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Job Title Postdoc and Assistant Professor Positions in Real-Time Communication and Antenna Design

Department Institute of Mechanical and Electrical Engineering

https://www.sdu.dk/en/om-sdu/fakulteterne/teknik

Institution The University of Southern Denmark

Odense, , Denmark

Date Jul. 10, 2025

Posted

Application Aug. 10, 2025

Deadline

Position Oct. 1, 2025

Start Date

Job Post-Doc

Categories

Assistant Professor

Academic Electrical and/or Electronics

Field(s)

Engineering - Other

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Description



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The Digital and High-Frequency Electronics section at the Institute of Mechanical and Electrical Engineering seeks outstanding individuals for one or more **Postdoc (2 years)** and/or **Assistant Professor (3 years)** positions focusing on **telecommunications**, **signal processing**, and **antenna design**. Successful applicants are expected to contribute to the development of academic programs and the research community. Applicants should have a **PhD** in **Electronics**, **Telecommunications** or a closely related field.

The application deadline is August 10, 2025, at 11.59 PM/23.59 (CET/CEST)

Applicants are expected to develop and sustain a research program focusing on the communication physical layers and antennas of smart devices, such as those used in IoT and edge computers, as well as signal processing and software-defined radio. This includes areas like wireless communications, mmWave, TeraHz, 6G-and-Beyond, IoT systems, and integrated sensing. Application areas include telecommunications, robotics and drone swarm communications, and object detection using microwave signals.

The section focuses on conducting research in digital and high-frequency electronics, embedded systems, control, and communication, utilizing cutting-edge reconfigurable computing and sensors. The aim is to develop next-generation electronics and computing solutions that solve technology-related challenges in fields such as autonomous robots, drones, IoT, smart grid, and healthcare.

The section is a vital component of our educational programs in Electrical Engineering in Odense, offering Bachelor's and Master of Science degrees in Electronics Engineering. Currently, the section focuses on three research fields: 1) Drones for Infrastructure Inspections and Interactions 2) realtime processing, and 3) optimized power electronics. The section has 15 academics, including professors, PhD students, and engineers, to support research, industrial collaboration, and educational activities, and is growing steadily.

The SDU campus in Odense contains five faculties and soon a large university hospital creating a great concentration of academics and students, facilitating interdisciplinary research and rich student life. The city of Odense is culturally rich, surrounded by a vibrant and growing robotics community, and highly livable with a green-banked meandering river cutting through the center, and attractive residential areas.

Job Description:

The positions focus on researching real-time connectivity in intelligent devices. A solid understanding of physical layer technologies, communication protocols, modulation techniques, and the design and



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implementation of antennas is essential. Expertise in modern communication technologies such as 5G, LoRa, mmWave, and software-defined radio (SDR) is particularly valuable.

This research has practical applications in areas including autonomous collaborative robotics, low-cost object tracking and detection, and low-power radio sensor networks. It will be closely aligned with the section's broader research activities, which span a diverse range of advanced electronic systems. These include FPGA and neuromorphic computing, edge AI, machine learning, sensing technologies, and energy harvesting—key components driving the digital transformation of modern society.

Duties:

Postdoc:

As a post-doctoral researcher, your role will encompass research and teaching. Your teaching responsibilities will involve course planning and teaching and supervision of BSc and master students in related fields. Additionally, you will be expected to support the research team in securing external funding.

Assistant professor:

As an assistant professor, you will be responsible for teaching undergraduate and graduate courses in communications, antenna theories and practice. This includes providing academic advising to students at both levels and mentoring graduate students in their research, serving as the advisor for their projects. Your research duties will involve conducting studies, establishing a robust research agenda that aligns with or expands current section research, securing external grant support, and publishing your findings in reputable journals and conference proceedings. Collaboration with faculty and professional staff across SDU campuses is also expected. Additionally, you will engage in service activities at the Section, Department, and professional levels, participate in professional conferences locally, nationally, and internationally, and perform other duties as assigned by the Section Chair.

Qualifications Required:

- The applicant should hold a doctoral degree (PhD) in Telecommunications and Electronics or a related relevant subject area.
- Demonstrated potential for teaching undergraduate and graduate courses at the university level.
- The applicant must have relevant research expertise in any area related to communications, signal processing, and antenna design.
- For the assistant professor position, the applicant must have teaching skills that align with the content and responsibilities of the position. This includes possessing both pedagogical and



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professional skills essential for carrying out the tasks associated with the role. In addition, a minimum two years of postdoctoral experience is required.

