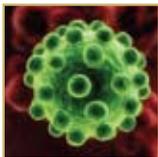




SPRING NEWSLETTER

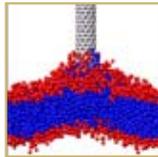
ISSUE 5 - MARCH 2009



Emerging Infections



Ethics of Biosciences



Nanoscience



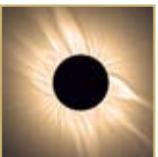
Science, Innovation & Society



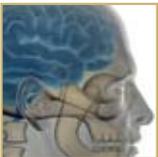
Environmental Change & Forests



Ageing



Future of Humanity



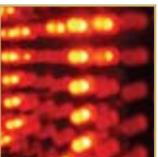
Future of the Mind



Migration



Carbon Reduction



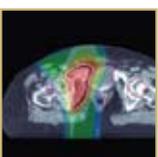
Energy Materials



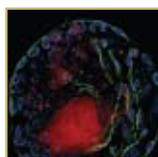
Armed Conflict



Oceans



Cancer Therapy



Stem Cells

Message from the Director

Dear Friends and Colleagues,

We have had an extraordinary start to 2009. The most exciting news is the launch of the 21st Century School Challenge, a \$50 million matched funding pledge by Dr James Martin. On 12 March, we held a special event in the Divinity School to mark the occasion, which was introduced by the Vice-Chancellor and attended by over 200 people from within and outside the University.

Institute Directors and Fellows across the School have been involved in a growing range of academic research projects and collaborative initiatives. In January, five academics from the School presented an "IdeasLab" session at the World Economic Forum in Davos. In February, experts in emerging infections were advising the UK Government on planning and preparedness for an influenza pandemic; and Lord Rees spoke to an audience of over 700 people on "The World in 2050". In March, forty experts from the financial world met at the 21st Century School to address the challenges posed by the current financial crisis; and climate scientists from the School played a prominent role in the Copenhagen conference discussions.

We continue to expand our global reach - our lectures on iTunesU have now been downloaded over 180,000 times since the site's launch in October 2008, and we have recently started a Twitter feed, YouTube channel and Flickr site where you can access updates, videos and photos from the School. All of these are available through our website.

Please contact us if you'd like details about any of the announcements.

Best wishes,

Ian Goldin

Director, James Martin 21st Century School

Extraordinary times... Require extraordinary measures...

JAMES MARTIN 21ST CENTURY SCHOOL CHALLENGE

US\$50million matched funding initiative



Dr Ian Goldin, Dr James Martin and the Vice-Chancellor

For the past four years, the 21st Century School has been building a reputation for ground-breaking research, inspiring new forms of collaboration and contributing to public debate both nationally and internationally. Dr Martin's matched funding pledge aims to inspire further financial contributions and opportunities for collaboration and partnership with the 21st Century School. The initiative offers an unparalleled opportunity to energise existing research, creating new and exciting projects that will broaden and deepen our research, impact and outreach capacities.

Four years after his initial gift of \$100 million to establish the James Martin 21st Century School, Dr Martin has pledged \$50 million to match new donations to the School and its Institutes. On 12 March 2009, we celebrated the launch of this matched funding initiative with a special event in the Divinity School.

The Challenge offers a 1:1 match for donations of at least \$1 million, made before 12 March 2010. Of the matched funds, 50% will go directly to the research project or programme and 50% will go to the School, enabling it to continue to provide seed funding for interdisciplinary research programmes, to create flexibility in seizing new opportunities, and to strengthen its ability to reach significant audiences, influence policy and effect positive change.

Further details are at:
www.21school.ox.ac.uk/challenge



*Over 200 people attended the event
in the Divinity School*



The Vice-Chancellor spoke at the event

Press highlights



Oxford alumnus's £36m challenge

An Oxford alumnus has promised to match up to \$50m (£36m) in large donations to his old university, in a move that underscores the continued willingness of some rich benefactors to give money in spite of the credit crunch. ... He said: "We must not forget the bigger picture - that we need to safeguard a future for the generations that follow us."



