



PROGRAMME



VII International Conference
On Managing Quality In Chains (MQVIC)

II International Symposium
On Ornamentals



WELCOME

VII MQUIC Conference & II Ornamentals Symposium

This joint scientific meeting of the International Society for Horticultural Science (ISHS) brings together the 7th *International Conference on Managing Quality in Chains* (MQUIC) and the 2nd *International Symposium on Ornamentals* held in Stellenbosch, South Africa, on 4-7 September 2017.

The goal of the conferences is to promote the exchange of scientific knowledge and networking among researchers, academics and industry practitioners in order to improve competitiveness and enhance overall quality of human wellbeing.

The programme will feature scientific presentations and discussion in plenary, technical and poster sessions, ISHS Business Meetings as well as informal meetings among participants. It will be held at the beautiful Stellenbosch Campus of Stellenbosch University which offers a wide range of academic and research programmes (www.sun.ac.za).

We have also put together an exciting excursion and technical tour on the last day of the Conference to enable participants enjoy the sights and sounds, food and wine, and other attractions offered by the Western Cape, and visit industry operators.

This joint conference is hosted by the Department of Horticultural Sciences and the South African Research Chair in Postharvest Technology (SARChI Postharvest Technology) in the Faculty of AgriSciences.

We acknowledge the South African National Research Foundation (NRF) for the award of a conference grant under the Knowledge, Interchange and Collaboration (KIC) programme.

We would like to thank all participants, authors, reviewers, editors and invited keynote speakers for your contributions towards the success of this scientific meeting. Special appreciation to Mrs Lizanne de Kock and Ms Emily Rigby for assistance in coordination.

On behalf of the Organising Committee, we wish you all a great time in Stellenbosch and a stimulating and productive Conference.

A warm welcome to you all.

Conveners

Prof. Umezuruike Linus Opara and Dr Lynn Hoffman

***International Society for Horticultural
Science (ISHS)***



***VII INTERNATIONAL CONFERENCE
ON MANAGING QUALITY IN CHAINS (MQVIC)***

In collaboration with
***3RD INTERNATIONAL CONFERENCE ON POSTHARVEST
MANAGEMENT***

***II INTERNATIONAL SYMPOSIUM ON
ORNAMENTALS***

In collaboration with
13TH INTERNATIONAL PROTEA RESEARCH SYMPOSIUM



Stellenbosch University, South Africa

PROGRAMME

MONDAY, 4 SEPTEMBER 2017

17:00 Registration & mounting of posters Foyer Conserve

18:00 Welcome function Foyer Conserve

TUESDAY, 5 SEPTEMBER 2017

SESSION 1: Plenary Session

Chairperson: Lynn Hoffman

Jannasch Hall

Time	Title	Presenter
09:00-09:15	Welcome & Introduction	Lynn Hoffman Chair: Department of Horticultural Science, SU
09:15-09:30	Stellenbosch University	Faculty of AgriSciences
09:30-09:40	ISHS Overview	Margrethe Serek Chair: Ornamental Plants (ISHS)
09:40-09:50	ISHS Ornamentals	Margrethe Serek Chair: Ornamental Plants (ISHS)
09:50-10:00	ISHS MQUIC	Umezuruike Linus Opara Chair: Quality in Chains (ISHS)
10:00-10:35	Online detection of internal disorders of horticultural products: the shape of things to come	Bart Nicolai Director of Flanders Centre of Postharvest Technology, Leuven

10:35-11:00 TEA/COFFEE

SESSION 2a: (parallel) – MQUIC Non-destructive Quality Management

Chairperson: Elke Crouch

Jannasch Hall

Time	Title	Presenter
11:00-11:20	Influence of canopy position on the microstructural parameters of 'Forelle' pears and its link to mealiness	Walter Fourie
11:20-11:40	Mealiness in 'Forelle' pears: relationship between TSS and prediction based on FT-NIR spectroscopy	Tavagwisa Muziri
11:40-12:00	Non-destructive estimation of pomegranate juice content of intact fruit using X-ray computed tomography	Ebrahiema Arendse
12:00-12:20	Performance of genetic algorithm optimization on NIRS PLS models to predict apple fruit quality	Frederic Isingizwe
12:20-12:40	Comparison and quality testing of polymer non-woven postharvest preservation sheets using X-ray tomography	Suzane Pols
12:40-13:00	Novel approach for measuring sugar and acidity non-destructively in whole table grape bunches	Andries Daniels

