

ISSTI Newsletter

THE INSTITUTE FOR
THE STUDY OF SCIENCE
TECHNOLOGY AND INNOVATION



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Welcome

Welcome to the final ISSTI newsletter of 2006. It has been a busy time for us and in this issue you can find out about new projects, new staff and recent PhD successes. We end the year on a high note with the news that the ESRC Innogen Centre's funding has been renewed for a further five years. Congratulations to all those who worked so hard on this bid and welcome to Dave Wield as the future Innogen Director.

Stewart Russell will be taking over as acting Director of ISSTI in the New Year as I will be on sabbatical at Tsinghua University, Beijing from January to July 2007. During this period please use the new email address RCSSDirector@ed.ac.uk for non-personal correspondence related to RCSS/ISSTI.

Wishing you all a successful 2007.

Robin Williams, Director ISSTI

Innogen wins second round of funding

The ESRC has announced a further 5 years funding for Innogen. Taking over from Professor Joyce Tait, Innogen will also welcome a new Centre Director, Professor David Wield, from October 2007.

Researchers at the University of Edinburgh's Innogen Centre – working with colleagues at the Open University – will look at innovations such as tissue engineering, food technology and a revolutionary approach to drug development called translational medicine. Innogen will also consider other emerging areas of research such as systems biology and synthetic genomics.

The £5million award by the Economic and Social Research Council (ESRC) will enable Innogen to continue researching how such technologies are developed and regulated, and how they are influenced by public opinion. Over the next five years, Innogen will also seek to assess the potential social and economic impact of recent scientific research.

The Director of Innogen, Professor Joyce Tait, said: "We welcome this award. This continued support from the ESRC will enable Innogen to continue its pivotal role in informing public debate, and helping to shape policies which affect key areas such as biotechnology, food production and health care in developed and developing countries."

Innogen at Edinburgh will welcome a new Director, Professor David Wield (see next page). Professor Wield is currently co-director of Innogen, and this role will be taken over by Professor Joanna Chataway at the Open University. Joyce Tait will remain as Scientific Adviser. www.innogen.ac.uk

Contents

Staff News	2	Research News	4	Forthcoming Events	8
AlumniSTS	3	Seminars	7	News in Brief	8

Staff and Visitors

Dave Wield to join Edinburgh as Director for Innogen Phase II



David Wield is currently Professor of Innovation and Development in the Development Policy and Practice Department of the Open University's Technology Faculty.

He has been a Co-director of the ESRC Centre for Social and Economic Research on Innovation in Genomics (Innogen) since its establishment in 2002 based in the Open University. His Innogen research interests focus on how the rapid changes in life science can address global food and health needs. Specifically, he has worked on new life sciences innovation, genomics and development, and regulation/governance of the life sciences.

He previously worked for five years in Tanzania and Mozambique and continues to do research on technology and international development issues, and on capacity building for science and technology. He co-directs the Open University's International Development Centre which he helped found to build effective and equal partnerships with colleagues from around the world to 'carry out research and teaching relevant to the complex process of changing the world for the better'.

He has also been a Fulbright Senior Fellow at Stanford University and UC Berkeley where he conducted research on innovation and entrepreneurship in Silicon Valley. Dave has held grants from ESRC, EPSC, EC, Swedish Sida, Canadian IDRC and Rockefeller Foundation and has coordinated six large multinational programmes in the last decade. He has published or edited nine books, most recently *Followers to Leaders: managing innovation in newly industrializing countries*, Routledge, 2002 (with Naushad Forbes). He has published over one hundred journal articles.

Dave will move up to Edinburgh and take on the role of Director of Innogen in October 2007.

Kevin Quigley

ESRC postdoctoral fellow Kevin Quigley leaves RCSS to take up a faculty position at the School of Public Administration at the University of Dalhousie, Halifax, Canada. Kevin spent a good part of the year extending the ideas he developed in his PhD – an examination of US and UK government reaction to the Year 2000 Computer Bug (Y2K) – to the present debate over critical infrastructure protection (CIP). During the year Kevin presented his research locally as well as at conferences in Europe and the US, co-authored with colleagues from the Strathclyde Business School an on-line risk management course, boned up on some quantitative and qualitative research skills and networked like mad! 'Meeting Charles Perrow was definitely one of the highlights of the year for me' Kevin noted. 'He and the Normal Accidents School have really had a profound impact on my thinking on CIP. Meeting him to discuss my research was a great way to end a great year.' At Dalhousie Kevin will be designing and teaching courses in Public Sector Strategic Management and looks forward to contributing to the Faculty of Management's new RBC Centre for Risk Management. He is also keen to keep strong and regular contact with his colleagues here at RCSS. Kevin was mentored jointly by Charles Raab and Robin Williams.



