# **International Society for Plant Pathology**

ISPP Newsletter 48 (10) October 2018 Editor: Daniel Hüberli (<u>email</u>) Join the ISPP <u>mail list</u>

# In this issue:

- Do you know our ISPP logo? Fill out the ISPP Logo Survey!
- Successful and insightful, ICPP2018 makes history as ISPP turns 50
- <u>6<sup>th</sup> International Oomycetes Workshop: Satellite meeting at ICPP2018, Boston</u>
- ICPP2023 Lyon, France Save the date!
- XXIV National Congress of the Italian Phytopathological Society in Ancona, Italy, September 2018
- How plant microbes could feed the world and save endangered species
- What climate change means for fungi and food safety
- Wheat blast: from its origins in South America to its emergence as a global threat
- Leafroll-associated virus 3 cloned to help stop grape disease
- How do you disarm Phytophthora?
- <u>Current vacancies</u>
- <u>Acknowledgements</u>
- <u>Coming Events</u>

We are present on





# Do you know our ISPP logo? Fill out the ISPP Logo Survey!

A short 90 seconds will help the ISPP develop and target new strategies to promote Plant Pathology! Please have your say about the logo today. The survey will close on 11<sup>th</sup> November.



(Andrea Masino, ISPP Business Manager)

# Successful and insightful, ICPP2018 makes history as ISPP turns 50

More than 2,400 scientists from 88 countries descended on Boston for the 11<sup>th</sup> International Congress of Plant Pathology (ICPP2018). The theme of the congress, "Plant Health in a Global Economy," was reflected in the nearly 500 presentations across more than 70 concurrent sessions, plus five plenary and 15 keynote presentations, featuring leading experts in plant pathology and nearly 1,200 posters from plant pathologists of all specialisations.

After 2 days of exciting pre-meeting field trips, workshops, and satellite meetings (more than 20 in all!), ICPP2018 kicked off on Sunday, 29<sup>th</sup> July, with an early American fife and drum group leading attendees to the opening plenary session.



ICPP President **Rick Bennett** welcomed attendees and virtual participants via a live feed. Boston Mayor **Marty Walsh** provided remarks about the city, and ICPP Organising Chair **Tom Evans** thanked the hundreds of volunteers involved in developing the impressive program.



(left to right) Rick Bennett, Tom Evans, Greg Johnson, and Mary Palm.

The opening plenary then began with a retrospective from ISPP President **Greg Johnson** recognising the 50<sup>th</sup> Anniversary of the International Society for Plant Pathology (ISPP) and an overview of the organisation's recent efforts. He encouraged attendees to work together to better harness knowledge and passion for improving both the progress of science and the equity of advancement in our societies and profession. He closed with a quote by science historian Stephen Jay Gould: "Despite the wicked curves, detours, and delays, the rocky road towards scientific truth is a great trip." The <u>12<sup>th</sup> Jakob Eriksson Prize for Plant Pathology</u> was then presented to APS member **Pierre JGM de Wit**, emeritus, Wageningen University, by **Ulla Gjörstrup**, representative of the Swedish Consul in Boston, together with **Mauritz Ramstedt**, chair of the Jakob Eriksson Commission. This honor recognised de Wit for his pioneering research in molecular plant pathology and plant-microbe

interactions. **Francisco J. Reifschneider**, of EMBRAPA, rounded out the opening plenary with a talk entitled "A Healthy Future for Plant Health." Reifschneider provided a thought-provoking presentation on the role plant pathologists play and the challenges they face in feeding the world's rapidly growing population. Immediately following the session, attendees joined together to connect with colleagues during the Boston-themed welcome reception.



The vision for ICPP2018—"An engaged world community of plant health scientists advancing knowledge for a safe, affordable, secure supply of food, feed and fiber for a growing population"— was reflected in the programing that continued throughout the week. The stimulating Monday plenary session, titled <u>"Plant Health Is Earth's Wealth,"</u> was organised by **Greg Johnson** and APS President **Mary Palm**. The session featured **Sophien Kamoun**, The Sainsbury Laboratory; **Carolee T. Bull**, The Pennsylvania State University; and **David Guest**, University of Sydney. These presenters represented three different areas of expertise and geography, setting the stage for thoughtful discussions throughout the meeting.