SESSION 2b: (parallel) – IPWG Protea General

Chairperson: Hans Hettasch

Jannasch Hall

Time	Title	Presenter
11:00-11:20	Welcome to IPWG A glimpse into the past	Emily Rigby Maryke Middelman
11:20-11:40	Promotion of flowering in waratahs (<i>Telopea speciosissima</i>)	Robyn McConchie
11:40-12:00	Application of growth regulators to single <i>Leucospermum</i> stems to extend stem length	Eugenie-Lien Louw
12:00-12:20	The efficacy of GABA as a postharvest treatment in <i>Protea</i> , to enhance vase life and maintain quality	Waafeka Vardien
12:20-12:40	The effect of high temperature and water stress on the development of bract browning in <i>Protea</i> cv. Pink Ice	Annaline Smith
12:40-13:00	IPWG / IPA business meeting (ISHS)	Margrethe Serek / Emily Rigby

13:00–14:00

LUNCH

SESSION 3: Plenary Session

Chairperson: Cobus Coetzee

Jannasch Hall

Time	Title	Presenter
14:00-14:35	Long term storage of roses for demand management and to facilitate long distance transport in reefer containers	Ernst Woltering

SESSION 3a: (parallel) – MQUIC Cold Chain and Packaging Management

Chairperson: Pieter Verboven

Jannasch Hall

Time	Title	Presenter
14:40-15:00	Horticultural packaging systems of the future: Improving reefer container usage	Tarl Berry
15:00-15:20	Effects of evaporative cooling and CoolBot air conditioning on changes in the environmental conditions inside the cooling chamber	Getachew Tolesa

SESSION 3b: (parallel) – IPWG Controlled Atmosphere Storage

Chairperson: Ernst Woltering

Jannasch Hall

Time	Title	Presenter
14:40-15:00	Cutting storage and shipment in modified atmosphere packaging	John Dole
15:00-15:20	Determination of lower oxygen limit and carbon dioxide toxicity tolerance of sea freighted <i>Protea</i> cut flowers to optimise ventilation rate during storage	Lynn Hoffman

15:20 – 15:45 TEA/COFFEE

SESSION 4a: (parallel) – MQUIC Postharvest Quality Management

Chairperson: Alemayehu Ambaw Tsigie

Co-chair: Olaoluwa Olarewaju

Jannasch Hall

Time	Title	Presenter
15:45-16:05	Effect of some treatments on colour parameters and antioxidant potentials of <i>Corchorus olitorius</i> broth	Tilahun Seyoum Workneh
16:05-16:25	Carboxyl methylcellulose (CMC) incorporated with moringa leaf and seed extracts as new postharvest organic edible coating for avocado (<i>Persea americana</i> Mill.) fruit	Samson Tesfay
16:25-16:45	Pre-harvest 'Tree Fresh' spray treatment reduces disease incidence and extends the harvesting season of mango 'TJC' grown in Sri Lanka	Ilmi Hewajulige
16:45-17:05	Controlled temperatures and edible coating treatments on fresh strawberry (<i>Fragaria</i> sp, 'Holibrite') in a tropical environment	Mohammed Affan

SESSION 4b: (parallel) – IPWG – Plant Protection

Chairperson: John Dole

Jannasch Hall

Time	Title	Presenter
15:45-16:05	Novel technologies for the postharvest treatment of fynbos flowers to control phytosanitary insect pests	Anton Huysamer
16:05-16:25	'Large scale' survey approach for fungal diseases management in Protea farming	Duccio Migliorini
16:25-16:45	Thai and Malaysian home garden	Sasiya Siriphanich
16:45-17:05	Social and environmental responsibility of the floriculture industry in South Africa	Cobus Coetsee

SESSION 5: Plenary Session

Chairperson: Margrethe Serek

Jannasch Hall

Time	Title	Presenter
17:10-17:50	The Fruit Tide is Turning	Stuart Symington

18:00

GROUP PHOTO

18:00 – 19:00

SESSION 5a & b –

“HAPPY HOUR” & POSTER SESSION (all authors to represent their poster for discussions)

