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Proceedings of

3<sup>rd</sup> Global Summit on

# Plant Science

August 07-09, 2017 Rome, Italy



Day 1 August 07, 2017

08:00-08:30 Registrations

Olimpica 1

conference**series.com** 08:30-09:00

## Opening Ceremony

### Keynote Forum

~~08:30-09:10~~ 09:10-09:40 **Introduction**

**Title: Rapid development of a castor cultivar with increased oil content**

09:10-09:40

**Grace Chen**, U.S. Department of Agriculture, USA

**Title: Natural products from Brazilian biodiversity, a source of new templates for medicinal chemistry**

09:40-10:10

**Vanderlan da S. Bolzani**, Sao Paulo State University, Brazil

**Title: Plant phenolics: New remedies for old disease**

10:10-10:40

**Djebbar Atmani**, University of Bejaia, Algeria

Group Photo 10:40-10:50

Network & Refreshment Break 10:50-11:05 @ Foyer

Sessions: Plant Science and Natural Products | Plant Physiology and Biochemistry | Medicinal and Aromatic Plant Sciences | Arabidopsis | Seed Science and Technology | Photosynthesis

Session Chair: Grace Chen, U.S. Department of Agriculture, USA

Session Co-chair: Petronia Carillo, University of Campania, Italy

Session Introduction

**Title: Enhancing NGS performance through improvements in template preparation procedure**

11:05-11:30

**Caroline Janitz**, Western Sydney University, Australia

**Title: Physiological impacts on coffee plants submitted to water deficiency**

11:30-11:55

**Fernando Broetto**, Sao Paulo State University, Brazil

**Title: What is the best possible response of plants to combined stresses? Indeed the simplest one**

11:55-12:20

**Petronia Carillo**, University of Campania, Italy

Workshop on

**Title: Next-Generation sequencing—basics & applications: Tools and technologies**

12:20-13:00

**Caroline Janitz**, Western Sydney University, Australia

Lunch Break: 13:00-14:00 @ Hotel Restaurant

**Title: Polyamines and flavonoids of bee pollen with anti-tyrosinase and antioxidant activity**

14:00-14:25

**Mi Kyeong Lee**, Chungbuk National University, South Korea

**Title: Cytotoxic, antidiabetic and anti-inflammatory activities of selected Algerian medicinal plants: From traditional use to scientific validation**

14:25-14:50

**Djebbar Atmani**, University of Bejaia, Algeria

**Title: Anti-ulcer activities of a local plant from Algeria, *Clematis flammul***

14:50-15:15

**Dina Atmani-Kilani**, University of Bejaia, Algeria

**Title: Breadfruit (*Artocarpus altilis*) gibberellin metabolic genes: Stem elongation and abiotic stress response**

15:15-15:40

**Yuchan Zhou**, University of the Sunshine Coast, Australia

Network & Refreshment Break 15:40-16:00 @ Foyer

- 16:00-16:25 **Title: Arabidopsis root formation is altered by cadmium and arsenic**  
**Laura Fattorini**, Sapienza University of Rome, Italy
- 16:25-16:50 **Title: Genetic engineering of PPV resistance in plum rootstock 'Elita' ((*Prunus pumila* L. x *P. salicina* Lindl.) x (*P. cerasifera* Ehrh.))**  
**Sergey Dolgov**, Nikita Botanical Gardens, Russia
- 16:50-17:15 **Title: Determination of polyphenol composition in Hevea brasiliensis and rubber-processing effluent via spectrophotometry and spectroscopy analysis**  
**Aidilla Mubarak**, Universiti Malaysia Terengganu, Malaysia
- 17:15-17:40 **Title: Differential localization of ethylene receptor OsERS1 and OsETR2 in rice and the expression of OsETR2 during submergence**  
**Wing Kin Yip**, University of Hong Kong, Hong Kong

### Panel Discussion

Day 2 August 08, 2017

### Olimpica 1

### Keynote Forum

- 09:00-09:30 **Title: Inferring salt and water distribution in an irrigated crop field using electromagnetic induction techniques**  
**Leon D van Rensburg**, University of the Free State, South Africa
- 09:30-10:00 **Title: Production of marker-free transgenic tomato and apple plants using inducible site-specific recombinase and a bifunctional selectable gene**  
**Sergey Dolgov**, Nikita Botanical Gardens, Russia

