



XXXII Reunión Argentina
XVI Congreso Latinoamericano de
FISIOLOGÍA VEGETAL
Córdoba, Argentina
11 al 15 Noviembre - 2018

Conocimiento para el desarrollo
sustentable, equitativo y soberano

SUNDAY NOVEMBER 11th

15:00-17:00 *Registration and Accreditation*
17:00-18:00 *Opening Ceremony*

SALA DE LAS AMÉRICAS

18:00-20:00 **PLENARY SESSION: Modifications of Source-Sink relationships and stress tolerance in crop plants** - Eduardo BLUMWALD
Coordinator: Edith Taleisnik

20:00 *Welcome Agape*

MONDAY, NOVEMBER 12th

08:00-09:00 *Registration and Accreditation*

SALA DE LAS AMÉRICAS

09:00-10:00 **PLENARY SESSION: Hidden Dynamics and Landscape of MAPK Signaling Networks** - Hoo SunCHUNG
Coordinator: Laura Saavedra

10:00-11:00 **PLENARY SESSION: Physiological meanings of plant autophagy in response to environmental stresses. Aiming to elucidate plant specific functions of autophagy** - Kohki YOSHIMOTO
Coordinator: Germán Robert

11:00-11:15 *Coffee break*

11:15-11:40 **TECHNICAL TALKSTOLLER: PHYTOTOXICITIES RECOVERY-**
ValeriaSELVA

SALA DE LASAMÉRICAS

11:45-13:30 **SYMPOSIUM: REGULATION OF REPRODUCTIVE DEVELOPMENT**
Coordinator: Jorge Muschietti



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- 11:45-12:10 **RALF4/19 *Arabidopsis* pollen peptides interact with pollen LRX proteins: autocrine control of pollen tube growth-** Jorge MUSCHIETTI
- 12:10-12:35 **Reproductive growth and development in grain crops: an ecophysiological approach** - Adriana KANTOLIC
- 12:35-12:50 **A mitochondrial ADX-ADXR-P450 shuttle is essential for gametophytic development in a. *thaliana*** - Nicolás SETZES
- 12:50-13:05 **Proteomic and metabolomic approaches unveil relevant biochemical changes during the ripening of two blueberry varieties with different quality attributes-** Marina MONTECCHIARINI
- 13:05-13:30 Discussion

SALÓN DE ACTOS

- 11:45-13:30 **SYMPOSIUM: AUTOPHAGY AND CELL DEATH**
Coordinator: Germán Robert
- 11:45-12:10 **Ammonium toxicity affects autophagy in *Arabidopsis* root cells: autophagosome-to-vacuole fusion and microautophagy** - Germán ROBERT
- 12:10-12:35 **Resistance to citrus canker induced by a variant of *xanthomonas citri* ssp. *citri* is associated with a hypersensitive cell death response involving autophagy-associated vacuolar processes** - Roxana ROESCHLIN
- 12:35-12:50 **Is autophagy involved in ferroptosis-like cell death in plants?** - Ayelén Mariana DISTÉFANO
- 12:50-13:05 **Tomato ATG1 is implicated in the development of cell death associated with bacterial speck disease and hypersensitive response** - Florencia BEKIER
- 13:05-13:30 Discussion
- 13:30-15:00 *Lunch*



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SALA DE LAS AMERICAS

- 15:00-17:00 **SYMPOSIUM: REGULATION OF VEGETATIVE DEVELOPMENT**
Coordinator: José Estevez
- 15:00-15:25 **High auxin and high phosphate impact on rsl2 expression and ros-homeostasis linked to root hair growth in *Arabidopsis***- José ESTÉVEZ
- 15:25-15:50 **Variations of master regulators of stomatal development and their role on stomatal abundance in *Arabidopsis* and crops**- Carmen FENOLL
- 15:50-16:05 **Auxin-driven vascular bundles developmental plasticity increases xylem area boosting seed yield** - Julieta CABELLO
- 16:05-16:20 **Expression of a cyanobacterial flavodoxin in plastids affects plant development and productivity** - Martín L. MAYTA
- 16:20-17:00 Discussion

