European Commission

EURAXESS

PhD Position in Automatic Control: Data-Driven Control of Networks with applications to Transportation and Energy

STATUS: EXPIRED

14 Feb 2023

Job Information

Organisation/Company	Université catholique de Louvain
Department	Institute of Information and Communication Technologies, Electronics and Applied Mathematics (ICTEAM)
Research Field	Engineering » Control engineering Mathematics » Applied mathematics Engineering » Electrical engineering
Researcher Profile	First Stage Researcher (R1)
Country	Belgium
Application Deadline	20 Apr 2023 - 12:00 (Europe/Brussels)
Type of Contract	Other
Job Status	Full-time
Offer Starting Date	14 Feb 2023
Is the job funded through the EU Research Framework Programme?	Not funded by an EU programme
Is the Job related to staff position within a Research Infrastructure?	No

Offer Description

Description:

The Network Control & Optimization group in the ICTEAM institute at the Université catholique de Louvain, Belgium, has an open position for a Ph.D. student in Systems and Control. The goal of this Ph.D. project is to develop novel control approaches - based on data-driven control techniques and optimization tools - to coordinate fleets of electric vehicles with decentralized renewable resources (solar, wind, etc.) and smart buildings to guarantee cutting-edge efficiency and system reliability. This project aims to develop a comprehensive toolset of control algorithms for network systems that can be constructed directly from data and by avoiding the system identification phase.

This project offers the candidate the possibility to work on one or more of the following research topics: data-enabled control and machine learning, distributed control and multi-agent systems, network security and robust control, electric vehicle coordination and control, and optimization methods. The specific topic can be tailored based on the specific interests of the candidate.

What we offer:

You will join an exciting international research team and interdisciplinary academic group with the possibility to work closely with industry partners. You will have the opportunity to travel to, attend, and present at international conferences and build a strong network of collaborators with an international background. You will have the opportunity to spend a period abroad at other EU or international universities. Additionally, you will have the opportunity to gain experience with small-load academic tasks, such as teaching, student supervision, etc.

Specific benefits:

- A position at a world-leading technical university that generates knowledge and skills for a sustainable future
- Attend and present at international conferences on a regular basis
- Ambitious colleagues with world-leading expertise in controls along with a creative, international, and dynamic working environment
- The possibility to cooperate with and build relations with industrial partners as well as other universities and research institutes
- Possibility to gain teaching and supervision expertise
- Possibility to learn or practice English, French, and Dutch (knowledge of French or Dutch not required)
- Full-time employment for 4 years with a gross monthly salary aligned with industrial standards
- Work Belgium, in close proximity (30min) to Brussels

Context:

UCLouvain is a comprehensive university offering the opportunity of conducting cross-disciplinary research, collaborate with world-leading researchers, travel to attend international conferences, and gain teaching experience. The position is tied with the Louvain School of Engineering (EPL) and the Institute for Information and Communication Technologies, Electronics and Applied Mathematics (ICTEAM), which offer opportunities for diverse and stimulating teaching as well as an environment to carry out ambitious research. The Louvain-la-Neuve site offers a unique living environment conveniently located at the heart of Europe and in the near proximity of Brussels (30min by public transport).

The Institute of Information and Communication Technologies, Electronics, and Applied Mathematics (ICTEAM), hosts more than 40 professors and 200 researchers, and carries out both basic and applied research in key fields of information and communication technologies, electronics, computer science, and applied mathematics. Its members teach at the Ecole Polytechnique de Louvain.

Desired qualifications:

- You are enthusiastic about academic research
- You have expertise in control theory or optimization, preferably with a strong mathematical background
- You completed a Master's degree program in Electrical, Information, Mechanical (or related) Engineering, or Applied Mathematics
- You have good programming skills and experience (Matlab, Python).

Timing:

The position will remain open until filled but priority will be given to applications received by March 31, 2023. The start date is flexible and can be tailored based on the candidate's preference.

Application procedure:

Applications should include (as a single PDF file):

- A Cover letter with a brief description of why you want to pursue a PhD degree, what your academic interests are, and how they align with the scope of this project
- A CV including your relevant professional experience and knowledge
- Copies of diplomas and grades (or class course evaluations) from previous/current university
- Names and contacts of two references
- Copy of publications (if applicable)

To apply, please send an email to gianluca.bianchin@uclouvain.be with the application material.

Resources:

- PI: Gianluca Bianchin https://gianlucabi.github.io
- ICTEAM/INMA: https://uclouvain.be/en/research-institutes/icteam/inma
- Ecole Polytechnique de Louvain (EPL) : https://uclouvain.be/en/faculties/epl UCLouvain: https://uclouvain.be/fr/index.html
- F.R.S-FNRS (fund for scientific research): https://www.frs-fnrs.be/fr/
- Brussels: https://www.visit.brussels/fr/visiteurs/que-faire
- Louvain-la-Neuve : https://en.tourisme-olln.be/

Requirements

Research Field	Engineering » Control engineering
Education Level	Master Degree or equivalent

Skills/Qualifications

- Expertise in control theory or optimization, preferably with a strong mathematical background
- A Master's degree in Electrical, Information, Mechanical (or related) Engineering, or Applied Mathematics

Languages	ENGLISH

Research Field	Engineering » Control engineeringMathematics » Applied mathematicsEngineering » Electrical engineering

Additional Information

Website for additional job details	https://gianlucabi.github.io

Work Location(s)

Number of offers available	1
Company/Institute	Université catholique de Louvain
Country	Belgium
City	Louvain-la-Neuve

Where to apply

E-mail	gianluca.bianchin@uclouvain.be

Contact

City	Louvain-la-Neuve
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