

# KEYSTONE SYMPOSIA

on Molecular and Cellular Biology

## Optogenetics (C5)

March 12-16, 2015 • Westin Downtown Denver • Denver, CO, USA

Scientific Organizers: Edward S. Boyden, Klaus M. Hahn and Chandra Tucker

*Supported by the Directors' Fund*

*Abstract & Scholarship Deadline: November 12, 2014 / Abstract Deadline: December 11, 2014 / Discounted Registration Deadline: January 13, 2015*

### THURSDAY, MARCH 12

#### Registration

### FRIDAY, MARCH 13

#### Keynote Address

Roger Y. Tsien, HHMI/University of California, San Diego, USA  
*Optical Biology: Past, Present, and Future*

#### Optogenetic Engineering I

Edward Boyden, Massachusetts Institute of Technology, USA  
*Talk Title to be Announced*  
Michael Z. Lin, Stanford University School of Medicine, USA  
*Buiding Self-Reporting Cofactor-Free Light-Controllable Proteins with Fluorescent Protein Domains*

Ehud Isacoff, University of California, Berkeley, USA  
*Optical Control of Synaptic Plasticity with Light-Gated Glutamate Receptors*

Short Talk(s) Chosen from Abstracts

#### Structure and Genomic Diversity of Photoreceptor Proteins

Peter Hegemann, Humboldt-Universität zu Berlin, Germany  
*Talk Title to be Announced*

J. Keith Moffat, University of Chicago, USA  
*Photoreceptor Control at the Atomic Level*

Gane Ka-Shu Wong, University of Alberta, Canada  
*Mining the Natural World for Optogenetic Reagents: New Resources and Strategies*

Short Talk Chosen from Abstracts

#### Poster Session 1

### SATURDAY, MARCH 14

#### Optogenetic Engineering II

Klaus M. Hahn, University of North Carolina at Chapel Hill, USA  
*Talk Title to be Announced*

Chandra Tucker, University of Colorado Denver, USA  
*New Cryptochrome Tools for Optical Control*

Steven G. Boxer, Stanford University, USA  
*Light Directed Dissociation and Association of Split GFP*

Andreas Moglich, Humboldt-Universität zu Berlin, Germany  
*Engineering Light-Responsive Proteins*

Short Talk(s) Chosen from Abstracts

#### Optical Control of Biological Processes I: Molecular Principles

Mathieu Coppey, Institut Curie, France  
*Spatiotemporal Manipulation of Optogenetic Probes*

Matthew J. Kennedy, University of Colorado Denver, USA  
*Optical Control of Synaptic Function*

Jared Toettcher, University of California, San Francisco, USA  
*Talk Title to be Announced*

Short Talk Chosen from Abstracts

#### Poster Session 2

### SUNDAY, MARCH 15

#### Optical Control of Biological Processes II: Model Organisms

Denise J. Montell, University of California, Santa Barbara, USA  
*Talk Title to be Announced*

Feng Zhang, Broad Institute of MIT and Harvard University, USA  
*Neuroengineering: Molecular and Optical Axes of Control*

Brian Kuhlman, University of North Carolina, Chapel Hill, USA  
*Optical Control of Nuclear Localization*

Speaker to be Announced

Short Talk(s) Chosen from Abstracts

#### Optical Control of Biological Processes III: Systems and Hardware

Valentina Emiliani, Paris Descartes University, France  
*Two Photon Optogenetics*

Xue Han, Boston University, USA  
*Talk Title to be Announced*

Speaker to be Announced

Short Talk Chosen from Abstracts

### MONDAY, MARCH 16

#### Departure