

**Position: Laboratory Technical Specialist**

**General Description:** The goal of the project is to create novel 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. Rapid detection methodologies with the emphasis on low pathogen concentration detection will be developed. 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/mL). The sensors will be used together with the automated sampling unit 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. Assist in development of prototype sensor design. Assist in development and technical implementation of equipment and the prototype sensor designs necessary to conduct experiments based on electrochemical, opto-chemical, and opto-electrical detection methodologies. Design, build, implement and maintain the sensor equipment and supporting hardware. Independently and as part of the team research the relevant sensor methodologies found in the literature. Research and establish a supplier network for sensor and supporting hardware components.

**Required skills:**

- **Practical experience with electrical or electro-chemical parts and systems design**
- **Practical experience with prototype development and DFMA**
- **Practical experience with hardware component design and implementation**

**Desired skills:**

- **Experience with design, development and fabrication of microfluidics devices**
- **Practical experience with PCR pathogen detection systems**
- **Experience working in BSL 1 and BSL 2 facilities**
- **Experience with bio-chemical, microbiology and immunology research**

**Experience:** Previous experience with design and prototyping of mechanical, electrical and fluid components and assemblies will be considered an asset.

**Education:** Undergraduate or Masters degree in Electrical or Mechanical engineering or Optical sciences or related field.

**Work status:** Full time

**Location:** Sydney, Nova Scotia

**Reporting:** Direct to CEO

**Compensation:** Commensurate with experience

All interested and qualified candidates are asked to submit their resumes/cv to [info@verschurencentre.ca](mailto:info@verschurencentre.ca) prior to July 23<sup>rd</sup>, 2021