



ISPP

International Society for Plant Pathology

(Dr Greg Johnson, President 2013-2018)

Insert
SMC logo
here (if
you have
one

July 2018 Committee Report to the ISPP Executive and Council ISPP Committee on Postharvest Pathology (2013-2018)

Return the completed report by email to Peter Williamson, Business Manager, ISPP (business.manager@isppweb.org) by 15 June, 2018

Subject Matter Committee: Postharvest Pathology

Established: Established before 1998.

Web address for SMC. No web site dedicated to the Postharvest committee.

Name (s) of personnel preparing report.

Samir Droby (chairperson) and Davide Spadaro (secretary)

Nominated Officers

Current membership

About the SMC

To facilitate gathering international scientists, private companies and farmers working directly on subjects related to postharvest diseases, to provide guidelines on utilization of new approaches for disease management, and to exchange ideas about the current status of the research and development activities in this field. The goal is also to promote integrated control as an effective and commercially-viable approach to postharvest disease management on a global basis. The active members of the Postharvest pathology working group consists of more than 100 scientists, students and company people from different countries worldwide.

Committee Meetings:

The current committee met during the ICPP2013, Postharvest pathology Symposium, Bari, Italy, 2015 and Postharvest Symposium, Skukuza, South Africa, 2017. The

meetings focused on the focus subjects as well as raising different issues related to promoting the postharvest science and application of innovative technologies for the control of postharvest diseases.

Committee Activities:

Organization of sessions during the International Plant pathology congresses and the biannual symposia on Postharvest pathology.

Subject Matter Committee focus issues:

- (i) Fruit- pathogen interactions in postharvest diseases,
- (ii) Etiology, epidemiology and detection of postharvest diseases
- (iii) Disease control including chemical, physical and biological methods.
- (iv) Microbiome in harvested fruit and vegetables health and diseases.
- (v) Safety of harvested commodities along the supply chain.

Publications

Acta Horticulturae series:

- International Symposium on Biological Control of Postharvest Diseases: Challenges and Opportunities (905)
- II International Symposium on Discovery and Development of Innovative Strategies for Postharvest Disease Management (1056)
- III International Symposium on Postharvest Pathology: Using Science to Increase Food Availability (1144).
- IV International Symposium on Postharvest Pathology. Preparation of proceedings in progress

Additional Comments

Full details about activities are included in the appendix below.

Submitted by: Samir Droby (Chairperson)

Date 21, May, 2018

APPENDIX

Postharvest Committee Members

Prof. Samir Droby, Chairman 2014-present

Prof. Lise Korsten and Dr. Kerry Everett, Deputy Chairs 2014-present

Prof. Davide Spadaro, Secretary 2014-present

Committee Meetings:

Following discussion held back in the ICPP2008 about the need to have meetings of the international postharvest pathology community on regular basis in between the ICPP meetings, the first international conference on postharvest pathology was held in Lleida Spain in April 2011.

Upon the election of the new SMC postharvest pathology committee in 2013 (during the ICPP2013, Beijing, August 2013), Prof. S. Droby, the chair of the committee initiated discussions with the ISHS working group on biological control of postharvest diseases and suggested and suggested to join forces to organize international symposium addressing postharvest pathology on a biannual bases. Following these contacts, both ISPP SMC postharvest pathology and ISHS working group on biocontrol organized two international symposia postharvest pathology in 2015, Bari, Italy and 2017, Skukuza, South Africa. The next ISPP SMC postharvest pathology will be held in Liege, Belgium during 2019 (Convener: Prof. Haissam Jijakli)

1. III International Symposium on Postharvest Pathology, Bari, Italy.

The “III International Symposium on Postharvest Pathology” under the theme "using science to increase food availability" was held on 7-11 June, 2015, in Bari, Italy. The Symposium was organized by Prof. Antonio Ippolito, the Department of Soil, Plant, and Food Science, University of Bari “Aldo Moro”, southern Italy, under the auspices of two international scientific societies: the International Society of Plant Pathology (ISPP) and International Society for Horticultural Science (ISHS) and also under the patronage of the Italian Phytopathological Society (SIPaV), Italian Society of Plant Protection, the Apulia Region, and the universal exposition “Expo Milano 2015”, along with the support of several national and international industrial sponsors.

Two hundreds participants from 44 Countries of the five Continents came to share their expertise and know-how (group photo). The Symposium started with an informal welcome by Antonio Ippolito, the convener, Samir Droby, the chair of the ISPP SMC postharvest pathology committee, Michael Wisniewski, the past

co-chair of the ISHS working group on biological control, Pervin Kinay as past convener of ISHS Symposium held in Kuşadası, Turkey, and Josep Usall as past-convener of ISPP meeting held in Lleida, Spain. They made a summary on the activities of both, ISPP and ISHS postharvest working groups. The scientific program comprised 17 invited lectures, 41 oral presentations and 121 posters. Sponsors displayed their products and services in 8 stands gaining particular interests among delegates.

