Postdoctoral Researcher in synthesis of organic radical semiconductors
Aalto University

Job Title	Postdoctoral Researcher in synthesis of organic radical semiconductors
Department	T105 Chemistry and Materials
Institution	Aalto University , , Finland
Date Posted	Jan. 9, 2025
Application Deadline	Open until filled
Position Start Date	Available immediately
Job Categories	Post-Doc
Academic Field(s)	Materials Sciences/Polymer Sciences Chemistry - General
Job Website	https://aalto.wd3.myworkdayjobs.com/aalto/job/Otaniemi-Espoo-Finland/Postdoctoral-Researcher-in-synthesis-of-organic-radical-semiconductors_R41885
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 14 000 students, 400 professors and close to 4 500 other faculty and staff working on our dynamic Otaniemi 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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The Department of Chemistry and Materials Science is looking for:

A Postdoctoral Researcher in synthesis of organic radical semiconductors

To join the Organic Radicals as Electrochemical and Photochemical Energy Materials (RADICHEM2) project that is funded by the Research Council of Finland and led by Dr Petri Murto. This project is run in collaboration with the Multifunctional Materials Design group led by Prof. Jaana Vapaavuori.

RADICHEM2 focuses on development of organic semiconductors and finding new ways to utilise their magnetic, electronic and optical properties in optoelectronic applications. This covers light-emission and harvesting, charge transport and storage, and spin memory. The project particularly focuses on organic radicals that contain an unpaired electron, spin doublet, in their ground state. Incorporation of radicals into conjugated molecules gives an unmatched level of synthetic tunability through which spin-spin and spin-optical interactions can be controlled. RADICHEM2 merges experimental synthetic chemistry and computational chemistry tools as well as myriad characterisation methods which aid materials design for different target applications. This highly interdisciplinary research involves close collaboration with other research groups in-house and externally. Synthetic development of radical materials can potentially open entirely new possibilities in various application scenarios that are not possible with conventional semiconductors.

Are you a highly motivated individual who has a strong drive toward research and want to push boundaries in the organic semiconductors field? Find out more below and join us!

Your role and goals
This position covers organic semiconductors design and synthesis, chemical characterization, electrochemistry and optical spectroscopy. You will have the possibility to develop your own ideas and pursue your research independently. You will also have the possibility to mentor undergraduate and postgraduate students.

Your background and expertise
You should have a recently obtained doctorate degree (max. 5 years prior to the application deadline) in organic chemistry, polymer chemistry, materials science or related field. Experience in multi-step synthesis of conjugated molecules and/or polymers and chemical characterization techniques such as NMR spectroscopy, gas/liquid chromatography and mass spectrometry are needed. Of merit is expertise in molecular modelling, electrochemistry, optical spectroscopy, EPR spectroscopy or other relevant tools. Good general knowledge of optoelectronic device applications and photophysical and electrochemical phenomena in them is highly advantageous in this position.

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We are looking for a candidate who has a strong track record relative to career stage, proven by publication history, research funding and other scientific activities. The candidate should also have good communication skills and demonstrated experience in dissemination of research results. The candidate must have good oral and written command of English. Beyond technical qualities, you should be willing to challenge yourself and enjoy the scientific learning process, thus contributing to the positive atmosphere at Aalto.

What we offer
This position is a full-time temporary employment for two years. The expected starting salary for a Postdoctoral Researcher is approximately 3 960 EUR/month. The contract includes occupational health care benefits and Finland has a comprehensive social security system.

At Aalto University you have the possibility to work within a well-resourced infrastructure and community where students are rigorously selected and highly motivated. This results in an unusually interactive and intellectually challenging atmosphere. Life at Otaniemi campus is vibrant and filled with architecture, nature and a variety of cafes, restaurants, services and good connections across the Greater Helsinki region.

How to apply
To apply, please submit your application no later than 31.01.2025 through our online recruitment system by using the “Apply” link.

Please note: Aalto University’s employees should apply for the position via our internal system Workday -> Internal Jobs by using their existing Workday user account.

Please share the following application material with us in English and in PDF (maximum file size of each document is 5 MB and the maximum number of documents is 5): *
A Letter of Motivation (max 2 pages) *
A Curriculum Vitae including your education and employment history and list of publications and other relevant scientific contributions *
Contact details of at least 2 possible reference letter writers

Additional information is available from Dr Petri Murto (petri.h.murto(a)aalto.fi).

Petri Murto is a newly appointed Academy Research Fellow. He has recently launched a group that develops chemistry for organic electronics. More information about his research at [url=https://www.aalto.fi/en/people/petri-murto]https://www.aalto.fi/en/people/petri-murto and Prof. Jaana Vapaavuori group at [url=https://www.aalto.fi/en/mmd]Multifunctional Materials Design | Aalto

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Contact Information

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

Contact

Finland