

## This Year in RCUK 2010

---

### Highlights from 2010

#### January

Three new Engineering and Physical Sciences Research Council (EPSRC) **Centres for Innovative Manufacturing** were launched. They are the first of a new generation of EPSRC centres that will bring researchers and industry together to create technology products of the future, attracting investment and underpinning manufacturing growth. The three centres will be based at Southampton, Loughborough and Brunel universities. More information [here](#)

Following media reports of racial strife and gangs in high security prisons in the UK, a study funded by the Economic and Social Research Council (ESRC) paints a more encouraging - if sometimes contradictory - picture of **multicultural prison life**. Although tensions between ethnic groups and resentment of institutional race equality approaches are common, most prisoners appear to be comfortable with diversity. More information [here](#)

Scientists have found a way to increase fermentable sugar stores in plants which could lead to plant biomass being easier to convert into **eco-friendly sustainable biofuels**. Their research is highlighted in *Business*, the quarterly highlights magazine of the Biotechnology and Biological Sciences Research Council (BBSRC). More information [here](#)

The hole in the ozone layer is now steadily closing, but its repair could actually increase warming in the southern hemisphere, according to scientists at the University of Leeds. The **Antarctic ozone hole** was once regarded as one of the biggest environmental threats, but the discovery of a previously undiscovered feedback shows that it has instead helped to shield this region from carbon-induced warming over the past two decades. The research was funded by the Natural Environment Research Council (NERC) Surface Ocean-Lower Atmosphere Study (UK SOLAS) and the Academy of Finland Centre of Excellence Programme. More information [here](#)

#### February

The Arts & Humanities Research Council (AHRC) is a key funding partner in a **major new research facility at Salford's MediaCityUK, which aims to generate £25 million of investment into research over the next eight years**. Led by the University of Salford, the Framework for

Innovation and Research in MediaCityUK (FIRM) will provide the mechanism that connects the BBC and the Digital & Creative Industries sector in the Northwest to international academic and industry research specialists and funding mechanisms. More information [here](#)

On the twentieth anniversary of the Medical Research Council's (MRC) research unit's presence in Uganda, Director Heiner Grosskurth looked back on the changing landscape of **research into HIV/AIDS** at the commemorative scientific symposium in Entebbe. With Uganda often heralded as a model in Africa for fighting the disease, Professor Grosskurth reflected on how Uganda dramatically halved the prevalence of HIV/AIDS over this timeframe and described the contribution made by medical research. More information [here](#)

Scientists working on the CMS experiment at the CERN LHC published results of the first analysis of data from the **highest energy particle collisions ever carried out**, bringing us another step closer to answering some of the most fundamental questions about our Universe. The results appeared in the Journal of High Energy Physics (JHEP). More information [here](#)

## March

**Social science underpins many of Britain's most successful public policies** from poverty alleviation, macroeconomics to crime prevention. Conversely, a lack of social science and the evidence it provides often leads to failed policies. Wishing to increase the impact of social science, a distinguished panel discussed how research can strengthen its involvement in policymaking as part of the Economic and Social Research Council's (ESRC) Festival of Social Science. More information [here](#)

The UK's main public funders of food-related research and training joined together to launch a new programme aimed at meeting the challenge of providing the world's growing population with a sustainable, secure supply of good quality food using less land and fewer resources. The organisations will work together through a new programme - **Global Food Security** - to coordinate and align their research interests. By working together to develop strategy and identify shared goals the partners aim to harness the country's world-leading research base to help to deliver healthy, sustainable food for all. More information [here](#)

A UK-led satellite designed to monitor changes in ice cover at the pole launched at 14:57 UK time on 8 April 2010 from the Baikonur cosmodrome in Kazakhstan. **The European Space Agency's CryoSat-2** will measure the thickness of Arctic and Antarctic ice with unprecedented accuracy and tell scientists how melting polar ice affects ocean circulation patterns, sea level and global climate. More information [here](#)

## April

Scientists funded by BBSRC at the University of Birmingham have discovered that a gene called DAF-16 is strongly involved in determining the rate of ageing and average lifespan of the laboratory worm ***Caenorhabditis elegans* (C. elegans)** and its close evolutionary cousins. DAF-16 is found in many other animals, including humans. It is possible that this knowledge could open up new avenues for altering ageing, immunity and resistance to stresses in humans. More information [here](#)

Researchers have found that although most changes in vehicle speed and road position get absorbed by traffic flow, they sometimes combine in a 'perfect storm' to create 'phantom' traffic jams. Understanding why this happens is being studied in a project supported by EPSRC that will lead to **better traffic flow forecasting to help prevent congestion**. More information [here](#)

