PhD Studentship in Synthetic Chemistry: Artificial Molecular Machines

A PhD studentship is available in the group of Dr Beatrice Collins, starting in October 2019.

Project Description

Autonomous molecular-level motion is ubiquitous in Nature, and will be a key constituent of the artificial complex molecular systems which will form the basis of future technologies. While many artificial molecular systems have been reported that exhibit large amplitude conformational changes in response to external stimuli (e.g. light irradiation, change in pH), systems that operate under out-of-equilibrium regimes, i.e. continuously converting energy to work or motion, have remained elusive.

The advertised PhD studentship will be focused on the design and development of artificial molecular machines that exhibit autonomous chemically-fuelled directional motion at the molecular level. The research project involves exploring a new approach to such molecular behaviour, which will take the power and sophistication of modern synthetic chemistry, in particular transition metal-based reactivity platforms, and apply it to the fascinating challenges posed by complex molecular systems.

Candidates with experience in practical synthetic chemistry would be advantageous, although the student will receive training in synthetic organic chemistry, including organometallic chemistry, transition metal catalysis and asymmetric synthesis. Furthermore, the student will receive mentoring in the development of scientific communication, problem solving and project management.

Application

Applicants must have obtained, or be about to obtain, a First or Upper Second Class UK MSci degree, or the equivalent qualifications gained outside the UK, in an appropriate area of science or technology.

We encourage you to make an informal enquiry to Dr Beatrice Collins (bs.lefanucollins@bristol.ac.uk) if you have any queries or would like to discuss the project.

To apply please follow http://www.bristol.ac.uk/study/postgraduate/apply/ and submit an application through our online system. You will be prompted to enter details of the studentship in the Funding and Research Details sections of the form.

Funding Notes

A full studentship will cover UK/EU tuition fees, a training support fee and a stipend (£14,777 p.a. for 2018/19, updated each year) for 3.5 years. UK and EU applicants who have been residing in the UK since September 2016 will be eligible for a full award; a limited number of studentships will be available to EU applicants not meeting the residency requirement. Applicants who are classed as Overseas for tuition fee purposes may be considered if they can supply the difference between UK/EU and Overseas fees.