### Workshop on

- 10:00-10:40 **Title: Salt management of irrigated soils**  
**Leon D van Rensburg**, University of the Free State, South Africa

Network & Refreshment Break 10:40-11:00 @ Foyer

Sessions: Plant Pathology and Plant-Micro-Biology | Plant Morphology and Plant Metabolism | Soil Science and Soil-Plant Nutrition | Plant Breeding and Molecular Breeding | Plant Biotechnology and Plant Tissue Culture | Agricultural Science

Session Chair: Vanderlan da S. Bolzani, Sao Paulo State University, Brazil

Session Co-chair: Minkyun Kim, Seoul National University, South Korea

### Session Introduction

- 11:00-11:25 **Title: Effects of acute ozone exposure on the release of stress volatiles, and the expression of a monoterpene synthase gene in *Nicotiana tabacum* leaves through recovery**  
**Arooran Kanagendran**, Estonian University of Life Sciences, Estonia
- 11:25-11:50 **Title: Study of the mechanisms underlying tomato innate immunity mediated by two Bwr12 genes**  
**Chiu-Ping Cheng**, National Taiwan University, Taiwan
- 11:50-12:15 **Title: Indole-3-butyric acid promotes adventitious rooting in Arabidopsis thin cell layers**  
**Federica Della Rovere**, University of Rome, Italy
- 12:15-12:40 **Title: Complementary interaction of two starch biosynthesis genes confers a mild sugary endosperm in rice**  
**Hee-Jong Koh**, Seoul National University, South Korea
- 12:40-13:05 **Title: Regulation of floral terpenoid emission and biosynthesis in sweet basil (*Ocimum basilicum*)**  
**Jiayan Ye**, Estonian University of Life Sciences, Estonia

Lunch Break 13:05-14:05 @ Restaurant

### Poster Presentations 14:05-14:35 @ Foyer

Poster Judge: Vanderlan da S. Bolzani, Sao Paulo State University, Brazil

**Title: Influence of plant height on chrysanthemum transformed with SHI (Short Internodes related genes)**

**EunJung Suh**, National Institute of Agricultural Science, South Korea

- P02** Title: **Genome-wide characterization of the *Brassica rapa* genes encoding serine/arginine-rich proteins: Regulation of alternative splicing events by abiotic stress and hormone treatments**  
Soo In Lee, National Institute of Agricultural Sciences, South Korea
- P03** Title: **Diploid *Perilla* de novo genome sequencing**  
Tae-Ho Kim, National Institute of Agricultural Science, South Korea
- P04** Title: **The polycistronic expression using non-mammalian viral 2A sequences for carotenoid metabolic engineering in rice plants**  
Sun-Hwa Ha, Kyung Hee University, South Korea
- P05** Title: **The effect of exogenous applications of salicylic acid at different growth stages to Iraqi wheat cv. Tamooz 2 on the up-regulation of the drought response regulon**  
Fakhriya M. Kareem, Plymouth University, UK
- P06** Title: **The effect of sowing rate and variety on the yield, protein content and height of faba beans**  
Margit Olle, Estonian Crop Research Institute, Estonia
- P07** Title: **The chemical forms of Fe used as in vivo substrate in uptake process of chloroplast**  
Brigitta Lantos, Eotvos Lorand University, Hungary
- P08** Title: **Genetic and epigenetic variability of wild and cultivated watercress (*Rorippa nasturtium aquaticum*)**  
Marcela Veronica Gutierrez Velazquez, CIIDIR Durango, Mexico
- P09** Title: **Phytochemical variation among populations of *Fouquieria splendens* Engelm (*Fouquieriaceae*)**  
Hugo Manuel Monreal Garcia, CIIDIR Durango, Mexico
- P10** Title: **High-throughput phenotyping of rice using RGB imaging**  
Kyung-Hwan Kim, National Institute of Agricultural Sciences, South Korea
- P11** Title: **Influence of symptoms, growth, mineral uptake and ginsenoside contents of *Ginseng* (*Panax ginseng* C.A.Meyer) to potassium concentrations in hydroponic culture**  
Jin Yu, Department of Herbal Crop Research, NIHHS, South Korea
- P12** Title: **The grain yield and photosynthetic characteristics responses of rice to oxygen status in rhizosphere as affected by soil aerations**  
Qianyu Jin, China National Rice Research Institute, China
- P13** Title: **Transcriptome analysis of dwarf soybean derived from crossing of *G. max* and *G. soja***  
Chanseok Shin, Seoul National University, South Korea
- P14** Title: **A blend of volatile compounds emitted from *Alcaligenes faecalis* modulated hormonal pathways and ion transporters to induce salt tolerance in *Arabidopsis thaliana***  
Yong Hoon Lee, Chonbuk National University, Republic of Korea
- P15** Title: ***P. nodorum* effectors resistance among Polish wheat and triticale germplasm**  
Jakub Walczewski, Plant Breeding and Acclimatization Institute (IHAR), Poland

