



Information about the Call for Expression of Interest in PhD Studies within the Collaborative Doctoral Partnership between the University of Žilina and Joint Research Centre of the European Commission

UNIVERSITY

University of Žilina
Slovakia



FACULTY

Faculty of Management
Science and Informatics



STUDY PROGRAM

Applied Informatics /
Intelligent Information
Systems

ADVISOR

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CALL INFORMATION

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APPLICATION UNTIL:

31 May 2021

Collaborative Doctoral Partnership

PhD topic will be developed within the framework of the collaborative doctoral partnership between the Joint Research Center of the European Commission (JRC) and the University of Žilina. It is expected that the student will start and finish PhD studies at the University of Žilina and will spend a considerable part of the study (up to 24 months) at the JRC in Ispra (Italy). During this time period the student will be paid according to the corresponding grant holder scheme^{1,2}. The JRC will also associate with the topic JRC advisor and will provide relevant data and access to the necessary research infrastructure.

¹ https://ec.europa.eu/jrc/sites/jrcsh/files/jrc_granholder_rules.pdf

² https://ec.europa.eu/jrc/sites/jrcsh/files/jrc_ispra_vademecum-post-2014_en.pdf

Doctoral Position in Modelling and Optimization of Future Energy Markets & Systems

Demand Response (DR) is an enabler for the system's adequacy, and it is mainly used to reduce the need for investments in infrastructure. One way to tackle the problem of DR is to enable demand-side flexibility on energy consumers. This research focuses on modelling and optimising future energy systems by contributing to a platform for flexibility trade. JRC is currently participating in several H2020 projects developing frameworks that allow self-configuration and self-optimisation of distributed energy nodes. The candidate could use the knowledge built on these projects to analyse how the fluctuation growing production is associated with an increasing share of renewables to build models that support services to energy retailers. The potential use of the Battery Energy Storage System (BESS) of the lab for modelling, validation and verification could also be considered for assessing the use of BESS in demand-side flexibility.

We are looking for candidates with the interest and desire to work in an interdisciplinary team able to deliver the best solutions in the highest quality. A successful candidate should have the ability to work in a team, be well motivated with sound analytical skills and the willingness to assume responsibilities such as carrying out research in the predefined area, disseminating results through scientific publications, participating in existing projects or future proposals.

We welcome candidates with a university degree in Computer Science, Electrical Engineering, and Power System Engineering or related areas who are interested in working on the field of energy systems.

Fluent written and verbal communication skills in English are mandatory.

Knowledge in the following areas is advantageous but not mandatory:

- Machine learning methods
- Basic development skills in Java or Python
- Model development and validation using Matlab/Simulink or equivalent
- Energy systems

Information about the topic and conditions of the doctoral studies within the Collaborative doctoral partnership with the Joint Research Center of the European Commission: Lubos.Buzna@fri.uniza.sk
Call Information: <https://www.fri.uniza.sk/en/stranka/call-for-expression-of-interest-in-phd-studies>