

ISSTI Newsletter

THE INSTITUTE FOR
THE STUDY OF SCIENCE
TECHNOLOGY AND INNOVATION



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Welcome

In this issue we welcome two new colleagues – Dr Jane Calvert and Dr Jennifer Smith – and say hello (and good-bye) to a number of research visitors to ISSTI. It is particularly pleasing to be able to announce the award of one of AIM's keenly-fought fellowships to Dr Luciana D'Adderio, recently announced in the Financial Times, and to report on Dr Wendy Faulkner's work on gender and engineering which was recently quoted in *The Higher*.

After a flurry of European Union Framework 7 funding applications, we are now busy launching two new postgraduate courses – in translational medicine and science and technology policy and management – and have news of a number of events planned over the summer and early autumn, including the ESRC Genomics Network's 1st international conference *Genomics and Beyond*.

Making Innovation Dependable: AIM Fellowship award



ISSTI researcher, Dr Luciana D'Adderio, has been awarded one of only seven Innovation Fellowships from the UK Advanced Institute for Management Research.

The Fellowship – titled "Making Innovation Dependable (MIND): Validating Complex Technologies across the Network Organisation" – proposes a programme of work investigating the challenges to "dependable innovation" in the context of the network organisation and modular technology production. As part of her AIM Fellowship Luciana will create an international and interdisciplinary network including high profile scholars from leading US, UK, French and Italian institutions as well as a number of industrial and policy-making organisations.

AIM Research is funded by the ESRC and EPSRC and was launched in November 2002. AIM's mission is to improve understanding of management's contribution to organisational performance, and thus UK well-being.

For more information contact
L.D-Adderio@ed.ac.uk or see
www.aimresearch.org



ISSTI staff enjoyed a productive retreat in Kelso in April (see page 2)

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Staff and Visitors

Edinburgh Invests in ISSTI programme

We are pleased to announce that Dr Stewart Russell, who joined the Research Centre for Social Sciences as Deputy Director last July on a one year contract (see ISSTI Newsletter No. 3), has had his post made permanent. He has been running the Centre while Robin Williams has been on research leave in Beijing and has led the development of our new MSc in Science and Technology Policy and Management. He brings with him a wide range of research interests and experience across many areas of Science and Technology Studies and has been developing ISSTI's activities in the area of energy and environmental technologies.

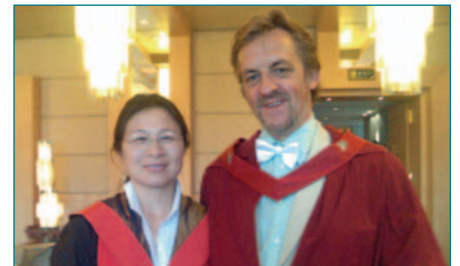
This is the latest in a series of important investments made by the University of Edinburgh's School of Social and Political Studies to support the development of the research and teaching activities of the Institute for the Study of Science, Technology and Innovation. They have recently also created three part-time lectureships which will help sustain three of our career research fellows and their significant contributions to postgraduate training and supervision. Robin Williams, Director of RCSS/ISSTI, said "These exciting appointments will allow us to plan the longer development of the ISSTI research programme and pursue a closer relationship between research and teaching".

Congratulations also go to colleagues Ann Bruce and Dr James Mittra who have both been promoted to Senior Research Fellow and to Dr James Smith and Dr Steve Sturdy who have been promoted to Senior Lecturer.

From our China Correspondent

Robin Williams reassures us that he is working hard in Beijing where he and Xiaobai Shen have been teaching classes of enthusiastic postgraduate students and helping to build capacity amongst the next generation of Science and Technology Studies scholars in China. While he has been visiting Professor at Tsinghua University Robin has given presentations to Tsinghua University, Institute for Science, Technology and Society; Peking University, Centre for Science and Society; Beijing Institute of Technology; the Chinese Academy of Sciences, Institute for Policy and Management (IPM); and the Chinese Academy of Social Sciences. In addition, he has developed an international research collaboration with Tsinghua and IPM examining China's new strategies for information technology standardisation.

