



NTNU

PhD Position in Electrodialysis as a tool in the Circular Economy of Hydrometallurgical industries (IV-170/19)

About the position

We have a vacancy for a PhD position at Department of Energy and Process Engineering.

The position is for three years of duration, but can be extended to four years, with one year of teaching duties depending on the candidate.

The PhD position is funded via the research council of Norway and the program BIA together with 6 Norwegian industry companies. The project also covers 3 other PhD projects and thus have inter- and multidisciplinary aspects. In addition, the candidate has an opportunity to collaborate with other PhD students and postdocs within ENERSENSE, a multidisciplinary project where the candidate participates in different activities throughout the year and get to collaborate with other experts of associated research areas. See www.ntnu.edu/enersense.

The PhD project will be in collaboration with Department of Chemical Engineering at NTNU, Dep. Of Chemistry at Univ. of Oslo, Simon Fraiser University Canada, Boliden Odda, K.A. Rasmussen, Yara International ASA, NOAH, Glencore Nikkelverk, Solberg industry, and Sintef.

The position reports to head of department, Prof. Dr. Terese Løvås and will have main supervision from Professor Odne Burheim.

Main duties and responsibilities

A PhD position is available within the topic of electrodialysis as a tool for upgrading mineral streams in and between various hydrometallurgical sectors, and thus in the context of circular economy. Electrodialysis is a membrane based technology, where a forced electric current is used to transfer ions from one solution to another, and thereby remove ions from one solution and concentrating them in the other solution. Doing so, one can take two low grade solution and create two high grade solutions; adding work thus allows for entropy reduction - a contribution which is inevitably needed in the everlasting entropy producing of the circular hydrometallurgical economy.

Qualification requirements

The sought candidate should, because of the close collaboration with industrial companies, have an interest in trying to combine solid fundamental research with practical innovation. Relevant backgrounds would be a master degree chemical engineering, mechanical engineering (with some basic chemistry), physics (with some basic chemistry), nanotechnology, chemistry or an engineering degree focusing on environmental or ecological aspects. The candidate should highlight her or his background within electrochemistry and transport phenomena. Candidates in their last year of their master studies will be considered.

The PhD-position's main objective is to qualify for work in research positions. The qualification requirement is completion of a master's degree or second degree (equivalent to 120 credits) with a strong academic background with a grade of B or better in terms of [NTNU's grading scale](#). Applicants with no letter grades from previous studies must have an equally good academic foundation. Applicants who are unable to meet these criteria may be considered only if they can document that they are particularly suitable candidates for education leading to a PhD degree.

The appointment is to be made in accordance with the regulations in force concerning State Employees and Civil Servants and [national guidelines for appointment as PhD, postdoctor and research assistant](#)

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

Other qualifications

- Good written and oral English and Norwegian language skills

Personal characteristics

In the evaluation of which candidate is best qualified, emphasis will be placed on education, experience and personal suitability, as well as motivation, in terms of the qualification requirements specified in the advertisement

We offer

- exciting and stimulating tasks in a strong international academic environment
- an open and [inclusive work environment](#) with dedicated colleagues
- favourable terms in the [Norwegian Public Service Pension Fund](#)
- [employee benefits](#)

Salary and conditions

PhD candidates are remunerated in code 1017, and are normally remunerated at gross from NOK 449 400 before tax per year. From the salary, 2 % is deducted as a contribution to the Norwegian Public Service Pension Fund.

The period of employment is 3 years without required duties, but can be extended to four years, with one year of teaching duties depending on the candidate. Appointment to a PhD position requires admission to the PhD programme in Engineering, please see <https://www.ntnu.edu/studies/phiv> for more information.

As a PhD candidate, you undertake to participate in an organized PhD programme during the employment period. A condition of appointment is that you are in fact qualified for admission to the PhD programme within three months.

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 criterias 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.

General information

A good work environment is characterized by diversity. We encourage qualified candidates to apply, regardless of their gender, functional capacity or cultural background. Under the Freedom of Information Act (offentleglova), information about the applicant may be made public even if the applicant has requested not to have their name entered on the list of applicants.

Questions about the position can be directed to Odne Burheim, phone number 91707856, e-mail burheim@ntnu.no

About the application:

Publications and other academic works that the applicant would like to be considered in the evaluation must accompany the application. Joint works will be considered. If it is difficult to identify the individual applicant's contribution to joint works, the applicant must include a brief description of his or her contribution. The candidate should be able to start in the second part of 2019 and preferably in August, but exempt for the right candidate can be made for up to half a year.

Please submit your application electronically via jobbno.no with your CV, diplomas and certificates. Applicants invited for interview must include certified copies of transcripts and reference letters. Please refer to the application number IV-170/19 when applying.

Application deadline: 17.05.2019.

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](#).

Jobbno-ID: 169835, Søknadsfrist: Søknadsfristen er gått ut