

FIMXII-SCMA2005@AUBURN, Twelfth Annual International Conference on Statistics,  
Combinatorics, Mathematics and Applications, December 2–4, 2005, Auburn University,  
Auburn, Alabama, USA

**MODELING BIOLOGICAL DEVELOPMENT USING THE  
CELLULAR POTTS MODEL**

JAMES A. GLAZIER

The Cellular Potts Model has proved itself to be a simple and flexible framework for creating cell-oriented models of development. I will introduce the CPM and its applications and the modeling environment CompuCell3D which we have created to simplify the process of writing developmental simulations. I will illustrate the application of the CPM to modeling angiogenesis and vasculogenesis in vitro and will also discuss a simple extension of the CPM which allows solution of the low-Reynolds-Number advection-diffusion equations which are typical of developmental phenomena.

INDIANA UNIVERSITY  
*E-mail address:* [glazier@indiana.edu](mailto:glazier@indiana.edu)