(left to right) Sophien Kamoun, Carolee T. Bull, and David Guest.

Each day of the week, attendees heard the latest in plant pathology from a diverse assembly of experts. Tuesday's keynote session focused on <u>emerging plant diseases and global food security</u> and featured the Glenn Anderson Lecture, as well as talks on climate change, metadata, modeling approaches, and the sweetpotato as a food security crop. The focus on Wednesday was new and exciting <u>approaches to controlling insect-vectored plant diseases</u>. Talks covered how effector targets can be utilised, how pathogen confusion can be used to achieve disease control, and what can be learned from pathogen effectors. Reflecting the theme of ICPP2018, Thursday's keynote session offered key insights into <u>plant pathology's role in food safety across the globe</u>. Presentations covered mitigating aflatoxins, taking on the challenges of pesticide residues, and risk management of foodborne pathogens.

Closing out the 2018 congress was the final plenary session presentation, "<u>Global Food and Nutrition</u> <u>Security—From Challenges to Solutions</u>" by **Helene Dillard**. This presentation brought all the ICPP2018 programming full circle by highlighting the challenges plant pathologists face in addressing the global problem of feeding a growing world population and outlining goals for the next time ICPP convenes in 2023.

The ISPP closing ceremony wrapped up the meeting with ISPP Fellowships awarded to **Gloria Abad**, **Thomas Evans**, **M. Lodovica Gullino**, **Michele Heath**, **You Liang Peng**, **Dov Prusky**, **Mauritz Ramstedt**, **Paul Teng**, **Shinji Tsuyumu**, and **Peter Williamson**. Greg Johnson then observed the formal tradition of handing over the ISPP flag and presidency to **Jan Leach**. All attendees were invited to ICPP2023, to be held in Lyon, France, for which the theme is "One Health for All Plants, Crops, and Trees."



Greg Johnson handing over the ISPP flag and Presidency to Jan Leach.

The general sessions offered during ICPP2018 were a valuable component for all attendees. Social media posting flourished throughout each session, highlighting the important take-aways that were gained. In addition to these sessions and the concurrent session programming, which included panel discussions, PhytoViews, and a Hot Topic session on cocoa, attendees had opportunities to participate in a variety of other exchanges: 13 Idea Cafés, four POD Talks, and 96 One-to-One Conversation with an Expert sessions. A round of applause is deserved by **Scott Adkins**, chair of the

Scientific Program Committee, and by **Amy Charkowski**, chair of the Program Planning Sub-Committee, and <u>their respective committee members</u>, for planning and executing this impressive programming.

Attendees were also able to sign on to a petition to make 2020 the "International Year of Plant Health," visit a variety of key industry exhibits, and of course, canvass the nearly 1,200 posters on

display, which were presented in two sessions. Students and early career professionals attended socials and a lunch to broaden their networks and establish new relationships. An LGBTQA social was also held for the first time and was well attended with over 90 participants from more than 20 countries. Many fans joined in some fun at the Boston Red Sox game for ICPP Night at Fenway Park. And the closing event at the truly American and iconic House of Blues Boston on Thursday evening was an event to remember. New to this congress, the Family Friendly group had several activities and meet-ups planned for children and their caregivers throughout the meeting. And the Science Ambassadors program offered mentors for those attending for the first time from developing countries. Additionally, a new ISPP tradition was initiated during the congress with the presentation of the inaugural Fran E. Fisher Award to Charlie **Delp** for his outstanding contributions to both the science of plant pathology and society for his dedication to connecting plant pathologists around the globe for improving plant health.





APS was honoured to be the host of ICPP2018 and enjoyed the opportunity to work with ISPP on this important event for the plant pathology community! Special thanks go to the hundreds of volunteers involved in making ICPP2018 a reality. It would not have been possible without all their hard work, countless hours, and dedication provided. The generous support of the <u>ICPP2018 sponsors</u> was also significant in providing funding for more than 100 scientists from countries with developing economies to attend, in supporting scientists for sessions, and in providing overall event support. Congratulations to everyone who was involved and who attended a successful and inspiring ICPP2018!



Make sure to follow the links in this article to find abstracts and audio recordings of the sessions. Visit the <u>ICPP2018 website</u> to view the congress photo video and other images to download, along with session recordings.

