Announcement of post-doc scholarship at the Department of Clinical Sciences, Division of Oncology

Functional mutation analysis in breast cancer

The development of high-throughput sequencing technology has revolutionised science and now allows rapid and affordable resequencing of the human genome. High-throughput sequencing is increasingly used in the clinic, where it can help identify disease-causing germline mutations as well as druggable somatic mutations for treatment selection. A remaining significant clinical challenge is the interpretation of genetic variants with unknown molecular effects and disease penetrance, often referred to as variants of unknown significance (VUS). We are using RNA sequencing data for breast tumours from thousands of Swedish women to identify recurrent mutations and genetic variants for further analysis of biological function and clinical impact. Our primary focus is the so-called ‘silent’ or synonymous variants that are often excluded from mutation analyses since they do not directly change the amino acid sequence. There is, however, plenty of accumulating evidence that also synonymous variants can be functional through effects on e.g. splicing, mRNA structure and stability as well as translational speed and protein folding. By increasing our knowledge about these variants, our research could help to improve the precision of germline mutation screening, identify more patients that can benefit from targeted therapy, and identify new drug targets.

We are seeking an ambitious and well-organised postdoc with significant wet-lab experience for functional analysis of selected genetic variants in breast cancer. The project will involve a wide range of experimental methods including e.g. bacterial cloning, human cell culture, low- and high-throughput gene and protein expression analysis, reporter gene assays and fluorescence microscopy. It will also include literature and database studies on relevant genes and pathways to generate testable hypotheses and plan experiments. If there is interest, there will also be possibilities for performing bioinformatic analyses, primarily using RNA sequencing data.

Reference number: V 2019/1658
Scholarship period: The scholarship covers a period of 6 months with possibility of prolongation up to a maximum of 24 months in total.

Preliminary start date: 2020-01-01 (negotiable)

Supervisor/contact person: Dr Helena Persson, telephone: +46-70-6068819, e-mail: helena.persson@med.lu.se, Lund University, Faculty of Medicine, Department of Clinical Sciences, Division of Oncology, Unit of Functional Breast Cancer Genomics

Qualifications:

- To be eligible for a post-doc scholarship at Lund University the recipient must hold a PhD degree within a relevant field. The PhD degree must not be from Lund University. The PhD degree must not be older than three years. The applicant must not have been employed at Lund University in the past two years.
- The applicant should have a genuine interest in cancer and tumour biology with substantial training in genetics and cell biology.
- The applicant should have extensive practical experience of mammalian cell culture and laboratory work involving RNA and protein.
- The applicant must be well-organised in the laboratory and used to keeping clear and precise documentation of their work.
- The applicant must have good communication skills with excellent written and spoken English.
Written application, including reference number, is to be sent via e-mail to the supervisor and must include the following:

- CV
- Personal letter stating the reasons why the study suits the applicant (maximum one page)
- List of publications
- References (2)
- PhD diploma

Application deadline:
2019-11-30

Information regarding scholarships at Lund University
- The scholarship sum is paid out quarterly
- A scholarship awarded will be reviewed every six months
- Scholarships are tax-exempt
- Scholarships do not give rise to sickness benefits, compensation from the Social Insurance Office or retirement pension.
- A scholarship holder cannot be hired after the scholarship period due to tax reasons.
- The scholarship follows the regulations established by the Vice-Chancellor of Lund University (June 27th 2013; Reg. No PE 2013/356).