

A research associate level **Computational/Developmental Biology Scientist** to develop predictive quantitative simulations of developmental defects induced by toxicological exposure using the CompuCell3D package. The applicant will develop multi-cell simulations of environmental perturbations of early development integrating reaction-kinetic models of regulation and GGH models of cell behaviors. The applicant should have at least an M.S. (Ph.D. preferred) level of expertise in cell or developmental biology, biophysics, or biochemistry and experience developing simulations of at least one sophisticated biological phenomenon (e.g. regulatory networks, biomechanics, organogenesis, etc...). The position requires the ability to independently digest literature related to cell regulation, cell signaling and cell behavior to extract the underlying biological models; to translate these biological models into mathematically rigorous form; to identify and recognize missing information in the literature and to interact with experimental biologists to design experiments to explore regulatory pathways; to study/model the physiological consequences of toxicological perturbations and to validate simulations. Expertise in angiogenesis, somitogenesis or gastrulation particularly helpful in either zebrafish or chick. Microscopy experience helpful. Experience in image analysis also helpful. Scripting Language programming experience required (Python preferred). Experience with SBW or CellML/Physiome helpful.

**Note:** All applicants will work in an interdisciplinary team including toxicologists, geneticists, developmental

biologists, computer-scientists, physicists and mathematicians to develop large-scale approaches to understanding the principles of development underlying teratogenicity, normal development and developmental diseases like cancer. Interest in regenerative biology and tissue engineering appreciated. Starting salary range will be between \$30,000 and \$70,000 per year plus standard health insurance and retirement benefits. Salary dependant on experience and qualifications. Initial appointment for one year beginning Dec. 1, 2009, renewable for up to three years depending on performance and funding availability. Send CV, research summary and 2 papers or projects, along with a brief statement of relevance of background to position applied for, to Prof. James A. Glazier, [glazier@indiana.edu](mailto:glazier@indiana.edu) The Biocomplexity Institute Multidisciplinary Science Building (MSP) 1 Simon Hall 047