Sessions: Plant Pathology and Plant-Micro-Biology | Plant Morphology and Plant Metabolism | Soil Science and Soil-Plant Nutrition | Plant Breeding and Molecular Breeding | Plant Biotechnology and Plant Tissue Culture | Agricultural Science

- 14:35-15:00** Title: **The roc10, a rice hd-zip transcription factor gene, modulates lignin biosynthesis for drought tolerance**  
Ju-Kon Kim, Seoul National University, South Korea
- 15:00-15:25** Title: **Analysis of OsmiR399 expression and down-regulation of LTN1 in rice**  
Minkyun Kim, Seoul National University, South Korea
- 15:25-15:50** Title: **Stomata closure and pre-exposure to low-level O<sub>3</sub> protect leaves against high-level O<sub>3</sub>-induced damage in *Phaseolus vulgaris***  
Shuai Li, Estonian University of Life Sciences, Estonia
- 15:50-16:15** Title: **Arsenic and cadmium affect the crosstalk between auxin and jasmonate in *Oryza sativa* L.**  
Marilena Ronzan, Sapienza University of Rome, Italy

- P16** Title: Roles of *Arabidopsis* ALDH10 enzymes in plant development and stress resistance  
Florian Jacques, University of Technology of Compiègne, France
- P17** Title: Novel identification of CBF genes in rye and phylogenetic relationship in the *Triticeae*  
Yong Weon Seo, Korea University, South Korea
- P18** Title: Biochemical characterisation of maize landraces for grain quality improvement  
Danijela Ristic, Maize Research Institute Zemun Polje, Serbia
- P19** Title: Application of molecular markers (SSRs) in foreground selection for maize quality traits  
Marija Kostadinovic, Maize Research Institute Zemun Polje, Serbia
- P20** Title: A new species of the genus *Malenchus* (Nematoda; Tylenchidae) from the rhizosphere of forest trees in northern Iran  
Majid Pedram, Tarbiat Modares University, Iran
- P21** Title: Investigation of certain elicitor's effect on some gene's (TXS, TBT, and DBAT) relative expression level and paclitaxel production in *Taxus baccata* cell suspension culture  
Mokhtar Jalali Javaran, Tarbiat Modares University, Iran
- P22** Title: Identification of gene sequences involved in chicoric acid biosynthesis pathway in *Echinacea purpurea* through RNA-SEQ transcriptome analysis  
Mohammad Sadegh Sabet, Tarbiat Modares University, Iran
- P23** Title: Survey of five *Artemisia* species with different artemisinin contents in view of relative expression of 13 genes involved in artemisinin production, karyology, and nuclear DNA content  
Ghasem Karimzadeh, Tarbiat Modares University, Iran
- P24** Title: Novel medium for enhancing callus growth in hazel (*Corylus avellana* L.)  
Ahmad Moieni, Tarbiat Modares University, Iran
- P25** Title: Genome-wide screening and functional characterization of long intergenic noncoding rnas in *Arabidopsis*  
Choonkyun Jung, Seoul National University, South Korea
- P26** Title: Oxalates assessment in the roots and shoots of taro (*Colocasia esculenta* (L.) Schott) submitted to drought conditions  
Carla S.S Gouveia, University of Madeira, Portugal
- P27** Title: Characterization of *Avena* germplasm collection in National Centre for Plant Genetic Resources, Radzikow, Poland  
Jerzy Czembor, Institute of Plant breeding and acclimatization - National Research Institute, Poland
- P28** Title: Morphological and molecular study of *Cryptaphelenchus* sp. (Nematoda, Ektaphelenchinae) associated with dead and dying pine trees in Iran  
Majid Pedram, Tarbiat Modares University, Iran
- P29** Title: Increased resistance to virus infection through overexpression of some important host genes involved in plant defense in potato (*Solanum tuberosum* L.)  
Mohammad Sadegh Sabet, Tarbiat Modares University, Iran
- P30** Title: UV illumination on *Crithmum maritimum* in vitro cell culture: A biomimetic approach  
Julien Fouilland, France

