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Posted Dec. 17, 2024, set to expire Mar. 11, 2025

Job Title Professor in Mechanical Engineering: Advanced Control of Aeronautic Systems

**Department** Faculty of Engineering Technology - Department of Mechanical Engineering

**Institution** KU Leuven

Bruges, , Belgium

**Date** Dec. 17, 2024

Posted

Application Mar. 11, 2025

**Deadline** 

Position Sep. 1, 2025

**Start Date** 

Job Assistant Professor

Categories

Associate Professor

Professor

Academic Mechanical Engineering

Field(s)

Aerospace/Aeronautical/Astronautics

**Job** https://www.kuleuven.be/personeel/jobsite/jobs/60370485?lang=en

Website

Apply https://webwsp.aps.kuleuven.be/esap/public/ui5\_ui5/sap/zh\_erc\_esol\_go/index.html?sap-

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### Job Description

KU Leuven offers a full-time professor position in the area of Mechanical Engineering and is looking for internationally orientated candidates with an excellent interdisciplinary research record in the field of advanced control of (unmanned) aeronautic systems. The candidate should also possess excellent educational competences in Engineering curricula. As a successful applicant you will be appointed in the Department of Mechanical Engineering and the Faculty of Engineering Technology of KU Leuven. The vacant position is located at Bruges Campus and the research activities will be embedded in the co-located Mechatronics Group (M-Group).

The M-Group focuses on developing dependable interconnected mechatronics. Members from the M-Group operate in an interdisciplinary environment and conduct research on topics such as safety-critical systems, software testing, renewable energy drone propulsion systems and drone composite structures. The group has access to state-of-the-art infrastructure and a vast network of national and international connections. They are involved in various research projects and collaborate with technology transfer services. The M-Group has invested in two innovation labs at the Bruges Campus and can also utilize the new infrastructure at Droneport West-Flanders for research purposes.

As one of the 10 most innovative universities in the world, KU Leuven has been very successful in the creation of spin-off companies, illustrating the socio-economic relevance of its research. Many of these spin-off companies are technology leaders within their domain, and their products and services are renowned internationally.

#### Research

- You develop a research programme at an international level in the area of advanced control in aeronautic systems. You combine knowledge of aeronautic systems, control and optimization, and use in-depth physical insights as well as data-driven techniques. Your focus is on the enhancement of aerial system performance (flight performance, stability, reliability, efficiency) through control, and/or on optimal motion planning, control and coordination of (multiple) (semi)autonomous aerial systems and their integration into multi-modal logistics, surveillance, and the digitized industry. Targeted applications include, amongst others, robust flight controls, automated flight in harsh operating conditions, performance optimisation by control, and multimodal drone systems.
- As an expert in your domain, you strengthen existing research lines and provide complementary expertise. You are prepared to align your research with ongoing research programmes at the M-



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Group, Bruges Campus, and cooperate a.o. with colleagues of the Department of Mechanical Engineering at other campuses, e.g., colleagues at campuses Heverlee, Ghent and Diepenbeek.

- You engage in targeted scientific research, resulting in PhDs and publications that meet international standards and lead to broad international recognition.
- You support or initiate a network of companies through the valorisation of research results and by delivering industrial services, aimed at strengthening industrial innovation.
- As part of your research programme, you develop international partnerships, within the academic world as well as with industrial partners.
- You are able to acquire competitive funding, both project-based government funding as well as industrial funding.
- You strive for excellence and thus contribute to the continued development of the M-Group and the faculty.
- You devote attention to the valorisation tracks and technology transfer and application of the results of your research in industry, government, and society.

### **Teaching**

- You provide high-quality education for both bachelor and master students in the field of aeronautics, mechatronics and mechanical engineering with a clear commitment to the quality of the programme as a whole. You engage students in courses given to freshman years as well as in advanced years.
- You contribute to the faculty's and the university's pedagogical project through the supervision of student projects (for example bachelor's and master's theses) and by acting as a supervisor of PhD students.
- You develop your teaching in accordance with KU Leuven's views on activating and researchedbased education and make use of the possibilities for educational professionalisation offered by the faculty and the university.

#### Service

- You are prepared to provide scientific, societal and internal services.
- You are willing to perform applied research projects in collaboration with industry and government and to establish a network of industrial partners.
- You are actively involved in promoting the Faculty of Engineering Technology to future students and participate to information and public relations activities of the faculty.

