

## JOB POSTING – The Verschuren Centre for Sustainability and the Environment

**Position:** Kraken Sense: Post-Doctoral Research Fellow

**General Description:** The goal of the project is to work with client's Kraken Sense to create a new bacteria and virus detection sensors based on the optical, immunomagnetic, and rapid PCR technology and investigate of use of aptamers in place of antibodies for the same purpose. New and existing aptamers specific to pathogenic bacteria will be researched and created. Microfluidics will be used extensively to develop new detection methodologies and sensors. The resulting sensors will be tested against various pathogenic bacteria concentrations ( $10^1 - 10^5$  CFU / 1mL). The sensors will be used together with the prototype unit that will be supplied by Kraken Sense to measure the response generated by the sensors when exposed to water samples.

**Primary Job Functions:** Assist in the development of the bio-sensor that will be used in the detection of the pathogenic bacteria. Develop experiments, equipment and the prototype sensor designs necessary to conduct experiments based on electrochemical, opto-chemical, and opto-electrical detection methodologies. Assist in conducting the experiments in BSL1 and BSL2 lab environments. Independently and as part of the team research the relevant sensor methodologies found in the literature. Research and establish a supplier network for sensor components.

### Required skills:

- Practical experience with PCR pathogen detection systems
- Practical experience with sensor design
- Experience working in BSL 1 and BSL 2 facilities
- Experience with bio-chemical, microbiology and immunology research

### Desired skills:

- Experience with design, development and fabrication of microfluidics devices
- Practical experience with culture protocols for pathogenic bacteria, including Salmonella and E. coli, and viruses
- Practical experience with electrical or electro-chemical parts and systems design
- Practical experience with prototype development and DFMA

**Experience:** Post-Doctoral experience with pathogen detection, sensor development, aptamer research and/or microfluidics will be considered an asset.

**Education:** PhD in Biochemistry, Microbiology, Immunology, Electrical or Mechanical engineering or Optical sciences or related field.

**Work status:** Full time

**Location:** Sydney, Nova Scotia

**Reporting:** Direct to CEO of Kraken Sense

**Compensation:** Commensurate with experience

**Start date:** TBD

**Contact:** Send CV and cover letter to [info@verschurencentre.ca](mailto:info@verschurencentre.ca) by June 15<sup>th</sup>