Charles Raab and Kevin Quigley

ISSTI Visiting Fellows

ISSTI is delighted to host international visitors and over the years these visits have led to some very successful international collaborations. Visiting Fellows are normally teaching or research staff of overseas universities of post-doctoral status or people with equivalent professional standing. Visiting Postgraduates are also very welcome. For either category of visitor, visits can be of any duration but if students intend to be here for more than one semester they will be expected to register as fee-paying postgraduate students at the University of Edinburgh.

Prior to a visit, prospective visitors are asked to submit their CV and discuss their proposed programme of work with the Director of ISSTI, Professor Robin Williams. During the visit we can arrange for the use of university facilities such as the library and can provide shared office space with access to a computer and printer although visitors may prefer to bring their own laptop. We are unable to provide any secretarial support. There is a 'bench fee' of £1,000 per semester or part thereof which may be waived or reduced in special circumstances.

For further information please contact RCSSDirector@ed.ac.uk

PhD Successes

Congratulations to the following graduate students who have recently successfully defended their PhD theses:

Martina Gerst (RCSS)
The Socio-technical Dynamics of ICT Innovation - A Social Shaping Analysis of Portals

Antonios Kaniadakis (RCSS)
The Agora of Techno - Organisational Change

Alex Voss (Informatics)
*Corealisation:
A Radical Respecification of the Working Division of Labour in Systems Development*

New visitors to ISSTI

- Professor Christopher-Paul Milne, Assistant Director, Tufts Center for the Study of Drug Development, Tufts University,
- Dr Na-kyoung Kim is visiting the AHRC Centre for Studies in Intellectual Property and Technology Law from the Johan Wolfgang Goethe University where she has just completed her thesis on Life as a History and the Subjective Element of an Offence in Pre-implantation Genetic Diagnosis. She will be visiting Innogen from the end of the year until February 2007
- Siguang Zhang, visiting research student from the Institute of Policy and Management of the Chinese Academy of Sciences



AlumniSTS

Mikel Olazaran graduated with a PhD in the sociology of science and technology from the Department of Sociology of the University of Edinburgh in 1991. He worked in the Public University of Navarre (Pamplona, Spain) until 1994. Since 1995 he has been lecturer of Sociology in the University of the Basque Country (San Sebastian, Spain) where he teaches at undergraduate and post-graduate levels on "Science, Technology and Society", "Sociology of Organizations", and "Sociology of Education". In recent years he has done research on R&D policies and systems (especially regional systems) and organisational change.

From 1999 to 2002 he participated in the PRECEPT project ("Process Re-engineering in Europe: Choice, People and Technology", Targeted Socio-Economic Research, TSER, DGXII, European Commission) as co-ordinator of the Spanish team with Christian Clausen (DTU, Denmark) as the project co-ordinator and Robin Williams as co-ordinator of the Scottish team.

Mikel has recently published the following papers related to the PRECEPT project:

- "BPR and change management: a case study of a large Spanish Electricity Company", *International Journal of Innovation Management*, 8/4, 355-379, 2004. (with Eneka Albizu and Katrin Simon)
- "Re-engineering and organizational change in Irizar S. Coop.", *Total Quality Management*, 16/2, 135-155, 2005. (with E. Albizu and K. Simon)
- "BPR implementation in Europe: The adaptation of a management concept", *New Technology, Work and Employment*, 21/1, 43-58, 2006. (with E. Albizu)

Currently he is working on a research project about knowledge creation, application and innovation in SMEs.

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Research News

Innovation in Marine Energy: Firms, Networks & Governance

Climate change mitigation is now recognised as a key driver of energy policy internationally, and the UK Government has signalled that renewable energy technologies should play an important part in the future development of the UK energy system. As well as being a mechanism for reduced carbon emissions, the planned growth in renewable energy is seen by policymakers and others as opening-up opportunities for industrial development, and there have been a series of recent policy initiatives to promote renewables innovation, both UK-wide and in the part-devolved Scottish context.

