



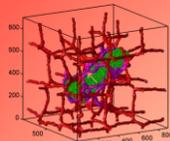
2022 Multicell Virtual Tissue Modeling ONLINE Summer School & Hackathon



Intro to Computational Modeling & Python: July 31st, 2022 (Sun)

Summer School: August 1st – 5th, 2022 (Mon – Fri)

Model-Building Hackathon: Aug. 6th – 7th, 2022 (Sat/Sun)



Vascular Tumor Growth

Background: Mechanistic modeling is an integral part of contemporary bioscience, used for hypothesis generation and testing, experiment design and interpretation, and the design of therapeutic interventions. The CompuCell3D modeling environment allow researchers to rapidly build and execute complex Virtual Tissue simulations with minimal programming experience. CompuCell3D enables biological simulation from the subcellular scale to the tissue scale, such as tumor growth, what happens to tissues and cells when exposed to toxic compounds, viral spread in tissues, early embryonic development, intra/extra-cellular biochemical networks, and more. CompuCell3D natively supports SBML and MaBoSS model integration. Try out some example models on NanoHub without any installation: <https://compuCell3d.org/Models-nanoHub>.

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

Topics: Python scripting. Introduction to Virtual-Tissue simulations using CompuCell3D. How to integrate SBML and MaBoSS models into CC3D models. Principles of biological model building and practical examples in diverse biological systems.

Format: Daily Zoom classes with live support & daily group discussion sections (zoom). The classes will be held from 10:30 AM to 5:30 PM eastern daylight time (UTC-04:00).

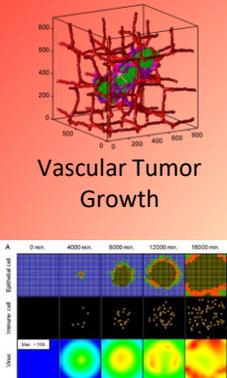
Instructors: James A. Glazier, TJ Sego, James Sluka, Hayden Fennell (Indiana University); Julio Belmonte (NCSSU); Josua Aponte Serrano (NIAID); Gilberto L Thomas, Pedro Cenci Dal Castel (UFRGS); Lorenzo Veschini (King's College London); Yi Jiang (GSU); Priyom Adhyapok (Duke); Maciek Swat.

Target Audience: Experimental Biologists, Medical Scientists, Biophysicists, Mathematical Biologists and Computational Biologists (advanced undergraduates to senior faculty) who want to develop multi-scale Virtual-Tissue simulations or learn how such simulations might help their research. No specific programming or mathematical experience is required.

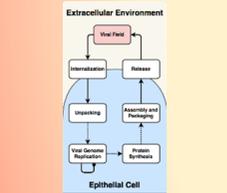
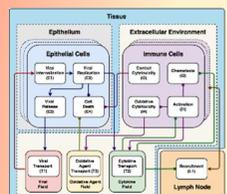
Fees: FREE. Registration: Enrollment is limited & by application only. Kindly apply by **June 15th**, at <https://tinyurl.com/CC3D2022> or **QR code** with a c.v., a brief statement describing your current research interests and the specific problem you would like to model. If you're currently a student, please include a letter of support from your advisor.

www.compuCell3d.org | email: compuCell3d.iu@gmail.com |

twitter: [@CompuCell3D](https://twitter.com/CompuCell3D) | support forum: www.reddit.com/r/CompuCell3D



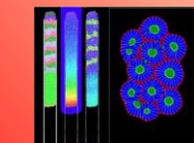
Viral Infection Modeling



Biochemical Networks



Cell Migration Modeling



Developmental Bio

Supported and funded by:

