Cell & Developmental Biology of *Xenopus*: Gene Discovery & Disease

Cold Spring Harbor Laboratory | Meetings & Courses Program

March 29 - April 11, 2017 Applications Due: December 15

Cold Spring Harbor, New York

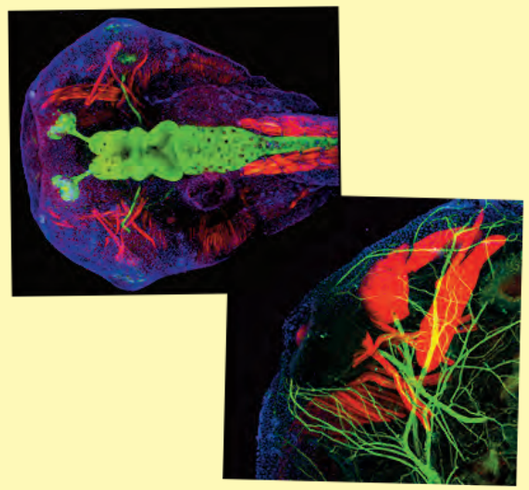
Xenopus is remarkable for modeling human diseases including birth defects, cancer, and stem cell biology. *Xenopus* has and continues to make a major impact in our understanding of cell and developmental biology.

Students are encouraged to target genes of interest using CRISPR technology and then analyze phenotypes using the diverse array of assays available in *Xenopus*. Specifically, techniques covered include microinjection, and various molecular manipulations including, CRISPR knockouts, morpholino based depletions, transgenics, and mRNA overexpression. In addition, students can combine these techniques with explant and transplant methods to simplify or test tissue level interactions. To visualize subcellular and intercellular activities, we will introduce a variety of imaging methods including time-lapse, fluorescent and confocal microscopy. Additional methods include mRNA in situ hybridization and protein immunohistochemistry as well as basic bioinformatic techniques for gene comparison and functional analysis. Biochemical approaches such as proteomics and mass spectrometry will also be discussed.

This course is designed for those new to the *Xenopus* field, as well as for more advanced students who are interested in emerging technologies. We encourage students to bring their own genes of interest and will tailor aspects of the course to enable them to initiate studies on their specific projects.

Instructors

Mustafa Khokha, Yale University
Karen Liu, King's College London, UK



www.cshl.edu/meetings

Lecturers

Ira Blitz, University of California, Irvine
Sang-Wook Cha, Cincinnati Childrens Hospital Medical Center
Frank Conlon, University of North Carolina
Lance Davidson, University of Pittsburgh
Roberto Mayor, University College London
Rebecca Heald, University of California, Berkeley
Raymond Keller, University of Virginia
Ann Miller, University of Michigan
Peter Nemes, George Washington University
Gerald Thomsen, Stony Brook University
John Wallingford, University of Texas at Austin
Andrea Wills, University of Washington