

Place of work

6400 Sønderborg, Dánsko

Start date in work

By agreement

The date the offer was added

24 Apr 2025

Type of employment

Employment contract for an indefinite period (Permanent employment)

Salary (gross)

Under specific legal regulations

Number of job vacancies

1

Information about job offer

Job description

The Faculty of Engineering at the University of Southern Denmark (SDU) invites applications for a 3-year position as a Ph.D. in Design, Fabrication, and Characterization of WBG Semiconductors. The position is located in the section of Electrical Engineering in Sønderborg within the Centre for Industrial Electronics (CIE). CIE is embedded in a powerhouse in electronics, which includes researchers and developers at universities and industries on both sides of the Danish-German border. The position starts on September 1, 2025, or as soon as possible thereafter, depending on the agreement with the successful candidate.

The application deadline is June 30, 2025, at 11.59 PM / 23.59 (CET/CEST)

CIE Research develops advanced power semiconductor components using cutting-edge technologies. We focus on novel WBG devices, including GaN and SiC, designing them for superior efficiency and performance. Our goal is to create next-generation solutions that tackle key challenges in the semiconductor industry.

We are looking for a motivated candidate for a Ph.D. in the “Next-Generation GaN Devices: Advancing Efficiency and Overcoming Industry Challenges”. This research-industrial project focuses on GaN device technologies to address challenges in power electronics, including renewable energy, electric vehicles, and industrial applications. The candidate will prioritize industry requirements in designing these devices. The role involves designing, developing, and characterizing GaN devices in collaboration with our industry partners.

The candidate will have the opportunity to work on several aspects involved in demonstrating high-

performance devices: Numerical simulations, device fabrication in the cleanroom (relying on international partners), and device characterization (relying on the facilities in the CIE lab, for static and dynamic measurements and reliability measurements).

Key Responsibilities

- **Research & Learning:** Develop expertise in GaN device physics and wide-bandgap semiconductor technology.
- **Simulation Training:** Conduct Silvaco TCAD simulations (fabrication processes, device modeling, and circuit-level simulations) .
- **Experimental Work:** Participate in cleanroom processes, device fabrication, and electrical measurements (e.g., I-V, C-V, and breakdown tests).
- **Reliability Testing:** Assist in performing reliability and lifetime tests on fabricated devices.
- **International Exchange:** Participate in an international research exchange program (3 months to 1 year) at a partner university or research institute to gain new skills and enhance collaboration.

Selection procedure information

The University of Southern Denmark wishes 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.

[Further information](#) for international applicants about entering and working in Denmark. You may also visit [WorkinDenmark](#) for additional information.

[Further information](#) about The Faculty of Engineering.

Ak máte záujem o túto pracovnú pozíciu, kliknite na ikonu „POŠLI ŽIVOTOPIS“, vyplňte požadované informácie a pripojte životopis v anglickom jazyku. O ďalšom postupe vás budeme informovať.

EURES poradca: Ing. Ivana Sentpéteryová

E-mail: ivana.sentpeteryova@upsvr.gov.sk

Telefón: 055/2442 672

Benefits offered

What is offered: The selected candidate will be offered a fully paid fellowship with a very competitive salary and excellent conditions to excel in their research.

Conditions of employment

Appointment as a PhD fellow is a 3-year salaried position.

The monthly gross salary incl. pension is 35.707DKR. If you have relevant postgraduate experience, you may be placed on a higher salary step.

Applicants must hold a master's degree (equivalent to a Danish master's degree) at the time of enrollment and employment. Employment of a PhD fellow can only happen after the PhD School has approved the candidate for admission.

Employment as a PhD fellow governed by the Protocol on PhD Research Fellows signed by the Danish Ministry of Finance and the Danish Confederation of Professional Associations (AC). [Further information about salary and conditions of employment.](#)

The successful candidate will be enrolled at SDU in accordance with [Faculty regulations and the Danish Ministerial Order on the PhD Programme at the Universities \(PhD order\)](#).

The person employed in the position may, based on a specific individual managerial assessment, be exempted from time registration, also known as a self-organiser.

Employee requirements

Required education

- Tertiary Education (Undergraduate)
- Tertiary Education (Graduate)

Languages

- English - High: C1 and C2

Additional requirements

- A master's degree (or nearing completion) in Electrical Engineering, Semiconductor Physics, Materials Science, or a related field.
- Basic knowledge of semiconductor device physics, preferably wide-bandgap materials (e.g., GaN).
- Experience or coursework in device simulation tools (e.g., Silvaco TCAD) is a plus.
- Strong interest and willingness to learn experimental techniques for device fabrication and characterization.

- Familiarity with electrical measurements (e.g., I-V, C-V) is desirable.
- Proficiency in scientific writing and communication (English).

Employer information

Business Name



EURES

Company Registration Number

52798780

Address

Špitálska 2206/8, 81108, Bratislava - mestská časť Staré Mesto, Slovensko

Internet address

<http://www.eures.sk>

Characteristics of the company

EURES (European Employment Services) je európska sieť služieb zamestnanosti koordinovaná ELA (Európsky orgán práce), ktorej cieľom je uľahčiť voľný pohyb pracovných síl v rámci krajín EÚ/EHP a Švajčiarska, ako aj podporovať spravodlivú pracovnú mobilitu. EURES poskytuje bezplatné služby uchádzačom, ktorí si hľadajú pracovné uplatnenie v Európe a európskym zamestnávateľom, hľadajúcim pracovnú silu v rámci týchto krajín.

EURES poradcovia poskytujú záujemcom o prácu v zahraničí informačné, poradenské a sprostredkovateľské služby. Európskym zamestnávateľom so záujmom o pracovníkov z krajín EÚ/EHP a zo Švajčiarska ponúka sieť EURES profesionálne poradenstvo a pomoc pri nábore.

Source: worki.sk, **Offer ID:** 2057984, **Classification of jobs (SK ISCO-08):** [2151001 Electrical engineering technologist](#), **Profession:** [Electrical Manufacturing Specialist](#), **Working area:** [Electrical Engineering](#)