wetness detection for disease forecasting to other crop systems."

ISPP SEED PATHOLOGY COMMITTEE WEBINAR "Use of BIOCONTROL AGENTS TO MANAGE SEEDBORNE PATHOGENS" – 20 SEPTEMBER 2024

GIANFRANCO ROMANAZZI

Seedborne pathogens pose a significant threat to crop production, and their management is increasingly challenging, particularly with the reduction in the number of available synthetic fungicides. Therefore, alternative treatments are desirable, and the use of biocontrol agents is among the most popular. However, effective use of these agents requires a thorough understanding to optimize their impact. To address this need, the ISPP Seed Pathology Committee is organising a series of webinars, in cooperation with International Seed Federation (ISF), International Seed Testing Association (ISTA) and Italian Association for Plant Protection (AIPP), that started with the use of chemical treatments (https://www.youtube.com/watch?v=eOOOuo32TQE&t=2s), and follows with the use of biocontrol agents. In this webinar, experts from various production areas will discuss: current regulations across different regions, the bottlenecks in the registration of biocontrol agents, the effects on seed microbiome and the opportunities that can provide the use of biocontrol agents. To participate in the webinar and engage with the speakers via chat, please register at the following link: https://us06web.zoom.us/meeting/register/tZcudeqvrDooHdFnnmy9dHV0iQnYtYzJyBdV



SF International Seed Federation





Webinar

"BIOCONTROL AGENTS TO MANAGE SEEDBORNE PATHOGENS" 20 September 2024, 4 pm GMT+2

ORGANISERS: ISPP Seed Pathology Committee, in cooperation with ISF, ISTA and AIPP

WELCOME ADDRESS

GIANFRANCO ROMANAZZI – Chair of ISPP Seed Pathology Committee and AIPP President ROSE SOUZA RICHARDS – Phytosanitary Affairs Manager of International Seed Federation RUUD BARNHORN – Chair of ISTA Seed Health Committee

> TALKS Green warriors in seed treatment



CAROLA PETERS – INCOTEC Europe Respecting the seed microbiome LIESBETH VAN DER HEIJDEN (PhD) – Bejo Zaden Regulatory advances in bioinputs: a path towards agricultural sustainability JULIA EMANUELA DE SOUZA – ANPIIBIO Biocontrol: make the impossible possible ROB GAFFNEY – BASF

Biological control - Best practices in the management of seedborne pathogens

DISCUSSION

To join the webinar and ask questions, the registration link is <u>https://us06web.zoom.us/meeting/register/tZcudeqvrDooHdFmmnv9dHV0jQnYtYzJvBdV</u>. The webinar will be also delivered on the page (2) ISPP Seed Pathology Committee | Facebook

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ARE YOU A FAN OF MICROBE OR PLANT GERMPLASM COLLECTIONS? - THE APS COLLECTIONS AND GERMPLASM COMMITTEE NEEDS YOUR HELP

JASON ZURN



Microbial and plant germplasm collections are a key resource for sustainable and repeatable research. The American Phytopathological Society (APS) Collections and Germplasm committee promotes and fosters the collection, preservation, improvement, and utilisation of U.S. and international resources of microbial and higherplant germplasm collections. We are currently trying to get a better understanding of how aware researchers are about microbe and plant germplasm collections, if and how they are being used, and what can be done to improve collection usefulness and sustainability.

We can use your help! We would appreciate it if you would complete this anonymous survey about germplasm and culture collections (<u>https://www.surveymonkey.com/r/3R8BDFB</u>). Completing the survey can take as little as five minutes. Questions range from asking you about your familiarity with existing collections, your thoughts on the greatest threats to collection sustainability, and how often you use germplasm collections in your research. Circulating this survey to fellow researchers is also highly encouraged. The survey will be available until 15th September.

Results of the survey will be published in a review article highlighting the current status of microbe and plant germplasm collections, how they are being used, what can be done to preserve these collections for future use, and identify solutions to challenges facing collections globally. If you have any questions regarding the survey, please contact Jason Zurn (jzurn@ksu.edu).



