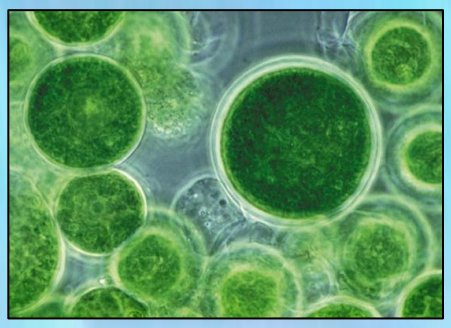
NIMBioS
National Institute for Mathematical and Biological Synthesis



Many-cell System Modeling

A NIMBioS Investigative Workshop

July 7-9, 2015
NIMBioS at the Univ. of Tennessee, Knoxville

Knowledge about cell-cell and cell-environment interactions is rapidly accumulating. Given clearly stated rules and empirical data, mathematicians formulate models for living systems expressed as equations. Computational scientists then perform simulations solving these equations to predict collective behavior over time. When billions of cells must be simulated to reproduce emergent behaviors, computational challenges can become overwhelming. Computational scientists can adapt both continuum and discrete agent-based simulation codes to high performance computing (HPC) environments. Careful adaptation has the potential to bridge the gap between one and one-billion cells, but corresponding models must also be developed. This workshop will bring together modelers, computer scientists and scientific computing experts to discuss state of the art modeling and simulation of many-cell living systems.

Participation in the workshop is by application only. Individuals with a strong interest in the topic are encouraged to apply, and successful applicants will be notified within two weeks of the application deadline. If needed, financial support for travel, meals, and lodging is available for workshop attendees.

Application deadline: March 22, 2015

For more information about the workshop and a link to the online application form, go to http://nimbios.org/workshops/WS_manycell

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, through NSF Award #DBI-1300426, with additional support from The University of Tennessee, Knoxville.

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