Birmingham to Train Scientists and Engineers for Britain's Future

Posted on Friday 5th December 2008

The University of Birmingham and its partners have won funding totalling £15 million for 3 new centres that will generate the scientists needed for Britain's future, it was announced today (5th December 2008) by the Engineering and Physical Sciences Research Council – the UK funding body for science and engineering.

Two centres are to be created and led by Birmingham: the Formulation Engineering Industrial Doctoral Training Centre (DTC) and the Doctoral Training Centre for Hydrogen Fuel Cells and their Applications. Birmingham is also to be a collaborative partner along with Loughborough University in the Industrial Doctorate Centre (IDC) for Efficient Power from Fossil Energy and Carbon Capture Technologies which will be led by Nottingham University.

The Formulation Engineering Industrial DTC will focus on the principles which control the quality of many personal products such as cosmetics and detergents, foods such as chocolate and low-fat spreads, as well as fuel cells and catalysts. These products are all structured on a micro-scale - their microstructure controls their behaviour, for example, the texture of food as it breaks down in the mouth, the release of detergent or a drug as a tablet breaks down in the washing machine or in the stomach. Professor Peter Fryer, Director of the Centre for Formulation Engineering at the University of Birmingham, says, 'The grant will help to bring our industrial partners together with Birmingham chemical engineers and scientists to carry out joint programmes of research. We will now be able to strengthen our already well established postgraduate EngD programme, and respond to industry needs by deepening links with our industrial counterparts in the process engineering, food and pharmaceutical sectors.'

The DTC in Hydrogen, Fuel Cells and their Applications, along with collaborating partners at the Universities of Loughborough and Nottingham, will produce graduates who have the skills to take on the global challenges now faced in the fields of energy, hydrogen and fuel cells. Professor Kevin Kendall at the University of Birmingham's School of Chemical Engineering, and lead investigator, says, 'There is an increasing demand from industry and society for skilled scientists and engineers in hydrogen and fuel cell research. The focus of the new centre will be directed towards all aspects of the hydrogen and fuel cell supply chain, from clean methods for hydrogen production, to materials for hydrogen storage and fuel cells, to fuel cell systems, their use to supply power and move vehicles as well as energy policy, economic and regulation issues. Students graduating with the EngD in this Centre will leave Birmingham with a deeper perspective of the hydrogen economy within the UK energy landscape, as well as business, project management and entrepreneurial skills.'

The Efficient Power from Fossil Energy and Carbon Capture Technologies IDC will produce research leaders to tackle the major national and international challenges over the next 15 years in designing and implementing new power plants to generate electricity more efficiently using fossil energy with near zero emissions, involving the successful capture of CO2 as well as reducing CO2 emissions generally from coal utilisation. Professor Richard Green, Director of the Institute for Energy Research and Policy at Birmingham, says, 'These graduates will be part of a new breed of engineer who will be thoroughly versed in cutting edge energy research. Fossil fuels will continue to be part of a diverse energy mix, but coal and gas must become cleaner and we must develop technologies for efficient carbon capture and storage, so that we can achieve our carbon reduction goals.'

Minister of State for Science and Innovation, Lord Drayson, announced the £250 million initiative, which will create 44 training centres across the UK and generate over 2,000 PhD students. They will tackle some of the biggest problems currently facing Britain such as climate change, energy, our ageing population, and high-tech crime.

Lord Drayson said, 'Britain faces many challenges in the 21st Century and needs scientists and engineers with the right skills to find answers to these challenges, build a strong economy and keep us globally competitive. EPSRC's doctoral training centres will provide a new wave of engineers and scientists to do the job.'

He continued, 'These new centres will help to develop clean renewable energy, fight high tech crime, assist in reducing carbon emissions, and discover new healthcare solutions for an ageing population. This is an exciting, innovative approach to training young researchers and will help build a better future for Britain.'

EPSRC Centres for Doctoral Training are bold initiatives to training PhD students, creating communities of researchers working on current and future challenges.

Professor Dave Delpy, chief executive of EPSRC, said: 'People are the heart of our future strategy. We want to drive a modern economy and meet the challenges of tomorrow by investing in talented people and inspiring the next generation of scientists and engineers.'

He continued: 'EPSRC Centres for Doctoral Training expand our existing training portfolio, focus on priority themes for the UK, emerging and multidisciplinary research, and greater collaboration with business.'

This approach to training has been extensively piloted by EPSRC through a small number of thriving Engineering Doctorate Centres and Doctoral Training Centres in Complexity Science, Systems Biology and at the Life Sciences Interface. This new investment builds on the success of these and will establish a strong group of centres which will rapidly establish a pre-eminent international reputation for doctoral training.

The multidisciplinary centres bring together diverse areas of expertise to train engineers and scientists with the skills, knowledge and confidence to tackle today's evolving issues. They also create new working cultures, build relationships between teams in universities and forge lasting links with industry.

Students in these centres will receive a formal programme of taught coursework to develop and enhance their technical interdisciplinary knowledge, and broaden their set of skills. Alongside this they will undertake a challenging and original research project at PhD level over 4 years.

Ends

For further information contact

Kate Chapple, Press Officer, University of Birmingham, tel 0121 414 2772 or 07789 921164.

EPSRC Press Office

E-mail: pressoffice@epsrc.ac.uk

Tel: 01793 444404

Mobile: 07776160028 (out of office hours only)

Embargoed Press Conference:

Lord Drayson will brief the media at an embargoed press briefing at 10am on 4th December. He will be joined by students from some of the pilot centres for this scheme and members of the academic and business communities.

EPSRC Press Conference

(Under Embargo until 00.01hrs Friday 5th December)

10am, 4th December 2008

Arup

8 Fitzroy Street, London, W1.

The press conference will last for approximately 30 minutes followed by time for questions and interviews. If you would like to bid for interviews with Lord Drayson, an EPSRC spokesperson, “star” student, or business leader, please contact the EPSRC press office on 01793 444404 (e-mail: pressoffice@epsrc.ac.uk).

About EPSRC:

The Engineering and Physical Sciences Research Council (EPSRC) is the main UK government agency for funding research and training in engineering and the physical sciences, investing around £740 million a year in a broad range of subjects – from mathematics to materials science, and from information technology to structural engineering.

© University of Birmingham 2015