Robin and Xiaobai took part in a delegation of thirty colleagues from the University of Edinburgh to Peking University in a bid to set up a strategic alliance between the two. In a ceremony in the State Guest House (where Mao used to receive visitors), the University of Edinburgh awarded an honorary doctorate to Professor Nanshang Zhong, an Edinburgh Alumnus who isolated the SARS virus.



Xiaobai Shen and Robin Williams



Robin Williams at Peking University Research Centre of Science & Society with Prof Dr Guosheng Wu, vice director.

Kelso retreat

Some thirty ISSTI members spent a couple of enjoyable and productive days in April at the 2007 ISSTI Retreat at the Cross Keys Hotel in Kelso in the Scottish Borders. Guests Maureen McNeil, Lancaster University, and Nik Brown, University of York, gave keynote talks – Maureen on feminist cultural theory and STS, and Nik on the sociology of expectations. ISSTI's Donald MacKenzie brought the audience up to date on the brave new world of carbon markets, and Graham Spinardi outlined his work on the latest incarnation of missile defence systems. Stewart Russell and Steve Yearley looked at different innovative exercises in public engagement on science and technology issues. Sessions led by ISSTI postgraduates covered ethnographic work in STS, development issues, and historiographical problems around case studies in the history of science. The lively discussions showed many shared themes and concerns across diverse areas of work.

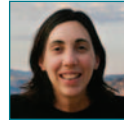


Jane Calvert

Dr Jane Calvert joins ISSTI in July 2007 to take up an RCUK Fellowship in translational research.

After an interdisciplinary undergraduate degree in Human Sciences at Sussex and a Master's in the Philosophy of Science at LSE she did her doctoral work at SPRU (Science and Technology Policy Research, University of Sussex) on the idea of 'basic research', and developed a strong interest in the sociology of science. She then worked at SPRU on projects concerned with biotechnology policy and the commercialisation of university research. She left Sussex in 2002 to join the newly established ESRC Centre for Genomics in Society (Egenis) at the University of Exeter – one of Innogen's sister centres.

She has spent 5 years at Egenis, and has become interested in the insights that the philosophy of biology can bring to the social study of genomics. Her initial work at Egenis focused on intellectual property issues, showing that ideas about the nature of genes and genomes have implications for patentability. In the last couple of years she has been studying 'systems biology', focusing on the epistemic aspirations of this emerging field. She is looking forward to working on translational research, which takes her back to her PhD work on the use of policy and scientific categories, and which, she hopes, will enable her to combine her interests in both science and technology studies and science policy.



Jennifer Smith

Dr Jennifer Smith arrived in Edinburgh on 1 April to research mental health policy in Scotland. Jen is employed as a Research Fellow under a grant held by Richard Freeman (Politics, Principal Investigator) and Steve Sturdy (ESRC Genomics Forum, Co-investigator), as part of a 4.2M European Framework 6 consortium studying the role of knowledge in European education and health policy. Jen's research will look at how different kinds of knowledge – formal and tacit, expert and lay, technical and social – are mobilised in the formation and implementation of Scottish mental health policy, and will be an important contribution to the consortium's project of comparing knowledge/policy relations across different policy sectors and different jurisdictions.

Jen comes with a background in science and technology studies in relation to health policy. Her PhD (University of Queensland, 2005) examined Australian proposals to legislate to restrict access to reproductive technologies. Her postdoctoral research at the University of Sydney, included projects on the ethics of policy making for reproductive and gene-based technologies, sensory impairment, mental health and health workforce regulation. Her arrival in Edinburgh adds to our already strong community of researchers studying the role of scientific and other forms of expertise in health policy. Jen is based in the ESRC Genomics Policy and Research Forum and can be contacted by phone at 0131 651 4797, or by email at J.L.Smith@ed.ac.uk

Visitors

ISSTI welcomed two distinguished Korean visitors in April. Professor Won K Kim (left) has recently established the Institute for Science, Technology & Society at Myongji University. Professor Dong Chun Shin (right) is the Director of the Institute for Environmental Research at Yonsei University, and is expanding the work of the Institute from its basis in epidemiology to deal increasingly with social and policy aspects of environmental issues in Korea. Both visitors were keen to hear of ISSTI's experience in interdisciplinary research on STS and environmental issues.



