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PROMOTING WORLD-WIDE PLANT HEALTH AND FOOD SECURITY

INTERNATIONAL SOCIETY FOR PLANT PATHOLOGY

ISPP NEWSLETTER

ISSUE 55 (7) JULY 2025

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ICPP2028 UPDATE

ANDREW GEERING, VICE PRESIDENT OF THE ISPP

gold coast convention and exhibition centre

It might still be three years away from the <u>International Congress of Plant</u> <u>Pathology in 2028</u> (ICPP2028), but planning is well on the way. To keep the plant pathology community informed, this will be the first of a series of short articles in the ISPP newsletter to let you about the stages of planning.

In May this year, the ICPP2028 Organising Committee hosted a visit of Professors Yong-Hwan Lee (ISPP President) and Laura Mugnai (ISPP Vice President) to the Gold Coast to do a site inspection. First stop on the itinerary was a visit to the Gold Coast Exhibition and Convention Centre (GCECC), the venue for the ICPP2028. In tourist industry parlance, the GCECC is known as a 'boutique convention centre', catering for conferences hosting 2,000–4,000 delegates. The beauty of a mid-sized convention centre is that the entire centre has been booked out for the ICPP2028, which adds to the intimacy of the event, and means that we can brand the building in our colours. As with all modern convention centres, each meeting room is very flexible in configuration, and it was even suggested we could add bean bags to some rooms! We'll have a kids club with child minders, so that parents bringing families can focus on the congress, knowing that their children are entertained and safely supervised. The Gold Coast is a great holiday destination, so we encourage you to spend a little extra time there either before or after the ICPP2028.

We all like to keep expenses down when traveling, and the Gold Coast has a plethora of accommodation options, from 5-star hotels to backpacker hostels. There are over 3,000 hotel beds within 2 km of the GCECC! We inspected the Dorset and Star Grand Hotels in Broadbeach, two hotels that are connected to







the GCECC by an elevated walkway. Soon, we will be making block bookings in these hotels for the use of delegates. A particularly attractive accommodation option we inspected was The Star Residences, which are family suites containing two bedrooms with Queen-sized beds, a kitchen and laundry facilities. The family suites are great options for delegates who want to share accommodation and save on expenses by making your own breakfast or dinner.

The final activity on the site tour was a daytrip to the Tweed Valley, the very northernmost point of New South Wales. The Tweed Valley lies within the eroded remnants of a giant shield volcano that last erupted around 23 million years ago. With fertile soils and high rainfall, the Tweed Valley is a major centre of

horticulture and sugarcane cultivation. and will be the site of several technical tours. We spent 3 hours at Tropical Fruit World, a hybrid agritourism and tropical horticultural research farm. Tropical Fruit World sprawls over 87 ha, and cultivates about 500 different fruit crops, many rarely seen. They are running plant breeding programs and experimenting with different cultural practices. It is a fascinating place to visit and located in a particularly beautiful part of Australia. We will be organising technical tours to Tropical Fruit World on days either side of the ICPP2028.

Please mark the ICPP2028 in your calendar, and we look forward to extending our Aussie hospitality to you.





GLOBAL PLANT HEALTH ASSESSMENT PHASE II: THE FUTURE OF PLANT HEALTH - SYNTHESIS OF A WORKSHOP HELD IN TOULOUSE

SCIENTIFIC SECRETARIAT OF THE GPHA

The workshop was held at the Université Jean Jaurès -Toulouse on 20-22 November 2024. The workshop was attended by 17 in-presence participants and 8 remote participants from 15 countries.

During the workshop, presentations were given on a range of topics in the Global South and the Global North, from forest pathology to agricultural plant pathology; from modelling impacts of pathogens, to invasions and disease emergence, to foresight analyses;



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from detection technologies, to genetic analyses of pathogens, and examples of ongoing EU projects aiming at pesticide use reduction. Each presentation led to discussions on the ways to link various projects together based on their needs. Multiple linkages among individuals and teams have been identified to make projects progress.

Other key topics discussed include: (1) education efforts which the GPHA could undertake, with the establishment and expansion of online, access-free teaching material, and (2) the ways to organise an International Symposium on Losses to Plant Pathogens and Pests in Forestry and Agriculture, along with the publication of a book representing and expanded sequel of FAO's Crop Loss Assessment Methods.

