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Postdoctoral Fellows, Software Engineers, or graduate students in data aggregation, online simulation, and visualization

To better understand how genotype and the environment determine phenotype, the Karr Lab at the Icahn School of Medicine at Mount Sinai is developing comprehensive whole-cell computational models which aim to represent all of the biochemical activity inside cells. In addition, we aim to use whole-cell models to transform medicine. Our research is highly interdisciplinary, involving systems biology, genomics, numerical simulation, and software engineering, and team-oriented. We are seeking a talented, ambitious individual to join our team and help us develop tools for building, simulating, and analyzing models of cells.

Responsibilities. Examples of tools that the scientists/engineers may develop include an integrated database of biochemical and genomic data for modeling; tools for discovering data for modeling specific organisms; a framework for systematically designing models from large datasets; a universal simulator that can simulate a wide range of models including steady-state, logical, deterministic, stochastic, and spatial models; a database for simulation results; tools for mining large-scale simulation results; and web-based tools for visualizing models and simulation results.

The scientists/engineers will be part of the new NIH-funded Center for Reproducible Biomedical Modeling which aims to make cell modeling systematic, scalable, and collaborative. The center includes Herbert Sauro and John Gennari at the University of Washington, Ion Moraru and Michael Blinov at the University of Connecticut Health Center, and David Nickerson at the University of Auckland. The scientists/engineers would also have opportunities to work with our team to build and analyze models.

Desired skills/experience. Cell modeling is highly interdisciplinary. Consequently, we're looking for team members with a broad range of skills and experience.

- Passion for transforming bioengineering and medicine;
- Desire to tackle challenging problems and a commitment to innovation;
- Abilities to think creatively and integrate diverse concepts;
- Strong experience in modeling, software engineering, and/or visualization;
- Excellent oral and written communication skills;
- Abilities to work independently and within a team; and
- BS, MS, or PhD in computer science, applied math, or a related field.

Career development, compensation & benefits. The Karr Lab and Mount Sinai offer numerous opportunities for career development. Compensation will be commensurate with experience. All employees are eligible for medical, dental, and health insurance.

How to apply. Please send a cover letter indicating your scientific/engineering interests and your career goals and a CV to Jonathan Karr (karr@mssm.edu). Prospective graduate students should also apply to one of Mount Sinai's graduate programs (due December 1).

More information. Please visit our website (www.karrlab.org) or contact Jonathan Karr (karr@mssm.edu).

About the Institute for Genomics & Multiscale Biology. The Institute for Genomics & Multiscale Biology is an interdisciplinary group of scientists, engineers, and clinicians who are passionate about making medicine more precise and personalized. The Institute's research spans a wide range of systems biology, genomics, bioinformatics, and clinical informatics. Mount Sinai is a superb environment for translational research.