Doctoral Researcher in Seawater Electrolysis
Aalto University

Job Title	Doctoral Researcher in Seawater Electrolysis
Department	T105 Chemistry and Materials
Institution	Aalto University , , Finland
Date Posted	Dec. 23, 2024
Application Deadline	Open until filled
Position Start Date	Available immediately
Job Categories	Graduate Student Research Scientist/Associate
Academic Field(s)	Chemistry - General
Job Website	https://aalto.wd3.myworkdayjobs.com/aalto/job/Otaniemi-Espoo-Finland/Doctoral-researcher-in-seawater-electrolysis_R41818-3
Apply By Email	

Job Description

Aalto University is where science and art meet technology and business. We shape a sustainable future by making research breakthroughs in and across our disciplines, sparking the game changers of tomorrow and creating novel solutions to major global challenges. Our community is made up of 13 000 students, 400 professors and close to 4 500 other faculty and staff working on our dynamic campus in Espoo, Greater Helsinki, Finland. Diversity is part of who we are, and we actively work to ensure our community’s diversity and inclusiveness. This is why we warmly encourage qualified candidates from all backgrounds to join our community.

The Department of Chemistry and Materials Science is working at the cutting edge of research on micro-, nano- and atomic scale engineering of compounds and materials. The research in the department focuses on advanced and functional materials, chemical synthesis, energy storage and

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conversion, as well as, molecular and materials modelling.

The Electrochemical Energy Conversion and Storage research group in the Department of Chemistry and Materials Science is looking for a motivated

Doctoral Researcher for developing electrocatalysts for seawater electrolysis

Are you interested in developing novel materials for the latest technologies in green hydrogen production?

We are looking for a Doctoral Researcher to develop coatings on electrocatalysts to protect them from the corroding and poisoning environment of saline seawater. Fresh water is a limitation for wider adoption of green hydrogen production via electrolysis. Developing durable electrocatalysts for the demanding seawater conditions is a key to realizing efficient seawater electrolyzers. This work will combine advanced synthesis methods of electrocatalyst materials with electrochemical analysis of the materials as well as sophisticated in-situ analysis techniques and versatile material characterization. The successful candidate will join an EU-funded project combining scientists from research organizations and industry across Europe for a highly collaborative work.

Your role and goals
You will be responsible for the synthesis of catalysts for hydrogen evolution reaction, coating the electrocatalysts by using Atomic Layer Deposition, and characterizing the materials by electrochemical and physico-chemical methods as well as probing the reaction environment with in situ Raman technique. You will be expected to perform independent research, collaborate with the other groups in the project, present at scientific conferences and publish in academic journals. Alongside with the research work, you are expected to complete the D.Sc,(Tech.) degree in chemical engineering.

Your network and team
The position is based in the Electrochemical Energy Conversion and Storage research group led by Professor Tanja Kallio, and will be a part of EU funded project with collaborators from research organisations and industry all over Europe. You will be working in a highly collaborative and international environment.

The EECS research group investigates and develops materials and devices for electrochemical energy conversion and storage applications, including fuel cells, electrolyzers and lithium batteries. Our aim is to understand the functioning of the materials to improve the existing ones and to develop alternative, more sustainable solutions. Our research covers synthesis, characterization and device integration of new materials. Alongside functionality of the materials and devices, we are interested in their durability

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and degradation mechanisms as well as optimization of above-mentioned technologies.

Your experience and ambitions
We are looking for highly motivated candidates with *
A master’s degree in chemistry, material sciences or related field with excellent grades *
Previous experience in electrochemistry, nanomaterial synthesis and/or physico-chemical characterization methods *
Good reporting and presenting skills *
Good problem-solving skills combined with cooperative attitude and responsibility

What we offer
Aalto University offers an inspiring environment to shape a sustainable future. Our well-resourced community offers you the chance to focus on driving your research ideas and developing your competencies. Aalto is an open community where equality and inclusion enable curiosity, innovation, collaboration and wellbeing.

We offer meaningful and inspiring working and learning environment. We are proud of our purpose to shape a sustainable future by innovating novel material and technological solutions. We spark the game changers of tomorrow, and renew society with research-based knowledge, creativity and an entrepreneurial mindset. During your studies and and research work we are ready to support, coach and spar when you feel you need it. Our working culture inspires and includes everyone. All our work is guided by the values of the university: responsibility, courage, and collaboration.

Our vast array of professional development opportunities means you will grow and learn, having the chance to participate actively in staff trainings and development projects based on your interests and needs.

We work in a hybrid way, and the primary workplace is Otaniemi, Espoo. The Otaniemi campus is a thriving and connected community of 100 nationalities, 13,000 students and 4,500 employees. Life at the transformed campus is vibrant and filled with amazing architecture, calming nature, and a variety of cafes, restaurants, services and good connections along the recently opened metro line.

The starting date will be around mid-2025. The first employment contract is made for one year while the EU project duration is three years. During the first years fixed-term contract, you will apply for the study right in doctoral studies at Aalto University School of Chemical Engineering. Please check the student information and admission criteria at [url=https://www.aalto.fi/en/study-options/aalto-doctoral-programme-in-chemical-engineering]https://www.aalto.fi/en/study-options/aalto-doctoral-programme-in-chemical-engineering. Please pay attention to the mandatory skill level in English and required grades.

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Doctoral studies at Aalto University take approximately four years. The starting salary for a Doctoral researcher is approximately 3000 €/month.

Join us!
If you want to join our research group, please share the following application materials with us no later than 31.01.2025 through our online recruitment site by using the "Apply now!” link.
Please include the following attachments to your application *
A letter of motivation *
A complete curriculum vitae *
Copy of the master’s degree certificate and a transcript of studies (with a clear explanation of the grading scale)

We will go through applications, and we may invite suitable candidates to interview already during the application period. We aim to have a transparent and equal recruitment process, so feel free to ask us for feedback.

For additional information, please contact Prof. Tanja Kallio, tanja.kallio(a)aalto.fi or Dr. Milla Vikberg, milla.vikberg(a)aalto.fi.

Please note: Aalto University’s employees should apply for the position via our internal HR system Workday (Internal Jobs) by using their existing Workday user account (not via the external webpage for open positions).

Want to know more about us and your future colleagues? You can watch these videos: [url=https://www.youtube.com/watch?v=5k_og_6zUJQ]Aalto University - Towards a better world, [url=https://www.youtube.com/watch?v=dUfEGVM-ZP8&feature=youtu.be]Aalto People , and [url=https://www.youtube.com/watch?v=ZK6pDWm1_CE]Shaping a Sustainable Future. Read more about working at Aalto: [url=https://www.aalto.fi/en/careers-at-aalto]https://www.aalto.fi/en/careers-at-aalto

Check out our new virtual campus experience: [url=https://virtualtour.aalto.fi/]https://virtualtour.aalto.fi/

About Finland
Finland is a great place for living with or without family - it is a safe, politically stable and well-organized Nordic society. Finland is consistently ranked high in quality of life and was just listed again as the happiest country in the world: [url=https://worldhappiness.report/news/its-a-three-peat-finland-keeps-top-spot-as-happiest-country-in-world/]https://worldhappiness.report/news/its-a-three-peat-finland-keeps-top-spot-as-happiest-country-in-world/. For more information about living in Finland:

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[url=https://www.aalto.fi/en/careers-at-aalto/for-international-staff]https://www.aalto.fi/en/careers-at-aalto/for-international-staff .

Contact Information

Please reference Academickeys in your cover letter when applying for or inquiring about this job announcement.

Contact

Finland