

Position: Laboratory Biotechnology 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: Culture the required strain specific pathogens in BSL1 and BSL2 laboratory environments. Prepare the water samples containing pathogenic bacteria for testing. Conduct the sensor tests using the water samples. Record and evaluate the results. Assist the senior staff in the development and optimization of the sensor design and functionality. Independently and as part of the team research and document methodologies found in literature. Research and establish the sources for sensor ingredients, including antibodies, aptamers, MWCNTs and others.

Required skills:

- Experience working in BSL 1 and BSL 2 facilities
- Experience with bio-chemical, microbiology and immunology research
- Practical experience with culture protocols for pathogenic bacteria including Salmonella and E. coli

Desired skills:

- Experience working with or developing novel aptamers
- Sensor development experience

Experience: Previous experience with pathogen detection, aptamer research and/or sensor development will be considered an asset.

Education: Undergraduate or Masters degree in bio-chemistry, microbiology, immunology or related discipline

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 prior to July 16th, 2021