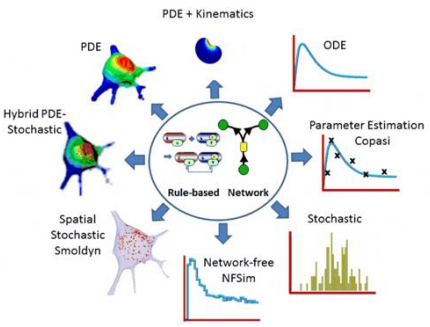
28th Annual On-site Workshop Computational Cell Biology June 1-3, 2026

Farmington, CT

VCell The Virtual Cell

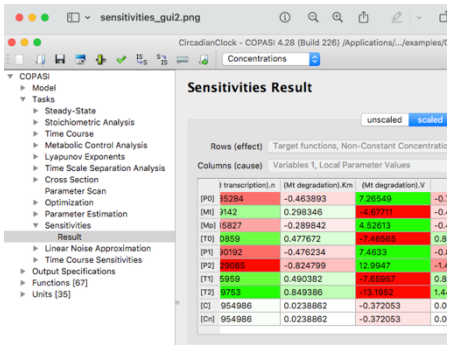
COPASI Complex Pathway Simulator

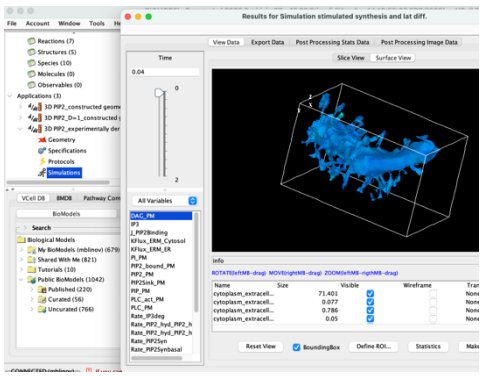


An intense in-person, hands-on course is designed to help cell biologists and biophysicists to develop mathematical models of their experimental system. You will learn how to use VCell (http://vcell.org), COPASI (http://copasi.org) and SpringSaLaD (https://vcell.org/ssalad) software to develop spatial and non-spatial models using deterministic, stochastic, agent- and rule-based approaches. Please check the websites for extensive tutorials and examples of models. Organized by the Center for Cell Analysis and Modeling (CCAM) at the University of Connecticut School of Medicine (UConn Health).

Course Description

The course includes introductions to VCell, COPASI and SpringSaLaD, presented by their developers and by modelers, followed by interactive hands-on sessions on designing your models, running simulations, and analyzing results. The number of course participants will be limited to allow for extensive one-on-one interactions with instructors and scientific discussions among the participants. Instructors include Michael Blinov, Ann Cowan, Stefan Hoops, Leslie Loew, Pedro Mendes, Ion Moraru, Jim Schaff.





How to Apply for the Course

Please email the following information to Dr. Michael Blinov, blinov@uchc.edu, by May 1, 2026: your name, institution, lab head (if you are a student), and 1-2 page proposal outlining your research project and explaining how you feel VCell, COPASI and/or SpringSaLaD will help it. This info will allow us to determine if our software is applicable to your project. As a NIH Biomedical Technology Resource, we are charged with supporting NIH-funded research through collaborative projects.

Modeling Methods	COPASI	VCell
Compartmental deterministic (ODE)	✓	✓
Stochastic compartmental (SSA)	✓	✓
Spatial deterministic (PDE)		✓
Steady-state (SSA)	✓	
Stochastic differential equations (SDE)	✓	
Parameter fitting	✓	*COPASI
Compartmental rule-based		*BioNetGen
Compartmental agent-based		*NFsim
Spatial stochastic		*SmolDyn
Spatial stochastic accounting for volumes		*SpringSaLaD
Scripting	BasiCO	pyVCell

Tools used within VCell

Workshop location:
Cell & Genome Science Building,
400 Farmington Ave, Farmington, CT 06032
Hours: 9am-5pm

UCONN HEALTH

Registration is free and all meals will be provided. Special hotel rates are available. No travel expenses are covered.

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