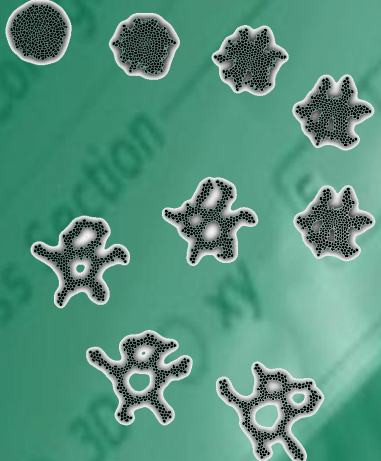# Training Workshop
Developing Multi-Cell Developmental and Biomedical Simulations with CompuCell3D
August 13th-17th 2007
Indiana University, Biocomplexity Institute, Bloomington, IN

Background: Modeling is becoming an integral part of contemporary bioscience. The Glazier-Graner-Hogeweg (*GGH*) model as implemented in the modeling environment, CompuCell3D allows researchers to rapidly build complex models of multi-cell processes in development and disease with user-selectable resolution, from sub-cellular compartmental models to continuum models of tissues. CompuCell3D's use of CC3D-ML, BioLLogo and Python model-specification allows compact description of models for publication, validation and sharing. CompuCell3D is open source, allowing users to extend, improve, validate, modify and share the core software. For more information on the GGH and CompuCell3D, please visit: http://www.compucell3d.org/

Goal: By the end of the week, participants will have implemented a basic simulation of the particular biological problem they work on. Post-course support and collaboration will be available to continue simulation development.

Topics: Introduction to GGH modeling. Applications of GGH modeling and overview of published work. Introduction to CompuCell3D. Python and BioLogo scripting. Basics of model building. Extending CompuCell3D. Building a basic simulation of your system.

Format: The workshop will consist of a limited number of lectures and extended hands-on computer tutorials.

Instructors: James A. Glazier, **Maciej Swat, Benjamin Zaitlen, Abbas Shirinifard, Nikodem Poplawski** (Biocomplexity Institute, Indiana University) and **Trevor Cickovski** (University of Notre Dame)

Target Audience: Experimental Biologists, Medical Scientists, Biophysicists, Mathematical Biologists and Computational Biologists from advanced undergraduates to senior faculty, who have an interest in developing multi-cell computational models, or learning how such models might help their research. No specific programming or mathematical experience is required, though familiarity with some modeling environment (e.g. Mathematica®, Maple®, Matlab®) and how to represent basic concepts like diffusion and chemical reactions mathematically, would be helpful.

Fees and Support: The basic registration fee of $500 will cover workshop participation, workshop materials and lunches. Partial support for registration, travel and hotel costs may be available.

Application and Registration: Enrollment is limited and by application only. To apply, please send a c.v., a brief statement of your current research interests and of the specific problem you would like to model. Students and postdocs should also include a letter of support from their current advisor. If travel support is being requested, please include a statement documenting need and amounts requested. Please submit all application materials electronically to Maciej Swat (mswat@indiana.edu) by July 15th, 2007.

Facilities: Participants will have access to an OSX cluster and will be able to connect to the Internet using their own laptops.

For More Information, Please Contact: Maciej Swat (mswat@indiana.edu).
Or visit: www.compucell3d.org

the biocomplexity institute

CompuCell 3D

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