(APS Phytopathology News, 2 October 2018)

#### 6<sup>th</sup> International Oomycetes Workshop: Satellite meeting at ICPP2018, Boston

One hundred eight scientists including participants, speakers, moderators and collaborators from 25 countries from all continents of the world including Australia, Argentina, Belgium, Canada, China, Check Republic, Estonia, France, Germany, India, Italy, Japan, Mexico, Netherlands, New Zealand, Nigeria, Philippines, Papua New Guinea, Peru, FSA of Puerto Rico, South Africa, United Kingdom, Uruguay, and the United States of America participated at the truly memorable 6<sup>th</sup> International Workshop on the Oomycetes (Phytophthora, Pythium, Downy Mildews and related genera) "Oomycetes in the era of Plant Health in A Global Economy". This event was offered as a "satellite meeting" of the 11<sup>th</sup> International Congress of Plant Pathology (ICPP) in Boston, Massachusetts, USA on 28 July, 2018. The "satellite meeting" was presented by the ISPP Subject Matter Committee (SMC) of the Oomycetes with Chair and workshop organiser: Gloria Abad [USA - USDA-APHIS-PPQ-Center of Plant Health Science and Technology Beltsville Laboratory (CPHST-BL)]; Co-Chairs: Marco Thines (Germany - Biodiversity and Climate Research Centre and Goethe University - Frankfurt) and David Cooke (UK - The James Hutton Institute, Dundee), and 35 members from 14 countries. Along with Gloria Abad, the workshop content and planning was aided by David Cooke (UK), Frank Martin (USDA-ARS), Guillaume Bilodeau (CFIA- Canada), Subodh Srivastava and Yazmín Rivera (CPHST BL), Ronald French-Monar (USDA-APHIS-PPQ-FO-PGQP), Carla Garzón (Oklahoma State University, USA), and Lina Quesada (North Carolina State University, USA). This important international event had the international patronage from the Italian Phytopathological Society (SIPaV), Latin American Association of Phytopathology (ALF) and Phytopathological Society of Nigeria (PSN), and was sponsored by five American Phytopathological Society (APS) Committees including Diagnostics, Mycology, Plant Pathogen and Disease Detection, Regulatory Plant Pathology and the Office of International Programs and the APS-Caribbean Division.

The schedule of the event started with "Opening Remarks" by **Mary Palm** (APS President), and the Introduction of the event was presented by Gloria Abad. **Greg Johnson** (ISPP President) visited the event during the lunch break. The Program for the workshop featured the contributions of 25 Speakers – world renowned authorities in the area of Oomycetes. Topics were presented in seven sessions including:

Session 1. Taxonomy and Nomenclature: Past, present, and future. Moderator: **Hai Nguyen** (Canada), Speakers: Gloria Abad (USA); Carla Garzón with two co-authors (USA and Taiwan); and Marco Thines (Germany, remote presentation).

Session 2. Identification and diagnostics: From the traditional tools to the Innovative Genomic Sequencing Technologies (IGST) including NGS and TGS. Moderator: Guillaume Bilodeau (Canada). Speakers: **Steven Jeffers** (USA); David Cooke with 7 co-authors (UK); Frank Martin (USA); and **Richard Hamelin** (Canada).

Session 3. Diversity in cultivated and natural environments: The global spread of pathogens. Moderator: Ronald French (USA). Speakers: Diversity in Europe by **Santa Olga Cacciola** with 3 coauthors (Italy, and UK); diversity in Japan **Koji Kageyama**; diversity in Latin America **Pablo Grijalba** with 10 co-authors (Argentina, Brazil, Colombia, Chile, Peru and Uruguay); diversity in North America by Guillaume Bilodeau with 4 co-authors (Canada, Mexico and USA); diversity in Oceania by **Treena Burgess** with 2 co-authors (Australia, remote presentation); and global spread of Downy Mildews by Marco Thines (Germany, remote presentation).

Session 4. Management and control: Advanced IPM-tools, improved biocontrol, enhancing resistance, sustainable production, agricultural systems for the future. Moderator: Yazmín Rivera (USA). Speakers: **David Shew** (USA); **Lina Quesada** with 3 co-authors (USA); **Aleš Lebeda** with 3 co-authors (Czech Republic); and **Mohamed Khan** (USA).

