



WORK OFFER

Ref. No. UK-2020-NI-20

Employer Information

Employer: Queens University Belfast -Biomed
School of Medicine, Dentistry and Biomedical Sciences
97 Lisburn Road
97 Lisburn Road
BT9 7BL Belfast, N.Ireland
United Kingdom

Website: <http://www.qub.ac.uk/schools/mdbs/>

Location of placement: Queen's University Belfast, N.Ireland; UK
Nearest airport: Belfast International or Belfast City Airports
Working hours per week: 37.5
Working hours per day: 7.5

Number of employees: 1800+

Business or products: Wellcome-Wolfson Institute for Experimental Medicine

Student Required

General Discipline: 26-BIOLOGICAL AND BIOMEDICAL SCIENCES

Completed years of study: 2

Field of Study:

Student status requirements: not required

Language required: English Excellent

Required Knowledge and Experiences:

Other requirements:

SKYPE interview will be required - please provide Skype contact details in your application.

Note - the dates of this placement are fixed as you will be working as part of a team

Work Offered

The Wellcome-Wolfson Institute for Experimental Medicine at the School of Medicine, Dentistry and Biomedical Sciences will offer biomedical science research places for IAESTE students. Applicants will spend 8 wks completing a basic biomedical research project as part of one of our 48 existing research teams. At the end of the project, you will present your data at the WWIEM Summer Student Symposium, where prizes will be awarded for best presentation.

You will be involved in deep structural and functional imaging and testing of the optic nerve and the retina. After pharmacological dilation with Tropicamide, conventional and laser scanning ophthalmoscopy based standard and ultrawide-field colour and autofluorescence imaging will be done and spectral-domain OCT of the optic nerve and the retina will be obtained. All images will be analysed using standard image analysis tools at the Belfast Reading Centre with the help of graders and will be entered onto a standard database. In addition to structural changes a battery of psychophysical testing will be carried out to uncover the physiological roles for structural alterations. The data will be analysed by appropriate statistical packages. The student will also correlate changes in the human eye with changes in models of MS using a variety of laboratory methodologies.

Logistics

The student will be embedded into the group led by Dr Imre Lengyel at WWIEM, a multidisciplinary Centre with a very strong translational medicine angle but will work closely with the team of Professor Tunde Peto a clinical ophthalmologist, renown for her image analysis expertise. The imaging will be carried out at the Northern Ireland Clinical Research Facility with state of the art eye imaging suits. The student will be part of the regular lab meetings where lab members all present their results regularly.

Techniques

The student will be involved in taking and then analysing retinal images from volunteers with different stages of MS, work with models for MS, tissues sectioning, immunohisto- and cytochemistry, Elisa assays, light, fluorescence and confocal microscopy, laser capture microdissection, polymerase chain reaction

Background

Multiple sclerosis (MS) frequently occurs in Northern Ireland. This cohort will include a wide range of disease severity from those from slow to fast and early to late progressors. There are ongoing clinical trials for MS with varied ophthalmology protocols to determine how vision influences daily functioning; most rely on examination of the optic nerve. With the NIMSRN Cohort, we will be able to determine which retinal imaging tests are feasible, meaningful in providing insight into the neurodegenerative changes both in the brain and the retina. As OCT signs of retinal neurodegeneration are positively correlated with the level of clinical disability in MS, we will use known OCT biomarkers as well as new imaging and functional modalities to characterize eye phenotypes of people with MS (pwMS).

Number of weeks offered: 8 - 8

Working environment: Research and development

Within the months: 22-JUN-2020 - 16-AUG-2020

Gross pay: 320 GBP / Week

Or within: -

Deduction to be expected: 0

Company closed within: 13-JUL-2020 - 14-JUL-2020

Payment method / time of first payment: Bank Transfer / every 2 weeks

Latest possible start date:

Accommodation

Canteen at work: No

Expected type of accommodation: Many students stay here at Grant House
<https://www.qub.ac.uk/accommodation/student-accommodation/>

Estimated cost of lodging: 110 GBP / Week

Accommodation will be arranged by: Student with the help of the LC

Estimated cost of living incl. lodging: 200 GBP / Week

Additional Information

Nomination Information

Deadline for nomination: 15-MAR-2020

Date: 30-JAN-2020 *On behalf of receiving country:* Karen McCormack