Post-Doctoral Fellow – Fluid Sensors for Global Public Health (1-year term)

Location: Toronto, Canada
Term: One-year term with a possible renewal
Expected start date: as soon as possible
Deadline: December 14th, 2020; the search will continue until the position is filled.

The Centre for Global Engineering (CGEN) at the University of Toronto is inviting applications for a Post-Doctoral Fellow position in global engineering and biofluid mechanics. The successful candidate will contribute to the project “Latrine-Based Diarrhea Sensors” with applications to inflammatory bowel disease management and global health monitoring, supervised by Dr. David Taylor Meyer. By studying the fluid mechanics of diarrheal defecation, we aim to discover properties that can be readily sensed. We are creating a sensor to quantify the presence and severity of diarrhea with applications in: i) quantitative symptom management for patients with inflammatory bowel diseases, ii) sensing the efficacy of global health interventions that aim to reduce diarrheal prevalence, and iii) detecting diarrheal disease outbreaks in high-risk shared latrine facilities (e.g. refugee camps).

Work will involve conducting a literature review, building and refining CFD models, designing and conducting laboratory experiments to support CFD models, project management, writing papers, and delivering conference presentations. While it is expected that 50-85% of the work could be done remotely, the ability to do in-person laboratory work is required (within two months of starting).

Position Requirements:

- PhD in Mechanical, Biomedical, or Civil Engineering, or related fields.
- Must have demonstrated research experience in fluid mechanics and/or computational fluid dynamics (CFD).
- Demonstrated knowledge in biofluids, statistics or data science, and global or public health.
- (Highly Preferred) Demonstrated experience in sensor design and/or global engineering.
- Excellent communication skills in English (Oral and written).

To apply, prepare a cover letter, CV, 3 samples of research papers and contact information for at least two references. Email them all in a single email with the subject line “Application for Post-Doctoral Fellowship in Fluid Sensors for Global Public Health” to the CGEN Program Manager, Ahmed Mahmoud, at a.mahmoud@utoronto.ca