



125th anniversary celebration on CSH sandspit

# Frontiers and Techniques In Plant Science

July 1-21, 2016 - Applications due: March 31

## Instructors

Sean Cutler, University of California Riverside  
Nicholas Provart, University of Toronto, Canada  
Marja Timmermans, University of Tuebingen, Germany

## 2016 Speakers

Julia Bailey-Serres, University of California Riverside  
Ian Baldwin, Max Planck Institute for Chemical Ecology  
Siobhan Brady, University of California, Davis  
Sean Cutler, University of California, Riverside  
Jose Dinneny, University of Stanford  
Stacey Harmer, University of California, Davis  
Antje Heese, University of Missouri  
Mark Johnson, Brown University  
Cris Kuhlemeier, University of Bern, Switzerland  
Julia Law, The Salk Institute  
Julin Maloof, University of California, Davis  
Uta Paszkowski, University of Cambridge, UK  
Scott Peck, University of Missouri  
Rowan Sage, University of Toronto, Canada  
Shin-Han Shiu, Michigan State University  
Vipula Shukla, Bill & Melinda Gates Foundation  
Neelima Sinha, University of California, Davis  
Marja Timmermans, Cold Spring Harbor Laboratory  
Dan Voytas, University of Minnesota



The Frontiers and Techniques in Plant Science course provides an intensive overview of topics in plant genetics, physiology, biochemistry, development, and evolution and hand-on experiences in molecular, analytical, computational and high throughput approaches to understanding plant biology. It emphasizes recent results from model organisms including Arabidopsis, maize and tomato as well as a variety of other plants and provides an introduction to current methods used in basic and applied plant biology, both theoretically and practically.

The seminar series will include plant morphology and anatomy, development, evolution, light and circadian biology, hormones, small RNAs and epigenetic inheritance, biotic and abiotic interactions, plant biochemistry, crop domestication, and applications addressing current agronomic problems. Speakers will provide expert overviews of their fields, followed by in-depth discussions of their own work. The laboratory sessions will provide exposure to cutting edge experimental and computational techniques currently used in plant research. These include approaches for studying plant development, transient gene expression, applications of fluorescent proteins, genome editing, and chromatin immunoprecipitation. Students will also gain hand-on experience on computational tools and environments for genome assembly, transcriptomics, construction of gene regulatory networks, identification of quantitative trait loci, mapping by sequencing, and mathematical modeling of development and hormone action. The course also includes several short workshops on important themes in plant research. Throughout the course, students interact individually and informally with the speakers to further enrich the learning experience.



For further information, please visit us on the web

[www.cshl.edu/meetings](http://www.cshl.edu/meetings)