

IV International Symposium on Postharvest Pathology

28 May – 3 June 2017

Skukuza, Kruger National Park, South Africa



www.postharvest2017.co.za

4th INTERNATIONAL SYMPOSIUM ON POSTHARVEST PATHOLOGY

DAY 1: SUNDAY, 28TH MAY 2017

16:00 - 18:00

REGISTRATION, SUNSET COCKTAILS, GREETINGS AND NETWORKING
RESTAURANT DINNER

Department of Science and Technology (DST) / National
Research Foundation (NRF) Centre of Excellence Food Security

Prof. Frans Swanepoel
Future Africa and Food Security

DAY 2: MONDAY, 29TH MAY 2017

07:30

Registration: Loading Presentations and Poster Mounting for Session 1 and 2

08:00

Welcome & Introduction
to the Symposium

Prof. Lise Korsten

Convenor of the Symposium

Co-Director DST/NRF Centre of Excellence Food Security, University of Pretoria, South Africa

08:10

A message from the ISHS

Prof. Chris Watkins

Chair of the International Society for Horticultural Science (ISHS) Commission Quality and Postharvest Horticulture.

08:20

A Message from the
Chair of the ISPP
Postharvest Pathology
Committee

Prof. Samir Droby

Chair of the International Society for Plant Pathology (ISPP) , Postharvest Pathology
Committee:
Objectives of the Committee and targets for the ICPP in Boston 2018

THEME 1: ELUCIDATION OF HOST-PATHOGEN INTERACTIONS AND EPIDEMIOLOGY

SESSION CHAIR:		Prof. Antonio Ippolito	Previous Convener of the 3rd International Postharvest Pathology Symposium, Bari, Italy Session Chair
08:30	Invited Session Speaker 22	Prof. Dov Prusky	Carbon regulation of environmental pH by secreted small molecule effectors modulates pathogenicity of fungi in ripening fruits
09:00	Invited Oral Presentation 110	Dr Rosario Torres	Exploring new pathways in the host response of apples and citrus fruit against <i>Penicillium</i> spp.
09:20	54	Dr Yang Bi	Biochemical and mitochondria proteomic evidences on sodium silicate regulates energy metabolism and ROS production during induced resistance of muskmelon
09:35	19	Dr Noam Alkan	Increased anthocyanin in mango fruit peel are associated with cold and pathogen resistance
09:50	Poster session 1	Two Selected Posters	Four min Flash Presentations: Epidemiology
	57	Mr Pieter Louw	Host-pathogen interaction of <i>Penicillium</i> spp. on stone fruit
	53	Ms Elritha Venter	A post-harvest disease survey on <i>Punica granatum</i> fruit in South Africa
10:00	Session Discussion	Prof. Antonio Ippolito	Concluding remarks
10:20	REFRESHMENTS	NETWORKING	
11:00	Invited Session Speaker 100	Prof. Samir Droby	Perspectives and challenges of microbial application for postharvest disease management
11:30	Invited Oral Presentation 52	Prof. Gianfranco Romanazzi	Induced resistance as a sustainable tool to control postharvest diseases of fruit and vegetables
11:50	63	Dr Kerry Everett	Infection timing for <i>Colletotrichum acutatum</i> and <i>Phomopsis</i> species causing postharvest rots of avocado in New Zealand
12:05	93	Dr Ida Wilson	The prevalence of <i>Botrytis cinerea</i> in plum and weed tissue: An investigation to elucidate pathogen ecology, for new decay control strategies
12:20	Session Discussion	Prof. Antonio Ippolito	Concluding remarks
12:30	LUNCH	NETWORKING	
13:20	Poster Session 1		Host Pathogen Interactions
THEME 2: MOLECULAR STUDIES OF POSTHARVEST PATHOGENS			
SESSION CHAIR 13:55		Prof. Gabriele Berg	Institute of Environmental Biotechnology, Graz University of Technology, Graz, Austria
14:00	Invited Oral	Prof. Josep Usall	Development and application of a combined methodology based on propidium monoazide

