JOB POSTING – POSTDOCTORAL FELLOW

Areas of Research: Low impact development, stormwater, green infrastructure, green or living roofs

Overview of the position:

Applications are invited for one postdoctoral position in green stormwater infrastructure (also referred to as Low Impact Development (LID), Sustainable Drainage Systems (SuDS), or Water-Sensitive Urban Design (WSUD) with specialization in vegetated stormwater systems (green roofs and/or bioretention systems).

The objective of this study is the advancement of vegetated stormwater systems, by producing scientifically rigorous data that quantifies the environmental benefits of commercially successful technologies and explore innovative approaches to address triple-bottom-line goals including plant survivability, functionality, cost-efficiency, the circular economy and sustainability.

This goal will be pursued through several research initiative including:

- Assessing the stormwater benefits of ultra-lightweight mat and soilless substrate green roofs,
- Testing and optimizing irrigation practices to improve system sustainability,
- Developing growing media amendments and blends that integrate waste products (e.g. biochar, agricultural waste, drinking water residuals,

The postdoctoral fellow will have a suitable research and/or industry background and be a lead contributor to peer-reviewed publications, technical reports, conference proceedings and in-depth interactions with research partners. The postdoctoral fellow will join a research group focused on investigating the relationship between the infrastructure we build and the society we create. In addition to acting as a lead contributor on this research project, the fellow is expected to actively engage with other researchers in the group (e.g., regular attendance at group meetings, providing advice to graduate students).

Description of duties:

The candidate will contribute to:

- Experimental design, instrumentation, and monitoring work through the Green Roof Innovation Testing Laboratory (GritLab) to characterize green roof hydrology, discharge water quality, and plant traits.
- Contribute to research projects and training programs supported by the NSERC CREATE Design of Living Infrastructure for Ecosystem Services (DesignLIFES) Network
- Lead research planning, and proposal research writing for future work on growing media amendments.

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Salary: $58,000/year + benefits

Please note that should the minimum rates stipulated in the collective agreement be higher than rates stated in this posting, the minimum rates stated in the collective agreement shall prevail.

Required qualifications:
- PhD degree in engineering, architecture, biology, or related field awarded within the past 5 years
- A valid driver license is required
- Experience working on inter-disciplinary teams, field, and lab research work.
- Excellent communication skills in English
- Desire to engage in applied research with near-term applications
- Demonstrated ability to work independently and as part of a team and a drive to create their own novel research direction

Experience with the following is a plus:
- R, MiniTab or Python
- Automated samplers, flow sensors, climatic measurements, and water quality analyses is a plus
- Engineering design software (e.g. SWMM or similar)
- Design, manufacturing, construction, operation, and maintenance of green infrastructure
- Design, construction and operation of irrigation systems
- Growing media design and manufacturing
- ArcGIS or similar

Application instructions

All individuals interested in this position should submit a single electronic file consisting of a cover letter, detailed CV, a one page statement of research interests, and the names and addresses of three references to Prof. Jennifer Drake (jenn.drake@utoronto.ca) by the closing date. Please use the subject line Application for Vegetated Stormwater Systems postdoctoral fellowship.

Closing date: June 30th, 2020. The search will continue until the position is filled.

Supervisor: Prof. Jennifer Drake

Expected start date: Fall 2020

Term: 1 year, renewable

FTE: 1

Employment as a Postdoctoral Fellow at the University of Toronto is covered by the terms of the CUPE 3902 Unit 5 Collective Agreement.
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The normal hours of work are 40 hours per week for a full-time postdoctoral fellow (pro-rated for those holding a partial appointment) recognizing that the needs of the employee's research and training and the needs of the supervisor's research program may require flexibility in the performance of the employee's duties and hours of work.

The University of Toronto is strongly committed to diversity within its community and especially welcomes applications from racialized persons / persons of colour, women, Indigenous / Aboriginal People of North America, persons with disabilities, LGBTQ persons, and others who may contribute to the further diversification of ideas.