Session 5. Plant pathogenic Oomycetes of concern: Trade regulations, advanced monitoring and certification. Moderator: Yazmin Rivera (USA). Speakers: **Jo Anne Crouch** with 2 co-authors (USA); **Susan J. Frankel** (USA); and **Sarah Green**, **David Cooke** with 11 co-authors (UK).

Session 6. Plant pathogenic Oomycetes: The era of genomics and microbiomics. Moderator: David Cooke (U.K.). Speakers: **Brett Tyler** (USA); and **Richard Michelmore** with 15 co-authors (USA, India and Philippines).

Session 7. New technologies for Oomycete research: looking to the future. Moderator: Frank Martin (USA). Speakers: Yazmín Rivera with 4 co-authors (USA, Taiwan); **Jimmy Botella** with 4 co-authors (Australia); **James Brayer** (USA); Shankar Shakya, **Niklaus Grünwald** with 11 co-authors (USA, Czech Republic, Australia, Italy); and Gloria Abad with 4 co-authors (USA, Australia).

All authorities of the Oomycetes had "outstanding" presentations and some of them presented the work that they build in collaboration with one or many institutions around the world. Among them James Brayer (UK-USA Oxford Nanopore Technologies) presented aspects of a recently introduced portable sequencing device "MinION" for Next-Next Generation Sequencing (N-NGS = Third Generation Sequencing). This was the first time that the MinION (N-NGS) was presented in a forum of Plant Pathology. Another speaker, Jimmy Botella with 4 coauthors (Australia), talked about an innovative method for DNA extraction in 30 seconds in his presentation "Nanotech + Molecular Biology + Electronics: Combining complicated technologies to simplify your life". To close the event Gloria Abad made the official presentation to the international community of the Beta version of the "IDphy: Molecular and Morphological Identification of *Phytophthora* Based on the Types," an "online resource" with Lucid Key, and Tabular Key that she has implemented in collaboration with Treena Burgess (Australia), Amanda Redford, John Bienapfl, Leandra Knight and Michael Coffey (USA). This IDphy online resource has been introduced to facilitate accurate and robust identification of species using Ex-type specimens and is the first online resource of this kind implemented for plant pathogens. Fourteen posters were presented by scientists working in Argentina (Grijalba et al.; Palmucci and Wolcan), Canada (Van der Heyden et al.), Japan (Afandi et al.), Taiwan (Huang J.) and USA (Delulio et al; Ratti and Goss; Estévez de Jensen et al.; LeBlanc et al.; Frankel et al.). Special acknowledgement was presented during the event to Marco Thines who sponsored the remote presentations from Germany and Australia. This workshop has been considered as one of the best according to manifest of the participants.



Photo credit: Dr. Hemilse Palmucci

The Proceedings and more photos from the Workshop are now available on the <u>ISPP SMC of the</u> <u>Oomycetes</u> page.

(Gloria Abad, Chair of ISPP SMC of the Oomycetes and workshop organiser)

### ICPP2023 Lyon, France - Save the date!

The French Phytopathological Society (SFP) renews its warm thanks to the International Society of Plant Pathology (ISPP) for the trust it has been given in the organisation of the 12<sup>th</sup> International Congress of Plant Pathology (ICPP). The SFP will do its utmost to make this event, so important for ISPP and so long awaited by plant pathologists, a complete success. The next ICPP will take place in Lyon, the French capital of gastronomy, during 20 - 25 August, 2023.



The theme of the conference will be "ONE HEALTH for all Plants, Crops and Trees". The One Health concept is a worldwide strategy for expanding interdisciplinary collaborations and communications in all aspects of health care for humans, animals and the environment. ICPP2023 will be an opportunity to promote the integration of Plant Health and Plant Pathology in this definition. It will be like a homecoming since the formalisation of "one health" is often attributed to Claude Bourgelat, the founder of the world's first veterinary school in Lyon in 1761.



Even if we are five years away from the congress, the SFP has already worked on major points to secure this event. The conference management is now supported by the Europa Group, an experienced professional congress organiser. A provisional budget has been built in order to provide a substantial amount for scholarships awarded to students and researchers from the developing countries. A space rental agreement has already been signed with the Lyon Convention Center including a 3000-seat amphitheatre for plenary sessions, several rooms for concurrent sessions and meetings, as well as a forum for lunches, coffee breaks, exhibitors and posters. The Convention Center is in a centrally located complex, between the wonderful Tête d'Or Park and the Rhône River. It includes 1000 rooms at walking distance, restaurants and bars and is easily accessible by car, rental bikes, several buses and street-car or tram lines.

