Urban Carbon-Emission Modeler
PhD Studentship at Dalhousie University

Supported by the Canada's Climate Action and Awareness Fund (PI: Dr. Ahsan Habib), the Development of a Bottom-up, Activity-based Transport Network and Emissions Modeling System project aims to quantify greenhouse gas emissions at the urban scale.

I am looking for a graduate student, preferably at the doctoral level, to join our team at Dalhousie University to develop urban CO_2 concentration surfaces using satellite-based observations (and low-cost sensors if available). It is estimated that populations in urban areas consume more than 60% of the world's energy and generate more than 70% of total greenhouse gas emissions. In coordination with other project objectives the research will enhance capacity to monitor and evaluate existing and newer mitigation policies, such as vehicle electrification, fuel standards, telecommuting, and policies guiding the online retail industry.

Your role is focused on estimating carbon dioxide emissions from four urban areas in Canada. This process will involve the interpretation of scientific articles and government documents, tracking down satellite data and the application of skills in remote-sensing and data analysis to generate urban emission models.

The ideal candidate will have completed a graduate degree in any of the following disciplines, e.g., geography (remote sensing), earth sciences, environmental sciences or atmospheric sciences, with a strong technical background in urban remote sensing, carbon sources, and analytics. In addition, a preferred candidate will have experience with Google Earth Engine, programming skills, a background knowledge of basic statistics and data science and the ability to effectively communicate and translate knowledge. The successful candidate will be expected to develop a thesis in the area and will receive support from an experienced and multidisciplinary team of researchers with extensive expertise in transportation modeling, computer science, geographic information systems, air emissions science and exposure assessment.

The candidate will receive a stipend of $30,000 per year for three years and may be eligible for additional funding support. Applications for this position should include a letter of interest, a recent CV, transcripts and the names of two references, and should be sent to Dr. Daniel Rainham (daniel.rainham@dal.ca). Candidates will also need to apply to a doctoral program at Dalhousie University (Interdisciplinary PhD Program) by the appropriate deadline to begin studies in January or May of 2024.

Dr. Daniel Rainham, PhD,
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