Day 3 August 09, 2017

Sessions: Forest Science and Technology | Plant Genetics and epigenetics | Plant Genome Sciences  
| Plant Synthetic Biology

Session Chair: Dina Atmani-Kilani, University of Bejaia, Algeria

Session Introduction

- 09:00-09:25 **Title: Glandular trichomes as a barrier against atmospheric oxidative stress**  
**Shuai Li**, Estonian University of Life Sciences, Estonia
- 09:25-09:50 **Title: Nitrogen transformation characters in soil, use efficiency and rice grain yield as affected by soil aeration**  
**Lianfeng Zhu**, China National Rice Research Institute, China
- 09:50-10:15 **Title: To flower or not to flower? The crucial decision of *Lilium longiflorum* bulbs**  
**Silit Lazare**, Ben Gurion University, Israel
- 10:15-10:40 **Title: Barley stem reserves and yield maintenance under terminal drought: Molecular dissection of fructan biosynthesis and remobilization**  
**Zahra Sadat Shobbar**, Agriculture Biotechnology Research Institute of Iran, Iran

Network & Refreshment Break 10:40-10:55 @ Foyer

- 10:55-11:20 **Title: Germplasm identification and salinity- tolerant gene isolation on *G. hirsutum* L.**  
**Wuwei Ye**, Chinese Academy of Agricultural Sciences, China
- 11:20-11:45 **Title: Performance of rice varieties under rainfed condition in wet and dry tropics of Queensland, Australia**  
**Sachesh Silwal**, CQUniversity, Australia
- 11:45-12:10 **Title: Phytochemical screening and *in vitro* free radical scavenging activity of different solvent extracts from *Convolvulus virgatus* Boiss**  
**Taoufik Saleh Ksiksi**, UAE University, UAE
- 12:10-12:35 **Title: Construct a high-density genetic map in upland cotton and its application to genetic regulation analysis for yield and fiber quality traits**  
**Yulu Yuan**, Chinese Academy of Agricultural Sciences, China
- 12:35-13:00 **Title: NPR1 mediated the cross talk between salicylate- and jasmonate- mediated pathways in *Carica papaya* in response to *Phytophthora palmivora***  
**Rui Zong Jia**, China Academy of Tropical Agricultural Sciences, China

Lunch Break 13:00-14:00 @ Restaurant

- 14:00-14:25 **Title: Functional analysis of ALSAP domains "a20/an1" in abiotic stress tolerance mechanism**  
**Omar Moustafa Azab**, King Saud University, Saudi Arabia
- 14:25-14:50 **Title: Phylogenetic study of indigenous pulses based on morphological and inter simple sequence repeat (ISSR) marker**  
**Filemon Yusuf**, Bogor Agricultural University, Indonesia

Network & Refreshment Break 14:50-15:00 @ Foyer

Awards Ceremony

## Bookmark your dates

5<sup>th</sup> Global Summit on

# Plant Science

October 29-30, 2018 Madrid, Spain

E-mail: [plantscience@conferenceseries.net](mailto:plantscience@conferenceseries.net); [plantscience@plantscienceconferences.com](mailto:plantscience@plantscienceconferences.com); [plantscience@agriconferences.com](mailto:plantscience@agriconferences.com)

Website: [plantscience.global-summit.com](http://plantscience.global-summit.com)

## Oral Session: 1

Day 1 August 07, 2017

Plant Science and Natural Products | Plant Physiology and Biochemistry | Medicinal and Aromatic Plant Sciences | Arabidopsis | Seed Science and Technology | Photosynthesis

Session Chair  
**Grace Chen**  
U.S. Department of Agriculture, USA

Session Co-chair  
**Petronia Carillo**  
University of Campania, Italy

### Session Introduction

- Title: Enhancing NGS performance through improvements in template preparation procedure**  
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**Yuchan Zhou**, University of the Sunshine Coast, Australia
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- Title: Differential localization of ethylene receptor OsERS1 and OsETR2 in rice and the expression of OsETR2 during submergence**  
**Wing Kin Yip**, University of Hong Kong, Hong Kong