Oxford lands £36m donation from technology entrepreneur

Philanthropic giving has taken a nose-dive in the recession, but one millionaire today promised Oxford University £36m. John Hood, the Vice-Chancellor of Oxford, said Martin's generosity showed that "despite the global economic downturn, there are philanthropists willing to support the world's leading universities."



'Guru' to match £36m in donations

[Dr Martin said:] "We urgently have to work towards solutions to critical global challenges like climate change and world population growth. That's why I want to inspire further financial support and new kinds of collaboration with my offer of matching funds."

Also broadcast on: Bloomberg TV, ITV Meridian news, BBC South Oxford, BBC Radio Oxford, Jack FM



The Lord Mayor of Oxford was among the guests



James Martin congratulated Stephen Barter, responsible for the first donation eligible for the matched funding



NEWS & RESEARCH HIGHLIGHTS

The World in 2050



Lord Rees in the Sheldonian Theatre

On 23 February Lord Martin Rees, President of the Royal Society, and a member of the School's Advisory Council addressed an audience of over 700 in the Sheldonian Theatre. Talking about climate change, loss of biodiversity, technological developments, the accelerating pace of our scientific abilities, new diseases and population growth, Lord Rees' lecture prompted much discussion about whether the human race is capable of collective action for long-term interests. A blog and podcast of the event are available on our website.

www.21school.ox.ac.uk/news_and_events/news/archive.cfm/2009/blog-rees-2050

Davos: a creative look at global issues

The 21st Century School was the focus of an "Ideas-Lab" at the 2009 World Economic Forum. Four Institute Directors and 21st Century School Director, Dr Ian Goldin, spoke to an international audience comprising members of governments, business leaders and experts from a wide range of fields. The session offered a creative look at innovations, concepts and policies in the areas of health and medicine. Their presentations are available to view on our YouTube Channel.

www.21school.ox.ac.uk/news_and_events/news/archive.cfm/2009/news-davos-videos

The Future of Financial Regulation

The 21st Century School, in collaboration with the Saïd Business School and the Global Economic Governance Programme at the University of Oxford, brought together nearly forty experts from the financial world to address the complex and unprecedented challenges posed by the current financial crisis.

The private meeting of central bank governors, international regulators, leading bankers and Oxford academics was arranged to increase our understanding of the causes and identify the appropriate regulatory responses to the global economic crisis. The same evening, an open forum on the future of financial regulation was held at the Saïd Business School. A summary report and coverage of the panel discussion can be found on our website.

www.21school.ox.ac.uk/news_and_events/news/archive.cfm/2009/financial-regulation-summary-report



Participants in the Financial Regulation event

James Martin Research Fellows appointed

Dr Adam Candy and Dr Laure Zanna have been appointed as James Martin Research Fellows in the 21st Century Ocean Institute. The Fellows are applying innovative computational techniques to model and assess ocean carbon uptake, ocean acidification, ocean carbon sequestration, and the impacts of possible geo-engineering solutions. They are collaborating across the Department of Earth Sciences and the Department of Atmospheric, Oceanic and Planetary Physics to draw on expertise in both fields in their approach to these challenges.



Policy briefings



Why we need a war on ageing

Programme on Ethics of the New Biosciences

Raises questions about whether there is such a thing as a normal human lifespan and asks if we should not endeavour to create longer and better lives for ourselves.

Implementing the Responsibility to Protect

Oxford Institute for Ethics, Law and Armed Conflict

Sets out the main issues that will challenge institutions and governments tasked with the implementation of the Responsibility to Protect (R2P) report, issued in early 2009 by the UN Secretary General.

Transatlantic Dialogues on Migration and Development Issues

International Migration Institute (IMI)

Summarises the conclusions of a comparison of migration systems. Part of the IMI's "Transatlantic Dialogues" project, which aims to facilitate a transatlantic and North/South exchange among policymakers and scholars.

Renamed Institute to focus on "Science, Innovation and Society"

On the fifth anniversary of its founding, the James Martin Institute for Science and Civilization adopted a new name to reflect the sharpened focus of its research programme. A special panel discussion, entitled "Can We Steer Social and Technological Innovation?" and chaired by Professor Steve Rayner, was held to mark the occasion of the Institute's re-launch.

