Doctoral Researcher in Predictive design of hybrid bioderived nanomaterials
Aalto University

Job Title	Doctoral Researcher in Predictive design of hybrid bioderived nanomaterials
Department	T410 Dept. Electrical Engineering and Automation
Institution	Aalto University , , Finland
Date Posted	Jul. 3, 2024
Application Deadline	Open until filled
Position Start Date	Available immediately
Job Categories	Graduate Student
Academic Field(s)	Electrical and/or Electronics
Job Website	https://aalto.wd3.myworkdayjobs.com/aalto/job/Otaniemi-Espoo-Finland/Doctoral-Researcher-in-Predictive-design-of-hybrid-bioderived-nanomaterials_R40228-3
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.

We are now looking for a highly motivated and talented

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to join our team and contribute to an exciting research project focused on understanding the structure-performance correlations of hybrid nanomaterials fabricated from cellulose nanofibrils (CNFs) and carbon nanomaterials (CNM) utilizing experimental and computational studies.

Your role and goals
You will be part of a project focused on understanding the structure performance connections of CNF/CNM-hybrid architectures for electroanalytical applications. This knowledge will be applied to enhance the detection and simultaneous breakdown of antibiotics and their metabolites in wastewater effluent. The 3D-integrated membrane-electrode material designed for this purpose is optimized for superior performance, specifically in challenging conditions that mimic the final stages of the wastewater treatment process. This is done based on the detailed understanding of how the physicochemical properties of the hybrid materials affect their electroanalytical performance. The anticipated outcome of this work includes contributions to scientific publications in international academic conferences, with a particular emphasis on high-impact journals.

The doctoral researcher applicants must fulfil the admission requirements for the Aalto Doctoral Programme in Electrical Engineering. You are expected to apply for and to be granted a right to pursue doctoral studies at Aalto University. More information on the general requirements and the Doctoral Programme in Electrical Engineering: [url=https://www.aalto.fi/en/study-options/aalto-doctoral-programme-in-electrical-engineering]https://www.aalto.fi/en/study-options/aalto-doctoral-programme-in-electrical-engineering. Please check the student information, admission criteria and pay attention to the required (English) language proficiency.

Your network and team
You will join the [url=https://www.aalto.fi/en/department-of-electrical-engineering-and-automation/microsystems-technology]Microsystems Technology group, collaborating with fellow postgraduate students engaged in similar and related topics. A dedicated postdoctoral researcher specializing in this field will offer support from the outset. Our group provides access to exceptional analytical facilities, and we benefit from a vast network of collaborators. Additionally, you will be working closely with the computational scientists from the [url=https://miguelcaro.org/wp/]Miguel Caro group to rationalize the experimental results as well as to gain atomic level understanding of the structure and properties of the hybrid materials. Finally, a close collaboration with VTT research center is utilized to leverage their expertise in nanocellulose fabrication and their physicochemical analyses.

Your experience and ambitions
A master's degree in (bio)materials science, electrochemistry, physics, chemistry, or a related field is a prerequisite for this position. The focus of your research will involve the development, analysis, and testing of innovative bioderived hybrid nanomaterials. Proficiency in English is essential,

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substantiated by an official English test certificate.

Candidates should ideally possess experience in wet-lab work, with past involvement in electrochemical measurements considered a valuable asset. Familiarity or a willingness to engage in various analytical characterization techniques such as SEM, TEM, Raman, FT-IR, and others is also viewed as advantageous.

An ideal candidate would also have excellent problem-solving and analytical skills, strong communication and collaboration abilities, and ability to work independently and as part of a research team.

What we offer *
Meaningful and inspiring environment. We are proud of our purpose to shape a sustainable future. We spark the game changers of tomorrow, and renew society with research-based knowledge, creativity and an entrepreneurial mindset. *
Culture that inspires and includes everyone. All our work is guided by the values of the university: responsibility, courage, and collaboration. It’s the people that create Aalto, now and in the future. We want to be an open community where equality and inclusion enable curiosity, innovation, collaboration and wellbeing. *
Responsible and meaningful role with true impact in our School’s success, and in the end, in the wellbeing and development of our society. *
Support, coaching and sparring when you feel you need it. *
Great possibilities for competence development and learning. We constantly keep learning to find the most impactful ways to empower - and invest in - our people.

The doctoral studies at Aalto University take approximately four years. The researcher is expected to commit to complete a Doctoral Dissertation (to obtain PhD degree) within this time in the project.

The position will be filled for a period of 4 years (2 + 2). Aalto University follows the salary system of Finnish universities. The starting (gross) salary for a Ph.D. student is approximately 2700 EUR/month. It will increase with achievements, such as scientific publications.

We offer a wide range of staff benefits, such as occupational health care, excellent sports facilities on campus, and several restaurants and cafés on campus with staff discounts. The position is located at the Aalto University Otaniemi campus, which 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 with public transport.

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Join us!
Please submit your application through our online recruitment system. To access the recruitment system, please use the “Apply now!” link below. Applications received before August 15th, 2024 (23:59 EET (GMT+2)) will be given guaranteed consideration. Applications will continue to be processed and reviewed following this date until the position is filled, but candidates are encouraged to apply as soon as possible.

Please write your application and all the accompanying documentation in English and attach them in PDF format. Please attach only the following documents to your application: *
A letter of motivation describing your research interests and how the research fits to the Microsystems Technology group (max. 1 page) *
Curriculum vitae (include the contact details of at least two references, and if available, a list of publications) *
PDF copy of your MSc and BSc degree certificates, including transcripts of all MSc and BSc university records (grades and courses) and their English translations (Finnish and Swedish certificates are also accepted). Unofficial transcripts are acceptable for application purposes.

Please note that our recruitment system allows max 5 attachments, so please combine the copies of certificates and transcripts in one PDF, if necessary.

For more information
For further details, please contact Professor Tomi Laurila (tomi.laurila(at)aalto.fi). For submission related queries, contact HR Partner Camilla Hanganpää (camilla.hanganpaa(at)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: [url=https://www.aalto.fi/en/careers-at-aalto/living-in-finland]https://www.aalto.fi/en/careers-at-aalto/living-in-finland & [url=https://www.aalto.fi/en/services/welcome-to-aalto-university-and-finland-info-package]https://www.aalto.fi/en/services/welcome-to-aalto-university-and-finland-info-package.

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

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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/

Contact Information

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

Contact

Finland