A main topic for general discussions concerned the development of **scenarios for the future of plant health** in the Global Plant Health Assessment, and the design of **modelling structures** within the GPHA to be operated within these scenarios so as to analyse their outcomes in terms of **ecosystem services**: provisioning (including food), regulating, and cultural. The distinction between scenario design and model development was elaborated. An outline for a generic, conceptual, modelling structure for a global plant health system, to be used in the Global Plant Health Assessment, was proposed. Efforts on scenario design will be continued in conjunction with various modelling needs (specific plant health projects; global plant health system).

Meanwhile, efforts to pursue **baseline activities** to characterise plant health, and plant health impacts on ecosystem services, in a range of **Plant Systems** within diverse world **Ecoregions** need to continue.

Priorities for these baseline activities to characterise plant health concern:

- (1) Globally: Plant Health Reports on forest systems, urban forests, legume-based agricultural systems;
- (2) Global North: Plant Health Reports on vegetables, fruits, and peri-urban agriculture;
- (3) Global South: Plant Health Reports in (i) sub-Saharan African agricultural systems with African crops as keystone species (e.g., millet, sorghum, cassava, as well as fonio and Bambara groundnut); (ii) East- and South-East Asian agricultural systems with keystone staple species other than rice (as rice is already covered by GPHA reports).

To that aim, the GPHA network needs to expand.

For more information and contacts, please visit the GPHA website where a report from the workshop is posted: <u>https://sites.google.com/view/global-plant-health-assessment/home</u>

25[™] AUSTRALASIAN PLANT PATHOLOGY SOCIETY CONFERENCE REPORT, SYDNEY, 2025

JORDAN BAILEY, APPS 2025 CHAIR

The Australasian Plant Pathology Society (APPS) celebrated its 25^{th} conference in Sydney, Australia from 26 - 28 May. It was also the first conference with the new logo! And we made use of our special collection of 1960s/70s plant disease illustrations by Australian natural history illustrator Margaret Senior.

The conference theme "from field to future, scientific collections and plant pathology" put a spotlight on the importance of collecting and preserving specimens, a vital resource for plant health, agriculture, ecology, and biosecurity.

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Keynote speakers were chosen to represent the various roles collections play across plant pathology fields, from taxonomic discoveries and daily diagnostic conundrums to informing biosecurity policy and enabling big data genomic studies through time and space.

Delegates attended pre and post conference excursions and workshops observing the autumn mushroom season in Sydney's Blue Mountains, visiting local native flower farms and national herbarium and seed bank, touring the botanic gardens from a forestry pathology perspective, behind the scenes airport biosecurity tour and learning about how to name new species and the latest in diagnostic protocols.

We had four concurrent sessions with a large focus on disease management, from plant resistance to biocontrols, and talks from across the biosecurity framework, but we also hosted sessions on microbiome interactions, engagement and funding, fungicide resistance and big data.

Delegates also took part in a collections survey workshop, sponsored by the Department of Agriculture, Fisheries and Forestry, Australia's Biosecurity Reference collections are looking at how to better engage users and long-term solutions to resourcing.

Students got treated to special presentations from select keynotes on what their career paths looked like and got some advice on managing boundaries, finding opportunities and making good impressions. Bevan Weir's sage advice was to "be kind".

We were also lucky to keep keynote speaker Megan Romberg in the country for an extra week to run two workshops on morphological fungal identification techniques. These workshops were very successful with over 70 people wanting to attend. We might have to have her back in the future for those that missed out this year.

The dinner venue looked out over Sydney Harbour with views of the bridge, of course. Lester Burgess, founding member, reminisced on the organising of the first conference in 1974 and the DJ managed to get almost everyone on the dance floor. Overall, it was a wonderful break from reality, and I think everyone enjoyed reconnecting and celebrating successes, leaving reinspired and rejuvenated – if a little weary.

