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SCIENCE & INNOVATION INDIA NEWSLETTER

Issue 7, March 2008

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**FAST FACT:**

'Golden Chariot', India's first luxury train managed and marketed totally by the private sector, is all set to roll out from Bangalore.



**COVER STORY:**

**India-UK Centre of Excellence in Next Generation Networks : Enablers for the Future Digital Economies of UK and India**

With the huge increase in demand for affordable and efficient broadband and Internet access around the world through fixed and wireless technologies, so too is there an increased pressure to continually innovate, design and develop next generation usable products and services that will connect to the new infrastructure and satisfy the needs of governments, industry and citizens alike.

In response to this need, the University of Ulster in Northern Ireland, in partnership with both the UK and Indian governments, is leading a major consortium-based initiative which will focus on the research, innovation and wealth creation opportunities offered by Next Generation Telecommunications Networks.

The core aim is to support the development of internationally leading scientific research capacity as an enabler for the evolving and future Digital Economy in the UK and India. The lead academic investigator is Professor Gerard Parr from Ulster's Faculty of Computing and Engineering.

The IU-ATC, which has British Telecom (BT) as its prime industry partner, will facilitate industry collaboration with academic research and government as part of an initial five-year research and development plan. The overall plan will look at a ten-year horizon.

For more <http://www.iu-atc.com> or contact Prof. Gerard Parr directly at [gp.parr@ulster.ac.uk](mailto:gp.parr@ulster.ac.uk)

## BIOTECHNOLOGY

### Scientists uncover the potential to control adult stem cells

Research being presented today (April 10) at the UK National Stem Cell Network Annual Science Meeting in Edinburgh represents a step towards the use of Adult Stem Cells (ASCs) to repair damaged tissue.

Speaking at the conference, Professor Cay Kielty, of The University of Manchester, describes how she and her team have uncovered a messaging system that instructs ASCs to contribute to tissue repair in response to chemical signals in the body. The work, funded by the Medical Research Council, holds great hope for the development of techniques by which ASCs could be instructed to repair damaged tissues.

Source: 10 April 2008, The University of Manchester

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### Veeda sets up Alzheimer's study group

Veeda Clinical Research, the Anglo Indian CRO based in Ahmedabad, Germany and the UK, set up an experimental medicine group to study Alzheimer's disease and schizophrenia.

Source: 11 March 2008 The Economic Times

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## AGRICULTURE

### UK gives US\$14 million boost to agriculture research

The United Kingdom's development aid agency has linked up with one of its largest research councils to boost research into sustainable agriculture in developing countries. The US\$14 million, four-year research programme — launched jointly by the UK Department for International Development (DFID) and the Biotechnology and Biological Sciences Research Council (BBSRC) in London will explore ways in which modern biological techniques can be applied to agriculture.

DFID is providing US\$10 million, with the BBSRC providing the remainder of the funding. The collaborative research will be led by the UK-based University of Sheffield, with scientists from the International Crops research Institute for the Semi-Arid Tropics in India and the African Rice Centre in Senegal.

Source: 22 February 2008, SciDevNet website

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## ENGINEERING

### Robot Transport System Speeds Airport Travel

Taking off soon - a pilotless transport system that will revolutionise the way that passengers travel at aviation's busiest international airport at London Heathrow. Work has started on the world's first commercial personal rapid transit system that will initially be made up of 3.8

kilometres of concrete guideway and a fleet of 18 battery-powered driverless vehicles - known as pods. Each pod will whisk up to four passengers and their luggage to and from Heathrow's new Terminal 5 and a perimeter car park. If a one-year trial starting in 2009 is a success, the system will be adopted throughout the airport with the number of pods being expanded to at least 400.

Source: London Press Website

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## Launch of New Supercomputer for UK Researchers

Four times faster than its predecessor and capable of 63 million million calculations a second - the UK Research Councils have launched the largest and most advanced supercomputing facility in the UK. HECToR (High-End Computing Terascale Resources) will facilitate innovative and world leading research and represents the equivalent of approximately 12,000 desktop systems.

Based at the University of Edinburgh's Advanced Computing Facility (ACF), the £113m service will run for six years and be operated by EPCC (Edinburgh Parallel Computing Centre). The computer is a Cray XT4 system and support for applications software is provided by NAG Ltd. The procurement project for HECToR was funded and managed by the Engineering and Physical Sciences Research Council (EPSRC) on behalf of the UK Research Councils.

To get a sense of the capability of HECToR, imagine if it was possible for every person on earth to carry out 10,000 calculations, in a second, at the same time - this is how powerful HECToR is. As one of the largest and most advanced supercomputers in Europe, this UK Research Councils facility will play a key role in keeping scientists at the forefront of their fields of research.

