JOB POSTING – POSTDOCTORAL FELLOW

Area of Research: Using *C.elegans* to discover new anti-parasitic drugs, their targets, and the basic biology they affect

Description of duties:
Our team uses *C.elegans* to discover new classes of drugs that can kill parasitic helminths. These are major human pathogens — they infect over 1 billion humans and new drug classes are urgently needed. This research direction is a new and exciting area for us and combines drug screens, genetic screens, and basic biology. It's a great time to join this project since we've made key breakthroughs in both the basic biology and screening technology over the last couple of years. We have a unique screening platform that measures the effects of drugs on worms at very high throughput, and a suite of assays that build on recent discoveries we made on the anaerobic metabolism of helminths. We have large libraries of both commercially available and proprietary libraries of small compounds as well as unique sets of natural products to identify bioactive compounds and have already identified several structural classes of lead compounds. Finally, our new technology lets us screen rapidly for drug resistant mutants and so moving from new drug to mechanism of action is extremely fast and successful. Our group is highly collaborative within our institute, within Canada, and internationally, and the project involves academic partners, NGOs, and pharmaceutical companies. The combination of novel basic biology and highly directed drug screens will make an unusual and exciting research environment.
The project would be ideal for new postdocs with *C.elegans* experience, especially with a background in genomics or large scale genetic screens. Other applicants with a strong background in metabolomics or mitochondrial biology would also be an excellent fit.

Key references for project:
1. Rhodoquinone biosynthesis in *C. elegans* requires precursors generated by the kynurenine pathway. Del Borrello S, Lautens M, Dolan K, Tan JH, Davie T, Schertzberg MR, Spensley MA, Caudy AA, **Fraser AG**. Elife. 2019 Jun 24;8. pii: e48165. doi: 10.7554/eLife.48165. PMID: 31232688
2. Acute Effects of Drugs on *Caenorhabditis elegans* Movement Reveal Complex Responses and Plasticity. Spensley M, Del Borrello S, Pajkic D, **Fraser AG**.
G3 (Bethesda). 2018 Aug 30;8(9):2941-2952. doi: 10.1534/g3.118.200374. PMID: 30061375

Salary: Commensurate with experience and in accordance with the collective agreement.

Required qualifications: Ideally suited to candidates with PhD and strong *C.elegans* experience or a background in metabolomics or mitochondrial biology.

Application instructions: All individuals interested in this position must submit cover letter and curriculum vitae to andyfraser.utoronto@gmail.com by the closing date.

Closing date: September 30, 2019.

Supervisor: Professor Andy Fraser

Expected start date: October 1 2019, flexible start.

Term: 1 year (with possibility of renewal up to 3 years)

FTE:
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.

Employment as a Postdoctoral Fellow at the University of Toronto is covered by the terms of the CUPE 3902 Unit 5 Collective Agreement.

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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.