

ISSTI

THE INSTITUTE FOR
THE STUDY OF SCIENCE
TECHNOLOGY AND INNOVATION
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newsletter

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Engineering Life: Jane Calvert secures prestigious European Research Council award for work on Synthetic Biology

Dr Jane Calvert, Reader in Science, Technology and Innovation Studies, has been awarded a European Research Council Consolidator grant of approximately €1.5M.

In September 2014, Jane Calvert, Emma Frow and Pablo Schyfter will start working on the project called 'Engineering Life'. The project's two objectives are: to investigate the movement of ideas, practices and promises from engineering into the life sciences, and to examine the ways in which social scientists are being mobilised as part of this endeavour. The grant builds on STIS work on synthetic biology conducted by Jane, Emma and Pablo over the last 5 years. The project also has an attached PhD studentship, and it will employ a postdoctoral researcher.



Regular Features

Grants and Awards	2
News	3
Recent/Upcoming Events	5
Community	8
Recent Publications	10

Postgraduate scholarships available
- page 5

Valuation as a Practice Symposium report
- page 6

Barry Barnes: Rationality as the power to rationalise
- page 7

Social Dimensions of Epigenetics

Dr Martyn Pickersgill, Wellcome Trust Senior Research Fellow in Biomedical Ethics, has been awarded further funds from the Wellcome Trust for a new project on epigenetics.

The study, *Epigenetics, Ethics and Society: Accounting for Responsibility in the Biomedical Sciences*, will consider how key scientists conceptualize and respond to the different ways in which they are 'responsible' to their own research communities and to wider society. Martyn has also received sponsorship from the Royal Society of Edinburgh for a research trip to the

University of Wisconsin-Madison. Relating to his current AHRC, Leverhulme Trust and Wellcome Trust projects, Martyn has this year given, or will be delivering, invited presentations at Madison as well as the universities of Exeter and Lancaster. Beginning this year, he joins ISSTI colleague Jane Calvert as a member of the BBSRC Bioscience for Society Strategy Board.



Dr Martyn Pickersgill

Administrative Data Research Centre

ISSTI members are part of an exciting new initiative The Scottish Administrative Data Research Centre. The centre aims to make de-identified data available for research to advance research and guide the development, implementation and evaluation of policy.

Supported by a c £8 Million award from the UK Economic and Social Research Council the centre will be based at BioQuarter in Edinburgh. See <http://www.edinburghbioquarter.com/nine/>. The project is led by Chris Dibben (St Andrews) and a

lively team of Co-Investigators: Claudia Pagliari, Vernon Gayle, Janice McGhee, Graham Laurie, Ian Deary, John Starr, Julie Taylor, Cristina Iannelli, Susan Mcvie, Sarah Cunningham –Burley, James Reid, Jamie Pearce, Ewan Klein. The centre will:

1. Conduct original research using linked administrative data and important analytical and methodological approaches that support the creation of research useful datasets.
2. Explore important aspects of the legal environment pertaining to the governance and exchange of personal information for research and the social environment influencing the public acceptability of data linkage and reuse.

It will provide state-of-the-art facilities and data management and statistical analysis support to allow academic researchers to access de-identified administrative data for secondary analysis. Other core services include organising the linkage of administrative datasets and provision of training, capacity building, and public engagement.



Crossbreeding STS & Innovation Studies

Though Science and Technology Studies (STS) and Innovation Studies share common roots and concerns, they have tended to diverge in their conceptual frameworks, methodologies and strategies for engaging with policy and practice.

A recent international workshop (7 – 8 December European University, St.Petersburg), convened by Arie Rip and Mario Biagioli, considered the important insights available from applying an STS perspective to innovation studies.

A new research network is being set up: the International Network for Science, Technology and Innovation Studies (INSTIS). For more information see:

[http://innovation.ucdavis.edu/csis-event-in-st.-petersburg-crossbreeding-sts-and-innovation-](http://innovation.ucdavis.edu/csis-event-in-st.-petersburg-crossbreeding-sts-and-innovation-studies)

[studies](#)

A track on this topic will be run at the upcoming EASST conference (17-19th September 2014, Torun, Poland). Contact Robin Williams (R.Williams@ed.ac.uk) if you would like to offer a paper.