Source: EPSRC website

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## ENVIRONMENT

### India's first energy biosciences centre to come up at UICT

To find ways for reducing India's growing dependence on petroleum fuels and cut down emission of greenhouse gases, the country's first Centre of Energy Biosciences will come up at the University Institute of Chemical Technology (UICT).

The primary objective of the centre will be developing renewable sources of energy with specific focus on creating a bioscience and bioengineering platform for developing viable technologies for bio-alcohols, biodiesel, biohydrogen and other biofuels, according to professor Arvind Lali, who is coordinating the technical programme of the centre.

Source: The Indian Express

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### Devastating ancient tsunami could return

Researchers in Britain took a fresh look at the Tsunami occurred in 365 AD and came up with some worrying news. University of Cambridge Professor Beth Shaw carried out a computer stimulation of the quake, based on fieldwork in Crete. They found that if the tectonic

structure along the rest of the Hellenic subduction zone is similar, a tsunami-generating quake could strike the Mediterranean in 800 years.

Source: 11 March, The Times of India [\[MORE\]](#)

### **Green building to come up in Borivali**

The first ever-civic green building complex is all set to come up on a sprawling 52,000 sq m plot in Borivali, Mumbai. The project is part of the BMC's upgradation plans for its Civic Training Institute & Research Centre (CTIRC) situated near the National Park. Platinum is the highest rating given under the US building council's LEED (Leadership in Energy and Environmental Design) system for green buildings world-over. The CTIRC would borrow elements from existing Platinum buildings in India like the ITC Centre at Gurgaon, Grundfos Pumps Corporate Office at Chennai and the IOC Corporate Office in New Delhi.

Source: 11 March 2008, The Indian Express

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### **India scientists collaborate with U.K. to develop low-carbon technologies**

Mitigating the impact of climate change and generating energy for development do not have to be mutually exclusive goals. Scientists, academics and public and private industry representatives from across the country are collaborating with their counterparts in the U.K. to accelerate the development of low-carbon technologies such as hydrogen, fuel cells and solar, thermal and bio-energies and make them a commercial reality.

Source: 18 March 2008 The Hindu.

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### **India can lead battle against climate change: Blair**

The former British Prime Minister Tony Blair on Thursday said India had an important role to play in mitigating the impact of climate change. As a powerful, developing nation with the right response to the issue, India could assume a strong leadership role, he said at the launch here of an initiative, "Breaking the Climate Deadlock."

As "India would face the worst consequences of climate change that would involve its food security, water and energy security also," it was the right place to strike a right global deal, Mr. Blair said. He appreciated Prime Minister Manmohan Singh for setting up a separate council to look into climate change-related issues and come up with an action plan.

Source: 21 March 2008, The Hindu.

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## **SPACE**

### **UK vision to stay at the forefront of space sector published**

New proposals for the UK's future involvement in an increasingly competitive international space sector has published in the UK Civil Space Strategy 2008-2012 and beyond.

With the space sector currently contributing approximately £7 billion to the UK economy, Science and Innovation Minister Ian Pearson announced how the UK would continue to be at the forefront of this expanding sector. This will include: continued UK involvement in Earth observation, space science and telecoms developments; establishing an international space facility at Harwell, Oxfordshire, which will focus on climate change, robotic space exploration

and applications; closer involvement in international initiatives on the future shape of space exploration to the Moon, Mars and beyond; and setting up a National Space Technology Programme to support the development of new, innovative technologies and services.

Source: 14 February 2008, British National Space Centre

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### **ISRO comes out with Manned Mission plan**

The Indian Space Research Organisation (ISRO) confirmed to have chalked out plan for India's manned mission lined up for 2015 .

Chairman of ISRO, Dr D G Madhavan Nair told media persons, "We have now finalised the project report on the manned mission. The report is going to the Government. The Government will have to review and take a decision soon." He said that the report will be submitted to Space Commission by next week, which will give its recommendation on the total cost of project.

Dr Nair further explained the stratagem and said that the organisation has now clarity in the framework they have reached upon finally, he also discussed about the technologies to be assessed, facilities to be established and the agencies to involve in this project.

Source: 4 April 2008, News Track

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## **SCHEMES, SCHOLARSHIPS & INITIATIVES**

### **Science Bridges programme**

The Research Councils wish to enhance linkages with USA, China and India through provision of a limited number of Science Bridges between research organisations, to raise the impact and profile of collaborative activity between the UK and these countries and to facilitate innovation from existing research. These awards will be made to UK institutions with extant research links with the US, China and India to accelerate the deployment of research knowledge, deepen and strengthen current research links, enable the acquisition of new skills and encourage wealth creation through improving the transfer of research and expertise from the research base to businesses and other users by building science and innovation bridges with world-class universities and high-tech businesses.