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Keynote presentations:

- Dr Cathie Aime: Innovative use of collections: A few case studies in Pucciniales
- Dr Toni Chapman: Bacterial Culture Collections: Advancing Diagnostics and Safeguarding Biosecurity
- Dr Bevan Weir: <u>Culture Collection data</u>
- Dr Susie Collins: Scientific reference collections critical in underpinning Australia's biosecurity
- Dr Megan Romberg: Fungal collections assist in rapid identification of unusual samples to support biosecurity
- Dr Erin Roger: How can an open data research infrastructure support data driven biosecurity initiatives
- Dr Jean Ristaino: <u>Tracking Ireland's Potato Killer</u>, Phytophthora infestans, Using Historical Mycological Herbarium and Archival Collections
- Dr Yong-Hwan Lee: <u>Systems biology initiatives for fungal plant pathogens: Comparative genomics and bioinformatics</u> platform of the rice blast fungus, <u>Magnaporthe oryzae</u>

Student presentation awards:

- 1st Aindreeya Alcova
- 2nd Aayushree Kharel
- 3rd John Taguiam

Student poster awards:

- 1st Theophilus Mensah
- 2nd Shukti Rani Chowdhury
- 3rd Rui Zhao

APPS awards:

- Allen Kerr Post Graduate Prize
 Dr Mohamed Zakeel Mohamed Cassim
 - Peter Williamson Award for Distinguished Service
 - Dr Mike Hodda
- Lester Burgess Award for Diagnostics and Extension, or Research Communication
 - Dr Kerry Everertt

APPS bursary awards:

- Lachlan Dow, CSIRO
- Salome Wilson, Plant Health Australia
- Manjeet, Western Sydney University
- John Darby Taguiam, Charles Sturt University
- Birendra Kunwar, Northern Territory Government Department of Agriculture and Fisheries- Plant Pathology Unit
- Ashika Ashnita, Prasad University of Auckland
- Hanareia Ehau-Taumaunu, Plant and Food Research,
- Dan Cu, Lincoln University Rui Zhao Lincoln University

- Intan Sakinah Mohid Anuar, Universiti Putra Malaysia
- Amelia Limbongan, Universitas Musamus
- Ayesha Senanayake, University of Southern Queensland
- Qadeer Ahmad, Griffith University
- Cian Hoban, The University of Adelaide
- Virajinee Bulathsinhalage, The University of Adelaide
- Akeem Taiwo, University of Tasmania
- Pooja Rajasri Poosarla, University of Tasmania
- Atika Betty Azzam Morrell, Latrobe University
- Weixia Wang, University of Melbourne
- Nuraizat Abidin, The University of Western Australia
- Jade Davis, Curtin University

Conference bursary awards:

- Supported by Atlas of Living Australia
 - Ms Haixia Guan
 - Miss Alyssa Martino
 - Mr Jonathan Haworth
 - Miss Arundhati Singh
 - Dr Vivian, Rincon-Florez
- Supported by the ARC Training Centre in Plant Biosecurity
 - Dr Chapa Manawaduge
- Supported by The Crawford Fund
 - Ms Marilyn Apa
 - Miss Priyaashna Kumar
- Supported by the Australasian Mycological Society

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- Miss Aindreeya Alcova
- Mr Theophilus Mensah

ISPP EXECUTIVE MEETING HELD IN SYDNEY AHEAD OF APPS 2025 CONFERENCE

In May 2025, the International Society for Plant Pathology (ISPP) held an executive meeting in Sydney, just prior to the 25th Australasian Plant Pathology Society (APPS) Conference. The meeting brought together most ISPP Executive and Secritate members to discuss current initiatives and strategic planning. A highlight of the meeting was an update from Vice-President of the ISPP Andrew Geering on preparations for the 13th International Congress of Plant Pathology (ICPP) to be held in Gold Coast in 2028. Some of the Executive Committee also visited prospective conference venues, including the Gold Coast Exhibition and Convention Centre, as part of ongoing preparations.



Left photo: ISPP Executive and Secretariat 2023-28 - Front row, L to R, - Professor Laura Mugnai (Vice-President of ISPP), Photo credit: Shani Friedman (Goldfarb). Professor Yong-Hwan Lee (Presidentt of ISPP), Professor Jan Leach (Past-Presidentt of ISPP). Back row -Dr. Daniel Huberli (ISPP Newsletter Editor), Associate Professor Andrew Geering (Vice-President of ISPP), Professor Teresa Coutinho (Secretary General), and Associate Professor Mathews L. Paret (Treasurer).

