

Postdoctoral (Research Fellow) position in Hydrological Modelling

Invitation to apply. The Department of Civil and Environmental Engineering at the National University of Singapore (NUS) invites applications for one Research Fellow (Postdoc) position in Hydrological Modelling to begin as soon as possible.

The project “Network of Experimental Catchments for Understanding Runoff Formation and Flood Risk” aims at establishing a network of experimental catchments to study runoff formation in Singapore. In particular, by combining observed data and advanced modelling tools the project aims to use data collected in experimental catchments to (i) advance our understanding of runoff generation processes; (ii) to employ and develop physics-based hydrological models and physics-informed deep learning models; (iii) to evaluate the effectiveness of current drainage infrastructure in the context of a changing climate and increasing urbanization through scenario analyses. Results will be of paramount importance to improve the accuracy of rainfall-runoff simulations and flood risk assessments.

Qualifications. We are looking for a candidate with a PhD degree in Environmental Engineering, Environmental Science or related disciplines which includes specific and broad knowledge in the areas of hydrology, urban hydrology, floods, or ecohydrology. Candidates with an interdisciplinary background are welcome, but strong data analytics skills and knowledge of process-based numerical modelling tools and/or machine learning approaches is required. Very solid modelling skills, including programming skills (e.g., Matlab, Julia, Python) are a fundamental pre-requisite for the position. Experience in using process-based hydrological models is an asset for this position. Experience with high-performance computing would be preferable. Previous experiences in international contexts are also positively evaluated. The candidate is expected to be a highly organized and proactive person and able to work both in team and independently. Demonstration of innovative scientific results obtained during the PhD and communication skills are important elements of evaluation. A proficient command of oral/written English is essential.

Responsibilities. The candidate will be responsible for completing the scientific tasks of the project, leading and contributing to publications, and is expected to work on the integration of the different tasks with the other postdoctoral fellows working on the project. Besides contributing to the research activities of the project, the successful applicant is expected to support in a broader sense the research of the Hydrology group at NUS, thereby providing occasional support to graduate students (MSc and PhD).

The **National University of Singapore** is among the top universities in the world. The Department of Civil and Environmental Engineering is also very highly ranked internationally. Further information on the Department is available at: <https://www.eng.nus.edu.sg/cee/>.

Terms of appointment. The successful candidate will be offered a Research Fellow (Postdoc) position for 24 months with possibility of extension based on performance and fund availability. The contract conditions follow the National University of Singapore regulations. Working conditions are excellent and Singapore is an attractive city rated very high in terms of life quality and living standards. Salary is very competitive when compared to similar positions abroad.

Application procedure. Applications should include in a single .pdf file: (i) a motivation letter, (ii) a detailed Curriculum Vitae including a list of publications, and (iii) contacts of 2 to 3 reference persons. Applications should be submitted at the following link: <https://www.dropbox.com/request/mL4UePUjNKnWgWOBa0xt> . Shortlisted applications will be asked to participate to an interview that will take place over video.

Additional information about the position may be obtained by writing to Prof. Simone Fatichi (ceesimo@nus.edu.sg). Screening for the position will start on April 30th and the positions will remain open until filled. The expected appointment date is the earliest possible following the committee decision and administrative processing.