Doctoral Positions In Biomedical Engineering

Ecole/Institution/Société:
University of Oulu, **Finland / Oulu**

Discipline:
Biomedical Engineering

Type d'emploi::
Full-time

Date de publication:
2021-10-16

Personne à contacter:
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JOB DESCRIPTION

The North changes the world - we at the University of Oulu work as part of the international science community to produce new scientific information and science-based solutions. We are committed to educate future pioneers to build a more sustainable, intelligent and humane world.

C reating new, taking responsibility and succeeding together are values that build a strong foundation for all our actions. We offer a working environment where individuals can cultivate their skills, do meaningful work, and develop professionally. Our university's several specialized research and service units enable extensive and diverse development and career opportunities for experts in various fields.

Infotech Oulu Institute is one of the four strategic focus institutes at the University of Oulu supporting high-quality research, coordinating multidisciplinary research activities and doctoral training

Infotech's science-based expertise meets global challenges determined in the strategy of the University of Oulu (UO) in the focus area "Digitalization and smart society" exploring how digitalization can work for everyone. The research topics include sensing and ubiquitous wireless sensor systems, wireless communication, and other novel services and systems. The research targets future information infrastructures and integrates aspects of technology adoption by complex human groups, communities, and societies.

Applications are invited for a full-time

Doctoral Student positions for a maximum of four years, in an Infotech research project headed by Adjunct Professor Teemu Myllylä in University of Oulu. A trial period of 6 months is applied in the positions.

The faculty and the research group

Myllylä group develops and exploits state-of-the-art multimodal technology to provide new tools and methods for medical use. Our highly multidisciplinary research brings together researchers worldwide with expertise in medical instrumentation, sensor technology and signal processing, to work side by side with medical physics, clinician and biomolecular scientists.

We utilise novel biomedical technology in clinical settings, perform physiological measurements, develop signal processing and analysis models for various clinical applications. Research work in Myllylä group is carried out in two research units in University of Oulu.

In the Research Unit of Medical Imaging, Physics and Technology (MIPT), Faculty of Medicine, our team develops multimodal measurement methods to study brain functions for research but also for clinical use.

In the Optoelectronics and Measurement Techniques (OPEM) unit, Faculty of Information Technology and Electrical Engineering, particularly with high expertise in optics and ultrasound techniques, our focus is on designing biomedical sensors and measurement systems for emerging medical applications. More info: https://www.oulu.fi/mipt/node/63860

Open position for doctoral students

In this project, our aim is to develop a novel spatially accurate deep tissue imaging technique based on combining ultrasound, optics and radiation techniques. Using the developed methods and technology, we will provide a new research tool for a wide field of biomedical research. In addition, the technology aims to advance clinical radiotherapy and high intensity ultrasound (HIFU) in transcranial therapies, in co-work with medical physics and clinicians.

Qualification requirements for two doctoral students

- To successfully occupy the position of a doctoral student, the candidate must possess a Master's degree or an equivalent or higher degree preferably in biomedical or electrical engineering or in medical physics. For both positions, experience in ultrasound and biomedical optics are valued.
- For the first position, especially high expertise in designing electrical devices and capability to develop high sensitive optical measurement techniques, as well as skills in signal processing are valued.
- For the second position, we value especially background in simulation and mathematical modeling, and knowledge of optical and acoustic phantoms. Familiar with C / C ++ or Matlab, preferred also any of the following simulation software like k-Wave, Field II, COMSOL Multiphysics, is valued. In addition, you should have good skills in English.

Please also see the requirements of the University of Oulu Graduate School http://www.oulu.fi/uniogs/requirements_for_admission

What we offer

- We offer you a place in a highly talented international research group, working to solve globally significant research problem that will have both pivotal medical importance and societal value.
- University´s wide variety of support services are at your disposal, allowing you to focus on your studies and research.
- In addition to modern research facilities, we offer you personnel benefits such as free occupational healthcare, affordable sport services and endless opportunities to develop your skills and competences.
- Regular salary is paid 12 months per year, including paid leave and an additional holiday bonus in the summer.
- The successful candidate will receive also benefits provided by the Finnish government to residents, for example possibility to obtain access to the national healthcare system, tax benefits for employees with children and high-quality, affordable childcare services.

Salary

The salary of the selected doctoral students will be in accordance with the Finnish universities salary system (for teaching and research personnel): levels 2 - 4. In addition, a salary component based on personal work performance will be paid (maximum of 50% of the job-specific component). Starting gross salary will be approx. 2400-2500 € per month (before taxes).

How to apply

The application should be written in English and include the following:

- A motivation letter (max. 2 pages) summarizing applicant's professional experience and expertise and describing why an applicant is interested in about this position. Also, information on personal research interests, experience and career plans are valuable to provide here
- Curriculum vitae (max. 4 pages) in accordance with the guidelines of the Finnish Advisory Board on Research Integrity http://www.tenk.fi/en/template-researchers-curriculum-vitae
- Certificates / Diplomas: Scanned copy of the original Master`s degree certificate and transcript of records and, when necessary, official translations to Finnish or English
- Contact information of two senior / experienced researchers who may be asked to give a statement on the candidate

Only applications containing all relevant appendices and submitted through the online recruitment system will be considered. Top candidates will be invited to an on-site or remote interview. All applicants will be notified when the selection process is completed.

Further information

Please, contact Dr. Teemu Myllylä, University of Oulu. **Email:** teemu.myllyla@oulu.fi

About Oulu, Finland

Finland is one of the most livable countries in the world, with a high quality of life, safety, excellent education system, and competitive economy. The Oulu region is home to over 200 000 people making it the largest urban center in the Nordics and one of the fastest growing regions in northern Finland. Oulu is a combination of beautiful, northern nature, vivid cultural life and modern technology. Oulu is also known for its highly-educated people and friendly, easy-going atmosphere. Living in Oulu is easy - everything is only max. 20 minutes away! Find out more about Oulu: https://www.oulu.fi/university/living-in-oulu

JOB DETAILS

Title Two Doctoral Student Positions in Biomedical Engineering

Employer University of Oulu

Job location Pentti Kaiteran katu 1, 90570 Oulu

Job types PhD

Fields Biomedical Engineering, Medical Physics, Electrical Engineering

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