New organisation to improve UK coordination in the field of Science, Technology and Innovation Studies

Moves are afoot to establish an organisation or network for UK scholars in the field of Science, Technology and Innovation Studies.

The European Association for Studies of Science and Technology (EASST) has improved coordination at the European level – we also see the resurgence, with EASST support, of various national organisations. Though the UK Association for Studies of Innovation, Science and Technology (AsSIST) has been active since 1996 in representing our field to research and funding councils, it has been a network of research centres in the field of science, technology and innovation studies (STIS) rather than an individual membership organisation. Since then our field has grown enormously, with the emergence of many new centres as well as a growing number of scholars outwith any centre who see themselves as part of a shared intellectual endeavour.

A recent meeting of the British Sociological Association, Science and Technology Studies group provided the occasion for an ad-hoc meeting to consider how to improve coordination. The group

comprising Anne Kerr, Paul Martin, Susan Molyneux-Hodgson, Fred Steward, Andrew Webster and Robin Williams came up with lots of ideas. A summary of our discussions is available here:

<http://tinyurl.com/assist-outline>

A follow up meeting (University of Sheffield, 17th April 2014) involving representatives of a

wider range of centres will consider how best to take these ideas forward on a realistic and sustainable basis. The new network/organisation will be launched at a national one-day conference at the University of York on 30th June 2014.

For more information contact Robin Williams (R.Williams@ed.ac.uk)



Building Links with Korea

Robin Williams and Jane Calvert have returned from a breakneck trip to Korea where they have been developing our linkages with the rapidly growing Korean academic community.

They contributed as social scientists to the 2nd UK-KOR Workshop on Synthetic Biology at the Korean Advanced Institute for Science and Technology (KAIST, Daejeong 20 February 2014). This event brought together UK and Korean scientists in the area of Synthetic Biology, and was organised by the Korea Research Institute of Bioscience and Biotechnology and supported by an award from the UK Department for Business, Innovation & Skills, Global

Partnership Fund.

In addition they presented papers alongside members of the Korean Association of Sciences and Technology Studies at a workshop on Collaboration between Social Sciences and Engineering: How and Why? organised by Dr Buham Soon Park, Director of KAIST Graduate Program of Science and Technology Policy (Daejeong, February 2014).

A packed schedule of productive discussions (aided by wonderful Korean hospitality) provided



Prof Robin Williams

important foundations for longer term collaboration with these groups.

Innogen News

New award on Regenerative Medicine

Innogen's Dr James Mittra and Prof Joyce Tait are part of a team led by Prof Andrew Webster (University of York) that have secured a significant award from the Economic and Social Research Council to study Regenerative medicine and its development and implementation: an analysis of emergent value systems and health service readiness.

The project will examine the regenerative medicine (RM) field, in particular developments in cell therapies, to track the interplay between business models, measures of clinical utility, and patterns of regulatory oversight in order to determine the current and potential impact of the field on health and healthcare systems and how these in turn shape its development.

The specific objectives of the project are to:

Explore emerging subsectors of regenerative medicine (with a primary empirical focus on cell therapies) in the UK, and

determine how they vary according to business, clinical and regulatory models;

map the value creation process across the key subsectors and technologies identified in the Strategy for UK Regenerative Medicine;

derive value chain and innovation ecosystem models that will provide a better understanding of pathways to commercial development and clinical application, and the key enablers and constraints;

identify organisational challenges that the application of regenerative medicine is likely to

create, while at the same time considering how RM will need to respond to changes in the organisation and delivery of healthcare itself; and

in doing so, provide a detailed analysis across all important areas of activity, of how the field of RM is likely to evolve in the UK, what factors will constrain its future development, and how innovation can be supported to enable delivery of societal and commercial benefits.

