Postdoctoral Researcher, Sustainable Materials and Smart Textiles
Aalto University

Job Title	Postdoctoral Researcher, Sustainable Materials and Smart Textiles
Department	T107 Bioproducts and Biosystems
Institution	Aalto University , , Finland
Date Posted	May 7, 2025
Application Deadline	Open until filled
Position Start Date	Available immediately
Job Categories	Post-Doc
Academic Field(s)	Material/Metallurgy
Job Website	https://aalto.wd3.myworkdayjobs.com/aalto/job/Otaniemi-Espoo-Finland/Postdoctoral-Researcher--Sustainable-Materials-and-Smart-Textiles_R43207
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 more than 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 School of Chemical Engineering is one of the six schools of Aalto University. It combines natural sciences and engineering in a unique way.

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We are now looking for a

Postdoctoral Researcher in Sustainable Materials and Smart Textiles

We are seeking a highly motivated and talented Postdoctoral Researcher to join the Department of Bioproducts and Biosystems (BIO2) to work on our EU funded project. This multidisciplinary European research project aims to develop an innovative smart textile integrating optically adaptive camouflage with infrared and thermal detection-resistant properties. Aalto University is responsible for ensuring the sustainability and ecological responsibility of the project by assessing material choices and integrating environmentally friendly approaches in the development and design phases. The postdoctoral researcher will play a key role in these activities, collaborating with leading international experts from academia and industry.

Scientific environment

[url=https://www.aalto.fi/en/department-of-bioproducts-and-biosystems]The Department of Bioproducts and Biosystems (BIO2), one of three departments in the School of Chemical Engineering at Aalto University, has an internationally leading reputation in basic and applied research for the development of advanced materials from natural resources. It is one of Europe’s leading research and higher education institutions in the field of sustainable chemistry and engineering based on the utilization of renewable resources.

BIO2 aims to contribute to the development of novel solutions to move towards sustainable primary production and processing systems that can produce materials with fewer inputs, less environmental impact, and reduced greenhouse gas emissions. Within bioscience, the department has research in bioprocess technology, molecular biotechnology, enzyme technology, metabolic engineering, synthetic biology, biomolecular, and biohybrid materials. Other strengths of the department include sustainable materials and products based on lignocellulose, ranging from nanomaterials to novel cellulose-based textiles.

Key responsibilities *
Conduct a comprehensive sustainability background analysis of different material options for optically adaptive textiles including sensors and batteries *
Conduct preliminary sustainability analyses to evaluate the environmental consequences of the chosen materials and fabrication methods *
Evaluate the long-term ecological responsibility of the integrated system, ensuring compliance with sustainability and circular economy principles *
Collaborate with EU project partners to ensure the integration of Safe and Sustainable by Design

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(SSbD) principles throughout the project. *
Participate in project meetings, workshops, and dissemination activities. *
Active communication with the project coordinator

Qualifications and experience *
Recently obtained PhD (within 5 years) in Material Science, Chemical Engineering, Environmental Engineering, Textile Engineering, or a related field. *
Strong expertise in sustainable materials, lifecycle assessment (LCA), and eco-design principles.
Important note: Applicants without relevant LCA experience cannot be considered for the position. *
Experience with techno-economic analysis (TEA) is a strong asset *
Familiarity with textiles, functional coatings, or advanced materials is considered an advantage. *
Experience in working with EU-funded projects or multidisciplinary research consortia is considered an advantage. *
Excellent communication and collaboration skills, with fluency in English (spoken and written).

What we offer *
Opportunity to work on a high-impact European research project with leading international partners. *
A dynamic and interdisciplinary research environment and access to state-of-the-art research facilities and software tools at Aalto University. *
Fixed-term employment initially for 1 year with a possibility of extension for up to 3 years. *
The expected starting salary is approximately 3960-4100 EUR/month depending on experience. *
Full employment benefits, including occupational health care, sports facilities with a staff discount, and flexible working conditions.

The expected starting date in the position is in July 2025, or it can be negotiated based on the availability of the selected candidate.

Ready to apply?

To apply for the position, please submit the following application materials in English through the ’Apply’ link at the latest on June 10, 2025. The application should include the following as a single PDF file:

1. Cover Letter (maximum 2 pages) outlining your motivation, relevant research experience (particularly in LCA and TEA) and your fit for the position.
2. Curriculum Vitae (CV) (maximum 4 pages), including a list of relevant publications.
3. Contact Information for Referees: At least two referees, including their name, affiliation, email address, and phone number.

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4. PhD Certificate and Transcripts: A copy of the PhD diploma and relevant academic transcripts.

Aalto University’s employees and visitors should apply for the position via the internal HR system Workday (keyword Find Jobs) by using their existing Workday user account (not via the external webpage for open positions).

For more information

For additional information, please contact Professor Ali Tehrani or Professor Michael Hummel ([url=mailto:firstname.lastname@aalto.fi]firstname.lastname@aalto.fi).

Aalto University reserves the right for justified reasons to leave the position open, to extend the application period and to consider candidates who have not submitted applications during the application period.

Contact Information

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

Contact

Finland