

PhD in Decision Making for Industry 4.0, KU Leuven, Belgium

In the Science, Engineering and Technology Group, Faculty of Engineering Technology, Department of Mechanical Engineering, Technology Cluster Mechanical Engineering Technology, Campus Group T at KU Leuven there is a full-time vacancy for academic staff or tenure track (professor) in the area of industrial management. We are looking for internationally oriented candidates with an excellent research record, a strong affinity with industrial applications, and with educational competence within the field of industrial management, oriented towards application in industry. The Department of Mechanical Engineering is one of the key players in the field of mechanical processing and mechanical design within Europe. The department is involved in a large number of national and international research projects and has acquired a unique research infrastructure. It has a strong link with the university's tech transfer office LRD and with Flemish and European research institutes for technology transfer. The department has also been very successful in the creation of spin-off companies, illustrating the socio-economic relevance of its research. Many of these spin-off companies (like NIKON-Metrology, Materialise, 3DSystems-Layerwise, Siemens Industry Software) are technology leaders within their domain, and their products and services are renowned internationally. With this vacancy, the department wants to strengthen its activities in the field of Industrial & Systems Engineering (I&SE). As a new colleague within the department, you will have the ability to perform research collaboration with internationally renowned experts in both decision making (Operational Research, Logistics, Asset Management, Life Cycle Engineering, Traffic) and technological innovation (automation, control, machine construction, production, energy). Further possible collaborations with other units of KU Leuven in the field of Internet of Things, etc. are legion. Through the integration in Campus Group T and in the Department of Mechanical Engineering in Heverlee you will have access to a solid research infrastructure, an extensive international research network, connections with industry and non-profit organisations, a steady offer of talented PhD researchers and a supporting work environment embedded in a multi-disciplinary network with other KU Leuven research departments.

Duties

Research

The need for quantitative support in decision making for industrial production processes remains of great importance. Moreover, the complexity increases with the further development and application of Industry 4.0 and IIOT (Industrial Internet Of Things). The collapse of the classical automation pyramid (vertical integration), the integration of the value chain (horizontal integration) and the availability of big data provide new challenges and opportunities for the development and optimization of more integrated and real time algorithms for production and maintenance planning, quality management, energy management, logistics, ... Herewith, both deterministic and stochastic techniques are of importance.

You are expected to build up excellent applied research in this domain, and to have a large expertise in the area of quantitative decision supporting techniques, a demonstrable affinity with technological implementation and a profound interest in application in the manufacturing industry.

The candidate will:

- set up and coordinate a research programme at international level within one or several of the above-mentioned research tracks.

- develop an international partnership, as part of your research programme, within the academic world as well as with regional and international industry.
- take the lead in setting up close cooperation with the current members of the campus, the department, and with researchers at the other KU Leuven departments and campuses.
- strive for excellence in your research and provide a contribution to the continued development of the research group, its infrastructure and industrial services to the community and Flemish and European industry.
- have the capability to acquire competitive funding, both project-based government funding as well as bilateral industrial funding. Support from the university's tech transfer office LRD will be provided.
- engage in targeted scientific research, resulting in PhDs and publications that meet international standards and lead to broad international recognition and collaboration.
- give substantial attention to valorisation on behalf of government and business in applied research.

Education

You contribute to the education within the academic programmes of the Faculty of Engineering Technology. The academic programmes offered by this faculty aim at educating engineers with a strong focus on industry-ready technological development and problem solving. Your teaching activities take primarily place at Campus Group T, but on the long term, you are also prepared to contribute to the education within your expertise on other campuses.

You ensure high-quality education within the area of industrial management, as well as courses in the bachelor and master in engineering technology linked to mechanics. You have a clear commitment towards the quality of the programme as a whole, and you contribute to the pedagogic project of the Faculty of Engineering Technology through the supervision of bachelor and master theses and as a supervisor of PhD students.

You develop your teaching in accordance with KU Leuven's vision on activating and research-based education and make use of the possibilities for the educationalist professionalization offered by the faculty and the university.

Service

- You are prepared to provide scientific, societal and internal services. In particular, you are willing to provide services to the Government and to (regional) industry in the context of applied research assignments.
- Therefore, you stay up-to-date with both scientific state-of-the-art and with industrial state-of-practice in the field of industrial management and industry 4.0.
- You play an active role in profiling the Faculty of Engineering Technology towards new students and the industry sector by, for example, participating in information days and events.

Profile

- You have a PhD in Mechanical Engineering (Technology) or a similarly related degree, and demonstrable expertise in the field of the vacancy (e.g. via the subject of your doctoral thesis, research projects and publications).

- You have a strong research track record in the discipline, evidenced by your publications and by your research experience with industry. International experience is an important advantage.
- You have a vision on providing high-quality academic education. Teaching experience is an advantage.
- You possess organisational skills and have a cooperative attitude. You also possess leadership capacities. You are willing to coordinate a research group and educational activities within KU Leuven.
- A good command of English is required. KU Leuven provides courses in academic English.
- 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.
- Before teaching courses in Dutch or English, you will be given the opportunity to learn Dutch resp. English to the required standard. After three years, most courses will have to be taught in Dutch.

Offer

We are offering full-time employment in an intellectually challenging environment. KU Leuven is a research-intensive, internationally oriented university that carries out both fundamental and applied scientific research. The alma mater of acclaimed scholars such as Erasmus, Andreas Vesalius and Georges Lemaître, KU Leuven has a rich scientific tradition and history. Its internationally renowned research and educational programmes cause it to consistently rank among the best 50 universities worldwide. It is highly inter- and multi-disciplinarily focused and strives for international excellence. In this regard, it actively works together with research partners in Belgium and abroad. It provides its students with an academic education that is based on high-quality scientific research. For education, the profile of the different engineering curricula is attuned to the socio-economic needs.

You will work in Leuven, in the centre of Belgium, 20 minutes from Brussels, the capital of the European Union, and less than three hours from Paris, London and Amsterdam.

Depending on your record and qualifications, you will be appointed to or tenured in one of the 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; after this period and a positive evaluation, they are permanently appointed (or tenured) as an associate professor.

Interested?

For more information on the contents of the job, please contact: Prof. dr. ir. Joris De Schutter, tel.: +32 16 32 24 79, mail: joris.deschutter@kuleuven.be or Prof. dr. ir. Koen Eneman, tel.: +32 16 30 10 65, mail: koen.eneman@kuleuven.be. Please add a research statement (no more than 2 pages) to your motivation letter, demonstrating your added value for the research programme. In addition, please outline your vision on academic education in a teaching statement (no more than 2 pages). If you have problems submitting your application online, please contact solliciteren@kuleuven.be.

You can apply for this job no later than October 01, 2018 via the online application tool

KU Leuven seeks to foster an environment where all talents can flourish, regardless of gender, age, cultural background, nationality or impairments. If you have any questions relating to accessibility or support, please contact us at diversiteit.HR@kuleuven.be.