

Posting Date: May 23, 2024

**Postdoctoral Associate in Compound Flooding
Department of Civil and Environmental Engineering
Western University**

The Hydroclimate Extremes and Climate Change (HydroClimEX) Lab at Western University is seeking a postdoctoral associate specializing in compound flooding. This interdisciplinary research position is part of a collaborative project with Environment and Climate Change Canada (ECCC), focusing on characterizing compound flood hazards, their spatial and temporal interactions, and projected impacts under climate change. The project will contribute to the development of resilient cities and communities. The successful candidate will study compound coastal and inland flooding, examining the interdependencies among flood drivers across space and time and assessing the corresponding risks. This involves multivariate statistical analysis of extremes and simulating flood scenarios using hydrological and hydraulic models such as WRF-Hydro and TELEMAC-2D. Effective communication and stakeholder engagement are essential, as this position requires presenting results to the research community, insurance industry, and other key stakeholders. Candidates should be comfortable in an interdisciplinary setting and ready to contribute to significant research in compound flooding and climate resilience.

Essential Qualifications/Experience:

- 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 with Linux/Unix environments and high-performance computing
- Experience in process-based hydrologic and hydraulic modelling and/or coastal hydrodynamic and morphodynamic models (TELEMAC, Delft3D, XBeach, etc)
- A strong publication record in peer-reviewed journals

Asset qualifications/experience:

- Significant experience with Python and/or R programming languages
- Significant experience with big data analytics and statistical modelling
- Familiarity with land surface models such as Noah-MP

The ideal candidate would possess the following skills and abilities:

- 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

Application Procedure:

Interested candidates should complete the following webform <https://docs.google.com/forms/d/1hub-8HYfONp5BH1rYFQj2U563YNHVakcPjMUmel7FVc/edit> and attach a cover letter describing your qualifications along with your CV. The expected appointment term is one year, extendable to two years upon satisfactory



performance and funding availability. Consideration of applications will commence immediately 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.

About Western and the Department:

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.