

Jobbnorge ID: 268085
Deadline: 10/13/2024
Website: <http://www.ntnu.no>
Scope: Fulltime
Duration: Temporary

The Department of Energy and Process Engineering are looking for a

PhD Candidate in degradation of Lithium ion batteries (LIB)

This is NTNU

NTNU is a broad-based university with a technical-scientific profile and a focus in professional education. The university is located in three cities with headquarters in Trondheim.

At NTNU, 9,000 employees and 43,000 students work to create knowledge for a better world.

You will find more information about working at NTNU and the application process [here](#).

Video: <https://youtu.be/Xt-yHCN5QS0>

About the job

For a position as a PhD Candidate, the goal is a completed doctoral education up to an obtained doctoral degree.

The use and production of LIB has doubled every 3 years and is predicted to do so for at least the next ten years. Safety and life time expectancy for batteries is key to continued expansion and successes in the field. Although many aspects around safety and lifetime of batteries are understood, many of the couplings between mechanical, thermal, and electrical conditions remains unsolved - and particularly as modern batteries are larger and in other ways different than batteries over the past 10-15 years.

In this PhD position you will collaborate with several industry partners and research institutes as well as being part of a larger group of battery researchers. You will use both established and novel research techniques in order to increase the understanding of how battery safety and degradation relates to temperature, cycling conditions and temperature-mechanical effects.

The position has a duration of three years.

Your immediate leader is Professor Odne Burheim.

Duties of the position

- The candidate will be following the [faculty's PhD program](#).
- Prepare a PhD thesis.
- Prepare at least three research papers for journal peer reviewing.
- Plan, design and carry out experiments, and preferably undertake some modelling.
- Collaborate with colleagues and contribute to their work.
- The applicant is expected to contribute to an inclusive and social working environment of the Sustainable Energy Systems group.

Required selection criteria

- You must have a professionally relevant background in Engineering.
- Your education must correspond to a five-year Norwegian degree program, where 120 credits are obtained at master's level
- You must have a strong academic background from your previous studies and an average grade from the master's degree program, or equivalent education, which is equal to B or better compared with NTNU's grading scale. If you do not have letter grades from previous studies, you must have an equally good academic basis. If you have a weaker grade background, you may be assessed if you can document that you are particularly suitable for a PhD education.
- Master's students can apply, but the master's degree must be obtained and documented before starting the position.
- You must meet the requirements for admission to the [faculty's doctoral program](#).
- Your background must be compatible with Norwegian Export Control regulations.

The appointment is to be made in accordance with Regulations on terms of employment for positions such as postdoctoral fellow, PhD candidate, research assistant and specialist candidate and [Regulations concerning the degrees of Philosophiae Doctor](#)

Preferred selection criteria

- Experimental experience in electrochemistry and/or LIB.
- Numerical software experience in research (e.g. matlab, python, or similar).
- Self-driven and independent working is preferred, but also be able to work in a team.
- Documented experience in teaching or supervision, or examples of management in voluntary organizations.

Personal characteristics

- Creative and good at finding solutions.
- Diligent, thorough and hard-working.
- Self-driven and independent but are able to work in a team.

Emphasis will be placed on personal and interpersonal qualities.

We offer

- Exciting and stimulating tasks in a strong international academic environment
- An open and [inclusive work environment](#) with dedicated colleagues
- Favorable terms in the [Norwegian Public Service Pension Fund](#)
- [Employee benefits](#)

Salary and conditions

As a PhD candidate (code 1017) you are normally paid from gross NOK 532 200 per annum before tax, depending on qualifications and seniority. From the salary, 2% is deducted as a contribution to the Norwegian Public Service Pension Fund.

The period of employment is 3 years.

Appointment to a PhD position requires that you are admitted to the PhD programme in [subject area] (Link to website, if applicable) within three months of employment, and that you participate in an organized PhD programme during the employment period.

The engagement is to be made in accordance with the regulations in force concerning [State Employees and Civil Servants](#), and the acts relating to Control of the Export of Strategic Goods, Services and Technology. Candidates who by assessment of the application and attachment are seen to conflict with the criteria in the latter law will be prohibited from recruitment to NTNU. After the appointment you must assume that there may be changes in the area of work.

The position is subject to external funding.

It is a prerequisite you can be present at and accessible to the institution daily.

