

KEYSTONE SYMPOSIA

on Molecular and Cellular Biology

Plant Signaling: Molecular Pathways and Network Integration (A4)

January 21-24, 2018 • Granlibakken Tahoe • Tahoe City, California, USA

Scientific Organizers: Ken Shirasu, Uta Paszkowski and Christian S. Hardtke

Supported by the Directors' Fund

Abstract & Scholarship Deadline: September 25, 2017 / Abstract Deadline: October 23, 2017 / Discounted Registration Deadline: November 21, 2017

SUNDAY, JANUARY 21

Arrival and Registration

MONDAY, JANUARY 22

Welcome and Keynote Address

Charlie M. Boone, University of Toronto, Canada
The Genetic Landscape of a Cell

Signaling Network as a System

Sabeeha Merchant, University of California, Los Angeles, USA
Synchronized Cell 'Omics

Rosangela (Ross) Sozzani, North Carolina State University, USA
Gene Regulatory Networks Controlling Root Stem Cells

Christian Fleck, Wageningen University, Netherlands
Modeling of Light Signaling Pathways

Arthur Korte, University Würzburg, Germany
Short Talk: Natural Variation of Gene Regulatory Networks in Arabidopsis thaliana

Ben Scheres[†], Wageningen University Research, Netherlands
Short Talk: Integration of Shape-Mediated and Genetic Control of Plant Cell Division

Zhenbiao Yang, University of California, Riverside, USA
Short Talk: An Exocytosis-Coordinated Signaling Network Controls Pollen Tube Tip Growth and Growth Guidance: Insights from Mathematical Modeling

Signaling in Development

Christian S. Hardtke, University of Lausanne, Switzerland
Spatio-temporal Timing of Root Protophloem Differentiation

Dolf Weijers, Wageningen University, Netherlands
Origin and Evolution of the Nuclear Auxin Response System

Tetsuya Higashiyama, Nagoya University, Japan
Signaling in Precise Pollen Tube Guidance

Frank L.H. Menke, Sainsbury Laboratory, UK
Short Talk: MAP Kinases MPK3 and MPK6 Control Formative Divisions by Regulating Cell Division Plane Rotations

Niko Geldner[†], University of Lausanne, Switzerland
Short Talk: SCHENGEN Mutants Define a Diffusion Barrier Surveillance Pathway in Plants

Poster Session 1

TUESDAY, JANUARY 23

Propagation and Coordination (Long Distance Signaling)

Edward E. Farmer, University of Lausanne, Switzerland
Vascular Signalling Routes for Wound-Stimulated Jasmonate Synthesis

Sheng Luan, University of California, Berkeley, USA
Regulation of Plant Nutrient Homeostasis by a Ca Signaling Network

Yoshikatsu Matsubayashi, Nagoya University, Japan
Root-to-Shoot and Shoot-to-Root Long-Distance Mobile Peptides Mediate Systemic Regulation of Nitrogen Acquisition

Zhen-Ming Pei, Duke University, USA

Genetic Dissection of Environmental Stress-Induced Ca²⁺ Signaling in Arabidopsis

Julian I. Schroeder[†], University of California, San Diego, USA
Short Talk: Abscisic Acid Triggers Degradation of Guanine Nucleotide Exchange Factor via Calcium-Dependent Protein Kinases

Fuminori Takahashi, RIKEN, Japan
Short Talk: A Small Peptide Mediates Dehydration Stress Responses in Long-Distance Signaling

Environmental Signaling

Tzzy-Jen Chiou, Academia Sinica, Taiwan

MicroRNA-mediated Surveillance of Phosphate Transport – Uptake, Translocation, and Storage

Gabriel Krouk, CNRS, France
A Systems View of Nitrogen Signaling Interactions

Siobhan M. Brady, University of California, Davis, USA
Transcriptional regulation of nitrogen metabolism

Pamela C. Ronald[†], University of California, Davis, USA
Short Talk: A Microbially Derived Tyrosine Sulfated Peptide Mimics a Plant Peptide Hormone to Activate Immunity and Enhance Root Growth

Tania Y. Toruno[†], University of California, Davis, USA
Short Talk: Phosphorylated RIN4 Interacts with a Unique Set of Client Proteins in the Absence of NLR Perception to Disrupt Protein Trafficking

Poster Session 2

WEDNESDAY, JANUARY 24

Signaling in Biotic Interaction

Uta Paszkowski, University of Cambridge, UK
Rhizosphere Signaling in Arbuscular Mycorrhizal Symbiosis of Cereals

Giles E.D. Oldroyd, John Innes Centre, UK
Establishing Symbiotic Associations through Symbiosis Signaling

Melissa G. Mitchum, University of Missouri, USA
Signaling in Plant-Nematode Interactions

Ken Shirasu, RIKEN, Japan
Signaling in Parasitic Plant-Hot Interactions

Marise Borja, Plant Response Biotech, Spain
Novel Water Stress Tolerance Molecular Pathways

Christine Faulkner, John Innes Centre, UK
Short Talk: The Mechanism and Roles of Chitin-Triggered Plasmodesmal Closure in Immunity

Hormone Sensing/Integration

David C. Nelson, University of California, Riverside, USA
Evolution of Strigolactone and Karrikin Signaling

Doris Wagner, University of Pennsylvania, USA
Signaling during spatiotemporal Control of Flower Formation in the Context of Chromatin

Cris Argueso, Colorado State University, USA
Cytokinin-Induced Priming Against Biotic and Abiotic Stresses

KEYSTONE SYMPOSIA

on Molecular and Cellular Biology

Plant Signaling: Molecular Pathways and Network Integration (A4)

January 21-24, 2018 • Granlibakken Tahoe • Tahoe City, California, USA

Scientific Organizers: Ken Shirasu, Uta Paszkowski and Christian S. Hardtke

Supported by the Directors' Fund

Abstract & Scholarship Deadline: September 25, 2017 / Abstract Deadline: October 23, 2017 / Discounted Registration Deadline: November 21, 2017

Lucia Strader[†], Washington University in St. Louis, USA

Short Talk: Nucleo-Cytoplasmic Partitioning of ARF Proteins Controls

Auxin Responses in Arabidopsis Thaliana

Eva-Sophie Wallner, University of Heidelberg, Germany

Short Talk: Early Events in Phloem Formation - Exploring the

Molecular Network of SMXL3/4/5

Meeting Wrap-Up: Outcomes and Future Directions (Organizers)

THURSDAY, JANUARY 25

Departure