Funded by the ESRC and led by Dr Mark Winskel this project ('Building Renewable Energy Innovation Systems') examined enablers and barriers to innovation in marine energy (wave and tidal stream) – a technology identified as having strong potential for industry building, especially in Scotland. Recent policy initiatives have invigorated innovation activity in marine energy, and the UK is one of the more attractive bases internationally for developers. At the same time, the sector faces a number of challenges – technological, economic and institutional. To understand these, the project addressed firm-level innovation processes, industry and research networks, and technology policy and governance. Its key findings were:

- Marine energy innovation in the UK is being driven by small commercial firms who rely on private finance (alongside public support) and intellectual property. Larger power companies, and the wider structures and institutions of the energy system, are only weakly engaged in long- term innovation. As a result, device developers are under short-term financial pressures – presenting a danger of pre-emptive upscaling and a 'rush to market'.
- There are powerful institutional barriers to transferring many of the 'success factors' behind renewables development in other countries, such as learning-by-interacting, or the dissemination of data on device performance. Even though marine energy device developers recognise a common interest in collaborative learning, they are restricted by their financing and business strategy. Nevertheless, there is a significant amount of partnership in the sector, especially in more intimate single-developer centred business and academic relationships. Engagement in larger networks, spanning multiple developers and university groups, is more problematic for many developers.
- Increased policy support for marine energy in the UK has stimulated a significant expansion of innovation activity. This has led to a diversity of wave and tidal stream developers, at various stages of development, under different degrees of financial pressure and commercial opportunity. The presence of several overseas-based marine energy developers in the UK suggests that – despite the challenges it presents to long-term innovation – Scotland and the UK is providing a relatively attractive environment for the technology in the wider international context.

This is an extract from a forthcoming Innovation Brief from the Sustainable Technologies Programme. The research team from the University of Edinburgh comprised Dr Mark Winskel and Prof Robin Williams, Research Centre for Social Sciences; Dr Andy McLeod, Centre for Environmental Change and Sustainability; and Dr Robin Wallace, Institute for Energy Systems.

For further details see www.sustainabletechnologies.ac.uk/Projects/renewables.htm

Conference Report: Information Infrastructures and Architectures

The conference on Information Infrastructures and Architecture, held in Edinburgh in September 2006 and organised by Prof. Robin Williams, provided a conducive environment for academics and practitioners to discuss social science issues emerging from the new information infrastructures / architectures movements in the software industry. Amongst the participants were researchers from different European Universities as well as practitioners from IBM UK and SAP Canada.

One of the main points discussed was the architectural developments facilitated by established communication technology such as the Internet. Internet technology and standards enable software providers to develop more flexible applications and at the same time facilitate the idea of offering outsourced on demand solutions (i.e. "SAP by the hour") to a degree which was not feasible in the 90s. The architecture making this possible is known as Service Oriented Architecture (SOA). The idea of SOA to break down big bulky systems into a loosely coupled set of services is not new, however, due to missing standards and internet technology, it couldn't be realised earlier.

Re-designing their system in direction of SOA allows companies such as SAP, to provide more flexible solutions by offering various special services rather one big bulky black box. In turn, companies active in the outsourcing market providing SAP on demand, such as IBM, are then able to offer more precisely defined products to their customers.

Both approaches, IBM efforts to offer "SAP on demand" for customers not wanting to invest in a complete CRM solution running in their own system environment, as well as SAP's efforts to develop more flexible and easier to implement solutions are strongly influenced by the further developments around SOA. We expect the impacts of this architectural change, to radically transform the way we buy run and use big enterprise systems.

Social Science research into the application and implications of Information and Communications Technologies tends to lag behind technological development. With this conference, the participants made one more step forward to overcoming this gap by exchanging cross disciplinary views on new system architecture and engaging in discussions with the main players in the software industry.

We will follow up this event and consolidate this emerging network by contributing to a special edition on e-infrastructure in JAIS, the Journal of the Association for Information Systems, in collaboration with Geoff Bowker and other US colleagues.

