

## PhD position in fluid mechanics in the field of hydropower

Hydropower is the largest source of renewable energies in the world and accounts for about 17% of the electricity production worldwide. It is facing new technical challenges with the introduction of intermittent renewable energy resources, refurbishment of aging machines, adapting to the climate changes and satisfying new regulations.

In the framework of the new European project ReVHydro, the Engineering School of the University of Applied Sciences Western Switzerland (HEI) offers a research position allowing to pursue a PhD in fluid mechanics with application to hydraulic turbines in collaboration with the Lulea University of Technology, Sweden (LTU).

### Project description

Part of the project aims to develop a novel technique to mitigate harmful pressure pulsations developing in hydraulic turbines at certain operating conditions. The candidate will perform the numerical investigation to assess and optimize the efficiency of the proposed solution.

### Duties

As employed by HEI you are expected to perform both numerical and theoretical works within your research studies as well as communicate your results at national and international conferences and in scientific journals. Most of your working time will be devoted to your own research studies. In addition, you can have the opportunity to try the teacher role. As a researcher, you work as a neutral party in many contexts, which provides a great opportunity to be involved in challenging development projects.

### Qualifications

MSc degree in physics or mechanical engineering or energy technology or similar with courses in fluid mechanics and numerical simulations at advanced level. You should have good oral and written skills in English.

### Further information

You will be employed and mainly work at HEI, Switzerland and be enrolled as an external PhD student at LTU, Sweden. Your employment will be for a period of 4 years at HEI. Travel between Switzerland and Sweden will be organized, the diploma being delivered by LTU where you will defend your PhD thesis.

For questions concerning the project you are welcome to contact Professor Cécile Münch-Alligné (+41) 58.606.88.39 [cecile.muench@hevs.ch](mailto:cecile.muench@hevs.ch) and Professor Michel Cervantes, (+46) 920-49 3014, [michel.cervantes@ltu.se](mailto:michel.cervantes@ltu.se)

### Application

The application must be sent by email to [cecile.muench@hevs.ch](mailto:cecile.muench@hevs.ch) and [michel.cervantes@ltu.se](mailto:michel.cervantes@ltu.se) including a CV, a motivation letter, the names and contact information of at least two references and copies of verified diplomas from high school and universities. Your application, including diplomas, must be written in English or French.

**Deadline:** November 15<sup>th</sup>, 2024

**Starting:** According to agreement.