Please, feel free to use our announcement page <u>www.icpp2023.org</u> for ICPP promotions.

Dr. Mathias Choquer and Dr. Nathalie Poussereau, ICPP2023 Co-Chairs. Contact : ICPP2023@univ-lyon1.fr

# XXIV National Congress of the Italian Phytopathological Society in Ancona, Italy, September 2018

The <u>XXIV National Congress of the Italian Phytopathological Society</u> (SIPaV - Società Italiana di Patologia Vegetale) was held from the 5<sup>th</sup> to 7<sup>th</sup> September 2018 in Ancona, Italy. The Congress was organised by Gianfranco Romanazzi and the <u>Department of Agricultural, Food and Environmental Sciences</u> (D3A) of <u>Marche Polytechnic University</u>.

A total of 173 participants were present, 65 of which were SIPaV student members. A total of 35 oral presentations were given, including four invited speakers from foreign countries: Xavier Foissac from INRA, Bordeaux; Davide Bulgarelli from University of Dundee, Scotland; Lindsey du Toit from Washington State University, USA; and Gary Munkvold from Iowa State University, USA. 111 posters were also shown, 27 from Young scientists supported by SIPaV, and 3 poster presenters were awarded. Eight sessions were organised on relevant topics of plant pathology: I) Phytoplasma diseases, II) Forest pathology, III) *Xylella fastidiosa*, IV) Mycotoxigenic fungi, V) Host-pathogen interactions, VI) Plant viruses, VII) Disease management, and VIII) Innovative tools in detection and molecular characterisation.





Welcome to the XXIV National Congress of the Italian Phytopathological Society (SIPaV) in Ancona, Italy.

The joint session of SIPaV with APS on "Emerging and re-emerging plant pathogens."



Special moments during the Gala Dinner took place at the Fortino Napoleonico in Portonovo (AN).

During the first day, there was the assignment of the SIPaV "Giovanni Scaramuzzi" 2018 Awards for PhD students, and a special session managed by young researchers called "Factory of Ideas" (Opificio delle Idee). It included 12 oral presentations selected from the <u>Young Researcher Award</u> funded by SIPaV, to promote the participation of young scientists. The second day was opened by a great joint session of SIPaV with the <u>American Phytopathological Society</u> (APS) on "Emerging and re-emerging plant pathogens" which focused on seedborne fungi, viruses and viroids, grapevine phytoplasma and soilborne pathogens. A course on patents and a vineyards visit were associated with the SIPaV Congress. The course on patents with an Academic speaker and an expert working in the field as a

consultant was attended by 21 participants. The visit to experimental trials in vineyards occurred after the Congress and was followed by tasting of organic and vegan wines at Offida (AP) was attended by 22 participants.

The XXIV National Congress of the Italian Phytopathological Society was made possible thanks to contributions from Agrilaete, Agritest, Corteva Agriscience, Vivai Cooperativi Rauscedo, Loewe, Moncaro and Sipcam Italia. The SIPaV President, Maria Lodovica Gullino, announced that the next SIPaV National Congress will be in Milano from 19<sup>th</sup> to 21<sup>th</sup> September 2019 with a list of great topics.



The Italian Phytopathologists.

More memories and pictures on Twitter @SIPaV1992 Facebook @SIPaV92 #SIPAV2018

(Andrea Masino)

# How plant microbes could feed the world and save endangered species

Digging into the plant microbiome could help future farmers and conservationists. Article explaining how scientists are investigating supportive microbe communities to help endangered plants in the wild, such as the endangered *Phyllostegia kaalaensis* in Hawaii, or improve output of crops ranging from wheat to tropical cacao.

Read article.

(Amber Dance, Science News, Vol. 194, No. 5, 15 September 2018, p. 20)

# What climate change means for fungi and food safety

Climate change, and the warmer and more humid conditions it brings, is predicted to accelerate the growth and diversity of fungi in the environment. This will mean much greater threats to health particularly from foods susceptible to carrying mycotoxins, which are toxic substances produced by fungal moulds.

