Postdoctoral researcher for developing experimental technology in the field of cancer biomechanics
Aalto University

Job Title	Postdoctoral researcher for developing experimental technology in the field of cancer biomechanics
Department	T410 Dept. Electrical Engineering and Automation
Institution	Aalto University , , Finland
Date Posted	Mar. 28, 2025
Application Deadline	Open until filled
Position Start Date	Available immediately
Job Categories	Post-Doc
Academic Field(s)	Mechanical Engineering Electrical and/or Electronics Biomedical Engineering & Bioengineering
Job Website	https://aalto.wd3.myworkdayjobs.com/aalto/job/Otaniemi-Espoo-Finland/Postdoctoral-researcher-for-developing-experimental-technology-in-the-field-of-cancer-biomechanics_R42799
Apply By Email	

Job Description

In this position, you will work on microscopy-integrable measurement technologies used to study three-dimensional cell culture models of breast cancer tissues. This postdoctoral position is supported by the [url=https://www.pokkilab.com/]Cell-Scale Biomechanics Lab , and is part of the lab’s recent technology-development projects, aimed at improving the accuracy of drug efficacy screening for chemotherapy. A recent press release on these projects can be found at the following [url=http://www.aalto.fi/en/news/groundbreaking-culturing-technique-reveals-crucial-mechanics-of-cancer]link.

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This position’s focus is on developing engineered systems and methods to quantify the physical interactions between migrating cancer cells and the extracellular matrix, as well as advancing related technologies toward biomedical applications. The successful candidate will contribute to our lab’s microscale studies on the role of extracellular matrix mechanics, particularly in chemoresistance. Notably, the biological aspects of chemoresistance and drug efficacy screening will be the responsibility of the lab’s postdoctoral biologist, who will work together with the postdoctoral researcher to be hired. Applicants are encouraged to familiarize themselves with our existing [url=https://www.pokkilab.com/publications]publications.

In this work, there is also an expectation to be innovation-oriented, to help us drive the gradual development of these technologies toward real-world applications. This involves engineering experimental hardware for cell culturing workflows, optimizing experimental processes, and automatization. In discussion with the successful candidate, they will choose further research areas within our group, such as enhancing the spatial and temporal resolution of the measurements, and integrating simultaneous data acquisition with fluorescence live-cell microscopy. This postdoctoral position offers the opportunity to develop technologies for acquiring novel data on cancer tissue biomechanics—information that has been previously unavailable and could benefit the broader biomedical community, including the pharmaceutical industry.

Qualifications *
PhD-level degree in electrical engineering, physics, mechanical engineering or another relevant field applicable to the measurement technology development. For this position, we are unable to consider significantly different backgrounds, such as biology- and simulation-focused. *
Expected experience in the following or related areas, particularly in experimental work: biophysics, rheology, soft matter physics, and microrobotics. *
Further beneficial experience includes projects in biomedical instrumentation, experimental hardware automation and programming, and computational science. *
The quality and the relevance of the applicant’s scientific publications are a key criterion in our evaluation.

Our research projects require the skills to work in a self-driven, independent manner, and the abilities to collaborate with others. These projects are collaborative not just within our team but also domestically and internationally. A successful candidate will be open to learning new research areas in the collaborations. With a high research performance, there are potential opportunities for researcher mobility in collaborating research groups, stationed at Karolinska Institute, ETH Zurich, and Stanford University. The postdoctoral candidate is expected to possess strong scientific writing skills, and a willingness to further develop them. Besides, a fluent spoken English is needed in this work.

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What we offer?
This position is foreseen to run from Spring 2025 onward, but the start date is partially negotiable. An initial 1-year contract will be made for the successful candidate. There is a possibility that the contract might be extended after the first year depending on funding situation. The expected starting salary for a postdoctoral researcher is approximately 4000 € per month, in accordance to the salary system of Aalto University. In addition to the salary, the contract includes occupational health benefits. The position is located at the Aalto University Otaniemi campus which can be easily reached by public transport.

Ready to apply?
To apply for the position, please send the documents indicated below (in English, compiled in a single PDF) using our online recruitment system. To access the recruitment system, please use the “Apply now!” link below.

Please send your application by 28.4.2025 at the latest. We cannot unfortunately consider applications sent us via email.

The required documents are:
1) Application letter describing briefly your background and how you would be a good fit for the Cell-Scale Biomechanics Lab (max. 1 page)
2) Curriculum Vitae (with contact details), with names and contact information of at least two references to provide recommendations
3) List of publications, with 2-3 most relevant peer-reviewed journal articles highlighted
4) Doctoral degree certificate. Excellent candidates in the very final phase of their PhD studies can also be considered. Please include a link to the electronic copy of PhD Thesis (if available). Please include also your transcript of study records during the PhD studies, as well as in the Master studies.
5) Links to electronic copies of the 2-3 most relevant articles

All applicants will be notified on the decisions.

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.

Additional information
For additional information, please contact the Principal Investigator Juho Pokki-Riikonen preferably by email juho.pokki@aalto.fi or alternatively by tel. +358 50 5223736. In the recruitment process related questions, please contact hr-elec@aalto.fi.

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Aalto University
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 12 000 students, 400 professors and close to 4 000 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.

More about Aalto University:
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To view information about Workday Accessibility, please click [url=http://www.aalto.fi/en/services/workday-recruiting-system-accessibility-interaction-overview]here.
Please see more of our Open Positions [url=http://www.aalto.fi/en/open-positions]here.

Contact Information

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

Contact

Finland