With the name change, the Institute for Science, Innovation and Society (InSIS) sets out its research agenda on the social dimensions of the production and application of science and technology and their role in society. The Institute brings together a multidisciplinary team with world-class capabilities (both scholarly and practical) and combines research, practice and education in the following areas:

- ◆ Science and Technology Studies
- ◆ Futures Research
- ◆ Complex Systems
- ◆ Governance, Accountability and Innovation

Their new website is:

www.insis.ox.ac.uk

New "Programme for the Future of Cities"

Following the launch of the James Martin 21st Century School Challenge, a donation of nearly £1 million has been pledged to establish "The Oxford Programme for the Future of Cities." This project will be led by the School's Institute for Science, Innovation and Society and the Environmental Change Institute. In addition, it will draw on the expertise of the Oxford Institute of Ageing, other Institutes of the 21st Century School and a number of departments at the University of Oxford. The Programme is an exciting example of the kind of cross-collaborative research projects that James Martin aims to encourage with his matched funding pledge. Further information about the Programme will be available once it is officially launched later this spring.

Human Enhancement

To what extent should we use technology to try to make better human beings? *Human Enhancement*, edited by Dr Nick Bostrom, Director of the Future of Humanity Institute, and Professor Julian Savulescu, Director of the Programme on Ethics of the New Biosciences, brings together essays from some of the world's leading ethicists to explore how humanity will develop in the near future, discussing such contentious issues as whether we should modify human nature or allow the use of drugs in sport.



Amazon rainforest may become “tinderbox”



Deforestation creates fire risk in the Amazon

A study led by Professor Yadvinder Malhi, of the School’s Oxford Centre for Tropical Forests, calls for direct intervention to protect the Amazon rainforests. The research concludes that the rainforest is likely to shift towards a more seasonally dry, (monsoonal) climate, and warns that although these seasonal forests may be more resilient to occasional drought, they will be more vulnerable to fires. Bringing global greenhouse emissions under control and introducing strong forest protection legislation could minimise the prospect of major dieback.

The study, entitled “Exploring the likelihood and mechanism of a climate-change induced dieback of the Amazon rainforest” is published in *PNAS*, February 2009.

Other publications from our Institutes include:

- ◆ Healey, P. and Rayner, S. (eds) “Unnatural Selection: The Challenges of Engineering Tomorrow’s People”, *Earthscan*, London 2009
- ◆ Hofmann, M. and Schellnhuber, J. “Oceanic acidification affects marine carbon pump and triggers extended marine oxygen holes”, *PNAS*, 13 February 2009
- ◆ Welsh, J. “The Rwanda Effect: The Development and Endorsement of the ‘Responsibility to Protect’” in *After Genocide: Transitional Justice, Post-Conflict Reconstruction, and Reconciliation in Rwanda and Beyond*, Columbia University Press 2009
- ◆ Lewis, S.L., Malhi, Y. *et al.* “Increasing carbon storage in intact African tropical forests”, *Nature*, Vol 457, 19 February 2009
- ◆ D’Rozario, Robert S. G., Chze Ling Wee, Wallace, E. Jayne and Sansom, Mark S. P. “The interaction of C60 and its derivatives with a lipid bilayer via molecular dynamics simulations”, *Nanotechnology*, Vol 20, 2009



Institute Websites

Several Institutes have launched new websites:

Institute for Science, Innovation and Society (formerly the James Institute for Science and Civilization):

www.insis.ox.ac.uk

Institute for Carbon and Energy Reduction in Transport:

www.icert.ox.ac.uk

Oxford Future of Humanity Institute:

www.fhi.ox.ac.uk

International Migration Institute:

www.imi.ox.ac.uk



Awards and achievements

DPHil posts foster integrated stem cell research

The Oxford Stem Cell Institute (OSCI) has been awarded funding for eight DPhil studentships by the Medical Research Council. As OSCI members, the new graduate students will have unparalleled access to an interdisciplinary network of scholars in the field of stem cell science, and will develop a broader perspective of the importance of their research in addressing issues of global significance.