Over the summer we will welcome Professor Eric Monteiro (Norwegian University of Science and Technology) who will visit ISSTI for around 8 months and Dr PRMP Dilrukshi (The National Science Foundation, Sri Lanka) who expects to be here for 4 months. We will also have a number of visiting postgraduate students:

- Ms Concha Pinero, Universidad Autonoma de Madrid (4 months)
- Ms Constance Sommerey, University of Maastricht (4 months)
- Ms Fang Fang, Hunan University (12 months)

We will shortly be saying good-bye to Dr Byung Sang Hwang (Korea Basic Science Institute) whose year with us concludes in June.

Research News

Genders in/of engineering

This ESRC-funded research project was conducted by Dr Wendy Faulkner of the Science Studies Unit. It was prompted by both scholarly interest – in apparently durable 'equations' between masculinity and technology – and by policy concerns – about the continued predominance of men in professional engineering. Unlike much previous research on the topic, its focus was not on women engineers per se but on engineering as 'communities of practice', including men engineers as well as women. By bringing a 'gender gaze' to engineering practices, cultures and identities, it sought to reveal any subtle or 'taken-for-granted' gender dynamics operating: are these more comfortable to, and supportive of, (more) men engineers than women engineers?

The research design sought to conduct detailed investigations of engineers and their work, combining ethnographic methods of observation (through job shadowing) and interviews, principally in three sectors: software development, oilfield services and building design.

The central scholarly contribution of this work lies in the detailed evidence about how gender is performed and constituted as an integral part of 'getting the job done', and of the complex processes of 'becoming' and 'belonging' in engineering communities of practice. A second overarching theme is a trenchant critique of the conventional gendering of the technical/social dualism. Time and again, people's talk 'performs' these stereotypes, but their actual practices and identities diverge. The research found no empirical evidence for the common claim that women engineers have better people skills than men engineers. (See article in *Social Studies of Science*, 2007, 'Nuts and Bolts and People', Vol 37, No.3.)

On a policy level, the study points to several areas where 'culture change' is needed in engineering:

- Much could be done to improve the process of 'becoming' an engineer, and so increase the retention of both women and men engineers – through good practice in engineering education and in the support of junior engineers at work.
- If the engineering profession is to overcome its image problem, it must break down stereotypes about gender and about engineering. The profession must also promote and celebrate a 'broad church' image of engineering – as social as well as technical, with room for diverse 'types' of people – if it is to attract and keep talented people in engineering.
- Employers must nurture more inclusive workplace cultures if engineering is to be more welcoming to women. There is a crying need for sensitive and sustained efforts to increase awareness amongst engineers about the numerous subtle gender exclusive and inclusive dynamics operating in engineers' everyday interactions at work.

These findings have been extremely well received by practitioners and policy makers. In November 2005, Dr Faulkner gave a public webcast lecture at the Open University on engineering workplace cultures. In December 2005, a policy workshop was held with an invited group of 15 practitioners – from women into engineering organisations, engineering companies and professional associations – to discuss preliminary research findings. Participants commented that the study had provided for the first time solid evidence of things they knew to be an issue (a great endorsement of ethnographic research). Following this workshop, the research report was passed to Meg Munn MP, the Minister in the DTI responsible for the Government's work on women in science and engineering which prompted a request for a private briefing with her and DTI staff.

The lectures, full research report and a Research Briefing (launched with help from the UK Resource Centre on Women in Science Engineering and Technology) are all available from Dr Wendy Faulkner w.faulkner@ed.ac.uk

Learning through ICTs in social movements: the environmental justice movement in Scotland

Much is already known about the three main strands of this new, recently funded ESRC study: learning, information and communication technologies (ICTs) and social movements. On the other hand, very little is known about what happens when these three elements come together. Specifically, the research is concerned to identify how knowledge is constructed, generated, critiqued and exchanged through the use of ICTs in social movements, and to clarify how this sustains and develops the identities of ICT users as movement-activists and influences their actions. There is also an interest in the role of ICTs in attracting participation in movement activity, and in assessing its influence on the degree and quality of people's engagement. The study focuses on the development of an environmental justice movement in Scotland which provides an opportunity to examine the process of learning in, from and for social action. The research involves two local case studies, urban and rural, and one national case study of Friends of the Earth Scotland. Qualitative research methods are being used with a sample of active participants in the case studies. Additional data are being generated through an online survey using the Friends of the Earth Scotland's website.

