Postdoctoral Researcher in 2D material nanocomposites for tunable photonics
Aalto University

Job Title	Postdoctoral Researcher in 2D material nanocomposites for tunable photonics
Department	T304 Dept. Applied Physics
Institution	Aalto University , , Finland
Date Posted	Feb. 3, 2025
Application Deadline	Open until filled
Position Start Date	Available immediately
Job Categories	Post-Doc
Academic Field(s)	Physics - General
Job Website	https://aalto.wd3.myworkdayjobs.com/aalto/job/Otaniemi-Espoo-Finland/Postdoctoral-Researcher-in-2D-material-nanocomposites-for-tunable-photonics_R42165
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.

At the Department of Applied Physics, our pioneering research in physical sciences creates important industrial applications that hold great technological potential. Our research focuses on Materials physics, Quantum technology, Soft & living matter, and Advanced energy solutions. Topics extend

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from fundamental research to important applications. We educate future generations of research and development professionals, data specialists, technology experts, inventors, and scientists for industry and society.

The Molecular Materials group in the Department of Applied Physics is now looking for a highly motivated

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Are you interested in developing new materials for photonics devices? The high-performance optically active materials (OAMs) are desirable for many applications. However, the current OAMs still have some critical issues to be resolved for practical applications. This project aims to develop a new OAM platform using well-designed 2D material nanocomposites based on MXenes combined with functional organic molecules, and to demonstrate prototype devices for large modulating amplitudes or fast switching speeds. If you are a talented researcher interested in 2D material photonics and electronics and enjoy highly interdisciplinary research environment, this might be something for you!

As a postdoctoral researcher, your responsibilities will include: * Planning and executing laboratory experiments on 2D material nanocomposite synthesis * Thin film electrochemical and FET device fabrication and characterization * Writing publications for peer-reviewed high level scientific journals * Presenting research findings at international conferences and seminars * Research visits with European partner universities and research facilities * Showing good social skills in collaborations to promote collaborations

What we require

The candidate should have or will shortly receive a Ph.D. degree or equivalent in Chemistry, Materials Science, Electrical Engineering or Physics. Experience and knowledge in one or more of the following areas are considered as merits: * Research background in thin-film device fabrication (i.e. electrochromic devices, LIBs and supercapacitors, FETs) with 2D materials (preferably MXene or graphene) * Hands-on experience in wet chemistry synthesis and chemical safety * Working experience in clean room is highly valued * Both hands-on and data analysis skills in classical materials characterization methods (i.e., TEM, SEM, XRD, XPS, NMR, IR, Raman) * Good oral and written proficiency of English. Finnish language is not required * High motivation and team player in interdisciplinary settings * Knowledge in inorganic, metal-organic, or organic chemistry is a plus

The experience should be demonstrated by evidence of success in related studies, and also by publication record. Other merits demonstrating suitability for a postdoctoral researcher position can

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also be considered.

What we offer

We offer a two-year postdoctoral position with possibility for extension. The preferred starting date of the position is 01.05.2025, and we are open to discussing alternative start dates with the selected candidate. The project is funded by a Research Council of Finland Academy Research Fellow project. You will expand your networking capabilities which are useful for your emerging independent career plans and establish collaborations with research groups in LIBER excellent center, PREIN flagship, as well as our international partners.

Aalto University offers an excellent environment for driving and realizing your own research ideas, contribute to a sustainable future, stay at the forefront of research and networking by interacting with companies and other universities.

The starting salary for a postdoc ranges from 4030-4430 EUR per month (gross) depending on previous experience. Aalto University follows the salary system of Finnish universities. The contract includes Aalto University occupational healthcare.

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.

Join us!

If you want to join our community, please submit your application no later than 17.03.2025, in English through our online recruitment system by clicking the "Apply Now" -button on Aalto University's web page. Please note that we only accept applications via Workday.

Please including the following attachments mentioned below, in English: * Motivation letter with a short description of your research interest. Please include your contact information and an indication of the preferred starting date (max. 1 page) * CV including details of all academic merits (including publications), and contact information of two referees (max. 3 pages). As referees, please inform the contact information of the previous supervisors. * Summary of your Ph.D. thesis and previous work related to the project (max. 1 page) * Copy of your Ph.D. degree certificate and a transcript of studies (with a clear explanation of the grading scale)

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We will go through applications, and we may invite suitable candidates to interview already during the application period. Please note that the position will be filled as soon as a suitable candidate is identified.

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

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). Aalto University’s students and visitors should apply as external candidates with personal (not aalto) email.

More information

For additional information, kindly contact Dr. Zhongpeng Lyu, [url=mailto:zhongpeng.lyu@aalto.fi]zhongpeng.lyu@aalto.fi. If you need support with the recruitment system, please contact HR Advisor Hanna Multisilta ([url=mailto:hanna.multisilta@aalto.fi]hanna.multisilta@aalto.fi).

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]Careers at Aalto | Aalto University

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Contact Information

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

Contact

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Finland