In the inaugural lectures the importance of innovative techniques of next generation sequencing for obtaining next generation crops well as the impact of social media on research networks. Under the theme "Using science to increase food availability" the Symposium addressed a wide range of topics in 7 sessions, and each session included 1-3 invited lectures. In the session "Studies on Host-Pathogen Interactions" the importance of omics in unrevealing pathogenicity mechanisms and developing resistance markers was discussed; in "Microorganisms as Biocontrol Agents" the ecological fitness and control mechanisms used by antagonistic yeasts as well as their efficacy on different crops were reported ; in "Microbiome and its Relation to Postharvest Pathology" the metabarcoding analysis of plant microbiome and its use for controlling pathogens was addressed; in "Toxic Fungal Metabolites and Postharvest Pathology" the role of mycotoxins and other signal molecules in host-mycotoxigenic pathogen interaction was highlighted; in "Epidemiology and Detection of Postharvest Pathogens" bases for a better knowledge of pathogen behavior to prevent postharvest contamination even by human pathogens were prospected; in "Alternative Means for the Management of Postharvest Pathogens" various alternative treatments were reviewed and new approaches were proposed; finally, in "Integrated Approaches and New Products to Reduce Food Waste" session, the importance of the management of the supply chain to avoid postharvest losses was introduced. Poster sessions were presented each day according to the topics related to the oral sessions and gained particular attention by delegates.

A round table on "Innovations in the Management of Table Grape Diseases" was of interest for local extension services, packinghouse operators, and producers; moreover, the most likely influence of fruit microbiome on different aspects of postharvest pathology was deeply discussed.

At the end of the Symposium a business meeting was held concerning the prospects for continuing the joint activities of the working groups of the two societies, ISPP and ISHS. It was established to meet jointly every two years and it was enthusiastically voted that the 4th International Postharvest Pathology Symposium (IPPS) will be held in South Africa, May 2017. It was further agreed that Prof. Lise Korsten, University of Pretoria, will be the next Convener.

During the gala dinner at the Sala Zonno, overlooking the beautiful Bari bay, the Convener, Antonio Ippolito, expressed his appreciation to all delegates for participating in the Symposium and to all the members of the Scientific and Organizing Committees for their efforts and contributions. During the event four awards for the best posters presented in each session were granted (photo); awarded Authors also received a free annual subscription to the SIPaV, including free access for one year for the “Journal of Plant Pathology”.

At the last day of the symposium, a full day tour was conducted. The delegates visited a large Apulian packinghouse (Giuliano s.r.l.) processing sweet cherries and other fruit and vegetables for local and international markets and tested locally-produced organic food in a farmhouse. On the way back to Bari, the delegates had the opportunity to visit Alberobello, a monumental Trulli village of the 1400's, UNESCO World Heritage Site, and Polignano a Mare, a fascinating medieval village perched on a high and jagged coastline, in which the Italian singer-songwriter Domenico Modugno, author of "Volare", was born.

The oral and poster papers presented during the symposium was published as special issue of *Acta Horticulturae*. In addition, one of the editors of the international journal "Postharvest Biology and Technology" participated in the symposium in Bari and suggested to dedicate special issue of the journal to subjects related to alternatives control methods of postharvest diseases. The chair of the ISPP SMC postharvest committee, Prof. Samir Droby participated as guest editor of this special issue published in 2016.



Participants of the III International Symposium on Postharvest Pathology, June 2015, Bari, Italy



ISPP SMC postharvest pathology members during the Bari symposium from L to R: Kerry Everett, Davide Spadaro, Antonio Ippolito (convener), Samir Droby, Lise Korsten.

2. The IV International Postharvest Pathology Symposium, Skukuza, South Africa

The IV International Postharvest Pathology Symposium, organized by Prof. Lise Korsten, University of Pretoria, was held in Skukuza, Kruger Park, South Africa, from 28 May- 3 June 2017. The symposium was devoted to exploring next generation innovation and commercial solutions for postharvest pathology to reduce losses, enhance quality, and ensure product safety. The symposium attended by 120 delegates from 23 Countries including many students, new young scientists, industry representatives, producers, exporters as well as known established researchers in the field of postharvest pathology. This symposium held every two years and serve as excellent opportunity to exchange ideas, share experiences and for new collaborations to invigorate research and development activity in the area of postharvest pathology. The symposium is jointly organized by ISPP Postharvest subject matter committee and the ISHS working group on biological control of postharvest diseases.

