Postdoctoral Fellow: Computational Systems Biology

A postdoctoral fellow position is available under the supervision of Prof. Laurence Yang in the Department of Chemical Engineering at Queen’s University. The position involves developing scalable optimization algorithms to learn the “goals” of microbial and human cells. These goals are studied in the context of metabolism and protein expression, and they are learned from multi-omics data types including fluxomics, transcriptomics, proteomics, and phenotyping across many growth conditions. This project will produce new computational tools that can improve our ability to model cells operating with complex metabolic objectives. Examples of such cells include drug-resistant microbes, and human tissue that are difficult to model in both healthy and diseased states using conventional modeling approaches.

The applicant should hold a Ph.D. in Chemical Engineering, Bioengineering, or a related field. The ideal candidate will possess expertise in two areas: (1) genome-scale models of cell metabolism, possibly extending to protein-constrained / macromolecular resource-allocation models, and (2) nonlinear optimization and distributed algorithms. The candidate should be proficient in one or more programming languages (e.g., Python, R, Matlab, GAMS/AMPL, Fortran, C/C++). The candidate should also be proficient in statistical analysis of data (hypothesis testing, permutation tests, etc.). Finally, strong scientific communication skills (both written and verbal) are required, as demonstrated by publications and conference presentations.

The initial appointment will be for one year, with possibility of renewal. The salary will be commensurate with experience and qualifications, with a minimum base salary of $34,900 CAD/year plus benefits (as per the Collective Agreement between Queen’s University and its Postdoctoral Fellows; see https://www.queensu.ca/facultyrelations/post-doctoral-fellows/collective-agreement).

The position is available beginning August 1, 2019. Applications will be accepted until the position is filled.

Please send Curriculum Vitae, and the names and contact information for three references to Dr. Laurence Yang (laurence.yang@queensu.ca).

Queen’s University invites applications from all qualified individuals. Queen’s is committed to employment equity and diversity in the workplace and welcomes applications from women, visible minorities, Aboriginal peoples, persons with disabilities, and LGBTQ persons.