SALÓN DE ACTOS

- 15:00-17:00 **SYMPOSIUM: SENESCENCE AND ASSOCIATED PROCESSES**
Coordinator: Juan José Guiamet
- 15:00-15:25 **Chloroplast dismantling during leaf senescence: mechanism and impact on crop yield** - Juan José GUIAMET
- 15:25-15:50 **Identification of metabolic pathways and candidate genes associated with the process of foliar senescence in sunflower (*Helianthus annuus*) by integrating transcriptomic, metabolomic and phenotypic data** - Paula FERNÁNDEZ
- 15:50-16:05 **Transgenic maize including the sark::IPT sequence: first field phenotyping of grain yield and its determinants** - Paula FACCIO
- 16:05-16:20 **Changes in the apoplast proteome during leaf senescence** – Dana MARTÍNEZ



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16:20-16:35 **Redox regulation of autophagy: effects of different ROS**–
Alejandro ENET

16:35-17:00 Discussion

17:00-17:30 *Coffee break*

SALA DE LAS AMÉRICAS

17:30-18:30 **PLENARY SESSION: Reactive oxygen species in plant cells as key regulators during polar growth and mutualistic interactions - Luis CÁRDENAS**
Coordinator: Laura Saavedra

18.30 *FlashTalks Introduction*

18:30-20:00 *Posters Session*

TUESDAY, NOVEMBER 13th

08:00-09:00 *Registration and Accreditation*

SALA DE LAS AMÉRICAS

09:00-10:00 **PLENARY SESSION: Post-translational regulation of the micro RNA biogenesis in response to light deprivation - Pablo MANAVELLA**
Coordinator: Federico Ariel

10:00-11:00 **PLENARY SESSION: Discovery of new factors in legume nodulation- Brett FERGUSON**
Coordinator: Nacira Muñoz

11:00-11:15 *Coffee break*

11:15-11:40 **TECHNICAL TALK INSTRUMENTALIA: New advances in the measurement technology of gaseous exchange and fluorescence with the LI-6800 analyzer: its implications in studies of abiotic stress impact**
Edmundo L. PLOCHUK



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SALA DE LAS AMÉRICAS

- 11:45-13:30 SYMPOSIUM: **EPIGENETICS**
Coordinator: Federico Ariel
- 11:45-12:10 **APOLO long noncoding RNA regulates multiple distal loci in Arabidopsis**- Federico ARIEL
- 12:10-12:35 **Epigenetics and evolution of the tuberous of solanum species** - Ricardo MASUELLI
- 12:35-12:50 **Epigenetic variations directed by SRNAS modify the transcription of target genes during infection with two tobamoviruses in *arabidopsis thaliana* plants** - Melisa LEONE
- 12:50-13:05 **How RNA-directed DNA methylation influences the epigenetic variability in tomato hybrids** - Luisa Fernanda BERMÚDEZ SALAZAR
- 13:05-13:30 Discussion

SALÓN DE ACTOS

- 11:45-13:30 SYMPOSIUM: **BENEFICIAL BIOLOGICAL INTERACTIONS**
Coordinator: Eugenia Zanetti
- 11:45-12:10 **Conserved and novel miRNAs influence strain preference in the *Phaseolus vulgaris*-*Rhizobium etli* nitrogen fixing symbiosis** - Dra. Eugenia ZANETTI
- 12:10-12:35 **Identification and characterization of biostimulants using automated high-throughput bioassaying and phenotyping** - Dr. Lukáš SPÍČHAL
- 12:35-12:50 **A *bradyrhizobium diazoefficiens* RSH mutant nodulates soybean in the presence of high concentrations of combined nitrogen**- Julieta Pérez GIMÉNEZ
- 12:50-13:05 **Trichoderma-*arabidopsis* interaction: early effects on root morphogenesis**- Miriam D.CARGNEL
- 13:05-13:30 Discussion



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13:30-15:00

Lunch

SALA DE LAS AMÉRICAS

15:00-17:00

SYMPOSIUM: SIGNAL TRANSDUCTION

Coordinator: Carlos García Mata

15:00-15:25

Hydrogensulfide (H₂S) in guard cell signaling- Dr. Carlos García Mata

15:25-15:50

Unraveling the role of phosphoinositides controlling aspects of Plant growth and development in the moss *physcomitrella patens*- Laura SAAVEDRA

15:50-16:05

Designing strategies to uncover MAPK specific functions in plant development - Diego WENGLER