“Global Migration Futures” project established

The International Migration Institute has been awarded over £130,000 by the Boeing Corporation. This will enable it to conduct research into the effects of social, economic, political, demographic and environmental changes on future migration trends, and to better prepare policy-makers for the challenges ahead. The IMI is seeking to appoint a Research Officer to work on this project, entitled: “Global Migration Futures: Towards a comprehensive perspective”.

ECI receives Foreign Office grant

James Martin Fellow Dr Jimin Zhao, of the Environmental Change Institute, has been awarded a £350,000 Foreign and Commonwealth Office grant for a new project: “China: Moving to a low-carbon economy under different economic circumstances”. The project follows on from the ECI’s work, as part of the Tyndall Centre, on understanding the roles of non-nation state actors in Beijing’s climate change governance and initiatives.

OIA awarded Leverhulme Grant

The Oxford Institute of Ageing has been awarded a grant by the Leverhulme Trust to undertake research on “Grandparenthood within Bilingual Families: A Welsh Case Study”. The project will be lead by Professor Sarah Harper in collaboration with Dr Robin Mann at Bangor University who is also an Associate Research Fellow at the OIA.

IMPACT & OUTREACH

Policy and public opinion

Is the UK ready for an influenza pandemic?



Dr Nim Pathy with Professor Lord May at the House of Lords

Dr Nim Pathy of the Institute for Emerging Infections was recently invited to the House of Lords to give evidence to the Select Committee on Science and Technology. The Institute has been conducting research into pandemic strains of influenza, a major area of interest for the Committee. Dr Pathy gave evidence on the evolution of pandemic strains of influenza, as well as possible ‘warning signs’ (patterns of infection) that may arise in the weeks or months before an outbreak.

New Nuclear Technologies

The first Policy Foresight Programme seminar of 2009 was a short preparatory meeting on new nuclear technologies. It was chaired by Sir Crispin Tickell. James Martin showed an extract from his film, including scenes of pebble bed reactors. The other main speakers were renowned experts in nuclear technologies, Professor Sir Chris Llewellyn-Smith and Professor John Gittus. There will be a fuller meeting on the subject later in the year.

House of Lords debate

On 12 February Professor Baroness Susan Greenfield, Director of the School’s Institute for the Future of the Mind, spoke in a House of Lords debate about social networking sites. She raised the possibility that new ways of social interaction might “infantilise” the minds of a generation. Her comments received press coverage around the world.



James Martin Fellows in Copenhagen

On 10 March, more than 2,500 climate experts from 80 countries met at the Copenhagen Conference on “Climate change, global risks, challenges and decisions” to consolidate scientific thinking on global warming and to support political attempts to agree a new global climate treaty later this year.



Professor Lord Stern, Professor Schellhuber and Professor Liverman

ECI Director Professor Diana Liverman, former James Martin Fellow Professor Hans Joachim Schellhuber, and Professor Lord Stern (a member of the School’s Advisory Council) gave keynote presentations. A total of eight current and former James Martin Fellows contributed to the conference discussions. They presented work on the rising influence of the individual and the role of the media in addressing climate change, as well as the actions of corporations and many local governments that have gone far beyond international regulations.

Intellectual exchange & collaboration

Proton therapy in Europe

Professors Ken Peach and Bleddyn Jones, of the Particle Therapy Cancer Research Institute, have been visiting projects in Europe in order to study the clinical effectiveness of charged particle therapy. They recently visited the ARCADE project at the University of Caen, where a new cyclotron capable of delivering both protons and carbon ions for therapeutic use is being developed. It is expected that a French return visit to Oxford will occur in September this year.

Innovation and entrepreneurship

In February, Dr Javier Lezaun and Dr Felix Reed-Tsochas of InSIS (formerly the JMI) participated in the Oxford University Forum on Entrepreneurship and Innovation Research to present their research and explore areas of common interest.

Stem Cells: a pathway through the maze

The Oxford Stem Cell Institute has developed a two-day course in partnership with the Department for Continuing Education. The course is intended to dispel the myths behind stem cell biology and to introduce delegates to the science behind the headlines, the pitfalls as of the technologies well as the promises. Further details are available from:

www.stemcells.ox.ac.uk

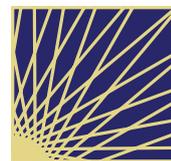
Comment & Debate

Due to increasing demand, a sister to the Future of Humanity Institute’s popular “Overcoming Bias” blog has been established.