In the opening ceremony address, Prof. Lise Korsten, the convener of the symposium, Prof. Chris Watkins, the chair of the ISHS commission Quality and Postharvest Horticulture and Prof. Samir Droby, the chair of the Postharvest Pathology subject matter committee of the ISPP, welcomed the participants and emphasized the importance of the symposium in light of the challenges in reducing food losses and the mounting demands for safe produce throughout the supply chain.

The scientific program included 80 oral presentations among which 14 were invited speakers. Sessions were dedicated to new advances in various technologies that are changing the way we look at pathogens and the disease process involved in host-parasite interactions as well as management strategies. Technical sessions included: elucidation of host-pathogen interactions and epidemiology, molecular studies of postharvest pathogens, alternative postharvest disease control strategies, innovation in postharvest disease control, next generation technologies for real-time solutions, disease control in the postharvest environment, the microbiome in food health and disease and postharvest food safety. There was two round table discussions about the microbiome in the postharvest context (led by Prof. Samir Droby), novel technologies, and emerging trend in postharvest disease control (led by Dr. Michael Wisniewski).

The social program included several game drives through Kruger Park, African meal in the bush and authentic symposium gala dinner in Skukuza. There was also enjoyable full day tour to Avocado and citrus pack-houses and visit to Citrus research International (CRI) facility in Nelspruit.

During the business meeting held at the end of the symposium, there was full agreement to continue the format of biannual meeting on the subject of postharvest

pathology in order to foster exchange of knowledge and collaboration between members of the international postharvest pathology community. The next meeting will be held in Belgium in 2019.



Participants of the IV International Symposium on Postharvest Pathology, Skukuza, South Africa

3. ICPP 2018, Boston, US

SMC postharvest pathology chair, Prof. Samir Droby worked together with the ICPP2018 organizing committee to include two concurrent sessions as well as evening session on postharvest pathology. The evening session will be jointly organized by the ISPP SMC postharvest pathology committee and the APS postharvest pathology committee.

The following are the approved concurrent sessions with prospective invited speakers and topics:

“Pathogenicity and Resistance in Post-harvest Diseases- Part I”.

- **Role of effector proteins in pathogenicity of postharvest pathogens** presented by Samir Droby, Agricultural Research Organization, The Volcani Center, Rishon Lezion, Israel

- **Cross-kingdom small RNA trafficking and environmental RNAi for plant protection against Fungal pathogens** presented by Hailing Jin, Department of Plant Pathology and Microbiology, University of California, Riverside, CA, USA
- **Insights into fruit defense mechanisms against the main post-harvest pathogens of apples and oranges** presented by Rosario Torres, IRTA, XaRTA-Postharvest, Edifici Fruitcentre, E-25003 Lleida, Spain
- **Regulating mechanisms of ROS in fruit resistance and fungal pathogenicity** presented by Shiping Tian, Key Laboratory of Plant Resources, Institute of Botany, Chinese Academy of Sciences, Beijing, China

“Novel and Integrated Approaches to Control Post-harvest Diseases - Part II”

- **Electrolized water for the control of postharvest decay of fruits and vegetables** presented by Antonio Ippolito, Department of Soil, Plant, and Food Sciences, University of Bari Aldo Moro, Bari, Italy
- **Integration of postharvest fungicides and fruit sanitation treatments to optimize decay control and address food safety concerns** presented by Jim E. Adaskaveg, Department of Plant Pathology and Microbiology, University of California, Riverside, CA, USA.
- **Spacial and compositional diversity in the microbiota of harvested fruits: what can it tell us about biological control of postharvest diseases** presented by Michael Wisniewski, Appalachian Fruit Research Station, USDA-ARS, Kearneysville, WV
- **Innovative management strategies for *Aspergillus* spp. and *Penicillium* spp. on nuts** presented by Davide Spadaro, DISAFA and AGROINNOVA, University of Torino, Torino, ITALY

Evening session: The session will be organized jointly with APS postharvest pathology committee and include speakers about food safety issues followed by round table discussion. Time allocated for the session: 90 min.

"Current issues in food safety and post-harvest pathology – 9", Co-Chairs: Dr. J. E. Adaskaveg and Dr. Davide Spadaro

1. Lise Korsten – “Food safety issues in postharvest pathology”. – Invited and Acceptance Confirmed.
2. Eric Brown - "Preventive rather than reactive approaches to food safety" - Invited and Acceptance Confirmed

3. Maria Brandl - "Interactions of human pathogens with plants in the postharvest environment" - Invited and Acceptance Confirmed
4. Trevor Suslow - "Collateral benefits of preventive controls for FSMA implementation in postharvest decay management." - Invited and Acceptance Confirmed
5. Rolf Geisen – "The production of mycotoxins as an adaptation to the post-harvest environment" – Invited and Acceptance Confirmed