16:05-16:20

Discovering early light-induced phosphoproteins that respond to photoreceptor activation - Denise S. ARICO

16:20

Discussion

SALÓN DE ACTOS

15:00-17:00

SYMPOSIUM: PATHOGENIC INTERACTIONS

Coordinator: Sebastián Asurmendi

15:00-15:25

TMV systemic movement requires negative modulation of the immune system - Sebastián ASURMENDI

15:25-15:50

Homogalacturonan is a key component of *arabidopsis* defense during the early stage of infestation by *myzus persicae*- Francisca BLANCO

15:50-16:05

An NBS-LRR Resistance protein targeted to plastids AGBO - Nicolás CECCHINI

16:05-16:20

Sulphur deficiency modulates salicylic acid responses and resistance via non-expressor of pathogenesis-related genes1 in *arabidopsis thaliana* - Antonio LEON-REYES



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16:20 Discussion
17:00-17:30 *Coffee break*

SALA DE LAS AMÉRICAS

17:30-18:30 **PLENARY SESSION: Metabolic and epigenetic traits of defenses against microbial pathogens in *arabidopsis***- María Elena ÁLVAREZ
Coordinator: Nicolás Cecchini
18.30 *FlashTalks Introduction*
18:30-20:00 *Posters Session*

WEDNESDAY, NOVEMBER 14th

08:00-09:00 *Registration and Accreditation*

SALA DE LAS AMÉRICAS

09:00-10:00 **PLENARY SESSION: Genotype-environment interactions in the metabolic plasticity** - Fernando CARRARI
Coordinator: Ramiro Lascano
10:00-11:00 **PLENARY SESSION: Innovations in adaptation to climate change in dryland agriculture Systems** - Kadambot SIDDIQUE
Coordinator: Vanina Davidenco
11:00-11:15 *Coffee break*
11:15-11:40 **TECHNICAL TALK PIONEER: Genetic progress of maize yield in the Pampa region of Argentina: effect of the environment and management**- Sergio UHART

SALA DE LAS AMÉRICAS

11:45-13:30 **SYMPOSIUM: PHOTOSYNTHESIS AND PRIMARY METABOLISM**
Coordinator: Carlos Figueroa



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- 11:45-12:10 **Deciphering the role of auxin signaling on plant metabolism-**
Wagner ARAUJO
- 12:10-12:35 **Regulation of plant carbon metabolism by trehalose 6-**
phosphate - Carlos FIGUEROA
- 12:35-12:50 **Light use efficiency and energy partitioning in rice is genotype**
dependent - Gaston QUERO
- 12:50-13:05 **Phytochrome-dependent temperature perception impacts tomato**
fruit quality through metabolic pathway regulation - María Belén
DELUCA
- 13:05-13:30 Discussion

SALÓN DE ACTOS

- 11:45-13:30 **SYMPOSIUM: NUTRIENTS ACQUISITION AND USE EFFICIENCY**
Coordinators: Fernando Salvagiotti - Guillermo Santa María
- 11:45-12:10 **Ecophysiological aspects associated with the response to**
fertilization: a crop-scale approach
- Fernando SALVAGIOTTI
- 12:10-12:25 **Kernel set in summer maize: role of morpho-physiological traits**
in resources acquisition and use under gradients of solar
radiation and nitrogen per plant - Federico OGANDO
- 12:25-12:50 **DELLA proteins relevance in plants acclimatization to conditions**
of insufficient supply of essential nutrients- Guillermo SANTA
MARÍA
- 12:50-13:05 **Expression of nitric oxide synthase and the impact in nitrogen**
metabolism and water use efficiency in potato and arabidopsis-
Andrés NEJAMKIN
- 13:05-13:30 Discussion
- 13:30-15:00 *Lunch*
- 13:30-15:00 **Assembly ASAFV**



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SALA DE LAS AMÉRICAS

- 15:00-17:00 **SYMPOSIUM: ABIOTIC STRESS**
Coordinator: Omar Borsani
- 15:00-15:25 **Root cell adaptation to osmotic stress conditions** - Omar BORSANI
- 15:25-15:50 **Leaf structure and ultrastructure changes induced by heat and water stress during late reproductive development in field- grown soybean, and their relationship with yield** - Constanza CARRERA
- 15:50-16:15 **The crosstalk between primary and secondary metabolites regulates plant stress response** - Nuria DE DIEGO
- 16:15-16:30 **Multi-tier gene expression analyses in root meristematic regions under submergence** - Mauricio REYNOSO
- 16:30-17:00 Discussion