Below photo: Daniel Huberli receiving his ISPP 10-year service award from Yong-Hwan Lee. (Photo credits: Greg Johnson)

During the lunch break at the meeting, Dr Daniel Hüberli was recognised for his outstanding service as ISPP Newsletter Editor over the past ten years. Since taking on the role in 2014, following the passing of Emeritus Professor Brian Deverall, his dedication has kept the international plant pathology community informed and connected. The Executive Committee warmly thanked him for his decade of committed contributions to the Newsletter.

IN MEMORY OF PROF. PAOLO MONTALBINI (1942-2023)

ROBERTO BUONAURIO, DEPARTMENT OF AGRICULTURAL, FOOD AND ENVIRONMENTAL SCIENCES, UNIVERSITY OF PERUGIA (ITALY)

We wish to commemorate Prof. Paolo Montalbini, whose dedicated research in physiological plant pathology deserves lasting recognition. There is a concern that his contributions marked by quiet perseverance rather than public acclaim—may be forgotten, especially in a scientific landscape that often favours more visible or fashionable topics. However, his commitment to fundamental science and his methodical, passionate work merit remembrance.

Born in 1942 in Morro d'Alba (Ancona, Italy), Montalbini studied Agricultural Sciences at the University of Perugia, where he was inspired by Prof. Cesare Sempio (1902–1977), a pioneer of plant pathophysiology internationally recognised for his studies on carbon balance in plant-pathogen interactions. His chapter 'The Host is Starved' published in 1959 on the book



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series: Plant Pathology—An Advanced Treatise (edited by Horsfall and Dimond) remains a foundational text in the field. In 1966, Montalbini graduated with a thesis entitled 'Influence of the relationship between nitrogen, phosphorus, and potassium on the resistance mechanism of wheat to *Puccinia recondita*, under the supervision of Professor Sempio. In 1970, he permanently joined the Institute of Plant Pathology at the University of Perugia as Assistant Professor; his work closely followed the scientific legacy of Sempio and his collaborators (Raggi, Marte, Zazzerini, Della Torre and Cappelli). Despite a research climate that often prioritised applied over basic studies, he remained steadfast in his focus on fundamental aspects of plant physiology and pathology.

As molecular biology is central to plant pathology today, biochemical methods were critical tools for the plant physiopathologists of the 1960s and 70s. Paolo developed a strong foundation in biochemistry particularly in enzymology through collaboration with the Institute of Biochemistry at the University of Perugia. In 1972 and in 1973 he worked at the Department of Cell Physiology, University of California, Berkeley, with Bob B. Buchanan (now Professor Emeritus), perhaps best known to younger researchers as the editor of the textbook Biochemistry and Molecular Biology of Plants. There, Paolo conducted pivotal research on the impact of biotrophic fungal infections on oxidative photophosphorylation—early and important work on how plant diseases affect photosynthesis (Montalbini and Buchanan, 1974).

Later, in the late 1970s, he visited the Institut für Botanik und Mikrobiologie at the Technische Universität München, where under Erich F. Elstner, he studied ethylene emission in bean plants infected by *Uromyces phaseoli*. His results contributed to the broader understanding of ethylene as a signalling molecule in plant defence (Montalbini and Elstner, 1977).

From 1989 until his retirement in 2003, Montalbini focused on the oxidative catabolism of purines—an important pathway in ureide metabolism in plants, in which xanthine oxidoreductase, uricase, and allantoinase are key enzymes. He used biochemical and pharmacological approaches to explore how biotrophic fungi exploit nitrogen-containing compounds such as ureides and the involvement of xanthine oxidoreductase in the hypersensitive reaction induced in plants by fungi and viruses (Montalbini, 1991; Montalbini, 1992; Montalbini, 1995; Marte and Montalbini, 2001; Montalbini et al., 2002). Also in collaboration with Manuel Pineda's group (University of Córdoba, Spain), Montalbini purified xanthine oxidoreductase from wheat and legumes (Montalbini, 1998; Montalbini, 2000) and of plant uricase (Montalbini et al., 1997) as well as from uredospores of *Puccinia recondita* (Aguilar et al., 2002).

