

Master's thesis project in Stem Cell Biology

Are you interested in stem cell biology?

Are you keen to know more about reprogramming?

Do you want to discover more about different pluripotent states?

Do you want to find out if metabolism can be changed to influence cell fate?

We are looking for a joint MSc thesis project in the groups of Professor Timo Otonkoski (<http://research.med.helsinki.fi/neuro/Otonkoski/>) and Associate Professor Pekka Katajisto (<http://www.katajisto-lab.com/>) at the newly established

Center of Excellence in Stem Cell Metabolism. The main supervisor for the master's thesis project will be Doc. Ras Trokovic, at Biomedicum Stem Cell Center, GoEditStem platform, HiLIFE in Meilahti campus of the University of Helsinki where the experimental work will be carried out. The student is also expected to take part in regular meetings with the co-supervisor Pekka Katajisto and his group at The Institute of Biotechnology on the Viikki Campus of the University of Helsinki.

Pluripotent stem cells (PSCs) can exist in two distinct states: "naïve" and "primed". Naïve PSCs represent the cells in pre-implantation embryo whereas primed PSCs refer to post-implantation epiblast-like cells. We now aim to establish the naïve PSC culture conditions to our laboratory. This is based on collaboration with Fredrik Lanner's group (Cell Stem Cell. 2017 Jun 1;20(6):874-890.e7. doi: 10.1016/j.stem.2017.02.014). Primed and naïve PSC are known to have distinct cell metabolism. The thesis will focus on comparing the naïve and primed stem cell states and if induced changes in the metabolism can enhance the conversion to the naïve PSC state.

What is expected from the candidate?

- The candidate is expected to be enthusiastic about stem cell biology and keen to learn new skills
- The candidate must have strong communication skills (English) and ability to work in an international environment
- Previous work with cell cultures and knowledge of aseptic techniques is beneficial
- Previous experience in recombinant DNA technologies, molecular biology and cell biology lab work is beneficial

What can we offer to the candidate?

The project is hosted within the Biomedicum Stem Cell Center (BSCC) unit that is the part of the Research Program for Molecular Neurology at the Faculty of Medicine, University of Helsinki. The Otonkoski group is pioneer in work with human pluripotent stem cells, both human embryonic stem cells (hESC) and induced pluripotent stem cells (iPSC). The Katajisto group has broad expertise in the fields of metabolism, stem cell fate decisions and aging research.

We offer you a friendly, international working environment and a cutting-edge research experience. There is a possibility for the extension of agreement to PhD thesis.

How to apply?

Deadline for applications is 15.9.2018. Please enclose a CV and a short motivation letter with your application. Send applications/ questions to: ras.trokovic@helsinki.fi