SALÓN DE ACTOS

- 15:00-17:00 **SYMPOSIUM: ECOPHYSIOLOGICAL AND GENETIC BASIS FOR BREEDING**
Coordinator: Claudia Vega
- 15:00-15:25 **Grain yield determination in summer maize (*Zea mays*, L.): detection of genotypic traits to enhance source-sink relationships during kernel filling** - Claudia VEGA
- 15:25-15:50 **Physiological and genetic factors that regulate seed number in soybean** - Julieta BIANCHI
- 15:50-16:05 **Genome wide association study for photosynthesis and chlorophyll fluorescence traits in sorghum under cold and drought stress** - Diego ORTIZ
- 16:05-16:20 **Source-sink relationships during stalk establishment modulate ripening precocity in sugarcane (*saccharum* spp.)** - Julio V SAEZ
- 16:20-17:00 Discussion



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17:00-17:30 *Coffee break*

SALA DE LAS AMÉRICAS

17:30-18:30 **PLENARY SESSION: Feeding the world is not just about increasing crop yields** - Pablo TITTONELL
Coordinator: Nacira Muñoz

18:30-19:30 **PLENARY SESSION: Contributions of the crop-ecophysiology to the sustainable intensification of agriculture** - Octavio CAVIGLIA
Coordinator: Claudia Vega

21:00 *Camaraderie Dinner*

THURSDAY, NOVEMBER 15th

SALA DE LAS AMÉRICAS

10:00-11:00 **PLENARY SESSION: Plant temperature acclimation and growth rely on cytosolic ribosome biogenesis factor homologs**- Joachim KOPKA
Coordinator: Oscar Ruiz

11:30 *Award ceremony and closing of the XXXI Argentine Meeting of Plant Physiology and the XVI Latin American Congress of Plant Physiology*

13:30 *Lunch*

15:00 *Satellite activities*



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SATELLITE ACTIVITIES

SALA DE LAS AMÉRICAS

Symposium: A Paradigm shift in academic publishing: Open Science, Preprints and reproducibility in Science

Moderator: Humberto Debat (Investigador IPAVE-CIAP-INTA, eLifeAmbassador)

Speakers:

Dr. Randy W Shekman. 2013 Nobel Prize for Physiology or Medicine, EiCeLife.

Dr. Richard Sever. Co-Founder of bioRxiv; Assistant Director, Cold Spring Harbor Laboratory Press).

Dr. Casey Greene. Creator of the bioOverlay preprint peer-review platform, developer of the collaborative authoring tool Manubot, assistant professor University of Pennsylvania.

SALÓN DE ACTOS

Workshop: Bioinputs in Agriculture: regulation, production and use of biological products in Ibero-America

Moderator: Fabricio Cassán (Researcher CONICET/UNRC)

The main objective of this seminar-workshop is related to the discussion and analysis of the concept of "bioinputs" or "biostimulant" for agriculture, from a physiological perspective. The aim is to analyze the use of this technology in extensive and intensive crops, as well as the physiological bases that define the behavior of the different "concepts" included in the definition. We will try to correlate the current regulations with the typology and functionality of bio-inputs or biostimulants offered by the market in America and Europe.



ESCUELA PARA GRADUADOS – FACULTAD DE AGRONOMÍA - UNC

Course: “Resources acquisition and use by crops: Approaches to cope with water and nutrient stress”

Activity organized in cooperation with the School for Graduates of the Faculty of Agricultural Sciences of Córdoba.

Objectives

- Analyze the role of root system architecture (RSA) in water and nutrient uptake in crop plants.
- Become aware of large scale phenotyping approaches and use in the breeding programs
- Study the movement mechanisms and transformations of macro and micronutrients in the soil-plant system.
- Understand the nutrients functions and the mechanisms that define the nutrient use efficiency

Thursday 15th, 15:00

- Dr. Kadambot Siddique: Can we breed for efficient root system for water and nutrient uptake in crop plants?

Friday 16th, 9:00

- Dr. Fernando Salvagiotti: "Acquisition and use of nutrients at a crop scale: Balanced Nutrition"