THE UNIVERSITY OF BRITISH COLUMBIA

Michael Smith Laboratories

Postdoctoral Fellow: Single-molecule microscopy of RNA-based medicines and vaccines

The Michael Smith Laboratories at the University of British Columbia in Vancouver, Canada, invites applications for a Postdoctoral Fellow (PDF) to join a dynamic team under the supervision of Dr. Sabrina Leslie. The successful candidate will work on a project that applies new biophysical tools to the development of genetic medicines and vaccines. The position is based in a cutting-edge academic research lab and the project will be driven by real and immediate needs, in collaboration with interdisciplinary scientists in the Nanomedicine Center of Excellence (NMIN).

About the high-throughput single-molecule CLiC imaging technology

The Leslie Lab's single-molecule technology, Convex Lens-induced Confinement (CLiC), works by squeezing molecules into arrays of nanometer- to micrometer-scale "traps" that are large enough to allow the molecules to move and interact freely, but small enough to keep them confined so they can be imaged over extended periods with a high-powered optical microscope. The result is the world's first tether-free and high-throughput single-molecule technology for analyzing individual molecular interactions in cell-like conditions. CLiC is capable of detecting, following, and understanding rare molecular events – like the drug/target interactions which can 'silence' genes associated with the onset of diseases – and by enabling direct visualization of how the drugs work, help us better engineer them.

About the position

The PDF will join a talented, energetic, interdisciplinary team of scientists and engineers working in a newly built laboratory. Our team collaborates with the spin-off company ScopeSys to respond to partnerships with leading drug and vaccine development research groups and companies. The emphasis of this position will be on applications of our single-molecule and single-cell imaging technology to improve and accelerate development of lipid-nanoparticle and RNA-based medicines and vaccines.

This project will require an interdisciplinary skill set, combining physical, chemical and biological expertise. The ideal candidate will possess experience and interest in some of the following areas:

- Microscopy of molecules, nanomaterials, cells
- Instrumentation, optics, engineering
- Micro/nano-fabrication and lithography
- Surface science and chemistry
- DNA, RNA, lipid nanoparticles, cells
- Biophysical assay and protocol development
- Electronics, mechanical engineering, machining

The successful candidate will have a PhD and a demonstrated track record in research with first authored peer-review publications. The position will be filled by a well-organized, enthusiastic team player with strong communication skills, who enjoys hands-on lab work and creative trouble-shooting, and who is excited to try new things. Applicants should have a strong interest in building a career in biotechnology and/or nanotechnology research and development, pioneering new biophysical techniques, and commercializing cutting edge science and technology.

Application process

Interested applicants should submit a letter of application that highlights their experience, detailed curriculum vitae including a list of publications, and contact details for 3 references. Application materials

should be combined into a single PDF document and sent to **leslielab [at] msl.ubc.ca**. Please include "PDF in single-molecule biophysics and biotechnology" in the e-mail subject line. Incorrectly addressed applications will not be considered. Review of applications will begin immediately and continue until the position is filled. We will contact you only if invited for an interview.

Equity and diversity are essential to academic excellence. An open and diverse community fosters the inclusion of voices that have been underrepresented or discouraged. We encourage applications from members of groups that have been marginalized on any grounds enumerated under the B.C. Human Rights Code, including sex, sexual orientation, gender identity or expression, racialization, disability, political belief, religion, marital or family status, age, and/or status as a First Nation, Metis, Inuit, or Indigenous person.