

Research Assistant in Urban Microclimate Modelling for Ecosystem Services in Urban Landscapes Project

Future Cities Laboratory, Singapore-ETH Centre

Project description

The project "Ecosystem Services in Urban Landscapes" (ESS), aims to find ways of incorporating knowledge about tropical urban ecosystem services into design, both at a local scale and across larger city landscapes. The project is modular and highly interdisciplinary with a combination of scientists with backgrounds in ecology, hydrology, landscape architecture and remote sensing. The ecohydrology module of the project aims to quantify the role of vegetation and architectural design in providing benefits at different spatial scales. In particular, it will focus on the role that vegetation plays in enhancing the thermal comfort including the reduction of air temperature and humidity, runoff as well as providing shading. Most of the work will be conducted in Singapore, but the developed tools will be applicable over a much wider area of tropical South-East Asia.

Key responsibilities

The successful candidate will work on tasks that include:

- Developing algorithms to combine different types of existing models,
- Organising and manipulating large datasets,
- Developing new ways to transfer information from point-cloud databases into urban meteorological and ecohydrological models.

Key Skills

We are looking for a candidate with:

- BS, MS in Computer Science, Meteorology, Physics or other related areas,
- Advanced programming skills and a strong background in modifying and developing new algorithms is essential,
- Proficiency in Python, C++ and Linux is highly desirable while knowledge of Fortran and/or Matlab is an additional advantage.
- Knowledge and/or experience with computational fluid dynamics and/or mesoscale meteorological modelling is evaluated very positively.
- An excellent command of English and good oral communication skills are essential.

Work location: 1 Create Way, CREATE Tower, Singapore 138602 (NUS University Town)

Duration: The successful candidate will be offered a full-time Research Assistant position for a period of six months. The contract conditions follow the Singapore-ETH Centre regulations.

To apply/for more information

Interested applicants should submit a CV, including a motivation letter, a detailed CV with contact details of 2 to 3 reference persons to Dr. Zuzana Drillet at drillet@arch.ethz.ch latest by 21th of September, 2018. Only shortlisted applicants will be contacted for an interview.

The Singapore-ETH-Centre is an equal opportunity and family-friendly employer. All candidates will be evaluated on their merits and qualifications, without regards to gender, race, age or religion.

About Singapore-ETH Centre

The Singapore-ETH Centre was established as a joint initiative between ETH Zurich – the Swiss Federal Institute of Technology in Zurich and Singapore’s National Research Foundation (NRF), as part of the NRF’s CREATE campus. The centre serves as an intellectual hub for research, scholarship, entrepreneurship, postgraduate and postdoctoral training.

The centre currently runs two research programmes, the Future Cities Laboratory (FCL), followed by Future Resilient Systems (FRS). It is home to a community of over 100 PhD, postdoctoral and Professorial researchers working on diverse themes related to sustainable cities and resilient infrastructure systems. In the course of their work, researchers actively collaborate with universities, research institutes, industry, and government agencies with the aim of offering practical solutions.