Doctoral Researcher in xylan electrolysis for production of renewable chemicals and hydrogen
Aalto University

Job Title	Doctoral Researcher in xylan electrolysis for production of renewable chemicals and hydrogen
Department	T105 Chemistry and Materials
Institution	Aalto University , , Finland
Date Posted	May 27, 2025
Application Deadline	Open until filled
Position Start Date	Available immediately
Job Categories	Graduate Student
Academic Field(s)	Chemical/Petroleum
Job Website	https://aalto.wd3.myworkdayjobs.com/aalto/job/Otaniemi-Espoo-Finland/Doctoral-Researcher-in-xylan-electrolysis-for-production-of-renewable-chemicals-and-hydrogen_R43373
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 120 nationalities, 14 000 students, 400 professors and close to 5000 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 School of Chemical Engineering ([url=https://www.aalto.fi/en/school-of-chemical-engineering]CHEM School) is one of the six schools of Aalto University. It combines natural sciences

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and engineering in a unique way. We are now looking for a:

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We are developing innovative strategies that combine biomass valorization and green hydrogen (H2) production. In this project, we aim to integrate the electro-oxidation of xylans to reduce the energy demand of electrolytic H2 production while co-producing high-value chemicals from renewable biomass resources.

This is a highly interdisciplinary project requiring expertise in electrochemistry and lignocellulosic chemistry. You will be jointly supervised by two research groups at Aalto CHEM School: Prof. Daniel Martin-Yerga ([url=https://www.aalto.fi/en/department-of-chemistry-and-materials-science/electrochemical-materials-and-applications]Electrochemical Materials and Applications, [url=https://www.aalto.fi/en/department-of-chemistry-and-materials-science]Department of Chemistry and Materials Science) and Prof. Tiina Nypelö ([url=https://www.aalto.fi/en/department-of-bioproducts-and-biosystems/lignocellulose-chemistry]Lignocellulosic Chemistry, [url=https://www.aalto.fi/en/department-of-bioproducts-and-biosystems]Department of Bioproducts and Biosystems). As a Doctoral Researcher, you will work at the interface of these fields and contribute to a high-impact collaborative research environment.

This position is part of the [url=https://www.aalto.fi/en/aalto-university-hydrogen-innovation-centre/hydrogen-innovation-centre-doctoral-school]Aalto Hydrogen Innovation Centre Doctoral School, which is an active community supporting the realization of the Hydrogen Economy. The Doctoral School organizes seminars, workshops, and summer schools that will help you grow your network and skills.

Your responsibilities will include: *
Evaluating xylan-rich streams in the context of electrochemical conversions. *
Developing catalysts for xylan electro-oxidation. *
Developing and applying skills in polysaccharide analysis. *
Investigating the coupling of xylan oxidation and hydrogen generation in flow cells. *
Presenting experimental results and scientific findings in meetings and conferences. *
Authoring scientific publications based on the original experimental findings. *
Fulfilling the requirement of the Doctoral Programme in Chemical Engineering (graduation typically in four years). More info and eligibility criteria: [url=https://www.aalto.fi/en/study-options/doctoral-programme-in-chemical-engineering]https://www.aalto.fi/en/study-options/doctoral-programme-in-chemical-engineering.

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To succeed in this role, you should have: *
A Master's degree in Chemistry, Chemical Engineering, Materials Science, or a related field. *
Experience or interest in electrochemistry or lignocellulosic chemistry, and a willingness to learn both. *
A collaborative mindset and ability to work in diverse teams. *
Strong command of English (written and spoken).

What we offer / key employment details
Aalto's School of Chemical Engineering is a leading research environment in Finland for electrochemistry and biomass valorization.

The position offers a starting gross salary of 3000 euros per month. The appointment will be made by a fixed-term contract, initially for one year during which you will apply for the study right in doctoral studies, with extensions available up to four years. The role also includes occupational health benefits and access to Finland's comprehensive social security system. The starting date for the position is in Fall 2025, but the exact date can be agreed with the selected candidate.

How to apply
Please submit your application through our online system no later than 15.6.2025, using the "Apply Now!" button below. Include the following documents in English (PDF format): *
Curriculum vitae, including contact details for two referees. *
A letter of motivation specifically prepared for this role, explaining how your background and expertise align with the position. *
Copy of your Master's degree certificate and a transcript of your studies.
Applications will be reviewed on a rolling basis and suitable candidates may be invited for an online interview before the deadline.

For more information, contact Prof. Daniel Martin-Yerga (daniel.martinyerga(a)aalto.fi) or Prof. Tiina Nypelö (tiina.nypelo(a)aalto.fi). Applications sent via email will not be considered; only submissions through the "Apply Now!" button are accepted.

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). If you are a student or visitor at Aalto University, please apply with your personal email address (not aalto.fi) via [url=https://www.aalto.fi/en/careers-at-aalto]Aalto University open positions.

Aalto University is committed to equality and diversity in our work community. We encourage qualified applicants from all backgrounds to apply and join our innovative research team.

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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: [url=https://www.aalto.fi/en/careers-at-aalto/why-finland]https://www.aalto.fi/en/careers-at-aalto/why-finland

Contact Information

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

Contact

Finland