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Postdoctoral Fellow or Senior Scientist in human whole-cell modeling

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 bioengineering and 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 the first whole-cell model of a human cell.

Responsibilities. The scientist will help develop the first whole-cell model of a human embryonic stem cell and use the model to gain insights into pluripotency maintenance among other fundamental cell behaviors. This will include aggregating and organizing experimental data to build models, designing models, calibrating models, validating models, analyzing simulation results, and using models to generate new hypotheses. The scientist will also have many opportunities to contribute to the development of new whole-cell modeling methods and tools. The scientist will work closely with our team at Mount Sinai, including our experimental collaborators Profs. Marc Birtwistle and Jianlong Wang.

Desired skills/experience. Whole-cell modeling is a highly challenging and interdisciplinary problem. Consequently, we are looking for creative scientists with strong experience in both computational science and biology who want to work with an interdiscplinary team. The ideal candidate has the following skills and experience. We also encourage applicants with related experience to apply.

- PhD in computational biology or related field;
- Strong experience in dynamical and/or genome-scale modeling;
- Broad knowledge of cell biology, genomics, mathematics, and computer programming;
- Deep commitment to innovation and desire to tackle challenging problems;
- Abilities to solve problems by thinking creatively, integrating concepts, and overcoming barriers;
- Passion for transforming bioengineering and medicine;
- Excellent oral and written communication skills; and
- Abilities to work independently and within a team.

Funding & duration. This position is supported by a five-year NIGMS Maximizing Investigators' Research Award (MIRA) award.

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

How to apply. Please send a cover letter indicating your research and career goals and a CV to Jonathan Karr (karr@mssm.edu).

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 leader in basic and clinical research.