

Postdocs for new European research project at the Department of Electrical and Computer Engineering, Aarhus University

The **Section for Electrical Energy Technology** at the Department of Electrical and Computer Engineering (ECE), Aarhus University, is in a phase of rapid growth in both education and research, currently running more than ten large-scale projects. We invite applications for several postdoctoral positions, offering an exciting opportunity to join major national and European-funded research initiatives focusing on:

- Next-generation energy storage systems
- Power converter design for Power-to-X (PtX) solutions
- Microgrid applications
- Quantum computing in power systems
- And other emerging technologies in the energy sector

Start date: 1 August 2026, or as soon as possible thereafter.

The research projects

You will be part of national and international funded projects focusing on the development of next-generation technologies for sustainable energy systems. Our research spans: advanced power converter systems for Power-to-X (PtX) applications, electrochemical energy storage, microgrid solutions, the integration of quantum computing into power systems, and other emerging energy technologies aimed at decarbonizing modern energy and transportation sectors.

We design solutions for a wide range of applications, including smart cities and residential self-consumption, backup power in isolated areas, energy management systems, and grid balancing for renewable power integration. A key line of work is the creation of intelligent, modular, and scalable battery pack concepts for urban electromobility—covering everything from mid-size electric vehicles to large electric buses.

Another important focus is the development of disruptive power converter topologies, enabled by wide bandgap semiconductors and cutting-edge digital control. These innovations enhance efficiency, power density, reliability, cost-effectiveness, and sustainability across applications.

In parallel, we advance microgrid technologies, supporting developing countries in achieving climate neutrality by integrating photovoltaic systems, biomass-based combined heat and power (CHP), and application-specific energy storage systems. We are also exploring how quantum computing can unlock new optimization and control strategies in future power systems.

Our projects are conducted in an international and multidisciplinary environment, bringing together expertise from across Europe in electrochemistry, energy storage, power electronics, process engineering, smart sensors, IoT, and solar power. Together, we pursue the common goal of accelerating the decarbonization of energy and transportation systems through innovation and cross-sector collaboration.

For more information, about some of the projects

- Article: [Researchers aim to store wind energy in rivers flowing uphill](#)
- Article: [DFF - Flexible Wireless-Power-Transfer Carpet Battery Charger](#)
- Article: [Electric car of the future to be developed in Denmark](#)
- Article: [Heavy trucks to run on electricity](#)
- Article: [New copper batteries to store solar energy](#)

Your qualifications

We are looking for highly motivated candidates with a strong background in **electrical engineering**, ideally specialized in power electronics for energy storage systems, battery management system (BMS) design, microgrid optimization, and control system development.

You should be experienced in designing systems to meet state-of-the-art standards, selecting components based on performance, reliability, and cost, and validating designs through simulation and testing. Experience in advanced BMS development, control strategies, and system integration is an advantage.

You are expected to think creatively, identify innovation opportunities, and enjoy working at the forefront of technology, translating research into robust, practical

Application Deadline:
06 April 2026

Institute/Faculty:
Department of
Electrical and
Computer Engineering

Faculty:
Faculty of Technical
Sciences

Academic contact person:
Björn Andresen
Professor
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+4593508115

Vacant positions:
5

Number of months:
24

Hours per week:
37

Expected date of accession:
01/08/2026

solutions.

Required qualifications

- Ph.D. in electrical engineering or related discipline (preferably with specialization in high-power engineering, control engineering, or similar)
- Experience in power electronics
- Experience in control and modelling
- Experience with hardware-in-the-loop (HIL) emulators such as dSPACE, OPAL-RT, and Speedgoat
- Experience in power systems and system optimization
- Knowledge of battery storage technologies and battery management systems
- Strong track record of scientific publications
- Excellent communication skills in English (oral and written)

Who we are

The Section for Electrical Energy Technology focuses on **energy system integration** and supporting the **energy transition** towards a more efficient, circular, and reliable energy system. Our work covers coordinated planning and operation across multiple energy systems, renewable energy production, infrastructure, and end-use consumption.

