Leicester Precision Medicine Institute/BRC PhD Studentship

Start date September 2017

Available to UK/EU applicants only.

**Funding**

The studentship offers a Fee waiver for 3 years at UK/EU rates and Stipend for 3 years at Research Council rates. For 2017/8 this will be £14553 pa.

**Entry requirements**

Bachelor Degree with at least UK 2:1 honours in a relevant subject.

University of Leicester English language requirements apply

**Supervisors:** Dr Yassine Amrani ya26@le.ac.uk; Prof Salman Siddiqui ss338@le.ac.uk; Prof Paul Monk, psm7@le.ac.uk

**Project title**

Metabolomic volatile compound profiling of peripheral blood mononuclear cells (PBMCs) in asthma: A novel tool for determining corticosteroid sensitivity in patients with severe eosinophilic asthma.

Severe asthma affects 5-10% of the asthmatic population and is a major unmet need. The disease is characterised by relative and in some cases complete insensitivity to corticosteroids, which fail to suppress type 2 inflammation, necessitating the use of high cost biological agents targeting type 2 cytokines. Type 2 inflammation may be measured in breath non-invasively via GC-MS analysis of volatile chemical compounds. For example VOCs containing methylated alkanes can discriminate between asthmatics from healthy individuals. Little is known about the causal pathways that lead to specific volatile chemicals in breath matrices.

The current PhD will utilise an established in vitro model system of PBMCs (Amrani, Siddiqui) to (i) assess steroid sensitivity to type 2 cytokines and (ii) capture the headspace volatiles from PBMCs under different experimental conditions to understand how pathways involved in steroid sensitivity affect in vitro metabolism. The PhD will be embedded in a molecular pathology node for breath metabolomics established at the University of Leicester and funded by the Medical Research Council (MRC) UK. [https://embernode.org/web](https://embernode.org/web)

The MRC node has a large program evaluating breath VOCs in vivo in severe asthma patients and there will be an opportunity to map in vitro findings to in vivo findings at a later stage in the PhD.

Professor Siddiqui coordinates the translational program within the node and Professor Monks the analytical mass spectroscopy program. Professor Amrani has a longstanding interest in the molecular pathogenesis of steroid insensitivity in asthma. Therefore the PhD will benefit from multidisciplinary...
input and training in clinical sciences, analytical chemistry and basic molecular biology. The MRC node has an embedded training and development infrastructure for PhD students. The PhD student will also be embedded within the NIHR Biomedical Research Centre (BRC) at Leicester.

Interested candidate should email Professor Siddiqui ss338@le.ac.uk and Dr Amrani ya26@le.ac.uk in the first instance for informal discussions.

TO APPLY FOR THE PhD

Please submit your formal application online at

http://www2.le.ac.uk/research-degrees/phd/applyphd?uol_r=78572a95

Apply for: Campus Based Full Time study/ Infection, Immunity and Inflammation Research / September 2017 entry

Please make sure you indicate the name of the project supervisor and the project title in the space provided within the application.

Draft a brief (1,000 words maximum) personal statement that:

- explains why you want to work in this area
- describes any relevant research experience - for example, as part of a previous degree
- list any academic work you have published or which is awaiting publication

In the funding section of the application select Studentship and from the drop down menu select LPMI

Deadline for applications is 2 June 2017.