A review paper by Stéphane Compant *et al.* titled "Harnessing the plant microbiome for sustainable crop production" was published on 15 August 2024 by *Nature Reviews Microbiology*. The abstract is as follows:-

Global research on the plant microbiome has enhanced our understanding of the complex interactions between plants and microorganisms. The structure and functions of plant-associated microorganisms, as well as the genetic, biochemical, physical and metabolic factors that influence the beneficial traits of plant microbiota have also been intensively studied. Harnessing the plant microbiome has led to the development of various microbial applications to improve crop productivity in the face of a range of challenges, for example, climate change, abiotic and biotic stresses, and declining soil properties. Microorganisms, particularly nitrogenfixing rhizobia as well as mycorrhizae and biocontrol agents, have been applied for decades to improve plant nutrition and health. Still, there are limitations regarding efficacy and consistency under field conditions. Also, the wealth of expanding knowledge on microbiome diversity, functions and interactions represents a huge source of information to exploit for new types of application. In this Review, we explore plant microbiome functions, mechanisms, assembly and types of interaction, and discuss current applications and their pitfalls. Furthermore, we elaborate on how the latest findings in plant microbiome research may lead to the development of new or more advanced applications. Finally, we discuss research gaps to fully leverage microbiome functions for sustainable plant production.

Read paper.

PLANT-INDUCED BACTERIAL GENE SILENCING: A NOVEL CONTROL METHOD FOR BACTERIAL WILT DISEASE

A paper by Seonghan Jang *et al.* titled "Plant-induced bacterial gene silencing: a novel control method for bacterial wilt disease" was published on 2 August 2024 by *Frontiers in Plant Science* (vol. 15). The abstract is as follows:-

alstonia pseudosolanacearum, a notorious phytopathogen, is responsible for causing bacterial wilt, leading to significant economic losses globally in many crops within the Solanaceae family. Despite various cultural and chemical control strategies, managing bacterial wilt remains a substantial challenge. This study demonstrates, for the first time, the effective use of plant-induced bacterial gene silencing against R. pseudosolanacearum, facilitated by Tobacco rattle virusmediated gene silencing, to control bacterial wilt symptoms in Nicotiana benthamiana. The methodology described in this study could be utilized to identify novel phytobacterial virulence factors through both forward and reverse genetic approaches. To validate plant-induced gene silencing, small RNA fractions extracted from plant exudates were employed to silence bacterial gene expression, as indicated by the reduction in the expression of GFP and virulence genes in R. pseudosolanacearum. Furthermore, treatment of human and plant pathogenic Gramnegative and Gram-positive bacteria with plantgenerated small RNAs resulted in the silencing of target genes within 48 hours. Taken together, the results suggest that this technology could be applied under field conditions, offering precise, gene-based control of target bacterial pathogens while preserving the indigenous microbiota.

Read paper.

PLANTS ATTACKED ABOVE-GROUND BY LEAF-MINING FLIES CHANGE BELOW-GROUND MICROBIOTA TO ENHANCE PLANT DEFENSE

A paper by Yang Gao *et al.* titled "Plants attacked above-ground by leaf-mining flies change belowground microbiota to enhance plant defense" was published in June 2024 by *Horticulture Research* (vol. 11, uhae121). The abstract is as follows:-

Root-associated microbiomes play a crucial role in plant responses to biotic and abiotic stresses. Plants can enrich beneficial microbes to increase their stress-relieving ability. Above-ground insect herbivory is among the most detrimental stresses for plants, especially to crop production. However, few studies have explored how root-associated microbiomes respond to herbivores and influence plant-defense functions under herbivory stress. We investigate the changes and functional role of rootassociated microbial communities under herbivory stress using leafminer (Liriomyza trifolii) and cowpea (Vigna unguiculata) as a focal system. We did this by