MQUIC: Posters

Poster #		Presenter
1	Effects of pre-treatment and drying on the quality attributes of fruit	Adegoke Adetoro
2	Proximate composition and mineral constituents of dried pomegranate kernel powder	Gilbert Ampem
3	Fourier-transform near infrared spectroscopy assessment of pomegranate aril quality	Ebrahiema Arendse
4	Optimum modified atmosphere for 'Wonderful' pomegranate arils taste attributes	Zinash Belay
5	Package design within a dynamic fresh produce cold chain	Tarl Berry
6	Effect of harvest maturity, storage condition and duration, on internal flesh browning and quality of 'Rosy Glow' apples grown in South Africa	James Doe
7	Finite element analysis (FEA) - an effective and efficient design tool in food packaging industries: a review	Tobi Fadiji
8	Sensory, quality and biochemical attributes of pomegranate juice as affected by method of extraction	Olaniyi Amos Fawole
9	Analysis of cellular microstructural changes, enzyme activity and reaction oxygen species associated with pomegranate fruit bruising	Zaharan Hussein
10	Application of dynamic controlled atmosphere technologies to control physiological disorders and maintain quality of 'Granny Smith' apples.	Tatenda Kawhena
11	Evaluation of micro-perforated LDPE bags for reduction of post-harvest moisture loss and shrivelling in Japanese plums	Imke Kritzinger
12	Effect of liner perforations on the precooling characteristics of pomegranate fruit	Robert Lufu
13	Detection of plant diseases using biosensors: A review	Ndubuisi John Kennedy Madufor
14	The effect of UV-C irradiation on postharvest quality of tomatoes (<i>Solanum lycopersicum</i>)	Asanda Mditshwa
15	Evolution of quality attributes in pomegranate peel and arils during fruit maturation	Faith Mokapane
16	Strategies to preserve the quality and extend shelf life of dried fruits and vegetables: A review	Faith Mokapane
17	Analysis of the thermal and bio-physical properties of pomegranate fruits	Matia Mukama
18	Partial least square models for non-destructive prediction of 'Marsh' grapefruit (<i>Citrus x paradisi</i> MacFad) susceptibility to postharvest rind pitting using Vis/NIR spectroscopy	Khayelihle Ncama
19	Characterization of thirty five apricot cultivars: Aptitude for processing and canning	Feroza October
20	Influence of pollination on seed content and mealiness development in 'Forelle' pear as detected with X-ray micro and nano computed tomography (CT)	Letitia Schoeman
21	Effects of heat treatments on sensory attributes on pomegranate fruit 'Wonderful'	Loriane Yanclo
22	Effects of heat treatments on physiological disorders of pomegranate 'Wonderful'	Loriane Yanclo

Ornamentals: Posters

Poster #		Presenter
23	Some morphological and physiological features of <i>Chrysanthemum</i> under <i>in vitro</i> culture	Valentina Brailko
24	Investigating the potential of sodium nitroprusside, a nitric oxide donor, to extend the vase life of <i>Protea</i> cut flower products	Lynn Hoffman
25	The main directions and results of ornamental peach breeding in the Nikita Botanical Gardens	Larisa Komar-Tyomnaya
26	Genetic transformation of different <i>Chrysanthemum</i> cultivars via somatic embryogenesis	Tatiana Mitiouchkina
27	<i>Phyllocnistis</i> spp. In Proteaceae in Portugal	Mário Oliveira
28	How LED light rooting <i>In vitro</i> affected acclimatization efficiency of <i>Gerbera</i> ?	Bozena Pawlowska
29	<i>Hemerocallis</i> × <i>hybrida</i> hort. gene pool in Nikita Botanical Gardens	Yury Plugatar
30	Floriculture industry benefits from southern African floral biodiversity	Emmy Reinten
31	Effect of nitric oxide on growth, flowering and bulb yield of <i>Eucomis autumnalis</i>	Piotr Salachna
32	Multiplex PCR as useful tool to characterization of interspecific hybrids of <i>Petunia</i> and <i>Calibrachoa</i>	Margrethe Serek
33	The efficacy of alternate sugars, trehalose and lactulose, as a postharvest treatment in <i>Protea</i> cv. 'Sylvia', to alleviate leaf blackening	Waafeka Vardien
34	Evaluation of well-composted pine bark as an alternative to peat moss in a standard rooting medium for <i>Leucospermum</i>	Gerrit Van den Berg
35	Effects of some peat-alternative substrate on the growth and chemical composition of pelargonium	Agnieszka Zawadzinska

WEDNESDAY 6 SEPTEMBER 2017

SESSION 6: Plenary Session

Chairperson: Bart Nicolaï

Jannasch Hall

Time	Title	Presenter
09:00-09:35	Mediating ethylene in non climacteric systems	Leon Terry