	Presentation 62		with real-time PCR to quantify viable conidia of <i>Monilinia fructicola</i> in stone fruit
14:20	99	Dr Michael Wisniewski	Identification of quantitative trait loci controlling resistance to <i>Penicillium expansum</i> in <i>Malus sieversii</i>
14:35	98	Prof. Samir Droby	Discovery and characterisation of NLP effector family genes in <i>Penicillium expansum</i> and <i>Penicillium digitatum</i>
14:50	76	Dr Luis González-Candelas	Obtention and characterization of a <i>Penicillium digitatum</i> non-ethylene producer knockout mutant
15:05	Poster Session 2	Two Selected Posters	Four min Flash Presentations: Molecular studies in postharvest pathology
	95	Ms Patricia Carmichael	Detection and quantification of <i>Botrytis cinerea</i> on table grapes at preharvest using ddPCR
	40	Mr Charles Stevens	Baseline sensitivity and molecular identification of <i>Galactomyces citri-aurantii</i>
15:15	Discussions	Prof. Gabriele Berg	Concluding remarks
15:25 15:35	Prof. Antonio Ippolito Prof. Gabriele Berg	Summarising the highlights of the Day Key Take Home Message	
15:40	Remove all posters from Session 1		
16:15	Last vehicle departs @16:30!! GAME DRIVE & African Meal in the BUSH!!		

DAY 3: TUESDAY, 30TH MAY 2017

7h30 Loading Presentations and Poster Mounting for Session 3

THEME 3: ALTERNATIVE POSTHARVEST DISEASE CONTROL TECHNOLOGIES

SESSION CHAIR 07:55		Prof. Gianfranco Romanazzi	Marche Polytechnic University, Italy
08:00	Symposium Matters of the day Organisers	Prof. Cheryl Lennox	Stellenbosch University, South Africa
08:10	Invited Session Speaker 112	Prof. Dharini Sivakumar	Use of elicitors as a postharvest tool to reduce decay during marketing
08:40	101	Prof. Gabriele Berg	The role of microbial volatiles in plant protection
09:10	89	Prof. Davide Spadaro	Essential oils to control postharvest diseases of apples and peaches: elucidation of the mechanism of action

09:25	32	Dr Nikolaos Tzortzakis	Postharvest grey mould development suppressed by <i>Origanum dictamnus</i> oil vapours in tomato, pepper and eggplant fruit
09:40	38	Dr Malick Bill	The effect of thyme oil vapours exposure on defence mechanisms for the control of anthracnose in avocados (<i>Persea americana</i> Mill.)
09:55	Session Discussion	Prof. Gianfranco Romanazzi	Concluding remarks
10:20	REFRESHMENTS	NETWORKING	
10:50	108	Prof. Haissam M. Jijakli	Potential uses of lactoperoxidase against post-harvest diseases on fruits
11:05	50	Dr Lluís Palou	Curative activity against citrus postharvest green mold of composite hydroxypropyl methylcellulose-beeswax edible coatings with zeolites containing Ag-nanoparticles
11:20	37	Ms Chinelo Obianom	Effect of Chitosan-based natural product (chitoplant) on the major postharvest diseases and the defence related enzymes in avocado
11:35	15	Dr Kirsty Bayliss	Plasma activated water; an indirect method of cold plasma application for the control of <i>Colletotrichum</i> species associated with anthracnose of avocado
11:50	36	Prof. Kim Clarke	<i>Bacillus</i> lipopeptides for a novel postharvest disease control technology
12:05	82	Dr Justyna Wieczynska	Development of active packaging solutions with natural antimicrobial compounds for organic leafy greens
12:20	Session Discussion	Prof. Gianfranco Romanazzi	Discussion and concluding remarks
12:40	LUNCH	NETWORKING	
13:20	Poster Session 2		Alternative disease control strategies
THEME 4: INNOVATION IN POSTHARVEST DISEASE CONTROL			
SESSION CHAIR 14:15		Dr Mduduzi Ngcobo	Research Team Manager at the Agricultural Research Council, South Africa
14:20	Invited Oral Presentation 64	Prof. Jose Luis Henriquez	Effect of a postharvest treatment with natural fungicides on the epiphytic populations of <i>Geotrichum candidum</i> on nectarines
14:40	113	Prof. Leonardo Schena	Efficacy and mechanisms of action of a pomegranate peel extract in controlling postharvest citrus rots
14:55	81	Prof. Antonio Ippolito	Pre- and postharvest alternative approaches to control <i>Alternaria</i> brown spot of citrus
15:10	60	Dr Teresa Lafuente	Abscisic acid in the susceptibility of citrus fruit to <i>Penicillium digitatum</i> infection. Implication in the LED Blue light-induced reduction of postharvest decay
15:25	REFRESHMENTS	NETWORKING	

16:05	71	Dr Neus Teixidó	Novel film forming formulations for <i>Candida sake</i> CPA-1 to improve their biocontrol efficacy on grapes
16:20	104	Dr Arno Erasmus	Imazalil resistance management for sustainable citrus green mould control: limited options and alternatives
16:35	16	Dr Yong-Ki Kim	BioSpectra 100SC: A new biorational fungicide to control postharvest diseases of fruits
16:50	Session Discussion	Dr Mduduzi Ngcobo	Concluding remarks
17:00	Prof. Gianfranco Romanazzi Dr. Mduduzi Ngcobo	Summarising the highlights of the day Key Take Home Message	
17:15	Remove all posters session 2-3	Relax, bird watching or walk around the camp	
19:00	POTJIEKOS DINNER IN THE BOMA		

