Doctoral researcher and/or Post-doctoral researcher positions on compound semiconductor energy converters
Aalto University

Job Title	Doctoral researcher and/or Post-doctoral researcher positions on compound semiconductor energy converters
Department	T314 Dept. Neuroscience and Biomedical Engineering
Institution	Aalto University , , Finland
Date Posted	Mar. 14, 2025
Application Deadline	Open until filled
Position Start Date	Available immediately
Job Categories	Graduate Student
Academic Field(s)	Bioengineering (all Bio-related fields)
Job Website	https://aalto.wd3.myworkdayjobs.com/aalto/job/Otaniemi-Espoo-Finland/Doctoral-researcher-and-or-Post-doctoral-researcher-positions-on-compound-semiconductor-energy-converters_R42617
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 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.

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[url=https://www.aalto.fi/en/department-of-neuroscience-and-biomedical-engineering/engineered-nanosystems]The Engineered NanoSystems (ENS research group) at the [url=https://www.aalto.fi/en/department-of-neuroscience-and-biomedical-engineering]Department of Neuroscience and Biomedical Engineering at Aalto University School of Science is looking for

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We are looking for new highly motivated colleagues to work on thermophotonic and electrochemical energy converters based on III-V compound semiconductors. Our work spans the full range of topics from epitaxial growth and material development to device design, characterization and modeling, fully integrating activities joining a team of theoreticians and experimentalists.

About the Engineered NanoSystems (ENS) research group
The work at ENS combines the research of optical thermodynamics with semiconductor based energy conversion, forming one of the leading clusters for the termophotonics research. The group aims to demonstrate and develop optical heat pumps and energy harvesting approaches that are based on electroluminescence, as well as to lay ground for new types of semiconductor based chemical energy converters. While presently based at the university and providing a cutting edge environment for academic research, we also have a strong ambition towards enabling broader use of the developed technologies outside the university environment.

Who we are looking for
We are particularly interested in people with background, expertise and interest in III-V semiconductor device fabrication, epitaxy and theory. Depending on your background, you will have the possibility to contribute to the work of our group aiming to demonstrate the next break-throughs in solid state cooling, towards the next break-througs in optical cooling [1].

The ideal candidates could provide, depending on their respective career stage: * Good knowledge of the optics and physics of compound semiconductors (emphasis on GaAs based materials, MOCVD, solar cells, infrared lasers and/or LEDs) * Experience/interest on III-V device clean room processing and process development or modeling optical and electrical transport in optoelectronics * Experience/interest in material and device characterization techniques, as well as measurement automation * Team working skills and a good command of English * Resourcefulness and aptitude for independent and open minded thinking * Previous studies on a suitable field

The Doctoral researcher applicants must fulfill the admission requirements for the Aalto Doctoral Programme in Science. Selected candidate is expected to apply for and to be granted a right to pursue doctoral studies at Aalto University in six months after employment has begun. More information on the

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general requirements and the Doctoral Programme in Science [url=https://www.aalto.fi/en/study-options/aalto-doctoral-programme-in-science-0]https://www.aalto.fi/en/study-options/aalto-doctoral-programme-in-science-0.

Please check the student information, admission criteria and pay attention to the required (English) language proficiency. Typically the total duration of Ph.D. studies is four (4) years.

What we offer
You will be working in a research team of ~10 persons working on closely connected topics. The research takes place at Aalto University and Micronova clean room facilities, located at Espoo, Finland. Micronova is the largest clean room facility in the nordic countries and Finland offers a clean, safe and naturally beautiful environment having several world's best country/city nominations over the past few years, as well as four distinct seasons, outstanding social security system and a high standard of living.

The positions are scheduled for at least 2 years.
Following the standard Aalto´s practice the Doctoral researcher position contract will be made initially for two years, then extended after a successful mid-term progress review (typically in total 2+2 years).

The salary levels follows the salary system of Finnish universities, typically setting the salary of a post-doctoral researcher to 4200-4360€/month. The starting salary of the selected doctoral researcher is approximately 2779 €/month (gross), and it will increase with achievements, such as scientific publications. We wish to fill the positions as soon as possible.

The positions will be full time and the annual workload of research and teaching staff at Aalto University is 1612 hours. The contract includes Aalto University occupational healthcare.

We value work-life balance and well-being in all aspects of life. We work in a hybrid model, with the primary workplace located at the Otaniemi Campus in Espoo. Life on the revitalized campus is vibrant, featuring stunning architecture, tranquil nature, and a variety of cafes, restaurants, and services, all complemented by excellent public transportation connections.

Join us!
If you are interested, kindly submit the following documents (PDFs, written in English) at latest 14 April 2025 (23:59 finnish time) through our recruitment site ("Apply now!”): * motivation letter, * CV + possible list of publications, * copy of your recent degree diplomas * transcript of study record if you are just about to graduate * any other documents that explain your suitability and support your

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application

Applications are reviewed periodically and the call may also be closed earlier if suitable candidates are found.

If you have further enquiries on the tasks, positions or the ENS team, please contact Jani Oksanen by email at jani(dot)oksanen(at)aalto.fi

For general questions about the recruiting process you may contact HR partner Jenni Ståhl jenni(dot)stahl(at)aalto.fi

Kindly note:
Are you already an employee at Aalto University? Do NOT click the "Apply Now" button. You have to apply for the job as an internal candidate via Workday Internal Jobs. Other ways are not possible. See instructions here [url=https://www.aalto.fi/en/services/how-to-apply-internal-job]https://www.aalto.fi/en/services/how-to-apply-internal-job

Are you a student at Aalto? In case you have an Aalto email address but you are NOT employed by Aalto University, please apply using your personal email address (not Aalto email address).

Read more about working at Aalto: [url=https://www.aalto.fi/en/careers-at-aalto]https://www.aalto.fi/en/careers-at-aalto
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Further information:
Affiliated projects:
TPX-Power (tpx-power-h2020.eu)
OPTAGON (optagon-h2020.eu)
PREIN (www.prein.fi)
Academy of Finland projects CryOPTO and MAPS
Aalto university:
[url=http://www.aalto.fi]www.aalto.fi

Micronova clean room facilities:
https://www.aalto.fi/en/otanano/micronova
Background papers
[1] [url=https://www.nature.com/articles/s41566-020-0600-6]https://www.nature.com/articles/s41566-

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020-0600-6

Contact Information

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

Contact

Finland