The Surveillance Society

Charles Raab (Politics/SSPS) has co-authored the Surveillance Studies Network's 'Report on the Surveillance Society', which was commissioned by the UK Information Commissioner and launched on 1st November at the 28th International Conference of Privacy and Data Protection Commissioners in London. The report aims to stimulate a debate on the effects of surveillance on individual privacy and, more broadly, on society in the UK and elsewhere. 'Social sorting', discrimination, and the unequal treatment of persons and categories, are among these effects, but so too are the ability to prevent and detect crime and terrorism, and to provide better public services. In assessing these effects, and in projecting scenarios of daily encounters with surveillance in everyday life in 2006 and 2016, the report also questions the effectiveness of existing regulatory laws and systems in the face of this 'new surveillance' in which new technologies are put to novel surveillant purposes by private business and the state. There has been a great deal of publicity surrounding the report, in all media and in a large number of countries, so that a debate has truly begun over these issues. Accompanying the main report, which is fully referenced, are the supportive appendices, describing surveillance in nine domains, and a bibliography. There is also a public discussion document drawing upon the main report. These documents, including a summary report, are available (some of them in French, German and Spanish, as well as English) at:

www.privacyconference2006.co.uk/index.asp?PageID=10

Branded Meeting Places

Ubiquitous technologies and the design of places for meaningful human encounter

Meetings are now less constrained to offices, shops and fixed points of service, and can take place in a range of environments, including branded places: coffee houses, transportation hubs, customised meeting places, and informal, locally-branded spaces.

People are drawn to places that have particular meanings as loci of human encounter. Communications technologies are implicated in this move into the variegated brandscape.



This project, funded by AHRC/EPSRC and building on ISSTI's previous 'Non-Place' project, will gather evidence for these assertions about the rise of branded meeting places, examine the suitability of branded spaces for human encounters (e.g. meetings amongst business associates, between service providers and clients), and develop strategies for improving the technologies that support them. In the process we will critically examine and analyse branded spaces, theories about their formation, and how they operate as loci of human encounter.

The research team includes:

Richard Coyne Architecture, School of Arts, Culture and Environment

Robin Williams, Research Centre for Social Sciences

James Stewart, Research Centre for Social Sciences

Mark Wright, School of Informatics

For further details see <http://ace.caad.ed.ac.uk/branded>

Chinese-European STS Group

We have recently established a Chinese-European Science and Technology Studies Group at Edinburgh University as a first stage in our longer-term plan to establish a network and gateway for STS researchers between China and UK/Europe.

A new website, as part of the ISSTI web-suite, with short summaries of Chinese research projects currently underway at ISSTI is being developed and the group held its first workshop in early December where Edinburgh colleagues and visitors were invited to present papers around the theme of Science and Technology in China today: challenges for analysis and for policy.

For further details see www.issti.ed.ac.uk/chinaeurope

ISSTI Interdisciplinary Masterclasses

A new grant under the ESRC's Researcher Development Initiative (RDI) aims to improve the practice of interdisciplinary research between the social and natural sciences. Drawing on ISSTI's extensive experience in interdisciplinary research practice, Catherine Lyall and colleagues will be seeking to formalise and codify researchers' approach to the promotion, management and evaluation of interdisciplinary research and to share this knowledge with the wider ESRC research community. A range of masterclasses – the ISSTI Interdisciplinary Masterclasses – will be developed with two distinct targets, aimed towards (i) post-doctoral researchers, giving them the tools they require to lead successful interdisciplinary project teams and (ii) towards graduate students embarking on interdisciplinary projects for the first time, as well as producing a handbook for conducting interdisciplinary research. For further information about the RDI see www.rdi.ac.uk



World Knowledge Forum

Joyce Tait attended the World Knowledge Forum in Seoul, South Korea in October 2006. The Forum was organised by Maeil Business Newspaper (the Korean equivalent of the Financial Times) around the theme of the "Creative Economy". Approximately 1,500 participants attended the conference and Professor Tait contributed to the session on "Managing Risk in a Creative Society", organised and chaired by Donald Johnston (Chair of the Board of IRGC and recently retired Secretary General of OECD), along with KunMo Chung, President of Myongji University. For an English translation of the local press coverage see

http://ics1.mk.co.kr/icsList80.php?community_cd=mf500

http://ics1.mk.co.kr/icsView80.php?community_cd=mf500&biz_cd=&no=163&field=&key=&start=0

The Scene: the Social Sciences in Scotland

ISSTI exhibited at the launch of The Scene: the Social Sciences in Scotland, a new ESRC publication promoting the broad spectrum of ESRC related activity in Scotland. The event was organised by the ESRC and Office of Chief Researcher at the Scottish Executive.

