

### Come and do your science with the UK Catalysis Hub:

The Catalysis Hub has hosted and supported over 7 PhD students over the last five years and currently supports 13 students at the Harwell Campus from institutions funded by research councils, CDTs and iCASE awards across the UK. The current students are registered at institutions across the UK and have regular skype meeting with supervisors and the Hub provides a local mentor to support and help train the student. Past PhD students have gone on to become research assistants, fellows, teachers, beamline scientists and managers. The number of students in the hub and the location at Harwell provides a great environment for science and a student community. Harwell provides the ideal location for projects interaction with large scale facilities and advanced techniques. The hub is happy to discuss hosting students from any institution whose projects would be benefited by spending time or being located at the Harwell Campus. Projects have included, for example:

- Refinement of data from X-ray and neutron techniques
- Development of *in situ* environments for synchrotron based methods
- Development of new *in situ* spectroscopy and imaging capabilities for studying dynamic chemical and structural change in catalysts
- Application of neutron scattering techniques to investigate hydrocarbon conversion over zeolite catalysts

### Case Study: iCASE Competition

The Catalysis Hub has also benefited from interaction with Industry. Recently a company offered to align three of their industrial Case Awards jointly with the Hub. The company chose three areas of interest and a call for expressions of interest went to Hub members across the catalysis community.

23 high quality novel proposals were received from Academics across the catalysis community for the three positions which were reviewed by the Hub management group together with company representatives. As a result of these discussions, three proposals were selected by the company. Both parties were impressed with the quality and range of proposals received. The research proposals chosen were fundamental projects which will strengthen the portfolio science. The students have been actively involved with the Hub, using facilities at Harwell, attending meetings and presenting at conferences. Research outputs from these projects will be shared within the Hub Network through the same mechanisms as other Catalysis Hub projects.

The company benefited from a much wider interaction with Academics across the breadth of the catalysis community creating new links with expertise in different areas. The hub benefited by expanding the scientific portfolio and developing new capabilities.

### Case Study: A student's perspective - Alex O'Malley

With the help and guidance of the great expertise across a range of fields (particularly from my PhD supervisor Richard Catlow, and ISIS supervisor Stewart Parker), I was able to perform experiments and publish research that I'm incredibly proud of, which led to my being awarded a Ramsay Memorial Fellowship - a two year independent junior fellowship in chemical sciences at Cardiff University, and now my recent appointment as a Whorrod Fellow in Sustainable Chemical Technologies at University of Bath, where I now have the opportunity to start my own research group (exciting but also rather terrifying at the same time..).

I feel very lucky to have been based at the Catalysis Hub - with its resources, outstanding expertise and position as a physical base for the numerous research institutions within the Hub network. All of these made a huge difference to the quality of research I've been able to carry out, and my chances of becoming (hopefully one day!) a future leader in studying the materials and chemical phenomena that I care about the most. I look forward to keeping a very strong, close relationship with the Catalysis Hub throughout my career, for all it has done for me and for the opportunities it brings.