DAY 4: WEDNESDAY 31 MAY 2017

7h30 Loading Presentations and Poster Mounting for Session 4

THEME 5: NEXT GENERATION TECHNOLOGIES FOR REAL-TIME SOLUTIONS

SESSION CHAIR 07:55		Dr Michael Wisniewski	West Virginia, USDA
08:00	Symposium issues for the day	Prof. Dharini Sivakumar	Tshwane University of Technology, Pretoria, SA
08:10	Invited Session Speaker 21	Dr Zhanquan Zhang	The MADS-Box transcription factor Bcmads1 is involved in sclerotia production and pathogenicity of <i>Botrytis cinerea</i>
08:40	78	Dr Andreas Bühlmann	A metagenomic approach to assess <i>Neofabraea</i> infection and dynamics on stored apples
08:55	Selected Posters Session 2	Two Posters	Four min Flash Presentations: Molecular studies in Postharvest pathology
	79	Dr Andreas Bühlmann	Nanopore sequencing of the genome of a soil isolate of <i>Metschnikowia pulcherrima</i>
	24	Ms Alicia Pretorius	Evaluation of PCR-RFLP to distinguish between FGSC members occurring on South African maize
09:05	Overview 119	Dr Michael Wisniewski	Short overview of emerging trends in postharvest technology

09:20	REFRESHMENTS		NETWORKING
10:00	Invited Oral Presentation 74	Dr Luis González-Candelas	Role of proteases and iron metabolism on the virulence of <i>Penicillium digitatum</i>
10:20	2	Mr Davide Sardella	Optimizing protocols to assess the efficacy of nanoparticles as antifungal agents
10:35	18	Dr Achour Amiri	Prevalence and distribution of <i>Penicillium</i> sp. and <i>Botrytis cinerea</i> in apple packinghouses across Washington State and their sensitivity to the postharvest fungicide-pyrimethanil
10:50	Dr Michael Wisniewski		Open Floor Discussion regarding Novel Technologies
11:15	Poster Session 4		Introducing posters Innovation in postharvest disease control strategies
12:00	LUNCH		NETWORKING
THEME 6: INDUSTRY PERSPECTIVE AND NEEDS			
SESSION CHAIR 12:55		Dr Johan Fourie	Experico, Stellenbosch, South Africa
13:00	Invited Session Speaker 94	Prof. Paul Fourie	Optimisation of postharvest fungicide application in citrus packhouses: Low-tech but high impact
13:30	Invited Oral Presentation 120	Dr Mduduzi Ngcobo	Optimised packaging, cold chain management and containerisation using air modelling Title to confirm
13:50	59	Dr Marcel Wenneker	New and emerging postharvest diseases in pome fruit in the Netherlands
14:05	61	Dr Luiz Argenta	Postharvest losses of apples by fungal decay and physiological disorders in southern Brazil
14:20	80	Mr Bastien Barral	Diagnostic survey on the occurrence of pineapple fruitlet core rot in Réunion Island
14:35	97	Dr Wilma du Plooy	Complex and emerging challenges facing citrus postharvest pathology
14:50	Selected Posters from Session 4	Two Posters	Four min Flash Presentations: Innovation in postharvest disease control
	68	Prof. Yongcai Li	Exogenous polyamines improve disease resistance to black spot in apricot fruit
	105	Dr Julia Meitz-Hopkins	Postharvest fungicide sensitivity of South African <i>Botrytis cinerea</i> isolates causing grey mould on pears
15:00 15:10	Dr Michael Wisniewski Dr Johan Fourie	Summarising highlights of the day Key Take Home Message	
15:15	Remove all posters Session 1 - 4		

