

June 14, 2021

Postdoctoral Associate in Nonstationary Compound Flooding

Prof. Najafi at the Department of Civil & Environmental Engineering, Faculty of Engineering invites applications for an energetic and dynamic postdoctoral associate in the area of Compound Flooding. The appointment is expected to be effective September 1, 2021 or as soon as possible thereafter. The research work will characterize and predict the compounding effects of multiple flood hazards in urban environments that will lead to more resilient cities and communities. The successful applicant will analyze the drivers of flooding and develop an integrated framework to simulate and predict the simultaneous or cascading effects of multiple hazards. He/she will develop innovative multivariate statistical techniques to quantify the interdependencies between multiple drivers, their joint variabilities and the corresponding uncertainties. A particular opportunity will be to use large ensembles of climate model simulated data with a range of spatial resolutions to assess the nonstationary behaviour of extremes.

This position will be supervised by Prof. Reza Najafi at Western University, and there will be direct interactions with the Institute for Catastrophic Loss Reduction (ICLR). The International Council for Science has designated ICLR as an international centre of excellence for integrated research of disaster risk. Therefore, engagements with the research community, P&C insurance industry executives and key officials involved in the management of urban flood risks are expected.

Qualifications:

- PhD in hydrology, civil engineering, statistics, or a closely related discipline
- Knowledge of multivariate statistics and extreme value theory
- Expertise in analysis and use of global and regional climate model simulations
- Experience in process-based hydrologic and hydraulic modelling
- A strong publication record in peer-reviewed journals

The ideal candidate would possess the following skills and abilities:

- Significant experience with Python and/or R programming languages
- Significant experience with big data analytics and statistical modelling
- Experience with Linux/Unix environments and high-performance computing
- Familiarity with land surface models such as Noah-MP
- Excellent multi-tasking skills and ability to find creative solutions to complex, open-ended problems
- Ability to work in a self-directed manner and within a team environment

Situated along the banks of the Thames River in picturesque London, Ontario, a city with a population of approximately 350,000, Western University is a prominent academic institution routinely ranked as a top research-intensive university in Canada and is committed to excel as a leading research institution internationally. Western University has a full-time enrollment of about 32,000 students in a range of academic and professional programs. Further information about Western can be found at <http://www.uwo.ca/>, the Faculty of Engineering at <http://www.eng.uwo.ca/>, the Department of Civil and Environmental Engineering at <http://www.eng.uwo.ca/civil/> and Prof. Najafi's research lab at https://www.eng.uwo.ca/civil/faculty/najafi_m/index.html. Western Engineering's Mission, Vision and Values can be found at <https://www.eng.uwo.ca/files/departments-units/human-resources/values-mission-statement.pdf>. Western's Recruitment & Retention Office is available to assist in the transition of successful applicants and their families. The Department of Civil & Environmental Engineering is one of the top civil engineering programs globally [ranked # 1 in Canada and # 15 in the world, ARWU (2020)], with a strong international reputation in both research and teaching.

Interested candidates should contact Prof. Reza Najafi at mnajafi7@uwo.ca (subject line “ATTN: Postdoctoral Application”) and include a CV, cover letter, and contacts for three references. The appointment will have an expected term of one year, extendable to two years. Consideration of applications will commence on July 15, 2021 and will continue until the position is filled.

Applicants should have fluent written and oral communication skills in English. The University invites applications from all qualified individuals. Western is committed to employment equity and diversity in the workplace and welcomes applications from women, members of racialized groups/visible minorities, Aboriginal persons, person with disabilities, persons of any sexual orientation, and persons of any gender identity or gender expression.

Accommodations are available for applicants with disabilities throughout the recruitment process. If you require accommodations for interviews or other meetings, please contact Prof. Najafi by email at mnajafi7@uwo.ca or by phone at 519-661-2111 ext: 86428.