SESSION 6a: (parallel) – MQUIC Postharvest Quality Management

Chairperson: Tilahun Seyoum Workneh

Co-chair: Samson Tesfay

Jannasch Hall

Time	Title	Presenter
09:40-10:00	Postharvest treatment options for a phytosanitary pest of citrus fruit: prospects and possibilities	Sean Moore
10:00-10:20	Investigating the effect of canopy position on rind chemical, phytochemical concentrations, and antioxidant capacity of 'Nules Clementine' mandarins during postharvest cold storage	Olaoluwa Olarewaju
10:20-10:40	Effect of production site and postharvest treatments on the incidence of rind pitting and chemical properties of 'Benny' sweet orange	Matholo Joyce Mothapo

SESSION 6b: (parallel) – Ornamentals Tissue Culture

Chairperson: Eugenie-Lien Louw

Jannasch Hall

Time	Title	Presenter
09:40-10:00	An embryo rescue protocol for <i>Plukenetia</i> L	Henrik Lütken
10:00-10:20	Effect of coherent radiation on the morphometric and functional characteristics of plants in valuable cultivars of lavender and lavandin in vitro and in vivo	Irina Mitrofanova
10:20-10:40	Optimized <i>in vitro</i> rooting procedure for <i>Eulophia streptopetala</i> Lindl: An indigenous Southern African plant	Viloshanie Reddy

10:40 – 11:10

TEA / COFFEE

SESSION 7a: (parallel) – MQUIC Non-destructive Measurement Quality Management

Chairperson: Lembe Samukelo Magwaza

Co-chair: Andries Daniels

Jannasch Hall

Time	Title	Presenter
11:10-11:30	Analysis of the 3-D microstructure of pomegranate peel tissue using X-ray micro-CT	Alemayehu Ambaw Tsige
11:30-11:50	Novel non-destructive techniques to characterise fruit internal components and detect presence of defects	Ebrahiema Arendse
11:50-12:10	'Fuji' apple internal browning explored via X-Ray Computed Tomography (CT)	Kenias Chigwaya
12:10-12:30	Optical Coherence Tomography imaging of potato skin and buds to understand variability in response to preharvest and postharvest factors	Sandra Landahl

Time	Title	Presenter
12:30-13:00	ISHS Business Meeting (MQUIC)	ISHS (Umezuruike Linus Opara)

SESSION 7b: (parallel) – Ornamentals Propagation

Chairperson: Robyn McConchie

Jannasch Hall

Time	Title	Presenter
11:10-11:30	Propagation success of cuttings as influenced by stage of propagation, 1-MCP and ethylene exposure and storage: Part 1 <i>Impatiens</i>	John Dole
11:30-11:50	Flower development and factors affecting the flowering time of <i>Tabebuia rosea</i> (Bertol.) DC	Orrawan Pluemjit
11:50-12:10	Extending shelf life of indoor potted plants by evaluating novel water reservoirs	Eugenie-Lien Louw
12:10-12:30	Propagation success of cuttings as influenced by stage of propagation, 1-MCP and ethylene exposure and storage: Part 2 <i>Pelargonium</i>	John Dole

Jannasch Hall

Time	Title	Presenter
12:30 – 13:00	ISHS Business Meeting (Ornamentals)	ISHS (Margrethe Serek)

13:00–14:00 – LUNCH

SESSION: 8 Plenary Session

Chairperson: Lynn Hoffman

Jannasch Hall

Time	Title	Presenter
14:00-14:35	Growth regulation in flowering potted plants <i>Kalanchoë blossfeldiana</i> and <i>Petunia hybrida</i>	Margrethe Serek

SESSION 8a: (parallel) – MQUIC Cold Chain & Packaging Management

Chairperson: Olaniyi Amos Fawole

Jannasch Hall

Time	Title	Presenter
14:40-15:00	Computational fluid dynamics (CFD) based analysis of the aerodynamic and thermodynamic performances of package designs during cooling of stacked pomegranates	Alemayehu Ambaw Tsige
15:00-15:20	Moisture sorption isotherm characteristics of Moringa seed at two different temperatures	Tilahun Seyoum Workneh
15:20-15:40	Computer aided analysis of gas exchange in pear fruit packages during long distance transport	Pieter Verboven
15:40-16:00	Finite element modelling of the structural performance of ventilated paperboard packaging	Tobi Fadiji
16:00-16:20	A virtual cold chain method to evaluate cooling heterogeneity, package designs and cold chain scenarios for fresh fruit	Wentao Wu
16:20-16:40	Factors affecting quality of <i>Lansium domesticum</i> to be exported from Thailand to China	Jingtair Siriphanich