For further information about this project contact the principal investigator, Dr James Crowther jim.crowther@ed.ac.uk or the project researcher, Dr. Akiko Hemmi akiko.hemmi@ed.ac.uk

Life Science Industries: Managing a turbulent future

The first offering in the Innogen Executive Development Programme was held on 25-27 April at the Scotsman Hotel in Edinburgh. Delegates from the pharmaceutical industry, local government and government agencies attended. Speakers included representatives from the pharmaceutical industry, the FDA, the EMEA, Tufts University, the Genetics Interest Group and Innogen. The course comprised seminar style presentations, debates, discussion and case studies and was judged to be a great success by all those that attended: insightful discussion, high quality speakers and networking opportunities were particularly commended. We hope to run the course again with tailored versions for other organisations or different audiences, such as PhD students, in the future, so check the Innogen website for details www.innogen.ac.uk/events

Climate Change Network in the Humanities and Social Sciences

The Climate Change Network has been established to bring together expertise on environmental and climate change within the College of Humanities and Social Sciences as well as related subjects within the University of Edinburgh. It includes scholars who are involved in climate change research as well as people looking to develop new projects. The Network is coordinated by Edinburgh Research and Innovation (ERI) and aims to encourage interdisciplinary collaboration and increase the funded research activity in the field. At the panel debate launching the network on 19 April the following themes for further research were identified:

- Critique of how the problem of climate change is framed and the "obvious answers" suggested
- Studies of the development and introduction of new technologies and "technical fixes".
- Regulation, harmonisation and the legal framework
- The North/South dimension of Climate Change

These as well as other themes will be followed up in workshops in the spring and autumn. Information will be posted on the website. For further information see www.hss.ed.ac.uk/climatechange or contact a.s.laegran@ed.ac.uk

Online Postgraduate Study in Translational Medicine

Innogen colleagues, James Mittra and Joyce Tait (right), have been involved in developing a new e-learning course in Translational Medicine being co-ordinated by Douglas Roy in the College of Medicine and Veterinary Medicine's Division of Pathway Medicine.

This is the first on-line programme of its kind and will highlight the interdependence of medical, scientific, regulatory and societal components of Translational Medicine, with experts in each of these areas contributing to the programme content. The principles are applied in real-life examples of cutting-edge research, using multiple information sources and teaching media.

Translational Medicine is a rapidly emerging discipline focused on bridging technologies and discoveries in the laboratory with their application in clinical research and practice. Understanding Translational Medicine is crucial for all professionals involved in research from 'bench to bedside'. The same principles apply in the academic, biotech and pharmaceutical environments.



At the end of the programme, students will be able to envisage the pathway of research from cloning to clinic, and the deployment of many state-of-the-art tools. The programme will appeal to a broad range of clinicians, scientists, paramedical researchers and regulators in academia, biopharmaceutical, policy and healthcare sectors. For many it will provide an alternative to, or high quality preparation for, a MD or PhD. For others it will provide substantial benefit to their employers. This new online programme will be launched in September 2007. www.transmed.ed.ac.uk

Jane Calvert (see page 3) will also contribute to finalising the Innogen components of this course when she joins us in July.

ISSTI's new **MSc in Science and Technology Policy and Management**, which also starts in September 2007, is still open for applications

Offering two specialist routes through the degree – ICT and life sciences – this MSc will provide a comprehensive introduction to policy and management issues in science, technology and innovation, and approaches for analysing them and intervening in them. For more information see www.issti.ed.ac.uk/index.php?theme=study&page=STPM or contact the Programme Convenor, Dr Stewart Russell, +44 (0)131 650 6396, stewart.russell@ed.ac.uk

Share and share alike, anything but my genome...