More details at <http://innogen.ac.uk/news/325>

Upcoming Events



Graduate Workshop: The Science and Art of Analysing Documents: Multidisciplinary Perspectives

17th June, 9am-5:30pm, Conference Room, David Hume Tower

This full-day workshop will bring together students and faculty members who use documents as evidence for their research. The aim is to exchange experiences and methods of document analysis from a wide range of disciplines in the social sciences and humanities, including – but not restricted to – sociology, history, law, informatics, economics, literary studies and political science. The workshop

will comprise short presentations and extended time for discussion, in order to find solutions to methodological problems and points of intersection between complementary analytical frameworks.

Graduate students from any discipline are welcomed to attend and to participate in a poster session over lunch, where they will be able to present their research and how they use

document analysis. To be considered, please send a poster proposal of up to 250 words to miguel.gsancho@ed.ac.uk by Friday 21st March. If you prefer to just attend the workshop, please express your interest as soon as possible in the above email, stating in both cases in the subject line “Document analysis workshop”.

Scholarships

PhD Scholarship: Intermediaries in Knowledge Exchange

Professor Catherine Lyall is offering a PhD position to study the factors that shape the processes of knowledge exchange and the roles that intermediaries perform as knowledge brokers.

Specifically, the project will examine whether the Genomics Forum's mode of action, within the context of the former ESRC Genomics Network, constituted a novel form of knowledge

brokerage. Funding is available to cover fees (at the UK/EU rate) and possibly a small stipend.

The application deadline is 1 May 2014.

Further details are available at

http://www.sps.ed.ac.uk/staff/science_technology_and_innovation_studies/lyall_catherine.

Expressions of interest can be made to c.lyall@ed.ac.uk or info-stsres@ed.ac.uk

Scholarships announced for MSc programmes

We are delighted to announce five scholarships to fund students looking to pursue our taught MSc in Science and Technology in Society or the MSc by Research in Science & Technology Studies at the University of Edinburgh.

These scholarships will cover UK/EU tuition fees for full-time or part-time students who have been accepted onto one of the above MSc programmes. Scholarships are available to UK nationals who are permanently domiciled in Scotland, as well as EU nationals (excluding UK nationals) domiciled in EU or Scotland but

not elsewhere in the UK.

The application deadline is 1 May 2014. Awards will be made on the basis of academic merit and the benefits to the student.

Further details and links to the application form are available at <http://www.sps.ed.ac.uk/satis>.

For further information please contact:

Dr Emma Frow

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(MSc Science and Technology in Society)

Dr Jane Calvert

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(MSc by Research in Science & Technology Studies)



Valuation as Practice 2014: International Research Symposium and Doctoral Masterclass

How can an insurance claim for a damaged knee be resolved into a sum of compensation? What is the fair price of polluting the environment? On what grounds can a new therapeutic technique be allowed introduction into the health care system? Did the right singer win the talent show? An international research symposium and doctoral masterclass was held at The University of Edinburgh on 13th and 14th February 2014 to help address questions like these.

The event was jointly organised by The University of Edinburgh's Institute for the Study of Science Technology and Innovation and the Linköping University, Department of Thematic Studies – Technology and Social Change (Valuation Studies programme) and supported by the Scottish Graduate School of Social Science.

The workshop focused on valuation as a social practice. The determination and comparison of values, be they price, quantifications of quality, or ethics, affect almost all parts of life, including restaurants, films, music, the performance of hospitals, schools and universities. The quantification and materialization of values is of central importance to understanding accountability, evidence, and decision-making. In practice, these quantified values are made beside other types of less quantifiable values such as the value of life, medical assessments in practice, and assessments of quality. Commensurations, conflicts, and coordination of different values and performances of value are

always already made in organizations ranging from public administration, commercial enterprises to academic institutions. However, the contemporary explosion in the availability of digital data, and the proliferation of means through which measurements come to represent distinct values, including the technologies of comparison and calculation are changing valuation practice.

The event commenced with a highly engaging talk by Northwestern University's Professor Wendy Espeland entitled Valuing Universities: How Media Rankings Have Changed Education in the U.S. and Elsewhere which considered how university rankings have become a ubiquitous and relatively recent form of valuation, that have had powerful and often unintended and controversial consequences in education. Espeland argued that rankings, as commensurate, relative, precise, and visible measures of quality, have been especially destabilizing technologies of valuation.

