PDF for Engineering Applications in Synthetic Biology

The Pardee (www.pardeelab.org) and Sinton Labs (www.sintonlab.com) at the University of Toronto are seeking a postdoctoral fellow with expertise in engineering devices for biological applications. The proposed project aims to develop a novel fluid-handling device to manipulate synthetic biology reactions, control temperature and perform optical monitoring. This position is unique as it emphasizes the confluence of engineering design principles with an understanding of biological systems in order to develop accurate, automated, and commercialization-ready units. This exciting position provides the opportunity to engage with both the design and development stages of the device, as well as with its practical implementation for scaling clinically relevant gene circuit-based reactions.

The group offers a collaborative mission-driven environment with a dedication to innovation and a commitment to interdisciplinary research. The ideal candidate will be an enthusiastic, highly motivated individual with strong interpersonal and communication skills, capable of effectively conducting research with others in a stimulating environment. We are considering applicants with a PhD from mechanical or chemical engineering, as well as applicants with a PhD from Molecular Biology or a related field with considerable research interests in engineering devices for biological applications.

Qualifications:

- PhD in Mechanical or Chemical engineering or PhD in Molecular Biology, Genetics, Microbiology possessing considerable knowledge and experience with engineering design principles.
- Experience with hardware and mechatronic design.
- Experience with device integration across fluids-hardware-sensors-software, controls, electronics integration, device programming, process engineering, fluid handling, fabrication (e.g. CAD, 3D printing, laser cutting)
- Competence with basic molecular biology and biochemistry. While the ideal candidate will have previous experience in this area, it can also be learned on the job.
- Excellent written and verbal communication skills and aptitude for working in collaborative, interdisciplinary environments.

Additionally, the role involves generating publications, contributing to grants and progress reports, mentorship of students, and the maintenance of meticulous records.

Minimum Salary: $50,000/year

Expect start date: October 2018 or as soon as possible
FTE: 100%

Job Closing: September 20th, 2018

The normal hours of work are 40 hours per week for a full-time postdoctoral fellow (pro-rated for those holding a partial appointment) recognizing that the needs of the employee’s research and training and the needs of the supervisor’s research program may require flexibility in the performance of the employee’s duties and hours of work.

The University of Toronto is strongly committed to diversity within its community and especially welcomes applications from racialized persons / persons of colour, women, Indigenous / Aboriginal People of North America, persons with disabilities, LGBTQ persons, and others who may contribute to the further diversification of ideas. Employment as a Postdoctoral Fellow at the University of Toronto is covered by the terms of the CUPE 3902 Unit 5 Collective Agreement.

To apply please send a curriculum vitae, a statement of research interests and experience, and contact information of three references via e-mail to keith.pardee@utoronto.ca and sinton@mie.utoronto.ca, with “PDF – MECH/CHEM” in subject line. Applicants will subsequently be contacted by e-mail regarding the status of their applications; potential candidates will be asked to interview with the supervisor for the position.