New evidence supported by MRC has proved that **deep brain stimulation (DBS), a type of brain surgery to treat Parkinson's**, can improve quality of life for some people with the condition more than medication alone. The 10-year study, which is the largest of its kind in the world, compared the effects of DBS with the best drug therapy in 366 people with advanced Parkinson's who were considered suitable for surgery. More information [here](#)

## May

A landmark **Picasso exhibition opened at Tate Liverpool** thanks to new research funded by the Arts and Humanities Research Council (AHRC) and shows that rather than being just the extrovert and playboy widely portrayed by the media he was also a tireless political activist and campaigner for peace. More information [here](#)

Scientists at MRC have discovered a **genetic link between obesity later in life and rapid weight gain in babies** from as young as six weeks old. The genes, known to cause obesity, also provided babies with greater protection against 'failure to thrive' – a potentially harmful condition of very slow weight gain. This genetic protection in early life could explain why many people are prone to being overweight as adults. More information [here](#)

The eruption of **Icelandic volcano Eyjafjallajökull** provided NERC with a unique opportunity to carry out some valuable research, whilst assisting the Met Office and the Civil Aviation Authority (CAA) to obtain data on the ash plume over Britain. The measurements and samples collected by NERC's Dornier aircraft during the first days of the ash emergency contributed greatly to the agreement with the aviation industry which allowed UK airspace to reopen. More information [here](#)

## June

Research Councils UK (RCUK) launched a new publication **Impacts: People and Skills celebrating the impact people are having on the economic and social wellbeing of the UK**. *Impacts: People and Skills* showcases researchers from a range of difference disciplines who have an impact in a variety of ways. The publication is the fifth in a series highlighting the impact of research. Previous issues have looked at the impact of research on business, public policy and also the impact of research through partnerships. More information [here](#)

A new type of **blast-proof curtain** that gets thicker, not thinner, when stretched is being developed to provide better protection from the effects of bomb explosions. The EPSRC project is being led by the University of Exeter in collaboration with their spin-out company Auxetix Ltd and three other partners. More information [here](#)

The UK's first research programme to investigate the impacts of ocean acidification was launched, involving 101 scientists from 21 of the UK's top scientific institutions. **The UK Ocean Acidification Research Programme** consists of several projects working together to investigate different aspects of this global issue. They are funded by NERC, the Department for Environment, Food & Rural Affairs (Defra) and the Department of Energy & Climate Change (DECC), under the auspices of the Living With Environmental Change partnership. More information [here](#)

## July

Extracts from the gripping court cases of the Old Bailey Court were dramatised for the general public thanks to a new Radio 4 series, **'Voices from the Old Bailey'**. Using the AHRC-funded Old Bailey Online digital archive for content and inspiration, the new series saw AHRC-funded historian Professor Amanda Vickery delving into the Old Bailey archives to discuss with fellow historians what they reveal about 18th century society and culture. More information [here](#)

A study by a team of researchers at Bangor University designed and tested two programmes that help problem drinkers curb their alcohol abuse. The study showed positive results after drinkers have followed either the Alcohol Attention-Control Training Programme (AACTP) or the Life Enhancement and Advancement Programme (LEAP). Funded by ESRC the study designed the two programmes and examined their effectiveness in **helping excessive drinkers reduce their drinking**. More information [here](#)

The **Research Complex at Harwell (RCaH)**, a new £26m state-of-the-art science facility for researchers using resources on the Harwell Science and Innovation Campus in Oxfordshire, was officially opened. The RCaH provides a unique environment for researchers in the life and physical sciences, enabling them to work side by side at the interface between traditional disciplines and use the major facilities on the Harwell Campus such as STFC's ISIS neutron source and Diamond Light Source, the UK's national synchrotron. More information [here](#)

## August

A team of UK researchers, funded by BBSRC, publicly released the **first sequence coverage of the wheat genome**. The release is a step towards a fully annotated genome and makes a significant contribution to efforts to support global food security and to increase the competitiveness of UK farming. More information [here](#)

Scientists funded by MRC developed a pioneering new method of diagnosing autism in adults. For the first time, a **quick brain scan that takes just 15 minutes can identify adults with autism with over 90% accuracy**. The method could lead to the screening for autism spectrum disorders in children in the future. More information [here](#)

**Archaeologists working on Stone Age remains at a site in North Yorkshire say it contains Britain's earliest surviving house**. A team from the Universities of Manchester and York reveal today that the home dates to at least 8,500 years BC - when Britain was part of continental Europe. The research has been made possible by a grant from NERC, early excavation funding from the British Academy, and from English Heritage who are about to schedule the site as a National Monument. More information [here](#)

