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Posted Jun. 6, 2024, set to expire May 5, 2025

Job Title Junior Professor (tenure track) in Spoken Language Technologies

**Department** Department of Electrical Engineering

https://www.esat.kuleuven.be/psi

**Institution** KU Leuven

Leuven / Heverlee, , Belgium

**Date** Jun. 6, 2024

Posted

Application Sep. 30, 2024

**Deadline** 

Position Sep. 1, 2025

**Start Date** 

Job Research Professor

Categories

Assistant Professor Associate Professor

Professor

Academic Electrical and/or Electronics

Field(s)

**Job** https://www.kuleuven.be/personeel/jobsite/jobs/60334358

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 has a full-time academic vacancy for a junior tenure-track professor in the Group Science, Engineering and Technology at the Faculty of Engineering Science and the Department of Electrical Engineering (ESAT), in the field of spoken language technologies.

We are looking for internationally oriented candidates with an excellent research record and with educational competencies in the field of the appointment. The successful applicant will be appointed in the research division of Processing Speech and Images (ESAT-PSI), that conducts fundamental and application-oriented research into image and speech processing. The last decade has seen a paradigm shift towards data-driven modeling and automatic pattern recognition through machine learning based on large amounts of data. ESAT-PSI is in the fortunate position to have speech and image processing expertise as well as machine learning capabilities within the same group. This multi-disciplinary configuration is quite rare, even internationally. ESAT-PSI wants to leverage this strength at full by defining a specific professorship at the interface of spoken language understanding with machine learning, to build the next generation of robust speech and multimodal interaction models.

### Unit website

### Research

Like many areas in AI, spoken language technologies have made a major leap forward thanks to novel neural network architectures and drawing on massive amounts of training data. Applications that were beyond the state of technology ten years ago, such as live subtitling of meetings or speech-to-text translation, are now available – at least for well-resourced languages resp. language pairs. However, many challenges remain in automatic speech recognition, speech-to-text translation and spoken language understanding: dealing with far-talk sources, overlapped speech, multilingual or code-switched input, recognition for low or medium resourced languages and dialects, processing of disordered, elderly or child speech, leveraging the pragmatics captured in large language models, grounding speech in image and video...

To address these challenges, we are looking for a promising candidate with a background in spoken language technology, to build the next generation of robust speech and multimodal interaction models. You perform research to robustly cope with the low-resource setting, applicable to the majority of the world's languages and dialects. Your research field includes learning paradigms, representation learning and system architecture design, aiming to maximally leverage scarce data, exploit inaccurately labeled data, data labeled in or by another modality, interaction data..., while keeping an



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eye on model bias. This next generation of deployable and inclusive spoken language technology is of great economic, cultural, social, and medical benefit in a society that becomes increasingly digital. Your appointment at PSI offers ample opportunity for collaboration: within the research division, you will find top experts in machine learning, audiovisual processing, and language grounding. Since KU Leuven is a full university with reputed researchers in science, engineering, humanities, and medicine including a hospital and a strong technology transfer office, you can show impact of your fundamental and strategic work in concrete multidisciplinary use cases in industry, health, education, or humanities.

You will supervise PhD students in engineering science, attract competitive research funding and publish internationally in renowned journals and conferences in the stated research domain. You strive for excellence in your research, develop international collaborations within the field of the appointment and thus contribute to strengthening the scientific reputation of the department.

## **Teaching**

- You ensure high-quality education in the bachelor and/or master programs of the Faculty of Engineering Science or in other faculties in basic or advanced courses related to the field of research, with a clear commitment to the quality of the program as a whole. You also contribute to the pedagogical project of the faculties and the university by supervising bachelor, master and doctoral students.
- You develop your teachings in accordance with KU Leuven's vision on activating and researchedbased education and make use of the possibilities for the educationalist professionalization offered by the faculty and the university.

### Service

In addition to research and education-related tasks, you are prepared to take on administrative, organizational, or promotional tasks within the division, department and faculty, as well as tasks of scientific and social service.

#### **Profile**

- You have a PhD in engineering science (electrical or similar) where the subject of your doctoral thesis relates to the research field.
- You have a strong profile with extensive research experience at postgraduate level in the field of this vacancy. The quality of your research is apparent from publications in leading international journals and conferences, from proven interdisciplinary and international collaborations and from acquired national and international funding.



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- You have demonstrable qualities related to academic education. Teaching experience is an advantage.
- You possess organizational skills and have a cooperative attitude. You also possess leadership capacities within a university context.
- 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, you will be given the opportunity to learn Dutch to the required level.

### 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. Our university is highly inter- and multidisciplinary focused and strives for international excellence. In this regard we actively work together with research partners in Belgium and abroad and provide our students with an academic education that is based on high-quality scientific research.
- You will work in Leuven, a historic, dynamic and lively city located in the heart of Belgium, within 20 minutes from Brussels, the capital of the European Union, and less than two hours from Paris, London and Amsterdam.
- KU Leuven is well set to welcome foreign professors and their family and provides practical support with regard to immigration & administration, housing, childcare, learning Dutch, partner career coaching, ...
- 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 be appointed as tenure-track assistant professor. Tenure and promotion to associate professor can be obtained after 5 years, after positive evaluation and after having acquired the B2 language attestation in Dutch.

### Interested

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

- Prof. dr. ir. Frederik Maes, head of the research division ESAT-PSI, tel. +32-16-349025, e-mail: frederik.maes@kuleuven.be
- Prof. dr. ir. Georges Gielen, chair of the department of Electrical Engineering (ESAT), tel. +32-16-324076, e-mail: georges.gielen@kuleuven.be



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You can submit your application only through our online application system. If you have problems submitting your application online, please send a message to: solliciteren@kuleuven.be.

Add to your application following documents (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 realizations;
- an extensive cv including a full publication list and if applicable a portfolio of your architectural projects;
- 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 5 pages);
- your vision on academic education and its organization (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).

## **EEO/AA Policy**

KU Leuven is committed to creating a diverse environment and is therefore an equal opportunity employer. It explicitly encourages candidates from groups that are currently underrepresented at the university to submit their applications.

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

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 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.



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For questions about accessibility or support offered, we are happy to assist you at: hr.diversiteit@kuleuven.be

### **Contact Information**

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

Contact Prof. Dr. Frederik Maes

Department of Electrical Engineering

KU Leuven

Leuven / Heverlee

Belgium

Contact E-mail frederik.maes@kuleuven.be