

Postdoctoral researcher for systems and methods
development in the field of cancer biomechanics
Aalto University

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Posted Dec. 2, 2024, set to expire Apr. 3, 2025

Job Title	Postdoctoral researcher for systems and methods development in the field of cancer biomechanics
Department	T410 Dept. Electrical Engineering and Automation
Institution	Aalto University , , Finland
Date Posted	Dec. 2, 2024
Application Deadline	Open until filled
Position Start Date	Available immediately
Job Categories	Post-Doc
Academic Field(s)	Electrical and/or Electronics
Job Website	https://aalto.wd3.myworkdayjobs.com/aalto/job/Otaniemi-Espoo-Finland/Postdoctoral-researcher-for-systems-and-methods-development-in-the-field-of-cancer-biomechanics_R41579

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Job Description

The Cell-Scale Biomechanics group at Aalto University will hire a postdoctoral researcher, with an initial contract of 1 year, to contribute to the area of microscopy-integrable measurement techniques for three-dimensional (3D) cell culture models of breast cancer tissues. This recruitment relates to our recent projects aimed for more accurate efficacy screening of drug compounds for chemotherapy. The following [[url=http://www.aalto.fi/en/news/groundbreaking-culturing-technique-reveals-crucial-mechanics-of-cancer](http://www.aalto.fi/en/news/groundbreaking-culturing-technique-reveals-crucial-mechanics-of-cancer)]link takes you to a brief press release on this research area.

We are looking for an experienced and motivated candidate who is expected to have a strong background - in biophysics, electrical engineering, mechanical engineering, or a related specific field such as microrobotics, rheology, and soft matter physics - that is applicable to techniques development

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in cancer biomechanics. We appreciate previous experience in related live-cell imaging, biophysical instrumentation, and computational science. Excellence in publication record is a key criteria in our evaluation. Candidates are expected to have strong scientific writing ability, and a fluent spoken English.

This position's focus is on developing systems and methods for quantification of the physical interactions between tumor cells and extracellular matrix, and taking them toward biomedical applications. The successful candidate will join our lab's efforts in microscale studies on cell-tumor tissue interactions, as well as chemoresistance. In this position, there is an expectation to be innovation-oriented, to allow gradual development of techniques toward the applications. In this part of the work, the researcher is also expected to work on optimization of experimental processes and automation. We invite the applicants to get acquainted with our existing publications. Our group's research areas involve further increasing the spatial and temporal resolution of performed measurements, a simultaneous data acquisition with fluorescence live-cell microscopy, hardware development for cell culturing work flows, and testing of commercial cancer pharmaceuticals and drug candidates for chemotherapy.

Our research projects are highly collaborative not just within our team but also domestically and internationally. Abilities to work independently, as well as to contribute to collaborative projects are necessary in our projects. The planning of own research, the teamwork, and communication skills are appreciated. 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 successful candidate will be initiative and self driven not only in this field of techniques development but also on learning to work on related fields in our interdisciplinary team. In this position, the researcher has the research opportunities to realize the ways to acquire new types of data - previously unavailable about cancer tissues biomechanics - that could be beneficial for a wider biomedical community including pharmaceutical industry.

This position is foreseen to run from early Spring 2025 onward, but the start time is partially negotiable. An initial one year contract will be made for the successful candidate. 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?

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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 12.1.2025 at the latest. We cannot unfortunately consider applications sent us via email.

The required documents are:

- 1) Application letter (max. 1 page) describing briefly your background and motivation
- 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 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 Partner Camilla Hanganpää, camilla.hanganpaa@aalto.fi

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.

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Contact Information

Please reference Academickeys in your cover letter when
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Contact

Finland