16:00	Late afternoon game drive	Own arrangements with UP Bus
18:00	"BRAAI" IN THE BOMA	
DAY 5: THURSDAY, 1ST JUNE 2017		
05:45 Depart 06:00!!	Early departure and Game viewing on way to Malelane Gate	
	FULL DAY FARM AND PACKHOUSE VISITS	
18:00	Back in the Kruger Park via Kruger Gate	
19:00	GALA DINNER	WINE SPONSORED by CITROSOL
DAY 6: FRIDAY, 2ND JUNE 2017		
07:30	Loading Presentations and Poster Mounting: Sessions 3 and 5	
THEME 7: DISEASE CONTROL IN THE POSTHARVEST ENVIRONMENT		
SESSION CHAIR 07:55	Prof. Paul Fourie	Stellenbosch University, South Africa
08:00	Symposium day arrangements	Prof. Lise Korsten
08:10	Invited Session Speaker 114	Dr Joseph Smilanick Effective use of disinfectants in a postharvest environment
08:40	Invited Oral Presentation 83	Prof. Antonio Ippolito Postharvest application of disinfecting agents for controlling fruit and vegetable diseases: a brief review
09:00	111	Dr Mohammad Mahdi Jowkar Effect of nano silver particle, aluminum sulfate and hydroxyquinoline citrate on vase solution microbial contamination and postharvest properties of <i>Alstroemeria</i> cv. 'Vanilla'
09:15	8	Prof. Mehdi Hosseini Farahi Effects of putrescine, acetic acid and hot water treatments on quality and shelf-life of apricot fruit
09:30	31	Mr Juan Cristobal Arroyo Evaluation of the efficacy of the bio-fungicide Timorex Gold in the control of anthracnose (<i>Colletotrichum gloeosporioides</i>) in avocados cv 'Hass', Cabildo, Valparaiso Region, Chile
09:45	39	Mr Lindo Mamba Citrus sour rot management by propiconazole drench application

10:00	Selected Posters Session 3	Two Posters	Four min Flash Presentations: Alternative postharvest disease control technologies
	48	Ms Kathryn Fiedler	Characterization and comparison of fungicide sensitivity of postharvest <i>Geotrichum candidum</i> isolates from the Eastern Shore of Virginia
	103	Ms Catherine Savage	Sanitisation of fungicide drench solution and effects on green mould and sour rot control
10:10	Session Discussion	Prof. Paul Fourie	Concluding Remarks
10:20	Refreshments		Networking
THEME 8: THE MICROBIOME IN FOOD HEALTH AND DISEASE			
SESSION CHAIR		Prof. Samir Droby	Volcani Institute, Israel
11:00	Invited Session Speaker 92	Prof. Gabriele Berg	From seeds to postharvest: The impact of the plant microbiomes on health
11:30	Invited Oral Presentation 102	Dr Michael Wisniewski	Fruits and Shoots! Exploring the microbiome of the apple
11:50	Convenors selected Young Scientist 20	Dr Noam Alkan	Postharvest microbiota dynamics of mango fruit stem-end in response to light, temperature and during storage
12:10	109	Prof Prof. Haissam M. Jijakli	Preliminary study of the interactions between the apple microbiota and <i>Pichia anomala</i> strain K, a biocontrol yeast against wound diseases of postharvest apples
12:25	Discussion	Prof. Samir Droby	Microbiomes in the postharvest context
13:00	Lunch	Poster viewing Session 5	
THEME 9: POSTHARVEST FOOD SAFETY			
SESSION CHAIR		Dr Josep Usall	IRTA, Lleida, Catalonia
14:00	121	Prof. Lise Korsten	Fresh produce safety in the postharvest perspective
14:15	122	Dr Erika du Plessis	Source tracking in the fresh produce supply chain
14:30	Kecha Pucha	Poster Presentations Session 5	Food safety Flash Presentations:
	55	Dr Stacey Duvenage	Assessment of foodborne pathogen presence in the peach supply chain
	85	Mrs Charlene Coetzee	Bacterial dynamics and the prevalence of foodborne pathogens associated with the avocado fruit, <i>Persea americana</i> Mill
	41	Ms Tintswalo Baloyi	Prevalance of foodborne pathogens on fresh produce from informal retailers in Tembisa, South Africa
	34	Dr Antonios Chrysargyris	Assessment of mint and pomegranate extracts/oils as antimicrobial agents to inhibit growth

			of <i>Escherichia coli</i> O157:H7 and <i>Listeria monocytogenes</i> on shredded carrots
14:50	Discussion	Dr Josep Usall	Brief Discussion and Concluding the Food Safety Session
15:05	Prof. Samir Droby	Summarising the highlights of the Symposium	
15:20	Prof. Antonio Ippolito	Key Take Home Message	Remove all Posters
15:25	SYMPOSIUM CLOSING REMARKS	Prof. Lise Korsten	Prize for the ISHS Best Paper Prize for the ISHS Best Poster
15:30	BOARD MEETING		Rest of attendants: Game Drive - Book with UP/ Park
19:00	Dinner in the Restaurant		Final sunset drinks at 18:00

DAY 6: SATURDAY, 3RD JUNE 2017

DEPARTURE / OTHER OPTIONS

Departure Flights to the Cape for Postharvest Symposium tour