“Less Wrong” aims to create a community devoted to refining the art of human rationality - the art of thinking. Recent blogs include “Terrorism is not about Terror” and “The Implicit Association Test”. Find out more and contribute to the debates at:

www.lesswrong.com

lesswrong



EVENTS HIGHLIGHTS

Global Governance Seminar Series

This term, the James Martin 21st Century School Seminar Series focused on “Global Governance Challenges”. Subjects ranged from the financial system, to infectious diseases, sustainable business and the scientific policy process.

You can find a record of these seminars, as well as other 21st Century School events, on the 21C School blog:

www.21school.ox.ac.uk/blog

Environmental Change and Migration

The International Migration Institute and the Refugee Studies Centre held a joint workshop on Environmental Change and Migration in January. The aim of this workshop was to discuss the extent to which environmental transformations might influence migration patterns in the 21st century, as well as the efficacy of frameworks currently in place to protect those displaced. The report and papers of the workshop are available from:

www.imi.ox.ac.uk

Where next for Rwanda?

On 17 March, the Oxford Institute for Ethics, Law and Armed Conflict held a symposium to commemorate the 15th anniversary of the Rwandan genocide, which claimed the lives of nearly 800,000 Tutsi and their perceived sympathisers. Participants noted the justice, security, reconciliation and development responses to the genocide, and asked what the future holds for Rwanda.

Oxford Stem Cell Institute showcase

On 17 February, the Oxfordshire Bioscience Network (OBN) invited the newly-established Oxford Stem Cell Institute to showcase some of the technologies currently being developed in Oxford. The event provided an opportunity for representatives of the biotechnology and pharmaceutical sectors to learn about the Institute’s research. It contributed to the expansion of the Institute’s networks and introduced the prospect of commercialising more stem cell technologies in the future.

Upcoming events

19 April - Oxford Institute of Ageing Spring School

A four-day course on aspects of ageing research for practising researchers, academics and graduate students.

28 April – Ethics of the New Biosciences, Leverhulme Lecture

Professor Allen Buchanan, “Fidelity to Constitutional Democracy and to a Robust International Legal Order”.

30 April - Ethics of the New Biosciences, Leverhulme Lecture

Professor Walter Sinnott-Armstrong, “Are Psychopaths Responsible?”

7 May - James Martin 21st Century School Distinguished Public Lecture

Professor Lord Nicholas Stern, “A Blueprint for a Safer Planet”. The lecture will describe why we need a global deal to reduce the risks and the costs of climate change, and how this deal can be constructed.

7 May - Future of Humanity Institute and the Oxford Institute for Ethics, Law & Armed Conflict special seminar

Dr Thomas Homer-Dixon will speak about “Uncertainty, Lags, and Nonlinearity: Challenges to Governance in a Turbulent World”.

21 May - The Ethox Centre and the Programme on Ethics of New Biosciences one-day workshop

An opportunity to explore the ethical and regulatory issues surrounding the recent development and marketing of direct-to-consumer genetic tests.

For further information about these and other events, please see:

www.21school.ox.ac.uk/news_and_events/events/



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On the Web...

Follow the work of the 21st Century School online:

Twitter: www.twitter.com/21school

An easy way to get updates on all the School's work, incorporating news highlights, event summaries and blogs.

School blog: www.21school.ox.ac.uk/blog

Provides a summary record of all public 21C School events, including our seminar series on global governance challenges and Lord Rees' lecture: "The World in 2050".

YouTube: www.youtube.com/user/21school

Watch videos of School events and presentations, including presentations from our Davos "IdeasLab".

Flickr: www.flickr.com/photos/21c-school

A collection of photos from recent School events.

iTunesU: www.ox.ac.uk/itunes_u/

Audio podcasts of lectures and special events are available on Oxford iTunesU site. Since its launch in October 2008, 21st Century School lectures have been downloaded over **180,000** times.

*Join our Mailing List.
Keep up to date with event and news
across the School by subscribing to our mailing
lists online at:*

www.21school.ox.ac.uk/?redirect=131

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