About the application

The application and supporting documentation to be used as the basis for the assessment must be in English.

Publications and other scientific work must be attached to the application. Please note that your application will be considered based solely on information submitted by the application deadline. You must therefore ensure that your application clearly demonstrates how your skills and experience fulfil the criteria specified above.

In order for us to evaluate your application, it must include the following:

- CV and certificates
- Transcripts and diplomas for bachelor's and master's degrees. If you have not completed the master's degree, you must submit a confirmation that the master's thesis has been submitted.
- A copy of the master's thesis. If you recently have submitted your master's thesis, you can attach a draft of the thesis. Documentation of a completed master's degree must be presented before taking up the position.
- Project proposal
- Name and contact information of three referees
- If you have publications or other relevant research work

If all, or parts, of your education has been taken abroad, we also ask you to attach documentation of the scope and quality of your entire education, both bachelor's and master's education, in addition to other higher education. Description of the documentation required can be found [here](#). If you already have a statement from [Norwegian Directorate for Higher Education and Skills](#), please attach this as well.

We will take joint work into account. If it is difficult to identify your efforts in the joint work, you must enclose a short description of your participation.

In the evaluation of which candidate is best qualified, emphasis will be placed on education, experience and personal and interpersonal qualities. Motivation, ambitions, and potential will also count in the assessment of the candidates.

NTNU is committed to following evaluation criteria for research quality according to [The San Francisco Declaration on Research Assessment - DORA](#).

General information

[Working at NTNU](#)

NTNU believes that inclusion and diversity is our strength. We want to recruit people with different competencies, educational backgrounds, life experiences and perspectives to contribute to solving our social responsibilities within education and research. We will facilitate for our employees' needs.

NTNU is working actively to increase the number of women employed in scientific positions and has a number of resources to [promote equality](#).

EPT has established [EPT Women in Science](#). The group is focused on supporting female Research Assistants, PhD Candidates, Postdoctoral Fellows and permanent academic employees within the Department. This support aims to help develop the academic careers of female employees, and is also made visible to our student body, to encourage them to consider an academic path. As part of the EPT Women in Science initiative we continue to build on our international network, inviting prominent female academics within and beyond the field of Engineering to speak at our events.

As an employee at NTNU, you must at all times adhere to the changes that the development in the subject entails and the organizational changes that are adopted.

A public list of applicants with name, age, job title and municipality of residence is prepared after the application deadline. If you want to reserve yourself from entry on the public applicant list, this must be justified. Assessment will be made in accordance with [current legislation](#). You will be notified if the reservation is not accepted.

If you have any questions about the position, please contact Professor Odne Burheim on e-mail: odne.s.burheim@ntnu.no. If you have any questions about the recruitment process, please contact HR-consultant Renate Fjellheim on e-mail: renate.fjellheim@ntnu.no.

The city of Trondheim has a population of 200,000. It is a modern European city with a rich cultural scene and is known as the innovation capital of Norway. The Norwegian welfare state, including healthcare, schools, kindergartens and overall equality, is among the best of its kind in the world. Professional subsidized day-care for children is easily available, as is children's education (including international schools). Trondheim has low crime rates and clean air quality and offers the possibility to enjoy nature, culture and family life.

If you think this looks interesting and in line with your qualifications, please submit your application electronically via jobb norge.no with your CV, diplomas and certificates attached. Applications submitted elsewhere will not be considered. Upon request, you must be able to obtain certified copies of your documentation.

Application deadline: 13th of October 2024.

NTNU - knowledge for a better world

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The Norwegian University of Science and Technology (NTNU) creates knowledge for a better world and solutions that can change everyday life.

Department of Energy and Process Engineering

We conduct research and teaching covering the entire energy chain, from resources to the end-user. We look at how energy is produced and used by humans and machines in a sustainable way with regard to health, climate change and the resource base. [The Department of Energy and Process Engineering](#) is one of eight departments in the [Faculty of Engineering](#).

Additional information

Contact persons:

- Odne Burheim, Professor
Phone: | E-mail: odne.s.burheim@ntnu.no
- Renate Fjellheim, HR-consultant
Phone: | E-mail: renate.fjellheim@ntnu.no

Place of service:

Høgskoleringen 1 7491 Trondheim (Trondheim Municipality)