Dr Allan Roses, Senior Vice President of Pharmacogenetics, GlaxoSmithKline USA gave a talk on 'Personalised Medicine – the future of biopharmaceuticals' on behalf of Innogen as part of the Edinburgh International Science Festival in April 2007. Dr Roses spoke about the ethical issues surrounding disease diagnosis, the risk/benefit debate of the efficacy of pharmaceuticals vs. side-effects and the role of genome scanning in the development of medicines in the future. Dr Roses managed to persuade over 90% of the audience that information about your genetic profile should be given to commercial companies. At the start of the talk only 19% of the audience agreed but Dr Roses argued that the only way to ensure that targeted pharmaceuticals could be developed for your genome in the future was to share information about your genetic material. The seminar will be available to view on the Innogen website soon www.innogen.ac.uk



Forthcoming Events

PhD Work in Progress Day

The annual STS Work in Progress conference will take place on Wednesday 13 June in the Adam Ferguson Building (room G10). ISSTI postgraduate students will be presenting on topics that include the construction of medical knowledge about abortion by Scottish GPs; the emergence of yellow fever as a distinct disease in Columbia in the 1880s; the socio-philosophy of technological artefacts; and Victorian debates about alcoholism conducted in the journal *Eugenics Review*. All ISSTI members are welcome to join us for what promises to be a day of varied and interesting presentations.

Book Festival

The ESRC Genomics Forum will be organising five events under the heading "Genes and Society" for the Edinburgh International Book Festival in August.

See www.genomicsforum.ac.uk/default.aspx?pagelid=134 for details in due course.



Genomics and Beyond...

The UK's Economic and Social Research Council's (ESRC) Genomics Network (EGN) is holding its 1st international conference, Genomics and Beyond, in Westminster, London, on Thursday 25 and Friday 26 October, 2007. The conference marks the transition between phase I and phase II of the EGN's funding and research programmes – it will showcase 5 years' worth of original EGN results and take a forward look to new key questions at the intersection of science and society.

Genomics and Beyond will be opened by a high profile international guest speaker and Thursday's programme includes the presentation and discussion of key EGN research results by the Directors of CESAGen, Innogen and Egenis. Friday features policy engagement sessions involving researchers and stakeholders, chaired by Professor Ian Diamond, Chief Executive of the ESRC, and Chairman of Research Councils UK. A draft conference programme will be available in the next couple of weeks, as well as a dedicated web space giving you the latest conference information, travel and accommodation options and an online booking facility. Meantime, if you need further information, please contact genomics.forum@ed.ac.uk

First Postgraduate ISSTI Interdisciplinary Masterclass

The first ISSTI Interdisciplinary Masterclass (see ISSTI Newsletter No. 6) for postgraduates will be held in Edinburgh, 3-5 December. This workshop will be open, in the first instance, to any ESRC-funded postgraduate students who are engaged in interdisciplinary research (including students who are funded via cross-council initiatives). There will be no charge for this event, which will include accommodation, but attendees must be able to cover their own travel expenses. Further details are available from www.rdi.ac.uk/aboutproject.asp?MODE=PROJECT&PID=24 and the workshop programme will be available in the autumn.

As places will be limited to 25, participants are encouraged to contact c.lyall@ed.ac.uk to register an early interest in attending the workshop.

Two short guides to developing and reviewing interdisciplinary research proposals, written by Catherine Lyall and her colleagues, are also now available from www.rdi.ac.uk/aboutproject.asp?MODE=RESOURCES&PID=24

Seminars

In May, Professor Peter Zimmerman, from King's College London, gave an ISSTI seminar on 'Nuclear Terror: How Can it Happen, and How Can it be Deterred?' Peter Zimmerman is Professor of Science and Security in the Department of War Studies at King's College and is a member of the governing board of the Council of the American Physical Society. He was formerly Chief Scientist, U.S. Arms Control and Disarmament Agency.