At the beginning of my own career, I had the privilege of working alongside Paolo and learning many biochemical techniques that proved essential to my studies on oxidative stress enzymes in plant-pathogen interactions (<u>Buonaurio et al., 1987</u>). His dedication to experimentation and his broad scientific perspective—including insights from both plant and animal biology—left a lasting impression.

We thank Paolo for his lifelong commitment to research, for carrying forward the scientific vision of Sempio, and for expanding our understanding of plant-microbe interactions. His work continues to inspire, even in quiet legacy.

REPORT ON THE XVII MEETING OF THE IOBC-WPRS WORKING GROUP 'BIOLOGICAL AND INTEGRATED CONTROL OF PLANT PATHOGENS'

LAURA MUGNAI, VICE PRESIDENT OF THE ISPP

The XVII meeting of the IOBC-WPRS Working Group Biological and Integrated Control of Plant Pathogens "From single microbes to microbiomes targeting one health" organised by Prof. Davide Spadaro and Prof. Monica Mezzalama of the University of Torino, took place in Torino, Italy, from 11-14 June. The general goal of the Working Group is to promote cooperation among scientists with expertise in biological control of plant pathogens and to support its implementation in agriculture in the West Palaearctic Region and beyond. The XVII meeting "From single microbes to microbiomes targeting one health" focused on the role of microorganisms that are isolated, selected, characterised, and deployed to control plant pathogens going beyond plant health to protect organismal health in a holistic approach. Overall, 172 participants were attending the meeting representing 27 different nationalities from the 5 continents. A total of 137 contributions were presented: five as invited talks, 41 as oral presentations, 42 as flash talks and 44 as posters.





Application of biocontrol agents, as single strains or in consortia was discussed in a context of climate change to control emerging and complex plant diseases. The partnership between industry and academia was explored to improve and make more efficient the production and deployment of biocontrol products and recent findings were presented about how to explore new sources of biocontrol agents and their mechanisms that regulate the complex interactions among microbes, plants, and pathogens. The round table discussion "A winding road to biopesticides registration: bottlenecks and opportunities" organised in the frame of the meeting with the participation of experts from the EU regulatory bodies, academia, industry and farmers associations, offered a comprehensive discussion on the current challenges and future directions for the biocontrol sector, highlighting the major regulatory challenges faced by the biocontrol sector in Europe, particularly the slow and complex approval processes that contrast with the more efficient systems in other countries outside the EU. These barriers affect companies producing biosolutions, limiting their ability to commercialize innovative products and compete internationally. The rigid EU regulatory frames does not keep the pace with the rapid scientific advancements slowing the shift toward sustainable and organic farming. Educational gaps were also discussed, stressing the importance of training for farmers and awareness for consumers.

To encourage the participation to the meeting of young researchers the Italian Phytopathological Society (SIPAV) awarded 3 young scientists and the IOBC-WPRS awarded 4 PhD students. The feedback received from the participants was very positive and it was possible to feel the strengthening of the network of collaborations, in particular among the numerous young scientists.



FUNGAL ENDOPHYTES: AN INSIGHT INTO DIVERSITY, STRESS TOLERANCE, BIOCONTROL AND PLANT GROWTH-PROMOTING POTENTIALS

A review by Purusottam Majhi *et al.* titled "Fungal endophytes: An insight into diversity, stress tolerance, biocontrol and plant growth-promoting potentials" was published on 7 May 2025 by *Current Microbiology* (vol. 82, article number 283). The abstract is as follows:-

Food and human health are closely related to each other. A healthy diet contributes to excellent health. However, chemical-based agricultural products delivered the poisons in our tray, which cause fatal illnesses like cancer. Overuse of chemical-based fertilizer, herbicides, insecticides, pesticides, etc. is responsible for decreasing soil health status and the development of resistant variants of phytopathogens. Endophytes may overcome such issues effectively without showing any harmful effects. Endophytes are microorganisms that invade intercellular or intracellular parts of host plants without causing any apparent symptoms of infection. Endophytes are broad groups of microorganisms; they may be algae, fungi, bacteria, or ascomycetes. Among them, endophytic fungi are a major group of endophytes that reside inside the host plant body. Types and biodiversity of fungal endophytes make them a potent biological agent for sustainable agricultural management because of their vast geographical distribution. Historically fungal endophytes are broadly categorized into two groups as clavicipitaceous and nonclavicipitaceous based on phylogeny and life history traits. Based on various criteria such as in planta biodiversity, colonization, transmission and fitness to the host, non-clavicipitaceous fungi classified into three distinct classes. They promote plant growth and development by overcoming biotic and abiotic stress and by accelerating systematic inducing resistance (SIR) in plants. They harbor a variety of bioactive compounds like., alkaloids, terpenoids, phenolic acid, steroids, tannins, and saponins that act as antifungal, antibacterial, anticancer, antioxidant, and insecticidal agents. These bioactive compounds have a great potential role in sustainable agricultural management. This review highlights the potential role of fungal endophytes in the field of sustainable agricultural practices to overcome biotic and abiotic stress along with plant growth-promoting activities rather than the use of chemicals in agro-ecosystems.