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using a combination of 16S ribosomal RNA gene profiling and metagenomic sequencing to test for differences in co-occurrence networks and functions between cowpea plants infested and noninfested with leafminers. The results demonstrated that leafminer infestation caused a shift in the rhizosphere microbiome, which was characterized by a significant variation in microbiome community structure and composition, the selection of hub microbes involved in nitrogen (N) metabolism, and functional enrichment related to N metabolism. Notably, nitrogen-fixing bacteria Bradyrhizobium species were actively enriched and selected to be hubs in the rhizosphere. Inoculation with Bradyrhizobium enhanced cowpea performance under leafminer stress and increased protease inhibitor levels to decrease leafminer fitness. Overall, our study characterized the changes of root-associated microbiota between leafminer-infested and noninfested cowpea plants and revealed the mechanisms underlying the rhizosphere microbiome shift that enhance plant performance and defense against herbivory. Our findings provide further support for the notion that plants enrich rhizosphere microbes to counteract aboveground insect herbivores.

Read paper.



DISASTER PLANT PATHOLOGY: SOLUTIONS TO COMBAT AGRICULTURAL THREATS FROM DISASTERS

AMERICAN PHYTOPATHOLOGICAL SOCIETY, 7 AUGUST 2024

An often-overlooked component of natural and human-driven disasters is their potential to affect plant health and thus food security at domestic and international scales. Most disasters have indirect effects on plant health through factors such as disruptions to supply chains and damaged infrastructure, but there is also the potential for direct effects from disasters, such as pathogen or vector dispersal caused by floods, hurricanes, and human migration.

These occurrences are rarely isolated and instead often occur simultaneously. We have seen examples of the concurrence of disasters in recent history through events such as market disruptions in the early days of the COVID-19 pandemic; the intense wildfires, hurricanes, and tornadoes that have ravaged in the years since 2020; the Ukraine-Russia war disrupting the global wheat supply; and so on.

The impacts of natural disasters on plant health can be seen after events such as when the soybean rust pathogen, *Phakopsora pachyrhizi*, was first detected in the United States in Louisiana shortly after Hurricane Ivan in 2004. Hurricane Ivan moved north from the lower Caribbean near Colombia and is believed to have moved spores into the United States.

Insect pests can also travel long distances during strong wind events. Bean golden yellow mosaic virus was likely introduced to Florida by Hurricane Andrew in 1992, which carried viruliferous whiteflies from the Caribbean islands. Bean golden yellow mosaic virus caused the reduction or collapse of bean production the following year and became established in Florida. Wildfires also pose a significant risk for the spread of plant pathogens.

Fire can damage forest ecosystems, leaving gaps that become habitats open to colonisation by invasive pests and pathogens. For example, wildfires in California devastated the coastal mountain range, and new plantings to restore these areas were unknowingly contaminated with *Phytophthora tentaculata*, a quarantined pathogen that can cause root and crown rot. This has led to more complications, as forest managers now need to control both introduced diseases and future wildfires.

Human-driven disasters, such as armed conflicts, can also create conditions that are favorable to the spread of plant pathogens, leading to devastating consequences for crop production, food security, and overall instability in affected regions. Unrest may force farmers to rely on poor-quality seed with a higher risk of disease, resulting in low yields.

The current war in Ukraine is an example of how all countries are vulnerable to armed conflict, which not only leads to crop loss and disease spread but also disrupts the global exchange of commodities. The invasion of Ukraine disrupted the global wheat supply and caused a 50% increase in global fertiliser prices due to Russia's significant role as a supplier, accounting for 13% of the world's fertiliser production. In the twenty-first century, poverty, political unrest, and inefficient regulation have significantly influenced the development of major plant disease epidemics.

With the increase in frequency and severity of these disasters, a cross-disciplinary team of researchers and humanitarian experts from the United States, Benin, Ecuador, Kenya, the Netherlands, Peru, Tanzania, and Thailand and led by Berea Etherton from the Garrett Lab at the University of Florida, Gainesville, published <u>Disaster Plant Pathology: Smart Solutions</u> for Threats to Global Plant Health from Natural and Human-Driven Disasters in the journal *Phytopathology*.

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The framework highlighted in the article provides a multidisciplinary perspective on current threats and solutions to plant health and food security, encompassing the risk from environmental factors such as climate change, while also including factors such as political instability and war. The international team utilized the One Health framework, which addresses the interconnections among human, animal, plant, and environmental health.