3<sup>rd</sup> Global Summit on

# Plant Science

August 07-09, 2017 | Rome, Italy

## *Arabidopsis* root formation is altered by cadmium and arsenic

Laura Fattorini<sup>1</sup>, Marilena Ronzan<sup>1</sup>, Diego Piacentini<sup>1</sup>, Federica Della Rovere<sup>1</sup>, Ilaria Buran<sup>1</sup>, Adriano Sofò<sup>2</sup>, Maria Maddalena Altamura<sup>1</sup> and Giuseppina Falasca<sup>1</sup><sup>1</sup>Sapienza University of Rome, Italy<sup>2</sup>University of Basilicata, Italy

The semimetal arsenic (As) and the heavy metal cadmium (Cd) are highly toxic for plants and animals, evoking enormous concern due to their widespread and persistent presence in polluted ecosystems. Both elements are not essential for plants but easily absorbed by their roots using the same membrane transporters of essential nutrients. The exposure to Cd or As causes inhibition of plant growth, especially in sensitive plants as *Arabidopsis thaliana*, the model species used in this research. It was reported that Cd and As mainly localize in root meristems. The correct organization and functionality of primary (PR), lateral (LR) and adventitious roots (AR) depends on the integrity of their apical meristem, on the correct activity and maintenance over time of a small group of cells which rarely divide, i.e. the quiescent centre (QC) cells. The QC inhibits the differentiation of the surrounding stem cells, allowing the apical root growth and the correct root differentiation. In *A. thaliana* LR and AR originate from pericycle founder cells in the PR and hypocotyl, respectively, their QC is established in a precise stage of primordium development. It was demonstrated that the positioning and maintenance of the QC in these roots is strictly related to a correct transport and biosynthesis of indole-3-acetic acid (IAA), the main plant auxin. To the aim to investigate the effect of Cd and As on auxin-mediated LR and AR development and QC maintenance, the expression of the IAA-sensitive *DR5: GUS*, of *QC25: GUS* (QC-marker), of the auxin biosynthetic gene *YUCCA6*, of the IAA carriers *GUS*-lines *PIN1: GUS* and *LAX3: GUS* and IAA levels in seedlings exposed to  $\text{Na}_2\text{HAsO}_4 \cdot \text{H}_2\text{O}$  and/or  $\text{CdSO}_4$  were evaluated. Results indicate that Cd and As alter auxin biosynthesis and transport during root formation, with consequent negative effects on their growth.

### Biography

Laura Fattorini investigated the effects of toxic elements, such as cadmium (Cd) and arsenic (As), on root development in some plants, in order to study the damages caused at cytological/histological level, as in *Arabidopsis thaliana*, and to find natural methods to limit Cd and As absorption in the commercially important species *Nicotiana tabacum*. Her experiences in the hormonal and genetic control of root development have enabled her to verify that some damages are related to an imbalance in the auxin production and transport in these organs. She also studied the effects of a co-exposure to these pollutants even in the As hyperaccumulator *Pteris vittata*, in order to study the possibility of using this fern for the purification of soils containing more (semi)metal contaminants.

laura.fattorini@uniroma1.it

### Notes:



## Upcoming Agriculture Conferences

10<sup>th</sup> International Conference on  
**Agriculture & Horticulture**  
October 02-04, 2017 London, UK  
[agriculture-horticulture.conferenceseries.com](http://agriculture-horticulture.conferenceseries.com)

7<sup>th</sup> International Conference on  
**Aquaculture & Fisheries**  
October 19-21, 2017 Rome, Italy  
[aquaculture-fisheries.conferenceseries.com](http://aquaculture-fisheries.conferenceseries.com)

19<sup>th</sup> International Conference on  
**Food Processing & Technology**  
October 23-25, 2017 Paris, France  
[foodtechnology.conferenceseries.com](http://foodtechnology.conferenceseries.com)

2<sup>nd</sup> International Conference on  
**Food Microbiology**  
November 29-30, 2017 Madrid, Spain  
[foodmicrobiology.conferenceseries.com](http://foodmicrobiology.conferenceseries.com)

### Bookmark your dates

5<sup>th</sup> Global Summit on

# Plant Science

October 29-30, 2018 Madrid, Spain

E-mail: [plantscience@conferenceseries.net](mailto:plantscience@conferenceseries.net); [plantscience@plantscienceconferences.com](mailto:plantscience@plantscienceconferences.com); [plantscience@agriconferences.com](mailto:plantscience@agriconferences.com)

Website: [plantscience.global-summit.com](http://plantscience.global-summit.com)