UNIVERSITÉ DE GENÈVE
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University of Geneva, Institute for Environmental Sciences, Energy Efficiency Group

At the Institute for Environmental Sciences there are vacancies for a

- **Post-doc or a Senior Research and Teaching Assistant (maître assistant), a**
- **PhD student (4-5 years) and a**
- **Research assistant (2 ½ years, possibly extendible)**

on various aspects of the energy transition.

The successful applicants will become member of the Energy Efficiency Group at the inter-faculty Institute for Environmental Sciences (ISE, http://www.unige.ch/environnement) which is active in interdisciplinary research in the domains of energy, climate change, water and urban ecology as well as sustainability. The Energy Efficiency Group at ISE is affiliated to the Faculty of Science. The institute represents an enthusiastic, dynamic and international working environment. It offers an interdisciplinary Master programme in Environmental Sciences (MUSE) with a track on Energy.

Description of the research domain:
Energy efficiency plays an important role in the energy and climate strategies implemented by the European Union, by the Swiss federal authorities and by Swiss cantons. Approximately half of all greenhouse gas emissions released in Switzerland are related to thermal energy (heating and cooling), and most of the remainder is related to transport. For these areas, least-cost and energy efficient decarbonisation options with highest possible acceptance levels need to be identified. For buildings, not only decentralised heating and cooling systems need to be considered but also thermal grids, along with their respective sources of heat and cold. Seasonal thermal energy storage (linked to thermal grids) is a further core area of the planned research. In addition, work is planned on innovative battery-driven busses, self-driving minicars and selected hydrogen systems.

Requirements:
The candidates for all positions should have a background in physics, engineering and/or environmental sciences, with strong interest in interdisciplinary research. Candidates are expected to have a solid understanding of decarbonised heating, cooling and transport systems as well as time and location-dependent modelling at various scales. This calls for pre-existing knowledge and a strong commitment to the further development of skills on advanced statistics, GIS techniques, simulation and optimisation methods.

The expectations differ for the three positions. Candidates for the PhD position (on thermal energy storage in connection to thermal grids) and for the Research assistant position (battery-driven busses, self-driving minicars and selected hydrogen systems) should have worked on related topics during their MSc thesis and have ideally published one (or more) scientific articles. Post-docs should have at least 1-2 years of post-doctoral experience and an excellent track record in both personally conducting and guiding research. The Senior Research and Teaching Assistant should have around three years of experience as post-doc or researcher with a solid publication record and experience in guidance of both PhD and MSc students as well as in teaching at Master level. Excellent knowledge of English (in writing and speaking) is a necessity for all three positions, while French language skills are considered as bonus.

Positions and application:
The research of the PhD student will be embedded in a national project (large Innosuisse-funded consortium "SwissSTES"), while the Research assistant will participate in EU projects. The post-doc or Senior Research and Teaching Assistant is expected to play a key role in the project SWEET-DeCarbCH (WP1 lead) and to co-guide some younger researchers.

The appointment periods are 4-5 years for the PhD student and 2 ½ years (possibly extendable) for the Research assistant. The post-doc position is planned for around 2 years, possibly extendable as Senior Research and Teaching Assistant. The appointment period for the Senior Research and Teaching Assistant is 3 + 3 years, offering an excellent basis for a scientific career. While the PhD student and the Research assistant positions are to be filled as soon as possible, the appointment of the post-doc or Senior Research and Teaching Assistant is planned for 1 September 2024. The salary will be in accordance with the regulations at the University of Geneva.

Interested applicants are kindly requested to send a letter describing their motivation and competences next to an up-to-date CV with publication list, overview of teaching activities and transcripts (course load and grades). Applications will be accepted until a suitable candidate will have been found. Please send your application by email to Prof. Martin Patel (martin.patel@unige.ch).