MRC-funded IMPACT (Integrated Midlands Partnership for Biomedical Training) CASE Doctoral Training Partnership 3.5 Year CASE (industrial partner) PhD Studentship available for September 2019

**Department:** Department of Cardiovascular Sciences

**Supervisors:** Prof. Toru Suzuki, tsuzuki@leicester.ac.uk

Prof Leong Ng, lhn1@le.ac.uk

Dr. Chris Titman (Shimadzu)

**Eligibility:** UK/EU applicants who meet the MRC eligibility and residency criteria

**Project Title:** Investigation of metabolomic biomarkers of heart failure

**Project Description:**

Heart failure is a leading cause of death and hospitalisations in the elderly. Early diagnosis and accurate differentiation of pathologies in addition to risk stratification are needed for personalised treatment.

Much research has been done to try to understand the mechanisms of the condition at the molecular and genetic levels, but metabolite profiles and their contribution has not been fully understood. Therefore, we hypothesise that unique metabolite patterns will provide additional diagnostic and prognostic information of heart failure. We also hypothesise that short chain fatty acids will play a role in regulating energy metabolism in the heart.

This study will utilise blood-based metabolomics approaches to analyse metabolite profiles from samples collected from heart failure patients. The first phase of the study is a discovery phase, using the high definition mass spectrometers to analyse and characterise the metabolite profiles of patients, and further differentiate these profiles according to clinical information. The metabolites of interest will be further identified and validated quantitatively using stable-isotope dilution technique using a high sensitivity triple quadrupole mass spectrometer (UHPLC-TQ MS). The relevant metabolic pathways will also be investigated further to understand the pathogenesis of heart failure at the metabolite level.

Interviews will be held on Tuesday 26 and Friday 29 March 2019 at University of Leicester.

**Funding details:**

MRC IMPACT DTP and CASE partner

Studentship provides tuition fees and stipend for 3.5 years to UK applicants. EU applicants who do not meet the RCUK residency criteria can apply for a fees only award.
**Entry requirements:**

Applicants are required to hold/or expect to obtain a UK Bachelor Degree 2:1 or better in a relevant subject.

The University of Leicester [English language](#) requirements apply where applicable.

**How to apply:**

Please apply via: [https://more.bham.ac.uk/mrc-impact/phd-opportunities/](https://more.bham.ac.uk/mrc-impact/phd-opportunities/)

**Project / Funding Enquiries:** Prof Toru Suzuki, tsuzuki@leicester.ac.uk, 0116 204 4741

**Application enquiries to** mrcicase@contacts.bham.ac.uk

**Closing date for applications** 15 February 2019