

## SuperGrid Institute is recruiting an Intern

### “Electricity markets modelling”

SuperGrid Institute brings together 180 employees, of 28 different nationalities who work together within a dynamic environment. As an independent research and innovation centre, we are dedicated to developing technologies for the Energy Transition and the future power transmission system, the “supergrid”, including HVDC & MVDC technologies.

SuperGrid Institute is a multi-disciplinary research centre with advanced simulation capabilities & multiple test platforms, including numerous associated laboratories. SuperGrid Institute uses its comprehensive expertise to provide a wide range of services and solutions to support our customers in developing power systems, equipment and components. We specialise in system architecture and work on ensuring network security and stability while allowing for the integration of intermittent renewable energy sources. Find out more by visiting our website: [www.supergrid-institute.com](http://www.supergrid-institute.com)

#### General Context

By 2030, the EU is targeting at least 32% energy from renewables and longer term scenarios show an even more drastic decarbonisation, with significant contributions from variable wind and solar energy in the European system. Digitalisation is having a profound impact on the power sector and hydropower is no exception. Hydropower already provides critical power services for integration of other renewables, but the demand for greater flexibility is expected to grow considerably.

In this context, the future revenues of flexible hydropower generation technologies must be estimated for the economic assessment of investments. Such estimation requires scenarios of future prices evolution. As part of the EU 2020 project [XFLEX HYDRO](#), the intern will develop optimization models in order to simulate future energy and ancillary services prices. This modelling will be based on scenarios of the European energy system evolution.

#### Objectives / Missions

The objective of the intern is to focus on the simulation of future market prices:

- Research of input data regarding energy transition
- Determination of the appropriate solving methods
- Coding the different optimization programs
- Numerical applications of the optimization programs
- Analysis of the results and modification of the structure of the models if necessary

#### Candidate Profile

- Engineering or Economics Master student
- Master thesis level
- Applied Mathematics and Optimisation specialization
- Modelling experience
- Basic economics experience
- Python experience is an asset (Matlab and other object-oriented programming experience will be considered)
- Prior understanding of markets is an asset
- English and French
- Pragmatism
- Autonomy

#### Other information

Applications should be sent to [quentin.boucher@supergrid-institute.com](mailto:quentin.boucher@supergrid-institute.com)

<b>Start date:</b> February-March 2021	<b>Ref. Budget:</b>
<b>Place of work:</b> Grenoble – SuperGrid Institute regional office (Saint Martin d’Hères)	<b>Duration:</b> 6 months

SuperGrid Institute is an equal opportunities employer. We respect and value the diversity of our employees, their backgrounds and their professional experience. We believe in equality and take affirmative action to ensure that discrimination has no place in our recruitment process nor our company.