Indian Institutions should submit applications to the Department of Science and Technology [V Rao Aiyagari, Head Science and Engineering Research Council, Department of Science and Technology, Technology Bhawan, New Delhi, e-mail [venktesh@nic.in](mailto:venktesh@nic.in)] The costs of the UK Institutions will be met from Research Councils funds, those for the Indian partner institutions will be met by the DST

**CLOSING DATE : 15 MAY 2008**

For further details click here :

<http://www.rcuk.ac.uk/international/sciencebridges.htm>

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## Research Exchange Programme (RXP)

The British Council is announcing a call for proposals in 2008 under its initiative to assist researchers in making international connections. Our Researcher Exchange Programme (RXP) is an initiative aimed at supporting new links between postdoctoral researchers in the UK and in other countries. RXP provides individual researchers with awards covering travel and subsistence costs, and some consumables costs, needed to develop new scientific collaborations and contacts through exchange visits of between two week and three months. The purpose of RXP is to help develop new research links between higher education institutions and research laboratories in the UK and other countries. It aims to encourage mobility and internationalism among postdoctoral researchers for the exchange of information, ideas and knowledge, and for long-term relationship building.

The awards are open to postdoctoral researchers at the beginning of their research careers. The research link can be in any area of research, including science, engineering, technology, social sciences and humanities.

**CLOSING DATE : 2 July 2008**

For further details click here :: [www.britishcouncil.org/science-rxp](http://www.britishcouncil.org/science-rxp)

## EVENTS

**BANGALORE BIO 2008** - The eighth International Conference cum Exhibition of biotechnology Bangalore Bio 2008 is Asia's premier Biotech event, Bangalore Bio since 2001 and has been instrumental in showcasing the prowess of India to the outside world. The core theme of Bangalore Bio 2008 is Global Partnering. The highlights of the event would be Exhibition, Conference, Agri-biotech day, Poster session, Networking Dinner, CEO Conclave and Bio-partnering meets. We also have focusing on Innovative Technologies and their effectiveness in the treatment of diseases like Cancer, Diabetics, Alzheimer's .The event is likely to see participation of over 180 leading Biotech organizations and 18 nations and over 700 delegates at the Conference sessions.

**Date:** 24-26 April 2008

**Venue:** Bangalore International Exhibition Centre, Bangalore, India

**For more information log on to :** [www.bangalorebio.in](http://www.bangalorebio.in)

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## SEMINAR ON FINITE ELEMENT ANALYSIS OF FATIGUE, DURABILITY BY PROF JOHN DRAPER, SAFE TECHNOLOGY ( UK), SHEFFIELD UNIVERSITY.

The seminar will cover advanced topics such as Creep- Fatigue interaction, HCF, LCF, fatigue of welded joints, TMF in detail along with the theoretical aspects of fatigue, industrial case studies by John Draper.

Dr John Draper has unique experience in researching on fatigue, durability structural integrity in both auto and aero sectors. Dr Draper worked as a fatigue design specialist in the aircraft industry, then as a project manager in British Rail R&D Division for fatigue research projects, and failure investigation projects using service strain measurement.

He formed Safe Technology Limited in 1987 to develop fatigue analysis software from strain gauges and FE models, and provide fatigue –related consultancy services. He acts as a consultant to companies in a wide range of industries, including ground vehicles, medical equipment, diesel engines, wind energy and welded fabrications. He is a regularly invited presenter at conferences in the UK, Europe, Asia and the USA. He is CEO and of Safe Technology Limited, past Chairman of the Engineering Integrity Society, past Chairman of the Ground Vehicle Instrumentation Group, and an honorary visiting Professor to Sheffield Hallam University.

**Date:** 05-06 May, 2008

**Venue:** Sumant Moolgaokar Auditorium Mahratta Chamber of Commerce, Industries and Agriculture (MCCIA), Pune

**Contact:** Ms Nethra

+91 9448275866

[fatigue@pro-sim.com](mailto:fatigue@pro-sim.com)

**Date:** 07 May, 2008

**Venue:** JSSATE

**Contact:** Ms Chaitra H P

+91 9972304445

[fatigue@pro-sim.com](mailto:fatigue@pro-sim.com)

**Date :** 08-09 May, 2008

**Venue:** Sathish Dhavan Auditorium,  
Indian Institute of Science

Contact: Ms Kusuma

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