For further information see www.tlrp-archive.org/cgi-bin/tlrp/projects/projects_log.pl?display=1162989283

Seminars

Activity Theory and Science and Technology Studies

Sampsä Hyysalo, Visiting Researcher from the University of Helsinki, gave his seminar entitled "Activity Theory and Science and Technology Studies" on Monday 4 December. (This was in place of the scheduled seminar from Professor Michel Callon which had, unfortunately, had to be postponed but will hopefully be rescheduled for 2007.)

Activity theory (AT) is a framework for analysing and redesigning work, technology and organisation. Originating in the work of Russian psychologists in 1920s, this "practice theory" offers a set of useful insights for STS studies.

The talk elaborated its basic facets and its key insights for some STS themes, including:

- adoption and change of organisational and technology-related routines, where AT offers an analytic on interrelations between routinised operations, relatively short-lived goal oriented actions and more durable and slow changing collective activities.
- socio-technical promises and motivation, where notions such as object of activity and practice bound imaginary complement and draw together other STS work.

studies on learning taking place within and across organisations, often connecting individual, collective and technology embedded aspects of learning. Particular emphasis is placed on studies on design-use relation, and the tensions and contradictions that tend characterise it.

Our 2007 seminar programme begins with Professor George Ellison (Health Sciences, University of London) on 8 January followed by Professor Knot Soerensen, NTNU - Norwegian University of Science and Technology - on 22 January. For further details see www.issti.ed.ac.uk/events

Forthcoming Events

New Drugs, New Benefits – The future of biopharmaceuticals

Innogen is hosting an event at the Edinburgh International Science Festival 2007, 2-15 April. Take a step into the future and imagine a consultation with your doctor. Your condition is diagnosed using laser diagnostic technology. You hand over your swipe card on which your individual genome has been digitally recorded. Within seconds your doctor has produced a customised treatment plan tailored to your genetic make-up. Personalised medicine has become a reality. But is personalised medicine all good news?

What are the risks? How will it be regulated? What opportunities will it provide? Do we need it? How much will it cost? How will developing countries keep up? Professor Joyce Tait, Director of Innogen, will introduce Dr Allen Roses, Senior Vice President of Genetics Research at GlaxoSmithKline, North Carolina to give us an insight into medicines of the future and lead an audience-based discussion on the issues raised by this exciting scientific breakthrough. This will culminate in the audience participating in digital voting to ascertain audience opinion. The event will also be available as a pod-cast and video-streamed onto the Innogen website.

Check EISF programme or www.innogen.ac.uk for further details nearer the time.

Professional Development Course

Innogen is running a professional development course, *Life Science Companies: Managing a Turbulent Future*, on the 25-27th April 2007 in Edinburgh. Topics covered will include Innovation Processes, Policy Regulation and Governance and Stakeholder powers and Governance. Contact Julie Hamilton on julie.hamilton@ed.ac.uk for further details or to register.

Other Research News in Brief...

- Dr James Mittra and Professor Joyce Tait have been contracted by the OECD to prepare a case study of Scotland's recently established Translational Medicine Research Collaboration (TMRC); a broad-based and complex public-private initiative to exploit translational research activities to improve the health innovation cycle. James Mittra presented the case study at an OECD expert workshop in Paris and the study will also be included in a forthcoming OECD Report
- Dr Lawrence Dritsas has been awarded a two-year Leverhulme Early Career Fellowship, based in the Science Studies Unit where he will work on "Science in the Central African Federation, 1953-64"
- Matt Harsh, PhD student in RCSS, has won an ESRC postdoctoral fellowship which he will hold in the ESRC Genomics Policy and Research Forum
- Dr Jane Calvert, currently Research Fellow at the ESRC Egenis Centre at the University of Exeter, has been awarded the RCUK fellowship in socio-economic aspects of translational research and will take up her post in Edinburgh in summer '07
- Professor Robin Williams's paper 'Compressed foresight and narrative bias: pitfalls in assessing high technology Futures' has been published in a special issue of *Science as Culture: (Re)Imagining Nanotechnology*
- Following the very successful Innogen Annual Conference 2006: *Genomics for Development? The Life Sciences and Poverty Reduction* held in September, the conference report and papers are available for download from www.innogen.ac.uk/events/annual-conference