

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

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Posted Dec. 11, 2024, set to expire Apr. 12, 2025

<b>Job Title</b>	Doctoral researcher for systems and methods development in the field of cancer biomechanics
<b>Department</b>	T410 Dept. Electrical Engineering and Automation
<b>Institution</b>	Aalto University , , Finland
<b>Date Posted</b>	Dec. 11, 2024
<b>Application Deadline</b>	Open until filled
<b>Position Start Date</b>	Available immediately
<b>Job Categories</b>	Graduate Student
<b>Academic Field(s)</b>	Electrical and/or Electronics
<b>Job Website</b>	<a href="https://aalto.wd3.myworkdayjobs.com/aalto/job/Otaniemi-Espoo-Finland/Doctoral-researcher-for-systems-and-methods-development-in-the-field-of-cancer-biomechanics_R41657">https://aalto.wd3.myworkdayjobs.com/aalto/job/Otaniemi-Espoo-Finland/Doctoral-researcher-for-systems-and-methods-development-in-the-field-of-cancer-biomechanics_R41657</a>

**Apply By Email**

**Job Description**

The Cell-Scale Biomechanics group at Aalto University will hire a PhD candidate 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. A previous relevant publication record is considered a benefit in our evaluation. Candidates are expected to have or develop a strong scientific writing ability. Fluent spoken English is also required.

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 also 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, 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, and contribute to collaborative projects are necessary in our projects. The planning of own research activities, 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. The position will be filled for a period of 4 years (2&#43;2). The starting salary of a doctoral researcher is 3000 € 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.

If you are chosen for this position, you will apply for the study right in doctoral studies at Aalto University School of Electrical Engineering. Thus, please see the student information and admission

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criteria at [[url=https://www.aalto.fi/en/study-options/aalto-doctoral-programme-in-electrical-engineering](https://www.aalto.fi/en/study-options/aalto-doctoral-programme-in-electrical-engineering)]<https://www.aalto.fi/en/study-options/aalto-doctoral-programme-in-electrical-engineering>.

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 12.01.2025 at the latest. We cannot unfortunately consider applications sent us via email.

The required documents are:

\*

Application letter describing briefly your background and motivation to join the Cell-Scale Biomechanics group (max. 1 page) \*

Curriculum Vitae (with contact details), with names and contact information of at least two references to provide recommendations \*

List of publications, if any, with the most relevant peer-review articles highlighted and described \*

Master and Bachelor degree certificates, or equivalent, with English translations, if they are in another language than English. Finnish and Swedish certificates are also accepted. Please include an electronic copy of Master Thesis (if available). Please include also your transcript of study records during all the previous university degrees.

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](mailto: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](mailto: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

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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.

### **Contact Information**

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

### **Contact**

Finland