Read paper.



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MARIO RIOLO RECIEVES THE "FILIPPO RE" AWARD

SANTA OLGA CACCIOLA, UNIVERSITY OF CATANIA

Mario, a research fellow of at the Department of Agriculture, Food and Environment of the University of Catania, received the "Filippo Re" award in Bologna for a study on circular economy in the citrus supply chain.

The Filippo Re Prize is a prestigious award promoted by the National Academy of Agriculture in collaboration with Image Line, aimed at young Italian researchers who have distinguished themselves for innovative contributions in agronomy, environment and agribusiness. The sixth edition of the award was dedicated to the theme "Innovation in Agriculture" as an element of improving food safety and economic aspects of agri-food supply chains.

Dr. Riolo's study was selected by a scientific committee from among numerous publications received from Italian universities and research institutions, based on criteria of novelty, multidisciplinary approach and application impact.

The winning scientific article - titled "A circular economy approach: A new formulation based on a lemon peel medium activated with lactobacilli for sustainable control of post-harvest fungal rots in fresh citrus fruit" and published in the international journal Biological Control (Elsevier) - proposes a sustainable solution for the control of post-harvest fungal diseases in citrus fruit through the development of an innovative bio-formulation based on lemon peels fermented with selected strains of lactic acid bacteria.

The research highlights the possibility of transforming an agroindustrial waste into an edible, biodegradable coating that can improve the shelf life of fruit and reduce the use of chemical fungicides. The project was carried out under the scientific supervision of Professor Santa Olga Cacciola, a plant pathologist at Di3A of the University of Catania (Italy), and in collaboration with the University of Valencia, as part of the BiOrangePack (PRIMA Section 2 - 2019) and PROMETEO (ENI cross-border cooperation (CT) program "Italy-Tunisia" 2014-2020) research projects aimed at promoting sustainable and circular practices in citrus post-harvesting.

The award is part of the broader joint commitment of the National Academy of Agriculture and Image Line Unipersonale in promoting a steady evolution of the strategic role of agriculture in Italy, encouraging the dissemination of increasingly in-depth knowledge and awareness of the interactions between this sector and environmental, economic, territorial and social dynamics, as well as initiatives supporting rural development, such as the Common Agricultural Policy.

The award ceremony was held in recent days in the Stabat Mater Hall of the Archiginnasio in Bologna. The award was presented to Dr. Riolo by the president of the National Academy of Agriculture, Prof. Giorgio Cantelli Forti, and Image Line's CEO, Dr. Ivano Valmori, in the presence of committee members and finalists, in the presence of Gabriele Mongardi, Education & CSR Specialist at Image Line.

Also receiving the "Filippo Re" award were Leilei Zhang and Lucia Russo, second and third runners-up respectively, while Lorenzo Vittani was awarded the "Cap4AgroInnovation" special mention.

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With this recognition, the University of Catania consolidates its presence in the national scientific research scene, confirming its commitment to the development of innovative, sustainable and transferable solutions in agribusiness, consistent with European strategic objectives and the needs of the territory.

The day continued with the official opening ceremony of the 218th year of the National Academy of Agriculture. The event was attended by representatives from academia, institutions and law enforcement, including Army General Andrea Rispoli, Colonel Aldo Terzi, commander of the Carabinieri Forestry Group in Bologna, and Copa and Confagricoltura president Dr. Massimiliano Giansanti, who gave the inaugural speech entitled Agriculture, Security and Freedom: New Perspectives for Europe.