Disaster plant pathology provides a framework focusing on the impact of disasters on plant health, plant pathogens, and agricultural systems for tailored solutions and informed decision making. This framework promotes interdisciplinary collaboration, making it of common interest for communities of plant pathologists, humanitarian groups, economists, computer scientists, meteorologists, and sustainable development strategists.

The number of billion-dollar disasters in the United States, adjusted for inflation, as reported by the National Centers for Environmental Information (NCEI), has been increasing since the 1980s. (Data from Smith, A. B. 2023. 2022 U.S. billion-dollar weather and climate disasters in historical context. NCEI. Climate.gov). Credit: The American Phytopathological Society

Disaster plant pathology offers solutions through "smart agriculture." Utilisation of the robust capabilities of artificial intelligence (AI) can provide early warning information systems, risk assessment, crop monitoring, supply chain optimisation, decision-support, real-time monitoring, and resilience strategies. There is potential for farmers and agricultural authorities to use these tools to make informed decisions and facilitate recovery efforts, thus minimising the impact of disasters on agricultural systems.

Through the integration of satellite imagery, weather data, disease incidence reports, early warning systems, and other relevant information, these models can identify patterns and predict the trajectory of pathogen movement. Farmers and agricultural authorities can use these models to take preventive measures in areas at high risk of infection, effectively managing the spread of disease and accelerating recovery.

The interactions among natural and human-driven disasters, plant disease, and global food security are critical concerns that demand expertise and knowledge from scientists working in disaster plant pathology. Disaster plant pathology recommends actions for improving food security before and following disasters, including:

- strengthening regional and global cooperation,
- capacity building for rapid implementation of new technologies,
- effective clean seed systems that can act quickly to replace seed lost in disasters,
- resilient biosecurity infrastructure and risk assessment ready for rapid implementation, and
- decision support systems that can adapt rapidly to unexpected scenarios.

Through predictive analyses, early warning systems, and real-time crop monitoring, humanitarian aid and governmental interventions can help to ensure the quality and safety of agricultural production for growers. The experts behind disaster plant pathology hope this framework incites collaboration at an international scale.

Lead author Etherton said, "Our team of global researchers and humanitarian experts synthesized current knowledge about disaster effects and strategies for planning and response. We developed this new perspective, disaster plant pathology, so that others working to protect plant health and food security can build on it."

These intricate relationships require global cooperation, and in the face of climate change and geopolitical complexities, a collective and proactive response is needed to protect plant health.

CURRENT VACANCIES

Professor of Plant Disease Dynamics, The Department of Environmental Systems Science

(www.usys.ethz.ch) at ETH Zurich

The ideal candidate centers their research on the organismal biology of plant-pathogen interactions as related to global environmental problems (e.g., emerging and introduced plant diseases, biodiversity change) and solutions (e.g., ecosystem management, sustainable agriculture). Example topics include (but are not limited to): the drivers of emerging plant diseases (e.g., of agricultural crops, trees, and other plants of concern) and/or the ecological and evolutionary dynamics of plant-pathogen dynamics in species or ecosystems of interest (e.g., agricultural systems, forest ecosystems). Candidates applying integrative toolboxes, by combining field and greenhouse experiments or observations, mathematical modelling, and state-of-the-art tools (e.g., genomics, phenotyping, eDNA), would be a perfect fit for the position. The future professor is invited to take advantage of the opportunities for collaboration offered by the department, where environmental problems and the development of sustainable solutions are central motivators of research by all research groups.

Successful candidates must have established a strong research portfolio and leadership in the field and possess ample experience in teaching and mentoring. The future professor will be expected to teach undergraduate level courses (in German or English) and graduate level courses (in English) within the programs in Agricultural and Environmental Sciences. The hiring package includes base funding at a level commensurate with the appointment.

Closing date: 15 September 2024

More information on job and submit application online.

ACKNOWLEDGEMENTS

Thanks to Grahame Jackson, Małgorzata Jędryczka, Greg Johnson, Zhao Peng, Gianfranco Romanazzi, Alex Shevchenko, Wenxian Sun, and Jason Zurn for contributions.



