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

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Posted Dec. 8, 2025, set to expire Apr. 9, 2026

Job Title	Doctoral researcher and/or Post-doctoral researcher on compound semiconductor energy converters
Department	T314 Dept. Neuroscience and Biomedical Engineering
Institution	Aalto University , , Finland
Date Posted	Dec. 8, 2025
Application Deadline	Open until filled
Position Start Date	Available immediately
Job Categories	Graduate Student Post-Doc
Academic Field(s)	Electrical and/or Electronics Biomedical Engineering & Bioengineering
Job Website	https://aalto.wd3.myworkdayjobs.com/aalto/job/Otaniemi-Espoo-Finland/Doctoral-researcher-and-or-Post-doctoral-researcher-on-compound-semiconductor-energy-converters_R44983
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=http://www.aalto.fi/en/department-of-neuroscience-and-biomedical-engineering/engineered-nanosystems]The Engineered NanoSystems (ENS researcher group) at Aalto University School of Science is looking for

Doctoral researcher and/or Post-doctoral researcher on compound semiconductor energy converters.

We are looking for new highly motivated colleagues to work on developing electroluminescent and thermophotonic energy converters based on III-V compound semiconductors and thin-film devices. 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 [url=http://www.aalto.fi/en/department-of-neuroscience-and-biomedical-engineering/engineered-nanosystems]Engineered NanoSystems (ENS) research group
The work at ENS combines the research of optical thermodynamics with semiconductor energy conversion, forming one of the leading clusters for the research of termophotonics. The group aims to demonstrate and develop optical heat pumps and energy harvesting approaches that are based on electroluminescence. While presently based at the university and providing a cutting edge clean room 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 looking for persons with a background, expertise and interest in III-V semiconductor device fabrication, epitaxy and theory e.g. in the form of GaAs solar cells and LEDs. 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 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, tools and process development
* Experience/interest in materials and characterization techniques
* Strong analytical skills combined with team working skills, sociable character and a good command of English
* Resourcefulness and aptitude for independent and open minded thinking
* Earlier studies on a suitable field

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We are primarily looking for post-doctoral candidates but will also consider doctoral candidate applicants having an excellent match with our specific needs. Doctoral candidates also must fulfill the admission requirements for the Aalto Doctoral Programme in Science. More information on the general requirements and the Doctoral Programme in Science: [url=http://www.aalto.fi/en/study-options/aalto-doctoral-programme-in-science-0]Aalto Doctoral Programme in Science | Aalto University. 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 from theory to device fabrication. 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 until Mid-2029, but 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 follow the salary system of Finnish universities, typically setting the salary of a post-doctoral researcher to 4 400 €/month. The starting salary of a doctoral researcher is approximately 2 800 €/month, and it will increase with achievements, such as scientific publications.

The positions are full-time, and the annual workload for Aalto University's research and teaching staff is 1,612 hours. The employment contract includes occupational health services provided by Aalto University.

We value work-life balance and well-being in all aspects of life, and we offer flexible working hours. We work in a hybrid model, with the primary workplace located at the Otaniemi Campus in Espoo, Finland. 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. The work must be done in Finland.

Join us!

If you are interested, kindly submit the following documents (only in PDF-format, written in English) at

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latest at 23.59pm (EET/UTC+2) 31st January 2026 through our recruitment system Workday ("Apply now!”):

* Motivation letter
* CV + list of publications
* Your degree or transcript of records and a copy of your most recent degree, if you are about to graduate with a master's degree.
* Any other documents such as recommendations that explain your suitability and support your application

We wish to fill the positions as soon as possible and aim to review applications as they arrive. If we find the perfect candidate clearly matching our criteria before the end of the call, we may also close it early.

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

For general questions about the recruiting process, you may contact Arika Kutllovci-Riutta, HR Advisor, hr-nbe(at)aalto.fi.

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). If you are a student or visitor at Aalto University, please apply with your personal email address (not aalto.fi) via [url=http://www.aalto.fi/en/careers-at-aalto]Aalto University open positions.

Read more about working at Aalto: [url=https://www.aalto.fi/en/careers-at-aalto]Careers at Aalto | Aalto University

Check out our new virtual campus experience: [url=https://virtualtour.aalto.fi/]Aalto University - virtual campus tour.

Further information:
Aalto university:
[url=http://www.aalto.fi]www.aalto.fi

Micronova clean room facilities:
[url=https://www.aalto.fi/en/otanano/micronova]https://www.aalto.fi/en/otanano/micronova

Background papers

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[1] [url=https://www.nature.com/articles/s41566-020-0600-6]https://www.nature.com/articles/s41566-020-0600-6

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 listed again as the happiest country in the
world:[url=http://files.worldhappiness.report/WHR25.pdf?_gl=1*1velf9l*_gcl_au*NzI4NTU3MjMxLjE3NjQz
World Happiness Report 2025.

For more information about living in Finland:[url=http://www.aalto.fi/en/careers-at-aalto/for-international-staff] Aalto Careers for International Staff.
More about Aalto University:
[url=https://www.aalto.fi/en/open-positions]Aalto.fi
[url=https://www.youtube.com/user/aaltouniversity]youtube.com/user/aaltouniversity
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[url=https://instagram.com/aaltouniversity]instagram.com/aaltouniversityTo view information about Workday Accessibility, please click here.Please see more of our Open Positions here.

Contact Information

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

Contact

Finland