



# NIMBioS

National Institute for Mathematical  
and Biological Synthesis



**NIMBioS Special Seminar**  
3:30 p.m.\*, Thursday, September 18, 2014

**Dr. Zhirong Bao**  
Developmental Biology Program  
Sloan Kettering Institute

## “The Making of a Worm: Every Gene, Every Cell, Every Minute”

The nematode *C. elegans*, a.k.a the worm, is a major model organism for biomedical research. Its size and transparency make in toto imaging a powerful approach to tackle its biology and achieve synergy with genetics and systems biology. We study *C. elegans* embryogenesis by combining these approaches. I will discuss our efforts on the following fronts: (1) optical microscopy for long-term live imaging through embryogenesis at single-cell resolution; (2) image analysis for automated cell lineage tracing; (3) genome-wide analysis of the phenotypic landscape and mechanistic models of development; and (4) construction of an interactive 4D atlas of neural development for the entire nervous system.

**Location: Tom Hallam Auditorium, Room 206 at NIMBioS, Claxton Education Bldg, 1122 Volunteer Blvd.**

\*Join us for refreshments at 3:15 p.m. in Room 205.

For more information about this and other NIMBioS Seminars, visit

<http://www.nimbios.org/seminars>

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*The National Institute for Mathematical and Biological Synthesis (NIMBioS) brings together researchers from around the world to collaborate across disciplinary boundaries to investigate solutions to basic and applied problems in the life sciences. NIMBioS is sponsored by the National Science Foundation, with additional support from The University of Tennessee, Knoxville.*