Over the last five decades, it's been shown that cereals, nuts, spices, dried fruits, coffee, cocoa, fruit juices, grapes and red wine may all contain mycotoxins under warm and humid conditions—the kinds of conditions that are typical of Southeast Asia especially.

Because of the severity of the health risks involved, we need to start thinking much more about fungi and the impact of climate change. Many of the mycotoxins that enter human and animal food chains are 'hidden' and aren't killed off by heat or other kinds of food processing. For instance, aflatoxins, especially aflatoxin B1, can damage DNA and cause liver cancer in humans and animals.

#### Read more.

(Angel Medina-Vaya, Eco-Business Opinion, 27 August 2018)

#### Wheat blast: from its origins in South America to its emergence as a global threat

A review by Paulo Cezar Ceresini *et al.* titled "Wheat blast: from its origins in South America to its emergence as a global threat" was published in September 2018 by the *Molecular Plant Pathology* (accepted article, online). The abstract is as follows:-

Wheat blast was first reported in Brazil in 1985. It spread rapidly across the wheat cropping areas of Brazil to become the most important biotic constraint on wheat production in the region. The alarming appearance of wheat blast in Bangladesh in 2016 greatly increased the urgency of understanding this disease, including its causes and consequences. Here we summarize the current state of knowledge of wheat blast and aim to identify the most important gaps in our understanding of the disease. We also propose a research agenda that aims to improve management of wheat blast and limit the threat it poses to global wheat production.

Read paper.

#### Leafroll-associated virus 3 cloned to help stop grape disease

A new discovery by Washington State University scientists could help grape growers roll back a devastating virus that withers vines and shrivels harvests. Named for how it curls the leaves of infected plants, grapevine leafroll disease costs growers millions of dollars in lost vines and productivity. Until now, no one has been able to replicate one of the main culprits behind the disease, a virus called grapevine leafroll-associated virus 3 or leafroll 3 for short.

This discovery opens the door for experiments and treatments to protect valuable Washington vineyards. WSU research associate Sridhar Jarugula and professor Naidu Rayapati detailed the innovation in the latest issue of <u>Virology</u>. In a three-year project partly funded by the Washington

State Wine Commission, they worked with colleagues at the University of Florida's Citrus Research and Education Center.

(Science Daily, 30 August 2018)

#### How do you disarm Phytophthora?

Plant breeders regularly claim to have developed a new potato variety that is resistant to the harmful micro-organism *Phytophthora infestans*. By cross-breeding they have introduced a resistance gene that they think will keep the little fungus-like pathogen out. But Francine Govers, Professor in Phytopathology and a leading expert on *Phytophthora*, never makes these kinds of claims. She knows that the stubborn pathogen cannot be stopped with a single resistance gene and will get around this new defence barrier sooner or later. So, Wageningen University and Research (WUR) in the Netherlands is looking for heavier weaponry with which to protect potatoes from Phytophthora infection. Firstly, Govers and colleagues at the Laboratory for Plant Breeding are looking into how they can bolster the potato's defences using new techniques. Secondly, they are looking at how they can deactivate *Phytophthora*'s weapons, the so-called effectors. <u>Read more</u>.

(Albert Sikkema, Wageningen University and Research, Resource, 21 September 2018)

#### **Current vacancies**

There are two positions listed on the ISPP webpage including Assistant Professor Plant Virology at Clemson University and Assistant Professor of Plant Pathology at the University of California, Davis. For more details on these positions visit the <u>current vacancies</u> page.

#### Acknowledgements

Thanks to Gloria Abad, Michelle Bjerkness, Mathias Choquer, Grahame Jackson, Greg Johnson, Andrea Masino, Nathalie Poussereau, and Peter Williamson for contributions.