Our seminar series will be taking a break over the summer months and will recommence in September – see website for future details www.issti.ed.ac.uk

Innogen Studentships

The ESRC Innogen Centre is still inviting applications for PhD study (ESRC funded 1+3 and +3 PhD studentships) as part of the strategic goal of advancing social, economic and technical research capacity in genomic and post-genomic advances. Although the advertised closing date for application was 1 June 2007, exceptional candidates may be considered at any time www.innogen.ac.uk/News/Innogen-News/Studentships-available

AlumniSTS



After completing her PhD in the Science Studies Unit, Abigail (Abi) Barrow moved to San Diego to work for the CONNECT programme at the University of California, San Diego (UCSD). She stayed at CONNECT for eleven years, working in a variety of roles – ending-up as the Director of Programmes and overseeing all operations. CONNECT supports early stage technology companies, helping them find start-up resources. CONNECT, and several of the activities she developed and implemented, became recognised as models for supporting early stage companies and increasing interaction between academic researchers and industry. CONNECT has been copied across the US and in seventeen countries – including Scotland.

From CONNECT, she was recruited to be the Managing Director of a new commercialisation centre and the entrepreneurship education programme in the School of Engineering at UCSD and worked there for three years.

Three years ago, she moved to Boston where she was appointed the founding Director of the Massachusetts Technology Transfer Center – a state-funded group working with all Massachusetts universities, research hospitals, and labs (with a combined research budget of \$5.5 billion) to support technology transfer to both new and existing companies.

Abi's current job entails active involvement in the development of regional policy supporting technology-based economic development. She chairs the Board of the Massachusetts Office of International Trade and Investment and is a Fellow of the Beyster Institute – a UCSD institute that promotes employee ownership. In the course of her work in San Diego and Boston, she has been invited to consult with technology-development enterprises around the world, including Vladivostok, Toulouse, Leipzig, Stockholm, Toronto, and New Delhi. www.mattcenter.org

AlumniSTS *cont.*



PhD graduate Antonios Kaniadakis (PhD 2006, The Agora of Techno – Organisational Change), who returned to Crete to complete his military service, has sent us this recent photograph of himself.

Other Research News in Brief...

- Ann Bruce has recently published a chapter on "The public domain: ideology vs. interest" in *Intellectual Property: The Many Faces of the Public Domain* edited by Charlotte Waelde and Hector MacQueen and published by Edward Elgar
- Professor Charles Raab has been appointed as the Specialist Adviser to the House of Lords Select Committee on the Constitution for their Inquiry on the Impact of Surveillance and Data Collection upon the Privacy of Citizens and their Relationship with the State www.parliament.uk/documents/upload/CFE%20Final.doc
- Professor Graeme Laurie, an Innogen collaborator based in the School of Law, has been elected a Fellow of the Royal Society of Edinburgh
- Dr Stephen Bates, who has been working on the ESRC Stem Cells project, will be leaving us in July to take up a lectureship in the Department of Political Science and International Studies at the University of Birmingham
- Professor Joyce Tait has accepted an invitation to speak at the 13th International Biotechnology Symposium in Dalian, north-east China in October 2008. The overall theme of IBS 2008 is "Biotechnology for the Sustainability of Human Society" and this high-profile, international event will help to consolidate further Innogen/ISSTI's top-level links with China www.ibs2008.org
- The DIRC project (Interdisciplinary Research Collaboration in Dependability) which included partners from the University of Edinburgh has achieved an "Outstanding" grade in its end of award evaluation www.dirc.org.uk
- Professor Joyce Tait has been re-appointed to the Scientific and Technical Council of the International Risk Governance Council for a further three years
- A paper by Neil Pollock, Robin Williams and Luciana D'Adderio entitled "Global Software and its Provenance: Generification Work in the Production of Organizational Software Packages" has been published in the journal *Social Studies of Science* <http://carlin.lib.ed.ac.uk:2065/eAccess/viewAbstract.do?articleID=31760354>
- A special issue of *Technology Analysis & Strategic Management* on the Evolution of the Life Science Industries, which includes papers authored by Catherine Lyall, James Mittra and Joyce Tait and was edited by James Mittra and Robin Williams, is now available at www.informaworld.com/smpp/title~content=g778760146~db=all
- We welcome the arrival of Gill Haddow's baby girl, Paige, and offer our warm congratulations to colleagues Graham Spinardi and Anne Sofie Laeگران who were married in Italy last month – a happy outcome of international research collaboration!