## September

The **Penguin Archive Project**, a four-year project begun in May 2008 with a grant from AHRC, was featured in a Radio 4 documentary on the history of Penguin Books presented by children's author Michael Morpurgo on Radio 4. More information [here](#)

Scientists funded by MRC identified **a network of genes for type 1 diabetes (T1D)** and discovered that this network, under the control of a 'key player', causes the disease. This development could eventually help researchers focus their efforts to improve drug treatments for type 1 diabetes as well as possibly having an impact on other diseases where inflammation plays an important role. More information [here](#)

STFC has been **helping physics teachers across the UK to stay at the forefront of the latest developments in physics research** and bring these new ideas back to their classrooms and tomorrow's young scientists. This year, almost 300 secondary school physics teachers have visited CERN, the European Particle Physics Laboratory in Geneva, to view the Large Hadron Collider - the world's largest science experiment. More information [here](#)

## October

A new report by RCUK presents the case for public funding of UK research and why it is so vital for our future prosperity. ***"Research for our Future: UK business success through public investment in research"*** includes input from leading decision-makers from business and industry in the UK and elsewhere, and examines why they choose to work in partnership with British researchers. More information [here](#)

**AHRC funded researcher Clio Barnard, from the University of Kent, won two top awards at BFI London Film Festival for her first feature film, The Arbor.** Clio's film *The Arbor*, which she both wrote and directed, won the Sutherland Award for 'most original and imaginative first feature screening at the festival' and Clio herself won the Best British Newcomer award. More information [here](#)

Scientists from the BBSRC's Institute for Animal Health (IAH) were in Rome at the headquarters of the UN's Food and Agriculture Organisation (FAO) when the Director General of the FAO announced the end of field operations and **the successful conclusion of the Global Rinderpest Eradication Programme's (GREP)** objective of Rinderpest eradication by 2010. This is only the second time that the world has been able to eliminate a viral disease. More information [here](#)

EPSRC researcher **Professor Andre Geim and fellow Russian born scientist Konstantin Novoselov share this year's Nobel Prize for Physics** for their "groundbreaking" work on a material with amazing properties. From the first grant of just over £500,000 in August 2001 which led to the discovery of graphene, to a grant of more than £5 million awarded in October 2009 to investigate the potential of the material, EPSRC has directly funded the research which has led to the Prize. More information [here](#)

## November

***Britain in 2011: the state of the nation*** was released in November and demonstrates the fast pace of change in society from the recent global recession, the new coalition government, reforms in public services and increasing use of digital social media on our everyday lives. New research findings and expert comment from ESRC and the social sciences are gathered in *Britain in 2011* magazine. More information [here](#)

**SQUEASE will revolutionise the way people with Autistic Spectrum Disorders (ASD) are helped to deal with anxiety and won first prize in the prestigious RCUK Business Plan Competition.** The team led by Sheraz Arif from Design London, received £25,000 towards accelerating their business to develop a range of clothing products that apply deep pressure to the wearer creating a calming effect. The range of products is initially aimed at teenagers and young people with ASD and is designed to offer discreet relief whilst on the move. More information [here](#)

EPSRC engineers have developed a **new type of microchip muscle stimulator implant that will enable people with paraplegia to exercise their paralysed leg muscles.** It is the first time that researchers have developed a device of this kind that is small enough to be implanted into the spinal canal and incorporates the electrodes and muscle stimulator in one unit. The implant is the size of a child's fingernail. More information [here](#)

## December

A study by the **New Dynamics of Ageing Programme**, a joint initiative by RCUK, examines the relationship between successful ageing and mobility patterns. While maintaining mobility plays a significant part in healthy ageing, a new study highlights a high degree of inactivity even among an 'elite' sample of fit and healthy older people aged between 72 and 92 years. More information [here](#)

A new **Concordat for Engaging the Public with Research** was launched in December by the UK's research funding bodies. The aim of the Concordat is to create a greater focus on and help embed public engagement with research across all disciplines in the higher education and research sectors. It provides a single statement of expectations and responsibilities of research funders in the UK. More information [here](#)

Fantastic photographs, stunning data images and beautiful molecular visualisations are on show from the 2 December until the 9 January in a **new exhibition at Didcot's Cornerstone Arts Centre in Oxfordshire.** The exhibition 'ISIS: Super Microscope' features striking photography from STFC's ISIS neutron source in Oxfordshire. The aim is to raise awareness of ISIS and its research in the local community. More information [here](#)

**IXO Therapeutics Ltd, a new biotechnology start-up company** from NERC and focused on the development of intellectual property (IP) derived from both NERC and the University of Oxford, aims to develop recombinant protein products that will treat inflammation and diseases that affect the body's immune system. More information [here](#)