

The Future Cities Laboratory (FCL) is the first research programme of the Singapore-ETH Centre for Global Environmental Sustainability (SEC). SEC is home to a community of over 120 researchers working on a joint vision for future cities and environmental sustainability. More information on: www.futurecities.ethz.ch

The 'Multi-scale Energy Systems' module of FCL, lead by the Architecture & Building Systems Group of ETH Zürich, Prof. Arno Schlueter, focuses on an integrated and multi-scale perspective to the analysis and design of high-performing building systems in cities. From the building to the district scale, the motivation and aim of our research is to drastically reduce greenhouse gas emissions and increase the well being of city dwellers. The research is based on the identification and integration of advanced technologies, methods and processes from the fields of urban planning & design, energy- and climate systems in buildings, information and communication technologies. The module is part of the overarching interdisciplinary project 'High-density mixed-use cities'.

Starting in November 2015 or under agreement we offer a **PhD position** in the field of:

Urban Energy Systems Modeling and Analysis

Your tasks: Your work will focus on research, modeling and simulation of energy conversion and supply systems and networks at the urban scale, with special focus on district scale cooling systems. You will form part of an interdisciplinary team researching and identifying optimal configurations and operation modes of energy systems for their utilization in high performing urban settlements. Your strong analytical skills are complemented with a solid knowledge of energy and HVAC infrastructure systems on both building and urban scale. Thanks to your good programming skills you are able to contribute to the ongoing development of a software framework for iterative and integrated urban energy systems design, evaluation, optimization and visualization. As a researcher you are strongly motivated to testbed your research in ongoing case studies on highly sustainable buildings and cities in the tropics.

Your Profile: We are looking for highly motivated candidates holding a master degree in environmental-, mechanical-, process-, electrical or civil engineering ideally already focused on urban energy infrastructures with:

- Good knowledge of the state of the art of building and district energy systems.
- Acquainted with modeling and analyzing renewable energy systems using CAD / GIS / BIM design environments and dynamic modeling.
- Excellent modeling and analysis skills as well as programming experience in any object-oriented programming language
- Strong communication, interpersonal and teamwork skills

- Good skills in statistics and methods of data analysis (e.g. clustering, probability) are welcome.

Your English must be fluent, both written and spoken. German / French / Italian / Spanish skills are welcome but not mandatory.

Our offer:

We offer a position in our international and interdisciplinary research group based at the Future Cities Laboratory (FCL) in Singapore. In this renowned, vibrant and highly innovative setting, you will work on solutions with the most innovative research groups in the field. ETH is an equal opportunity employer and offers an excellent salary for researchers and PhD candidates. This is a full time position; your workplace will be Singapore with frequent exchange with the group located in Zurich.

How to apply:

Please apply including a comprehensive CV and selected samples of your most relevant work. Please apply online on www.jobs.ethz.ch. For questions please contact Jimeno A. Fonseca (fonseca@arch.ethz.ch).