



UPPSALA
UNIVERSITET

PhD position in Computational image-analysis in Medicine

Published: 2022-04-08

Uppsala University is a comprehensive research-intensive university with a strong international standing. Our ultimate goal is to conduct education and research of the highest quality and relevance to make a long-term difference in society. Our most important assets are all the individuals whose curiosity and dedication make Uppsala University one of Sweden's most exciting workplaces. Uppsala University has over 54,000 students, more than 7,500 employees and a turnover of around SEK 8 billion.

The Department of Immunology, Genetics and Pathology at Uppsala

University (www.igp.uu.se) has a broad research profile with strong research groups focused on cancer, autoimmune and genetic diseases. A fundamental idea at the department is to stimulate translational research and thereby closer interactions between medical research and health care. Research is presently conducted in the following areas: medical and clinical genetics, clinical immunology, pathology, neuro-oncology, vascular biology, radiation science and molecular tools. Department activities are also integrated with the units for Oncology, Clinical Genetics, Clinical Immunology, Clinical Pathology, and Hospital Physics at Akademiska Sjukhuset, Uppsala. The department has teaching assignments in several education programmes, including Master Programmes, at the Faculty of Medicine, and in a number of educations at the Disciplinary Domain of Science and Technology. The department has a yearly turnover of around SEK 420 million, out of which more than half is made up of external funding. The staff amounts to approximately 345 employees, out of which 100 are PhD-students, and there are in total more than 700 affiliated people.

[Read more about our benefits and what it is like to work at Uppsala University](#)

The project

A PhD student position is available for highly motivated individuals with interest in large-scale computations and experience and interest in machine and deep learning. The position is in the laboratory of Prof Patrick Micke at Uppsala University, Department of Immunology, Genetics and Pathology, (https://igp.uu.se/research/clinical_experimental_pathology/patrick-micke/) with a shared co-supervision of Prof Nataša Sladoje, the leader of the MIDA research group at the Centre for Image Analysis, Dept. of Information Technology. The PhD candidate will develop his or her dissertation project within the field of Computational Medicine.

This PhD position is part of the [eSSENCE - SciLifeLab graduate school](#) in data-intensive science. The school addresses the challenge of data-intensive science both from the foundational methodological perspective and from the perspective of data-driven science applications. It is an arena where experts in computational science, data science and data engineering (systems and methodology) work closely together with researchers in (data-driven) sciences, industry and society to accelerate data-intensive scientific discovery.

The project aims to develop computational analysis tools to analyze multidimensional images of cancer tissue, towards optimized immunotherapy for cancer patients. Immunotherapy has become a life-saving option for advanced cancer patients. However, only a minority of patients develop a durable response. Despite great efforts to explain the variable responses to immunotherapy and to optimize patient selection, the currently used clinical biomarkers demonstrate only modest predictive performance. Starting from a large collection of acquired multispectral images, and by developing advanced data driven approaches for image data analysis, we wish to increase understanding of the effects of immunotherapy, towards improved personalized cancer treatments.

Duties

The successful candidate will devote most of the time towards his/her research level education. Other service activities within the department, e.g. education and administrative work can be included within the framework of the employment (maximum 20%). The position will be extended with the time devoted to teaching to allow four years of full-time graduate studies. The student is expected to take part in courses and other activities of the graduate school.

Requirements

To be admitted to the PhD position, a master's degree (at the time when take up position) is required

(http://www2.medfarm.uu.se/utbildning/forskarniva/vill_du_borja/), and for the advertised position it is required that the degree is in bioinformatics, technical biology, computer science, image analysis and machine learning, mathematics or similar. A degree in medicine or biology complemented by proven knowledge in computer science and mathematics can also be accepted. Documented experience of working in Python is a requirement. Proficiency in oral and written English is required.

Additional qualifications

It is meriting if the candidate has experience of working with R or Matlab, software version control with Git, typesetting with LaTeX, and administration of Linux computers.

Application

The application is submitted via Varbi, Uppsala University's electronic application system. The application should consist of:

1. A Curriculum Vitae (CV);
2. A copy of a degree/diploma, with the list of relevant completed courses.
3. Master thesis, or – if the thesis is not completed yet – any similar academic work, in electronic form.
4. Contact information for two references.
5. A personal letter in which you briefly justify why you are applying for this position and state the earliest possible starting date (max. 1 page).

Rules governing PhD students are set out in the Higher Education Ordinance chapter 5, §§ 1-7 and in Uppsala [University's rules and guidelines](#).

About the employment

The employment is a temporary position according to the Higher Education Ordinance chapter 5 § 7. Scope of employment 100 %. Starting date agreed. Placement: Uppsala.

For further information about the position, please contact:

Patrick Micke, patrick.micke@igp.uu.se.

Please submit your application by 29 April 2022, UFV-PA 2022/626.

Are you considering moving to Sweden to work at Uppsala University? [Find out more about what it's like to work and live in Sweden.](#)

Please do not send offers of recruitment or advertising services.

Submit your application through Uppsala University's recruitment system.

Placement: Department of Immunology, Genetics and Pathology

Type of employment: Full time , Temporary position longer than 6 months

Pay: Fixed salary

Number of positions: 1

Working hours: 100 %

Town: Uppsala

County: Uppsala län

Country: Sweden

Union representative: ST/TCO tco@fackorg.uu.se

Seko Universitetsklubben seko@uadm.uu.se

Saco-rådet sacco@uadm.uu.se

Number of reference: UFV-PA 2022/626

Last application date: 2022-04-29

[Apply for position](#)