COMING EVENTS

11th IUFRO *Phytophthora* in Forests and Natural Ecosystems working party

8 September – 13 September, 2024 Bay of Islands (Paihia), New Zealand Website: <u>www.scienceevents.co.nz/iufro2024</u>

International Phytobiomes Conference 2024

8 October – 10 October, 2024 St. Louis, MO, USA Website: <u>phytobiomesconference.org</u>

Australasian plant virology workshop (APVW) 2024

29 October – 31 October, 2024 Crowne Plaza, Surfers Paradise, Gold Coast, Queensland, Australia Email: <u>apvw@kamevents.com.au</u> Website: <u>www.apvw2024.com.au</u>

9th ISHS International Postharvest Symposium

11 November – 15 November, 2024 Rotorua, New Zealand Website: <u>scienceevents.co.nz/postharvest2024</u>

16th International *Trichoderma & Gliocladium* Workshop

12 November – 14 November, 2024 Lincoln University, Canterbury, New Zealand Website: <u>www.tg2024.org</u>

International Organization of Citrus Virologists

(IOCV) XXIII Conference 16 March – 20 March, 2025 Mildura, Victoria, Australia Website: <u>www.iocvaustralia2025.org.au</u>

International Symposium on Plant Pathogenic Sclerotiniaceae - BotryScleroMoni 2025. Joint meetings of XIX International *Botrytis* Symposium, XVII International *Sclerotinia* Workshop, and II International *Monilinia* Workshop 25 May – 30 May, 2025 Thessaloniki, Greece

Website: botryscleromoni.com

Australasian Plant Pathology Society Conference

26 May – 28 May, 2025 International Convention Centre at Darling Harbour, Sydney, Australia Website: under construction

14th Conference of the European Foundation for Plant Pathology (EFPP) 2 June – 5 June, 2025 Uppsala, Sweden Website: <u>www.efpp2025.com</u>

XVII Working Group "Biological and integrated control of plant pathogens." From single microbes to microbiome targeting One Health. 11 June – 14 June, 2025 University of Torino, Torino, Italy Website: www.iobctorino2025.org

17th Congress of the Mediterranean Phytopathological Union - New phytopathology frontiers of research and education for plant health and food safety

7 July – 10 July, 2025 Ciheam-Bari, Italy Contact and Email: Anna Maria D'Onghia,e-mail: <u>mpu2025@iamb.it</u> Website: <u>www.mpunion.org</u>

13th International Workshop on Grapevine Trunk Diseases

21 July – 25 July, 2025 Ensenada, Baja California, México Contact and Email: Rufina Hernández <u>13iwgtd@cicese.mx</u> Website (under construction): <u>13iwgtd.cicese.mx</u>

14th Arab Congress of Plant Protection Sciences

3 November – 7 November, 2025 Algeria Contact and Email: <u>hou.boureghda@gmail.com</u> Website will be developed soon.

8th International Bacterial Wilt Symposium (IBWS) 22 March – 26 March, 2026 Wageningen, the Netherlands Website: <u>event.wur.nl/ibws2026</u>

13th International Congress of Plant Pathology 2028 19 August – 25 August, 2028 Gold Coast, Queensland, Australia Website: <u>www.icpp2028.org</u>

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INTERNATIONAL SOCIETY FOR PLANT PATHOLOGY (ISPP)

WWW.ISPPWEB.ORG

The ISPP List is an e-mail list server which broadcasts messages and announcements to its subscribers. Its goal is to facilitate communication among members of the International Society for Plant Pathology and its Associated Societies. Advertised vacancies in plant pathology and ISPP Newsletter alerts are also sent to members of the ISPP List.

In accordance with the guidelines and recommendations established by the new EU General Data Protection Regulation 679/2016 (GDPR), the International Society for Plant Pathology has created a <u>Privacy Information</u> <u>Notice</u> containing all the information you need to know about how we collect, use and protect your personal data. This policy explains when and why we collect personal information about our users, how we use it, the conditions under which we may disclose it to third parties, how we keep it safe and secure and your rights and choices in relation to your personal information.

Should you need further information please contact business.manager@issppweb.org