#### **Profile**



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- You have a PhD in Mechanical Engineering, or a similarly qualified degree, and have a strong interest in the research field of advanced control of aeronautic (unmanned) systems.
- Industrial experience or an extended network in the relevant industrial sector is an important advantage. A strong record of collaborations with industry is a plus.
- You have a strong (applied) research profile. The quality of your research is evidenced by publications in leading international journals, books, and proceedings of international conferences. Successful project applications and valorisation in cooperation with industry is a benefit. International experience is an important advantage.
- You have demonstrable qualities related to academic education. Teaching experience is an advantage.
- You possess organisational skills and have a cooperative attitude. You also possess leadership capacities within a university context.
- Proficiency in English is required. However, KU Leuven provides courses in academic English if this is necessary.
- The official administrative language used at KU Leuven is Dutch. If you do not speak Dutch (or do not speak it well) at the start of your employment, KU Leuven will provide language training to enable you to take part in meetings and to acquire the level of Dutch that is required for tenure.
   Before teaching courses in Dutch or English, you will be given the opportunity to learn Dutch resp. English to the required standard.

#### Offer

- We offer a full-time employment as professor in an intellectually challenging environment.
- KU Leuven is a research-intensive, internationally oriented university that carries out both fundamental and applied scientific research. Our university is highly focused on interdisciplinary and multidisciplinary research and strives for international excellence. In this regard, the university actively works together with research partners in Belgium and abroad and provides its students with an academic education that is based on high-quality scientific research. Recently, KU Leuven has been selected as one of the 10 most innovative universities in the world.
- At the campus you can have the innovation labs at your disposal concerning the Ultimate Factory and the Ultimate machine. To facilitate scientific onboarding and accelerate research in the first phase, a starting grant of 110.000 Euro is offered to new professors without substantial other funding, appointed for at least 50%.
- You will work and teach at the KU Leuven Bruges Campus, a young and dynamic environment within a historic city with a seaport and modern industrial activities. Bruges has a 70-minute rail connection to Brussels, capital of the European Union, and about three hours to Paris, London and Amsterdam.
- Depending on your record and qualifications, you will be appointed to or tenured in one of the



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grades of the senior academic staff: assistant professor, associate professor, professor, or full professor. In principle, junior researchers are appointed as assistant professor on the tenure track for a period of 5 years. At the end of this period and a positive evaluation, they are permanently appointed (or tenured) as associate professor.

 KU Leuven welcomes foreign professors and their family and provides practical support regarding immigration & administration, housing, childcare, learning Dutch, partner career coaching, ...

#### Interested?

For more information on the contents of the job, please contact:

- Prof. Dr. Ir. David Moens, vice-chair of the Department of Mechanical Engineering (david.moens@kuleuven.be, tel. +32 16 37 28 79) or
- Prof. Dr. Ir. Maarten Vergauwen, chair of Campus Bruges (maarten.vergauwen@kuleuven.be, tel. +32 09 331 65 90)

Add to your application following documents in English (more information is available on the KU Leuven job site):

- your biosketch in which you indicate your added value as an academic for research, education and service to society of your past career and of your future activities (maximum 2 pages);
- a file on your five most important publications or realisations;
- an extensive cv including a full publication list;
- your research plan with focus on the development of your research line and research team in relation with the colleague-researchers of the entity of employment (maximum 4 pages);
- your vision on academic education and its organisation (maximum 2 pages);
- your contribution to society by outreach and public communication on science and technology, internal representation in boards and councils and service activities directly in relation to your developed expertise (maximum 1 page);
- your vision on leadership (maximum 1 page).

KU Leuven places great importance on research integrity and ethical conduct and will therefore ask you to sign an integrity statement upon appointment.

You can apply for this job no later than March 11, 2025 via the online application tool

KU Leuven strives for an inclusive, respectful and socially safe environment. We embrace diversity among individuals and groups as an asset. Open dialogue and differences in perspective are essential



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for an ambitious research and educational environment. In our commitment to equal opportunity, we recognize the consequences of historical inequalities. We do not accept any form of discrimination based on, but not limited to, gender identity and expression, sexual orientation, age, ethnic or national background, skin colour, religious and philosophical diversity, neurodivergence, employment disability, health, or socioeconomic status. For questions about accessibility or support offered, we are happy to assist you at <a href="mailto:this email address">this email address</a>.

#### **Contact Information**

Please reference Academickeys in your cover letter when applying for or inquiring about this job announcement.

**Contact** Professor Maarten Vergauwen, Campus Chair of

Bruges Campus KU Leuven

Bruges Campus, Faculty of Engineering Technology

KU Leuven

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Bruges 8200

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