

 Targeted job

DTU Global Top Student Programme - Internship in Complex Oxide Quantum Devices



DTU Energy

Government/ Charity/ Public Institution/ Other
Engineering

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Contract

Internship 4 to 9 months

Location

Kongens Lyngby, Region Hovedstaden (Denmark)

Start date

January 2027

Salary

Information not provided

Remote working

No remote working

The Technical University of Denmark (DTU) is one of Europe's leading engineering universities, known for excellence in research, education, innovation, and scientific advice. We work closely with industry and international partners to apply science and technology for societal benefit in an interdisciplinary and inclusive environment.

This internship is offered through DTU's Global Top Student Programme. Only top bachelor students nominated by their home university are eligible to apply. As participants, you will join a  our academic environment where theory meets practice, and students develop professionally and personally.

Job Description – *Complex Oxide Quantum Devices*.

DTU Energy is part of DTU and focuses broadly on research and technology within energy conversion and storage. The department works at the forefront of materials science within functional materials relevant for energy harvesting, conversion and for low-power technologies. The department is characterized by a collaborative culture, high academic standards, and a strong focus on innovation and real-world impact.

You will join the team of Professor Thomas Sand Jespersen at the Section for Functional Oxides within the department. The team consists of a group of postdoctoral researchers, PhD students and research assistants. You will join our efforts towards understanding and exploiting the electronic properties of functional nanoscale materials and the interplay between material science and the performance of electronic devices at ultra-low temperatures. There is a significant activity within the study of complex oxide membrane electronics towards use in quantum technology. As an intern, you will work closely with experienced colleagues who will support your learning and development, while also giving you the opportunity to contribute your own ideas and skills. You will join these ongoing efforts by working closely with the team to characterize and understand oxide micro-membranes, both from a structural perspective and in terms of their functionality in electronic devices at ultra-low temperatures.. The project will both focus on existing materials synthesized within the group and on developing new concepts for realizing novel crystal membranes.

You can read more about the research in the following references:

[Erlandsen et al, Nano Lett. 22,4758 \(2022\).](#)

[Sambri et al., Adv. Func. Mater 30, 1909964 \(2020\).](#)

[Meucci et al. arXiv preprint \(2026\)](#)

Your tasks will include (but are not limited to):

- Developing new methods for realizing oxide quantum materials
- Performing structural characterization using electron microscopy, optical microscopy and atomic force microscopy
- Participating in cryogenic measurements of quantum devices
- Data analysis, modeling, preparing presentations, and contributing to scientific articles
- You will participate in the group meetings and project discussions
- Collaborating with internal and external stakeholders

The exact tasks and responsibilities will be adjusted based on your background, interests, and the needs of the team.

Qualifications

We are looking for a highly motivated and curious candidate who:

- Is currently enrolled in the final year of a Bachelor's degree programme
- Is looking for an opportunity to work on challenging experimental and fundamental conceptual problems and to bring your academic knowledge into action within research.
- Has a relevant background in condensed matter physics or nanoscience.
- Has an interest in condensed matter physics and the field of experimental quantum devices.
- Is analytical, structured, and able to work independently
- Has good collaboration and communication skills
- Has demonstrated proficiency in written and spoken English, documented by one of the following English language tests. Minimum required scores are:
 - Duolingo English Test (overall: 120)
 - TOEFL (old scale overall: 92, new scale overall: 4.5)
 - IELTS Academic (overall: 6.5)
 - CAE (overall: 180)

You can read more about the language test requirements [here](#).

What we offer

DTU offers a prestigious internship at the Lyngby Campus in Greater Copenhagen, providing hands-on research experience in an international academic environment. Interns collaborate with leading researchers on advanced projects while developing their professional skills in a supportive setting.

Living in Greater Copenhagen also offers international students a high quality of life, a strong academic community, and a vibrant city experience in Denmark's capital region.

As part of the internship, the student will also become a member of DTU's alumni community network, gaining access to a range of exclusive offers and support, including:

- Administrative and practical support – assistance with residence permits, housing, etc.
- Social and networking framework, including an introduction week, cultural activities, and semester events
- Parallel academic opportunities – coursework on the side

Practical information:

- Internship period: 25 January 2027 – 25 June 2027 (one semester) or until 18 December 2027 (two semesters)
- Working hours: 25–37 hours per week, either full-time or part-time depending on whether the student chooses to take courses alongside the internship.
- Location: DTU Lyngby Campus in the Greater Copenhagen area
- Compensation: This is an unpaid internship

You can read more about the department here: www.fox.energy.dtu.dk

For useful information on the programme and student life at DTU, see [Global Top Student Programme](#) and [Student guide – DTU](#).

Application procedure

The application procedure consists of two steps.

Step 1: Nomination

In order to be considered for this programme, you must be nominated by your home university in the DTU Exchange Student system. Once you have been nominated, you must complete your nomination by uploading the following documents:

- Grade transcripts (in English) including an official description of the grading scale
- Documentation proving that you have passed one of the above English language tests

Step 2: Application

To apply, please open the link "Apply now", fill out the online application form, and attach all your materials in English as PDF files. The files must include:

- A CV including information about your education, relevant research experience, language skills, and other skills relevant to the internship position
- A motivated cover letter (max. 1 page)

Your complete online application must be submitted no later than 15 September 2026 (23:59 Danish time).

We look forward to receiving your application.

DTU – For the benefit of society since 1829

DTU is one of Europe's leading elite technical universities. Through research and education at an international top level, we create solutions to the major societal challenges of our time and help secure Europe's global leadership in sustainable technological development. Since Hans

Christian Ørsted founded DTU almost 200 years ago, our mission has remained the same: We develop and create value through the natural and technical sciences for the benefit of society. DTU has 13,800 students, 1,600 PhD students, and 6,500 employees. We work in an international environment and have an inclusive, stimulating, and informal work culture. DTU has campuses in all parts of Denmark and in Greenland and collaborates with the best universities around the world.

Application deadline

16 September 2026

Study level

Bachelor level or equivalent

Job Category

Engineering

Related tags

DTU Global Top Student Programme