# **Coming Events**

International Conference on Sentinel Plantings 9 October - 12 October, 2018 Sursee, Switzerland Website: <u>www.ibles.pl/en/web/cost/final-action-meeting</u>

2<sup>nd</sup> International Conference for Food Safety and Security 15 October - 17 October, 2018 Pretoria, South Africa Website: <u>www.fsas2018.co.za</u> Joint meeting of the Plant Pathology Society of Alberta and Saskatchewan regional group of the Canadian Phytopathological Society 15 October - 17 October, 2018 Lloydminster, Alberta, Canada Website: <u>phytopath.ca/meetings/ppsa-cps-sk-2018/</u>

33<sup>rd</sup> Annual Tomato Disease Workshop 24 October - 26 October, 2018 Chincoteague Island, Virginia, USA Website: <u>tinyurl.com/y9lt65zj</u>

8<sup>th</sup> International Agriculture Congress 2018 and 6th International Symposium for Food & Agriculture 2018 (IAC-ISFA 2018) 13 November - 15 November, 2018 Universiti Putra Malaysia Website: <u>conference.upm.edu.my/IAC18</u>

Indian Society of Mycology and Plant Pathology 39<sup>th</sup> Annual Conference and National Symposium on Plant and Soil Health Management: New Challenges and Opportunities 16 November - 18 November, 2018 Kanpur, Uttar Pradesh, India Website: <u>www.ismpp.org.in/article.php?q=ismpp-39th-annual-conference-and-national-</u> <u>symposium-on-</u>

International Phytobiomes Conference 4 December - 6 December, 2018 Montpellier, France Website: <u>www.phytobiomesconference.org</u>

51<sup>st</sup> Congress of the Southern African Society for Plant Pathology 20 January - 24 January, 2019 Langebaan, South Africa Website: <u>www.saspp.co.za/2019-saspp-conference.html</u>

1<sup>st</sup> International Molecular Plant Protection Congress 10 April - 13 April, 2019 Adana, Turkey Website: www.imppc2019.org

Joint Meeting of the IUFRO working parties "Shoot, foliage and stem diseases" and "Wilt diseases" (7.02.02 and 7.02.03) 6 May - 10 May, 2019 Figline Valdarno, Florence, Italy Website: www.iufro.org/download/file/29599/2749/florence19-1st-announcement doc/

14<sup>th</sup> International Plant Virus Epidemiology Symposium 14 May - 17 May, 2019 Seoul, Korea Website: www.ipve2019.com International Symposium on Cereal Leaf Blights 2019 22 May - 24 May, 2019 University College Dublin, Dublin, Ireland Website: <u>www.isclb2019.com</u>

Rhizosphere 5 7 July - 11 July, 2019 Saskatoon, Saskatchewan, Canada Website: <u>www.rhizo5.org</u>

4<sup>th</sup> International Symposium on Biological Control of Bacterial Plant Diseases (BIOCONTROL2019) 9 July - 11 July, 2019 Viterbo, Italy Website: <u>www.biocontrol2019.com</u>

XVIII International Society for Molecular Plant-Microbe Interactions Congress 14 July - 18 July, 2019 Glasgow, Scotland Website: www.ismpmi.org/Congress/2019

1<sup>st</sup> International Wheat Congress 21 July - 26 July, 2019 Saskatoon, Saskatchewan, Canada Website: <u>2019iwc.ca</u>

American Phytopathological Society Annual Meeting 3 August - 7 August, 2019 Cleveland, Ohio, USA Website: www.apsnet.org/meetings/2019/Pages/default.aspx

Working Party Meeting of IUFRO WP 7.03.10 Methodology of forest insect and disease survey in Central Europe - "Recent Changes in Forest Insects and Pathogens Significance" 16 September - 20 September, 2019 Suceava, Romania Website: <u>www.silvic.usv.ro/iufroromania2019/</u>

22<sup>nd</sup> Biennial Conference of the Australasian Plant Pathology Society 25 November - 28 November, 2019 Melbourne, Australia Website: <u>www.apps2019.org</u>

16<sup>th</sup> Congress of the Mediterranean Phytopathological Union 23 March - 27 March, 2020 Limassol, Cyprus Website: <u>cyprusconferences.org/mpu2020</u>

14<sup>th</sup> International Conference on Plant Pathogenic Bacteria 7 June - 12 June, 2020 Assisi, Italy Website: not yet available Asian Conference on Plant Pathology: Importance and Imp[act of Global Plant Health 15 September - 18 September, 2020 Tsukuba International Congress Center, Ibaraki, Japan Website: not yet available

12<sup>th</sup> International Congress of Plant Pathology (ICPP2023) 20 August - 25 August, 2023 Lyon, France Website: <u>www.icpp2023.org</u>