The symposium continued with a

variety of local and international keynote speakers including Claes-Fredrik Helgesson (Linköping), Neil Pollock (Edinburgh), Karin Thoreson (Linköping), Lotta Björklund Larsen (Linköping), Siobhan Magee/Chris Speed (Edinburgh) and Paolo Quattrone (Edinburgh). We also enjoyed two tracks of doctoral talks on



Prof Wendy Espeland

engaging topics ranging from smart grids, open scholarship, independent films and market research though to the politics of HPC vaccination and the welfare state.

Outputs from the event including a report and video footage of selected keynote speakers will be available shortly. Check out the ISSTI website: www.issti.ed.ac.uk

Barry Barnes: Rationality as the Power to Rationalise

Prof Barry Barnes has offered ISSTI members a series of spellbinding informal talks, bearing upon rationalisation as a form of human activity. Barry was a core member of the Science Studies Unit and the 'Strong Programme' in the Sociology of Scientific Knowledge at the University of Edinburgh before moving to Exeter in 1992.

Barry points out:

Rationalisation as a form of human activity is worthy of more detailed study and analysis. I have long been at once sceptical of standard individualistic rational choice theory and curious as to how it has managed to dominate the social sciences for so many years in the absence of any evidence in its favour and the presence of so much that counts against it. One of my conclusions, for which the talks offer a

cumulative argument, is that a much needed move away from standard rational choice perspectives is greatly facilitated if we understand most of what is commonly called rational discourse as rationalisation, and understand rationalisation as social action.

The primary aim of these talks is not to criticise but to take research forward. All the fields toward which criticisms are

directed include impressive and important bodies of work not to be ignored: many of the most penetrating criticisms of rational choice theory have been produced by rational choice theorists themselves; public intellectuals collectively perform a vital social function; lawyers and legal professionals have come to understand rationalisation better than I do simply through practicing law.

The four talks, on apparently disparate topics, loosely connected by a single over-riding interest in Rationality as the Power to Rationalise were:

- 1) People and their brains: how scanning has led us to the truth
- 2) Rationalisation and public intellectuals: Habermas on human nature
- 3) Rationalisation in the context of law
- 4) Rationalisation by experts and their regulators



Prof Barry Barnes giving the lecture on "Rationalisation and public intellectuals"

Introducing the Making Genomic Medicine team

We are delighted to introduce three newly appointed Research Fellows. They will be working on the Wellcome Trust funded project Making Genomic Medicine led by Dr Steve Sturdy. This will explore the historical developments leading up to and following from the mapping and sequencing of the human genome, the concept of Rare Diseases, and their significance in the domains of science and policy from a socio-historical perspective.

Dr Farah Huzair



Dr Farah Huzair

Farah is an interdisciplinary researcher with a background in both social and natural sciences. Her research interests cover innovation and regulation of life science industries. She did her doctoral work at the Open University on agricultural biotechnology innovation in Hungary. Post doctoral work includes projects at Dalhousie University, Nova Scotia on production and innovation of the H1N1 vaccine and at the Open University on biobanks and biosimilars. Farah is currently working on the Wellcome Trust funded project Making Genomic Medicine and will be investigating the genomicisation of drug

discovery and development.

Dr Catherine Heeney

Catherine's previous research appointments were: a study of a biomedical research network engaged in the translation of basic genomic science to clinical applications for a common complex disease at the Spanish National Research Centre,



Dr Catherine Heeney

Department of Science, Technology and Gender at the Institute of Philosophy in Madrid; and studies of ethical and social issues around the development and implementation of micro array technology into the clinic and of the governance of genetic databases in the UK at the Ethox centre within the University of Oxford, Department of Public

Health. Catherine is interested in the flow and use of data in genomic and statistical research both from a sociological and ethics perspective.