Among the most significant institutional moments was also the symbolic delivery to the National Academy of Agriculture of the Falcone Tree, a plant made from a bud of the famous tree that grew in front of Judge Giovanni Falcone's house in Palermo. A gesture, that of Colonel Aldo Terzi on behalf of the Carabinieri Biodiversity Regiment, welcomed by President Giorgio Cantelli Forti as a sign of the shared commitment to environmental legality, civic memory and territorial protection.

UNVEILING YELLOW RUST RESISTANCE IN THE NEAR-HIMALAYAN REGION

A paper by Katharina Jung *et al.* titled "Unveiling yellow rust resistance in the near-Himalayan region: insights from a nested association mapping study" was published on 5 June 2025 by *Theoretical and Applied Genetics* (vol. 138, article number 135). The abstract is as follows:-

The global spread of yellow rust has posed a significant threat to wheat production, making the identification of novel resistance-conferring genetic loci crucial. The near-Himalayan region has been proposed as the pathogen's origin and is characterized by strong and diverse disease pressure. Even though this makes wheat varieties from this region likely to harbor resistance, Asian germplasm has been highly underrepresented in modern breeding. To explore this potential, we screened an Asian nested association mapping (NAM) population comprising traditional and modern wheat varieties under artificial epidemics in multiple field trials. Combined quantitative trait locus (QTL) mapping revealed the two resistance genes Lr67/Yr46/Sr55 and Lr34/Yr18/Sr57, as well as two potentially novel yellow rust resistance loci. The resistant allele of the first one, located on chromosome 3D, is unique to a traditional variety from Nepal, while the second one, found on chromosome 5B, is present in several NAM families. The broad geographic distribution of this QTL across regions with high disease pressure suggests it may serve as a durable source of resistance. Strong observed resistances were conferred by a combination of several resistance loci, suggesting the stacking of resistances as a successful strategy in yellow rust hotspot areas.

Read paper.



There are no current vacancies.

ACKNOWLEDGEMENTS

Thanks to Jordan Bailey, Roberto Buonaurio, Santa Olga Cacciola, Andrew Geering, Grahame Jackson, Greg Johnson, Laura Mugnai, and Serge Savaary for contributions.



COMING EVENTS

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 <u>mpu2025@iamb.it</u> Website: <u>www.mpunion.org</u>

Congress on Molecular Plant-Microbe Interactions

13 July – 17 July, 2025 Cologne, Germany Website: www.ismpmi.org/Events/Pages/UpcomingCongress

1st International Scientific Conference for *Pantoea* Research

20 July – 23 July, 2025 Kruger National Park, South Africa Website: <u>pantoea2025.carlamani.com</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: <u>13iwgtd.cicese.mx</u>

Plant Health 2025

2 August – 5 August, 2025 Honolulu, Hawaii Website: <u>www.apsnet.org/meetings/annual/PH2025/Pages/defa</u> <u>ult.aspx</u>

Plant Pathology 2025

9 September – 11 September, 2025 Nottingham, UK Contact and email: Richard Oliver <u>meetings@bspp.org.uk</u> Website: <u>www.bspp.org.uk/conference-info-plant-</u> <u>pathology-2025-ppath2025-and-early-careers-plant-</u> <u>pathology-2025-ecpp2025/</u>

Conference of the IOBC/WPRS Working Group

"Integrated Protection in Viticulture" 13 October – 15 October, 2025 Mikulov, Czech Republic Website: <u>event.fourwaves.com/ipvc/pages</u>

14th Arab Congress of Plant Protection Sciences

3 November – 7 November, 2025 Algeria city, Algeria Contact and Email: <u>info@acpp-aspp.com</u> Website: <u>acpp-aspp.com</u>

Plant-Parasitic Nematode Identification Course

12 December – 19 December, 2025 Clemson, South Carolina Contact Email: <u>ckhanal@clemson.edu</u> Website: <u>www.clemson.edu/cafls/nematology</u>

Plant and Animal Genome Conference (PAG 33)

9 January – 14 January, 2026 San Diego California, USA Website: <u>https://intlpag.org/PAG33/</u>

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

13th International Congress of Plant Pathology 2028 19 August – 25 August, 2028 Gold Coast, Queensland, Australia

Website: <u>www.icpp2028.org</u>







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





