

## Postdoc in Design and Optimization of Reliable and Compatible Power Electronics

At the Faculty of Engineering and Science, AAU Energy, two or more postdoc positions in power electronics are open for appointment from the 1st of January 2026, or soon hereafter. The positions are for 2 years.

### AAU - KNOWLEDGE FOR THE WORLD

At Aalborg University, we believe that knowledge can and must change the world. Our search for knowledge is always in concert with the wider world, engaging with real problems and missions to achieve sustainable solutions. These missions are the driving force behind our work.



Aalborg University contributes to the knowledge building of the global society as well as the development of prosperity, welfare, and culture of Danish society. This is accomplished through research, research-based education, public sector services, and knowledge collaboration. Aalborg University educates students for the future and activities are based on a dynamic and transformative collaboration with the surrounding.

AAU Energy is a dynamic engineering research department in continuous growth and inspiring surroundings.

AAU Energy has a very international environment and covers all areas of clean and sustainable energy systems of the future within electrical, thermal, and mechatronic energy technology. AAU Energy has campuses in both Aalborg and Esbjerg, this position is located in Aalborg

The mission is to be world-leading in both research and research-based education of the energy engineers of the future. AAU Energy has approx. 300 employees of many nationalities, of which 25 are administrative staff. In addition, AAU Energy constantly has approx. 50-70 guest researchers from around the world.

Research and teaching are in the absolute world elite in the field of energy, and we have extensive and leading workshop and laboratory facilities, where research and innovation are carried out in direct collaboration with industry to a great extent.

The positions are offered in relation to the EMI/EMC in Power Electronics and Power Electronic Control, Reliability and System Optimization research groups. They are also in relation to AAU Energy's Mission on Digital Transformation and AI as well as Energy Efficiency. The postdocs will be positioned in the section for Applied Power Electronic Systems.

The research area will be within the modeling and design optimization of power converters based on digital twin with emphasis on efficiency, reliability, and EMI/EMC modeling.

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The postdocs will get to travel to different workshop and conferences for knowledge dissemination as well as visiting research institutes in the context of the project.

**It is expected that the applicant demonstrates a documented expertise in the following areas:**

- Proven-research experiences in the following research topics:
  1. Isolated power converter topologies (e.g., Dual-active-bridge, LLC, and resonant converters).
  2. Power converter design and optimization.
  3. Multi-domain modeling simulation (e.g., electro-thermal).
  4. Wide-band-gap power semiconductor devices.
  5. Efficiency and power loss analysis of active and passive devices including magnetics.
  6. Digital twin modeling of power electronics including control and modulation.
- Familiarize with at least two of the following topics:
  1. Reliability and lifetime modeling of power electronics.
  2. Time-frequency domain EMI modeling of power electronic converters.
  3. Electromagnetic compatibility and filter design in power electronics.
- Proven-records in peer-reviewed publications in the most recognized power electronics journals.
- Hands-on experiences in experiment development and testing (e.g., hardware development, software implementation in various processor platforms) is required.
- In-depth understanding of power electronics and its engineering constraints is required.
- Strong English communication skills is mandatory.
- Experiences in assisting teaching and supervision is a plus.

**Qualification requirements**

Appointment as postdoc requires academic qualifications at PhD level.

**How to apply**

Your application must include the following:

- Application, stating reasons for applying, qualifications in relation to the position, and intentions and visions for the position
- Curriculum Vitae (CV)
- Diplomas (master's degree diploma and PhD diploma)
- List of publications, with an indication of the attached publications that you wish to be taken into account in the assessment. You may attach a maximum of ten publications.
- Documentation of teaching qualifications. Depending on which faculty you are applying for employment, please see **The Faculty of Engineering and Science and The Faculty of Medicine**. If this is not enclosed, the applicant must enclose the reasons for this.
- Dissemination qualifications, including participation on committees or boards, participation in organisations etc.
- Additional qualifications in relation to the position
- References/recommendations

You can read more about the requirements for your application [here](#).

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**The application must be submitted** [via Aalborg University's recruitment system](#), which can be accessed under the job advertisement on Aalborg University's website.

Application deadline: 6 November 2025

Aalborg University wants to reflect the surrounding society and has diversity as a core value. Therefore, everyone, regardless of personal background and orientation, is encouraged to apply for the position.

### **Do you have any questions?**

If you have any questions about the position, you are more than welcome to contact us. For professional information, please contact Professor Pooya Davari, [pda@energy.aau.dk](mailto:pda@energy.aau.dk). Other questions, please contact HR AAU Energy: [hr@energy.aau.dk](mailto:hr@energy.aau.dk)

### **Further information**

Read more about our recruitment process [here](#)

The appointment process at Aalborg University involves a shortlisting process. You can read more about the shortlisting and appointment process [here](#).

The hiring process at Aalborg University may include a risk assessment as a tool to identify potential risks associated with new hires, ensuring the safety, compliance, and integrity of the workplace.

Read more about AAU at [www.aau.dk](http://www.aau.dk).

Read more about the AAU Energy at [www.energy.aau.dk](http://www.energy.aau.dk).

### **Salary and terms of employment**

The employment is in accordance with the **Ministerial Order on the Appointment of Academic Staff at Universities (the Appointment Order)** and **the Ministerial Order on Job Structure for Academic Staff at Universities (in Danish)** and **protocol on certain terms of employment of academic staff at universities (in Danish)**.

Salary and terms of employment are in accordance with **the collective agreement between the Danish Confederation of Professional Associations and the state (AC collective agreement) (only in Danish)** and **protocol on certain terms of employment of academic staff at universities (only in Danish)**.

### **Aalborg University - Knowledge for the world**

Aalborg University is an international workplace with more than 3,700 employees. We offer real-world-oriented education and create world-class research results through collaboration between researchers, students, and public and private companies. This is how we achieve insights, new solutions to societal problems, and knowledge that changes the world. Our main campus is in Aalborg, but we also have campuses in Esbjerg and Copenhagen.

There are 2 vacancies

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