3 Year PhD Studentship available for January 2019 (September 2019 may be considered)

**Department:** Chemistry

**Supervisors:** Dr Alexander P Pulis ([a.pulis@le.ac.uk](mailto:a.pulis@le.ac.uk))

**Eligibility:** Open to UK/EU/International applicants.

**Funding:** Fully funded studentship available for Home/EU students only.
Partial funded studentship available to International students, please contact us for details.

**Project Title:** C–H Functionalization Catalyzed by Main Group Elements

**Project Description:**

Applications are invited for students wishing to undertake research towards a PhD in synthetic chemistry with Dr. Alex Pulis at the University of Leicester.

Dr. Pulis’ research explores the fascinating and wide-ranging reactivity of main group elements, such as boron and sulfur, and applies this new knowledge to discover methods of chemical synthesis that use efficient catalysts and sustainable building blocks.

**About the project**

The direct functionalization of carbon–hydrogen bonds is potentially a highly efficient strategy for constructing molecules with desirable functions: molecules can be stitched together at the expense of only a carbon–hydrogen bond without the need for pre-functionalization of the building blocks. However, carbon–hydrogen bond functionalization remains a significant challenge, as classic approaches require precious metal catalysts and unwanted directing groups.

This project will address these challenges by developing new synthetic methods that do not require directing groups or precious metals, and instead make use of more sustainable and inexpensive main-group element-based catalysts.

We have exciting preliminary results and are looking for a new member of our team to take this project forward.

The project borders the traditional realms of organic and inorganic synthesis and as such a successful candidate will gain hands on experience in a broad mix of synthetic and analytical techniques; including practical knowledge of catalysis, reaction design and optimization, the handling of air and moisture sensitive reactions, and characterisation (multinuclear NMR, MS, and chromatography, etc).
This opportunity will be well suited to a highly motivated individual wishing to pursue a career in chemical sciences research in either academia or industry. Experience in synthetic chemistry (organic or inorganic), for example from industrial placements and undergraduate research projects, is desirable.

The preferred start date for this project is January 2019, but a September 2019 start date may be considered.

**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:**

You should submit your application using our [online application system](#).

Apply for Chemistry Research/Full time/Campus based

In the funding section of the application please indicate you wish to be considered for Chemistry CSE Studentship

In the proposal section please provide the name of the supervisor and project title.

**Project / Funding Enquiries: Kiri Humphreys - Email** [chempgr@le.ac.uk](mailto:chempgr@le.ac.uk)  Tel 0116 252 3570

**Application enquiries to** [pgradmissions@le.ac.uk](mailto:pgradmissions@le.ac.uk)