University of Glasgow | Institute of Cancer Sciences

Four-year PhD Studentships funded by Medical Research Scotland

Application Deadline: Monday, February 25th 2019.

Title: Visualising and Targeting Leukaemic Stem Cells in the Bone Marrow Microenvironment

Link to Advert and Online Application System:

https://www.findaphd.com/phds/project/visualising-and-targeting-leukaemic-stem-cells-in-the-bone-marrow-microenvironment/?p106278

Supervisors: Vignir Helgason & Leo Carlin.

Description of Project: Chronic myeloid leukaemia (CML) is a cancer in the blood and develops following a specific mutation in a bone marrow (BM)-located blood stem cell. We and others have shown that CML stem cells are not killed with currently available drugs and can become resistant leading to relapse of patients. Therefore, CML stem cells represent a cricial target for anti-cancer treatment.

The BM microenvironment is essential for leukaemogenesis and can contribute to the drug resistance of CML stem cells. The main aim of our Medical Research Scotland PhD project is to understand how BM enviromental factors and cellular processes control the way in which CML stem cells function. The student will use the best laboratory models for CML, including live imaging of MB-located CML stem cells, to test novel pre-clinical drugs that block drug resistance pathways. We hope that results from this project will lead to development of novel therapy options for CML and other stem cell driven leukaemias.

For this innovative project, the student will be located the Wolfson Wohl Cancer Research Centre and the CR-UK Beatson Institute (both world-class research facilities dedicated to cancer). The student will have access to advanced imaging technology required for the development of this project. This setup will also provide the student with a valuable opportunity to i) interact with experts and gain knowledge in different research areas, ii) work in world leading centres for translational research and training, and iii) be actively involved in drug-development collaboration.

This student will gain significant experience in the isolation of leukaemic stem cells, survival assays following in vivo/vitro drug treatments, live cells imaging, Western blotting, immunofluorescence and energy metabolism/autopahgy assays (Mass-spec/Seahorse Extracellular Flux Analyser). The student will also join the Research Training Programme offered to all students studying for postgraduate degrees at the University of Glasgow. This will include various taught courses designed to help PhD students to obtain a range of generic and transferable skills to enhance their personal/professional development. The student will have the oppurtuinty to participate in public engagement events throughout the course of the programme to further develop his/her professional and personal skills.

College of Medical, Veterinary & Life Sciences
Wolfson Wohl Cancer Research Centre
Institute of Cancer Sciences
Garscube Estate, Switchback Road, Bearsden
Glasgow, G61 1QH
Tel: 0141 330 7245 / 0141 330 2679
Email: Vignir.Helgason@glasgow.ac.uk

CANCER RESEARCH UK