

Vertragsart: *Befristeter Vertrag* | *Befristung: 36 Monat* |

## Doctoral candidate (PhD-Student) in Engineering

The University of Luxembourg is a multilingual, international research university.

The University of Luxembourg invites applications for its Faculty of Sciences, Technology and Medicine for a doctoral candidate (PhD student) in Engineering:

### Doctoral candidate (PhD-Student) in Engineering

- Ref: RCREQ0003816
- 36 months fixed-term contract, extendable up to 48 months
- Full-time (40 h/week)
- Student and employee status

The PhD-student will work under the guidance of a professor on a research theme and will also assist in teaching. She/he should finish the work with a doctoral degree in engineering science.

**Subject: Smart Electrical & Thermal Energy Supply for Eco-Cities**

### Project Description:

Intelligent control strategies for building energy systems are an important component of future eco-villages and smart cities. The project “Smart Electrical & Thermal Energy Supply for Eco-Cities” provides a reduced-scale laboratory prototype, which is capable to cover any building-relevant types of energy, namely thermal (space heating, space cooling and domestic hot water) and electrical energy. The aim of this work is to develop scalable grey box and black box models for the existing infrastructure, which are then to be validated on the test rig in the lab and improved using online predictive control strategies. The setup encompasses thermal and electrical energy storing and generating devices such as a heat pump, thermal energy storage systems, photovoltaic panels and a battery storage system. A further component of the project is to extend the existing plant with variable and shiftable loads as well as a combined heat and power plant.

### Your Role

- Coordinate your work with the project partners and realise above described research project
- Write a doctoral thesis in engineering science based on this research project
- Assist in teaching activities (1 to 2 course hours per week or similar work load for supervision of student works)

For further information please contact Prof. Jean-Régis Hadji-Minaglou  
([jean-regis.minaglou@uni.lu](mailto:jean-regis.minaglou@uni.lu))

### Your Profile

- Master degree in Engineering (energy, electrical, mechanical engineering or similar)
- A solid background in the Building Energy Aspects
- A background in measurement techniques is considered as an asset
- Language skills: Good level of either German or French plus English

## Further Information

Applications must be sent online (button below) and contain the reference of the position, a detailed CV, a letter of motivation and scanned diplomas including list of marks.

Deadline for application: **March 31<sup>th</sup>2020**.

The University of Luxembourg is an equal opportunity employer.

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