The section is in a phase of rapid growth in both education and research, currently running more than ten large-scale projects. In recent years, it has become the leading study environment in Denmark for electrical power engineering at the bachelor level.

We have established the RESCUE Laboratory (rescuelab.au.dk), which is actively used by researchers, students, and industry partners. The laboratory provides a hands-on environment for exploring future energy systems based on full integration of renewable energy sources such as solar, wind, and biogas, combined with advanced storage solutions.

Our activities also extend to Aarhus University's campus in Herning, where we have launched Denmark's first online degree programme in electrical energy technology.

Place of work

The place of work is at Finlandsgade 22, 8200 Aarhus N, Denmark.

Additional information

Further information about the position may be obtained from the project leaders.

- Professor Corneliu Barbu (phone no.: +45 9352 1325/email: coba@ece.au.dk)
- Associate Prof. Mohammad Khooban (phone no.: +45 9352 1836 /email: khooban@ece.au.dk)
- Head of Section Björn Andresen (phone no.: +45 9350 8115 /email: bjar@ece.au.dk)

Application deadline

The application deadline is 06.04 2026.

The application must be written in English and include a curriculum vitae, degree certificate, a complete list of publications, a statement of future research plans, and information about research activities and teaching portfolio.

Application procedure

Shortlisting is used. This means that after the deadline for applications – and with the assistance from the assessment committee chairman, and the appointment committee if necessary, – the head of department selects the candidates to be evaluated. All applicants will be notified whether or not their applications have been sent to an expert assessment committee for evaluation. The selected applicants will be informed about the composition of the committee, and each applicant is given the opportunity to comment on the part of the assessment that concerns him/her self.

Letter of reference

If you want a referee to upload a letter of reference on your behalf, please state the referee's contact information when you submit your application. We strongly recommend that you make an agreement with the person in question before you enter the referee's contact information, and that you ensure that the referee has enough time to write the letter of reference before the application deadline.

Unfortunately, it is not possible to ensure that letters of reference received after the

application deadline will be taken into consideration.

If you wish to add a referee **after** you have submitted your application, you must send this person's details (name, job title, place of work, and email address) as well as the name of the position you have applied for to: HR.Nattech@au.dk

Formalities and salary range

Technical Sciences refers to the [Ministerial Order on the Appointment of Academic Staff at Danish Universities under the Danish Ministry of Science, Technology and Innovation](#).

The application must be in English and include a curriculum vitae, degree certificate, a complete list of publications, a statement of future research plans and information about research activities, teaching portfolio and verified information on previous teaching experience (if any). Guidelines for applicants can be found [here](#).

Appointment shall be in accordance with the collective labour agreement between the Danish Ministry of Taxation and the Danish Confederation of Professional Associations. Further information on qualification requirements and job content may be found in the [Memorandum on Job Structure for Academic Staff at Danish Universities](#).

Salary depends on seniority as agreed between the Danish Ministry of Taxation and the Confederation of Professional Associations.

Aarhus University's ambition is to be an attractive and inspiring workplace for all and to foster a culture in which each individual has opportunities to thrive, achieve and develop. We view equality and diversity as assets, and we welcome all applicants.

Research activities will be evaluated in relation to actual research time. Thus, we encourage applicants to specify periods of leave without research activities, in order to be able to subtract these periods from the span of the scientific career during the evaluation of scientific productivity.

Aarhus University offers a broad variety of services for international researchers and accompanying families, including relocation service and career counselling to expat partners. Read more [here](#). Please find more information about entering and working in Denmark [here](#).

Aarhus University also offers a Junior Researcher Development Programme targeted at career development for postdocs at AU. You can read more about it [here](#).

The application must be submitted via Aarhus University's recruitment system, which can be accessed under the job advertisement on Aarhus University's website.

Aarhus University

Aarhus University is an academically diverse and research-intensive university with a strong commitment to high-quality research and education and the development of society nationally and globally. The university offers an inspiring research and teaching environment to its 37,000 students (FTEs) and 8.700 employees and has an annual revenue of EUR 1.106 billion. Learn more at www.international.au.dk/