Research Assistantships – Wireless Sensors/Water Quality Testing

Several positions are available for a collaborative project that involves a local industrial partner and local water authorities. Water quality is essential to our well-being but existing methods of testing water quality are expensive and slow. This project involves using small wireless sensor nodes that are suitable for off-grid application in remote areas. The tasks involve HW-SW interfacing of commercial sensors (e.g. ammonia, dissolved oxygen, pH), deploying sensors locally and maintaining those, developing a fault-tolerant software architecture that allows operation in harsh environments, code generation and reliability analysis from models, storage of sensor data in the cloud, and "big data" analysis for anomalies and trends using machine learning.

Required qualifications include a strong programming background and, depending on the task, experience with hardware interfacing, code generation and analysis, or "big data" algorithms. The positions are available for both the fall and winter terms, with possible continuation in the summer. Applicants are asked to indicate if they are Work-Study eligible.

10 hours/week.

Please contact Emil Sekerinski (emil@mcmaster.ca).