Other Expertise: International experience in a research environment different from the one in which the applicant completed their doctoral studies will be considered an advantage.

For further information: about the position, please contact the Head of Digital and High-frequency Electronics Section, Professor Emad Samuel Malki Ebeid, e-mail: esme@sdu.dk.

If you experience technical problems, please contact hcm-support@sdu.dk.

Application procedure

Applicants are advised to read the SDU information on how to apply.

Assessment of the candidates is based on the application material, and an application must include:

- A motivation letter that clearly explains the applicant's interest, qualifications, and motivation for the position (max. 2 pages).
- Detailed Curriculum Vitae, including personal contact information, describing the research, along with any other relevant information, e.g. teaching experience, computational skills, etc.
- A research plan with a focus on the development of your research line and research team.
- For Assistant Professor applicants: Summary and documentation of experience in teaching. You may attach as a Teaching Portfolio if available.
- Master's and PhD degree certificates or equivalent (copy of original/official English translation).
- Complete list of publications with the most relevant publications highlighted.
- Publications most relevant to the position.
- Up to three names and emails of researchers who can provide an informed reference letter at short notice. (Reference letters and other relevant qualifications may also be included.)
- A statement/documentation of other qualifications relevant to the position may also be included.

Applicants must clearly state in their application which position (postdoc or assistant professor) they are applying for.

UPLOAD GUIDE: Motivated application shall be uploaded as 'Cover letter' (max. 5 MB), Curriculum Vitae shall be uploaded as 'Resume' (max 5 MB). All other documents shall be uploaded as 'Miscellaneous documents' (max 10 files of max 50 MB per file).



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All documents must be in English and PDF format. CPR number (civil registration no.) must be crossed out. All PDF-files must be unlocked and allow binding and may not be password protected.

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Assessment and selection process

Applications will be assessed by an assessment committee or expert. Shortlisting may be applied, and only shortlisted candidates will receive a written assessment. Read about shortlisting at SDU. Interviews and tests may be part of the overall evaluation.

Read about the Assessment and selection process.

Conditions of employment for postdoctoral fellows

Appointment as a postdoc is temporary for an initial 2-year period and extension may be possible depending on available funding. The preferred start date is from October 1, 2025.

Employment as a postdoc requires scientific qualifications at PhD level at the time of employment. Employment will be in accordance with the collective agreement between the Ministry of Finance and the Danish Confederation of Professional Associations for academics in the state with the associated circular on the protocol for the job structure for academic staff at Danish universities and the provisions for postdoc as described herein. Further information on salary and taxation. The person employed in the position may, based on a specific individual managerial evaluation, be exempted from time registration, also known as a "self-organizer".

Conditions of employment for assistant professors

Appointment as assistant professor is temporary and for an initial 3-year period. The preferred start date is from October 1, 2025.

Employment as an assistant professor requires scientific qualifications at PhD level as well as the requirements for the role described in the advertisement. During employment, the assistant professor will complete the Lecturer Training Programme. Employment will be in accordance with the collective agreement between the Ministry of Finance and the Danish Confederation of Professional Associations for academics in the state with the associated circular on the protocol for the job structure for academic staff at Danish universities and the provisions for assistant professor as described herein. Further Information on salary and taxation. The person employed in the position may, based on a specific



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The University of Southern Denmark wishes our staff to reflect the surrounding community and therefore encourages everyone, regardless of personal background, to apply for the position. SDU conducts research in critical technologies, which, due to the risk of unwanted knowledge transfer, are subject to a number of security measures. Therefore, based on information from open sources, background checks may be conducted on candidates for the position.

<u>Further information</u> for international applicants about entering and working in Denmark. You may also visit WorkinDenmark for additional information.

Further information about The Faculty of Engineering.

About Us

The University of Southern Denmark was established to create value for and with society. Whether our contributions come in the form of excellent research, innovative solutions, education or learning, we must make a positive difference to society and contribute to a sustainable future. We do this by cultivating talents and creating the best environments for research and learning. It is therefore crucial that SDU retains, develops and recruits talent. At the same time, we need to ensure consistently high quality in all our activities – and we can only do that with the right people. The University's researchers, lecturers, students, managers and technical/administrative staff are the foundation of our success.

Read about SDU

Contact Information

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

Contact Head of Digital and High-frequency Electronics

Professor Emad Samuel Malki Ebeid

Institute of Mechanical and Electrical Engineering

The University of Southern Denmark

Odense Denmark



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