1-3 Research assistant positions in translational genomics - Uppsala University

Uppsala University is a comprehensive research-intensive university with a strong international standing. Our mission is to pursue top-quality research and education and to interact constructively with 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 46,000 students, 7,300 employees and a turnover of SEK 7.3 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 create a closer interaction 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.

1-3 Research assistant positions in translational genomics - Translation of findings from large-scale genetic association studies for cardiometabolic diseases in humans using zebrafish model systems

Project description: Genome-wide association studies (GWAS) have identified hundreds of genetic loci that are robustly associated with cardiometabolic risk factors and diseases. With few exceptions, the causal genes in these loci are currently unknown. Before results from GWAS can be translated into the clinic - for example as novel biomarkers or drug targets - we need to identify and characterise causal genes and mechanisms. Recent developments in CRISPR-Cas9-based mutagenesis, high-throughput imaging, and image-based analyses have highlighted the zebrafish as a promising model system for systematic, large-scale genetic screens in vivo.

The overall aim of the project is to identify and characterise causal genes in GWAS-identified loci for cardiometabolic risk factors and diseases using zebrafish model systems.

The planned project aims to use image- and CRISPR-Cas9 based zebrafish model systems we developed and validated in-house to characterise 200 candidate genes with an anticipated role in cardiometabolic diseases. Successful candidates will work together in a team that will additionally consist of a research engineer and the PI.

Duties: Tasks performed by the team include: 1) designing of CRISPR-Cas9 guide RNAs (gRNAs) to target candidate genes; 2) gRNA synthesis and microinjection with Cas9 mRNA; 3) testing mutagenic efficiency of gRNAs using a fragment length PCR analysis; 4) raising CRISPR founders to adulthood, i.e. zebrafish husbandry; 5) crossing founders, pre-screening for the presence of fluorescently labelled transgenes, and preparing larvae for screening; 6) imaging larvae for disease-related traits using an automated positioning system and fluorescence microscope; 7) preparing samples for additional experiments - like biochemistry; and multiplexed, paired-end sequencing – using a robot; 8) objective quantification of imaging data using existing pipelines; 9) data management and quality control. Weekend work can occur.

Successful candidates will be placed in the den Hoed research group (https://igp.uu.se/forskning/genetik genomik/marcel-den-hoed/). The project is funded by a collaboration with industry.

Requirements: Applications are accepted from highly motivated candidates with a degree in Biomedicine, (Molecular) Medicine, Molecular (Cell) Biology, Marine Biology or similar. Written and oral proficiency in English is a prerequisite, as are basic knowledge of, and skills in molecular biology or fluorescence imaging. A successful candidate should be a highly motivated, organised, reliable team player that can also work independently. Prior knowledge and experience in CRISPR-based mutagenesis, microinjections, data handling, epidemiology, biostatistics, zebrafish husbandry and/or image-based analyses are a bonus.

The application should include a cover letter describing yourself, your research interests, your experience with each of the requirements described above, and your availability. A CV, a verified list of course grades, and contact details for at least two reference persons should also be included. If available, a BSc and/or MSc certificate, and letters of recommendation can also be included.

Salary: Individual salary.

Starting date: 01-05-2020 or as otherwise agreed.

Type of employment: Temporary position ending 48 months.

Extent of employment: 100 %.

For further information about the position please contact: Marcel den Hoed, PhD, phone +46-70-425 07 52, marcel.den_hoed@igp.uu.se.

Please submit your application by April 6 2020, UFV-PA 2020/833.

Are you considering moving to Sweden to work at Uppsala University? If so, you will find a lot of information about working and living in Sweden at www.uu.se/joinus. You are also welcome to contact International Faculty and Staff Services at ifss@uadm.uu.se.

Please do not send offers of recruitment or advertising services.

Submit your application through Uppsala University’s recruitment system, which can be accessed here:

https://www.uu.se/en/about-uu/join-us/details/?positionId=321159

Placement: Department of Immunology, Genetics and Pathology
Type of employment: Full time, Temporary position longer than 6 months

Pay: Individual salary

Number of positions: 1

Working hours: 100%

Town: Uppsala

County: Uppsala län

Country: Sweden

Union representative: Seko Universitetsklubben seko@uadm.uu.se

ST/TCO tco@fackorg.uu.se

Saco-rådet saco@uadm.uu.se

Number of reference: UFV-PA 2020/833

Last application date: 2020-04-06