Chemical Engineering & Applied Chemistry
UNIVERSITY OF TORONTO

BioZone
Centre for Applied Bioscience and Bioengineering

Microbiome Engineering Post-Doctoral Fellow

Faculty / Division: Faculty of Applied Science and Engineering
Department: Chemical Engineering & Applied Chemistry (BioZone)
Campus: St. George (downtown Toronto)

Description:
The Centre for Applied Biosciences and Bioengineering (BioZone) at the University of Toronto invites applications for a Post-Doctoral Fellowship in microbiome engineering and systems microbiology. This position is part of a collaborative research project on engineering synthetic microbial consortia for lignocellulosic conversion to high value chemicals involving BioZone (U of T), the University of California - Santa Barbara (UCSB), and Pacific Northwest National Laboratory (PNNL). The position will be primarily supervised by Dr. Christopher Lawson and Dr. Radhakrishnan Mahadevan (U of T). Interested candidates should send their CV with at least two references to Dr. Christopher Lawson (chris[dot]lawson[at]utoronto.ca).

Qualifications:
The position requires a PhD in Chemical Engineering, Environmental Engineering, Microbiology, Molecular Biology, Biochemistry with 2-3 years of experience in microbiology, analytical chemistry, biochemistry, biochemical engineering, or a related discipline.

Preference given to candidates with experience in:

- Strong background in microbial fermentation and metabolism/physiology
- Strong knowledge of molecular biology
- Experience with ^{13}C metabolic flux analysis and/or genome-scale modeling
- Experience with coding in Python
- Experience working with anaerobic microorganisms is an asset
- Experience with microbial metabolomics and proteomics is an asset
- Experience with automation and high-throughput experiments is an asset

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Duties:

- Responsible for developing automated high-throughput workflows to assemble and phenotypically characterize anaerobic microorganisms and synthetic microbial consortia
- Responsible for performing ^{13}C metabolomic and proteomics studies to quantify metabolic fluxes and protein abundances in anaerobic microorganisms (bacteria and fungi) and consortia
- Conceive hypotheses, design and conduct experiments and analyze and interpret data
- Review scientific literature, execute research projects and report on their progress through oral and written reports and scientific journal articles
- Communicate effectively orally and in writing
- Present research at local, national and international meetings
- Interface with industry partners and vendors effectively
- Maintain strain and plasmid databases as appropriate
- Coordinate research projects and meetings as appropriate
- Responsible for calibration and routine maintenance of specific equipment and training other researchers and provide technical support for these equipment
- Responsible for developing new techniques and methods and training other researchers in these techniques
- Assist the PI in preparing manuscripts and proposals.
- Perform other additional duties to enable the safe and efficient operation of the lab

Notes:

The initial appointment term is for a year with the possibility of longer-term extension. The University of Toronto is a highly competitive employer and compensation will be commensurate with experience of the candidate.

The University of Toronto is strongly committed to diversity within its community and especially welcomes applications from visible minority group members, women, Indigenous / Aboriginal persons, persons with disabilities, LGBTQ persons, and others who may contribute to the further diversification of ideas.

Interested candidates should send their CV with at least two references to
Dr. Christopher Lawson (mailto:chris.lawson@utoronto.ca).