

# KEYSTONE SYMPOSIA

on Molecular and Cellular Biology

## Phosphoinositide Biology: New Therapeutic Targets beyond Class I PI3K (B5)

February 11-15, 2018 • Sagebrush Inn & Suites • Taos, New Mexico, USA

Scientific Organizers: Emilio Hirsch, Tamas Balla and Cristina Donini

Supported by the Directors' Fund

Abstract & Scholarship Deadline: October 10, 2017 / Abstract Deadline: November 8, 2017 / Discounted Registration Deadline: December 12, 2017

### SUNDAY, FEBRUARY 11

#### Arrival and Registration

### MONDAY, FEBRUARY 12

#### Welcome and Keynote Address

**Pietro V. De Camilli**, Yale University School of Medicine, USA  
*Phosphoinositide Signaling in the Control of Membrane Dynamics and Interactions*

#### Phosphoinositide Gradients and Lipid Transport at Membrane Contact Sites

**Bruno Antony**, Institut de Pharmacologie Moleculaire et Cellulaire, France  
*Cholesterol Transport Driven by PI4P Gradients from the ER to Golgi*

**Tamas Balla**, NICHD, National Institutes of Health, USA  
*The Role of PI4KA in Controlling Membrane Lipid Dynamics*

**Jen Liou**, Stanford University, USA  
*The Role of ER-PM Contacts in Phosphoinositide Homeostasis and Ca<sup>2+</sup> Signaling*

#### Short Talk(s) Chosen from Abstracts

#### PI 4-Kinases as Possible Drug Targets

**Nihal Altan-Bonnet**, NHLBI, National Institutes of Health, USA  
*Viral Tailgating with Lipids*

**Kasturi Haldar**, University of Notre Dame, USA  
*Targeting a Mechanism of Artemisinin Resistance in Plasmodium falciparum Malaria*

**Cristina Donini**, Medicines for Malaria Venture, Switzerland  
*Plasmodium PI4K Inhibitor as Potential Malarial Treatment*

#### Short Talk Chosen from Abstracts

#### Poster Session 1

### TUESDAY, FEBRUARY 13

#### Inositide Phosphatases in Cancer and Development

**Pier Paolo Pandolfi**, Beth Israel Deaconess Medical Center, Harvard Medical School, USA  
*PIP Phosphatases in Cancer*

**Jeremy F. Reiter**, University of California, San Francisco, USA  
*The Role of Phosphoinositides in Ciliogenesis*

**Christina Anne Mitchell**, Monash University, Australia  
*Regulation of Phosphoinositide Signaling by Inositol Polyphosphate Phosphatases*

**Antonella De Matteis**, Telethon Institute of Genetics and Medicine, Italy  
*The Phosphoinositides and the Golgi Complex*

#### Short Talk(s) Chosen from Abstracts

#### Workshop: New and Emerging Paradigms and Possible Drug Targets

#### Short Talks Chosen from Abstracts

#### Structural Insights into Pharmacological Targeting of Lipid Kinases

**John E. Burke**, University of Victoria, Canada  
*Recent Advances in Understanding the Structural Basis of PI4K Inhibition*

**Ujjini H. Manjunatha**, Novartis Institute for Tropical Diseases, Singapore  
*Cryptosporidium Lipid Kinase Is a Promising Molecular Target To Treat Cryptosporidiosis*

**Roger L. Williams**, Medical Research Council, UK  
*Structural Mechanisms of Regulation of the PI3K Superfamily*  
**Short Talk Chosen from Abstracts**

#### Poster Session 2

### WEDNESDAY, FEBRUARY 14

#### Phosphoinositides Directing Trafficking for Degradation

**Lois S. Weisman**, University of Michigan, USA  
*Phosphatidylinositol 3,5-Bisphosphate: Roles and Regulation in Health and in Diseases*

**Haoxing Xu**, University of Michigan, USA  
*Lipid Regulation of Lysosomal Ion Channels*

**Mariella Vicinanza**, Cambridge Institute for Medical Research, UK  
*PI(5)P Regulates Autophagy*

**Leon O. Murphy**, Third Rock Ventures, USA  
*VPS34 and Autolysosomal Regulation*

#### Short Talk(s) Chosen from Abstracts

#### Monoinositide Phosphatases

**Volker Haucke**, Leibniz Institut für Molekulare Pharmakologie, Germany  
*Phosphoinositide Conversion Directs Vesicular Trafficking*

**Jocelyn Laporte**, Institute of Genetics and Molecular and Cellular Biology, France  
*Myotubularin Phosphoinositides Phosphatases Implication and Targeting in Neuromuscular Diseases*

**Amy Kiger**, University of California, San Diego, USA  
*MTMR13 and RAB21 in Autophagy*

#### Short Talk Chosen from Abstracts

#### Poster Session 3

### THURSDAY, FEBRUARY 15

#### Beyond Class I PI 3-Kinases

**Emilio Hirsch**, Fondazione per la Ricerca Biomedica – ONLUS, Italy  
*Class II PI3K Signaling in Cancer*

**Bart Vanhaesebroeck**, University College London, Cancer Institute, UK  
*Class II and III PI3Ks as New Therapeutic Targets*

**James Dowling**, Hospital for Sick Children, Canada  
*Class II PI3Ks and PI3P Signaling in Muscle Development and Disease*

**Jonathan M. Backer**, Albert Einstein College of Medicine, USA  
*PI3K Signaling in Tumor Cell Invasion*

#### Short Talk(s) Chosen from Abstracts

#### PIP Kinases as Emerging Drug Targets

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**Lewis C. Cantley**, Weill Cornell Medicine, USA

*Type 2 Phosphatidylinositol-5-Phosphate 4-Kinases in Cancer*

**Richard A. Anderson**, University of Wisconsin Medical School, USA

*Agonist-Stimulated Phosphatidylinositol 3,4,5-Trisphosphate*

*Generation by Scaffolded Phosphoinositide Kinases*

**Atsuo T. Sasaki**, University of Cincinnati, USA

*PI5P4Kbeta is an Intracellular GTP Sensor for Metabolism and*

*Tumorigenesis*

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

#### FRIDAY, FEBRUARY 16

#### Departure