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

**Department:** Leicester Cancer Research Centre

**Supervisors:** Professor Karen Brown, Professor Tom Yates, Professor Julian Ketley

**Eligibility:** UK/EU applicants only. MRC eligibility applies

**Project Title:** Targeting the gut microbiome to prevent human diseases associated with obesity and poor metabolic health

**Project Description:**

Excess body weight, insulin resistance and inflammation are underlying causes of the metabolic syndrome and greatly increase the risk of type 2 diabetes and cardiovascular disease, which in turn are risk factors for metabolically-driven cancers. The gut microbiome is increasingly recognised as playing a role in human health, including conditions associated with poor metabolic status.

The natural compound resveratrol is being widely investigated for its ability to prevent/treat numerous diseases. In rodents, resveratrol protects against the adverse effects of a high-fat diet, improving glucose and lipid homeostasis and reducing body fat and blood pressure. It also inhibits the pro-tumourigenic effects of a high-fat diet in a mouse colorectal cancer model. Interestingly, clinical trial results suggest resveratrol is most effective in people with metabolic disturbances.

This interdisciplinary project between the Cancer and Diabetes Research Centres and Department of Genetics and Genome Biology, will investigate whether consumption of resveratrol by humans alters the gut microbiome. It will also explore how resveratrol metabolites generated by gut bacterial may contribute to the efficacy of this compound. The results will provide novel insight on how resveratrol may exert protective effects in people with metabolic disturbances, and increase understanding of how preventive therapies may be personalised.

Interviews will be held in the week commencing the 11th February 2019.

**References:**


den Besten G et al. The role of short-chain fatty acids in the interplay between diet, gut microbiota, and host energy metabolism. J Lipid Res. 54, 2325–2340 (2013)

**Funding details:** MRC IMPACT DTP

**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](https://www.le.ac.uk/ug/academic/entry-requirements/) 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:** Professor Karen Brown, [kb20@le.ac.uk](mailto:kb20@le.ac.uk), 0116 2231851

**Application enquiries to** [mrc-impact@contacts.bham.ac.uk](mailto:mrc-impact@contacts.bham.ac.uk)

**Closing date for applications** 20th January 2019