SESSION 8b: (parallel) – Ornamentals Breeding

Chairperson: Henrik Lütken

Jannasch Hall

Time	Title	Presenter
14:40-15:00	<i>Clivia</i> taxonomy revisited, using DNA barcode regions	Johan Spies
15:00-15:20	Rambling roses in landscape of south coast of the Crimea: historical traditions of its use	Vera Zykova
15:20-15:40	Cytogenetic development in the genus <i>Lachenalia</i>	Johan Spies
15:40-16:00	The results of a different methods' use in a selective breeding of perennial flower cultures in the Nikitsky Botanical Gardens	Irina Ulanovskaya
16:00-16:20	Study of genetic diversity and heterosis in new hybrids of German <i>Iris</i>	Mohammad Hosein Azimi
16:20-16:40	Crossing tester and classification based on seed traits in German <i>Iris</i>	Mohammad Firouzi

17:45 GALA DINNER
Meet at Conserve

THURSDAY, 7 SEPTEMBER 2017

SESSION 9: Plenary Session

Chairperson: Ilmi Hewajulige

Jannasch Hall

Time	Title	Presenter
09:00-09:35	Global status of pomegranate research and South Africa's contributions: a bibliometric review 2009-2016	Umezuruike Linus Opara

SESSION 9a: (parallel) – MQUIC Postharvest Quality Management

Chairperson: Shanti Wilson Wijeratnam

Co-chair: Anelle Blanckenberg

Jannasch Hall

Time	Title	Presenter
09:40-10:00	Investigating pre-symptomatic biochemical markers related to 'Marsh' grapefruit (<i>Citrus x paradisi</i> Macfad) susceptibility to chilling injury and rind pitting disorders	Khayelihle Ncama
10:00-10:20	Ripple effect of 1-Methylcyclopropene on 'Hass' avocado colour development at different harvest times	Sakhile Mathe
10:20-10:40	Exposure to low ethylene concentrations in supply chain conditions cause differential quality attributes in 'SunGold™' kiwifruit	Jeritah Tongonya

SESSION 9b: (parallel) - MQUIC Postharvest Quality Management

Chairperson: Asanda Mditshwa

Co-chair: Ebrahiema Arendse

Jannasch Hall

Time	Title	Presenter
09:40-10:00	Effect of repeated low oxygen stress (RLOS) storage on physiological disorders, physico-chemical properties and sensory parameters of 'Packham's Triumph' pears	Tatenda Kawhena
10:00-10:20	Postharvest 'Forelle' (<i>Pyrus communis</i>) mealiness influenced by canopy position, harvest maturity and storage duration	Rudolph Cronje
10:20-10:40	Quality indices and bioactive contents of pomegranate oil	Gilbert Ampem

10:40 – 11:00

TEA / COFFEE

SESSION 10a: (parallel) – Postharvest Quality Management

Chairperson: Tarl Berry

Jannasch Hall

Time	Title	Presenter
11:00-11:20	Models adopted for commercializing new postharvest technology for minimizing post harvest loss of fruits in Sri Lanka	Shanti Wilson Wijeratnam
11:20-11:40	Quantifying postharvest losses of table grapes 'Crimson Seedless' along the supply chain	Anelle Blanckenberg
11:40-12:00	Bruise damage susceptibility of pomegranates (<i>Punica granatum</i> , L) and its impact on fruit physiological response	Zaharan Hussein

SESSION 10b: (parallel) – MQUIC Cold Chain and Packaging Management

Chairperson: Alemayehu Ambaw Tsige

Jannasch Hall

Time	Title	Presenter
11:00-11:20	Pomegranate arils ('Wonderful') tolerance to low O ₂ stress during active modified atmosphere storage: based on real time respiration rate	Zinash Belay
11:20-11:40	Effect of relative humidity on pomegranate quality under simulated ambient storage conditions	Matia Mukama
11:40-12:00	The influence of liner packaging on weight loss and decay of pomegranate fruit	Robert Lufu

SESSION 11: Plenary Session

Jannasch Hall

Time	Title	Presenter
12:00-13:00	Closing ceremony and Student awards	Chair: Umezuruike Linus Opara

13:00 – LUNCH (take-away light lunch)

13:15 – 20:30 - “Explore Cape Town” excursion: (optional additional tour)
Shuttle service by coach to Victoria & Alfred Waterfront
Depart and return to Conserve

FRIDAY, 8 SEPTEMBER 2017

08:15: Meet at Conserve for excursions – transport by coach (optional additional tours)

Option 1: Technical excursion

Option 2: Peninsula Tour