Dr Koichi Mikami

Koichi is a social scientist of biomedical sciences. He was originally trained in economics and completed his DPhil in Management Studies at the University of Oxford in 2010. His research interest lies in the relationship between the development trajectories of biomedical research, such as regenerative medicine and genomic medicine, and its research infrastructure, as a



Dr Koichi Mikami

combination of socio-political environment and techno-material distribution.

Welcome to Dr Paul Stollard

Paul Stollard has been appointed to an honorary fellowship in the School of Social and Political Science.

He will be collaborating with our project on the Integration of Technical and Social Aspects of Fire Safety Engineering and Expertise (IT-SAFE <http://tinyurl.com/issti-itsafe>), where his extensive experience of policy development and application through building legislation will be of value. He has a particular research interest on

the extent to which inflexible enforcement of mandatory prescriptive requirements, without an understanding of their actual value, can damage the credibility of fire safety measures. Paul Stollard has been involved in fire safety engineering and its integration into buildings for the last thirty years. He is a former regional Director of the Health

and Safety Executive for Northern Britain, and before that was the Chief Executive of the Scottish Building Standards Agency with responsibility for the successful reform of the Scottish building standards system. The fourth edition of his basic textbook on building fire safety, "Fire from First Principles" was published by Routledge earlier this year.

Welcome to Dr Tineke Broer

Dr Tineke Broer has joined the Centre for Population Health Science: Centre for Research on Families and Relationships.

Tineke is research fellow on a Leverhulme trust project aiming to investigate the role of the neurosciences in policy and everyday (family) life. The PI on this project is Martyn Pickersgill and the Co-I's are Professor Sarah Cunningham-Burley and

Professor Ian Deary. Following a Masters in the Theory of Psychology at the University of Groningen, Tineke's doctoral research at the University of Rotterdam involved an evaluation study of improvement projects in long term mental health care,

applying insights from Science and Technology Studies and from the work of Foucault to examine the role of power in these improvement projects as well as what kinds of ideals played a role within the projects.

Congratulations on New Appointments



Prof David Castle

Congratulations to Prof David Castle, Chair of Innovation in the Life Sciences and Director of the Innogen Institute, who is moving to the post of Vice President Research at the University of Victoria BC.



Dr Michele Mastroeni

Congratulations also to Dr Michele Mastroeni, Innogen Research Fellow, who has been appointed Senior Analyst at RAND. Though working in Cambridge he will continue to collaborate with Innogen.

Research student highlights

Congratulations to **Diego de la Hoz del Hoyo**, whose PhD A *Different Kettle of Fish: Turning Around How Computer Modelling 'Counts' for (Fisheries) Policy-*

Making was accepted with flying colours.

Congratulations also to **Seyed Mohamad Sadegh Emamian** whose PhD *Characterising and*

explaining the UK electricity policy change - with focus on the Electricity Market Reform has been accepted with minor corrections.

Our lively community of PhD students continues to make great strides on many fronts:

David Johnson (1st year PhD student in Science and Technology Studies) has won support from an ESRC Overseas Institutional Visit Award and will undertake a Visiting Scholar position at The Wisconsin School

of Business, University of Wisconsin-Madison. During his visit, David will develop his PhD research, which considers regenerative medicine venturing and entrepreneurial behavior under high uncertainty.



David Johnson

Meritxell Ramírez-Ollé gained an award for the best student presentation when she presented her work at the 9th International Conference on Dendrochronology in Melbourne in January 2014.

This is the professional conference of the scientists she studies in her PhD thesis, and the first time she had presented some of her work to them.



Meritxell Ramírez-Ollé

Some Recent Publications

D'Adderio, Luciana and Neil Pollock (in press) 'Performing Modularity: Competing Rules, Performative Struggles and the Mutual Constitution of Theory and Organization', *Organization Studies*

Cresswell, Kathrin M., David W Bates, Robin Williams, Zoe Morrison, Ann Slee, Jamie Coleman, Ann Robertson, Aziz Sheikh (2014) 'Evaluation of medium-term consequences of implementing commercial computerized physician order entry and clinical decision support prescribing systems in two 'early adopter' hospitals', *J Am Med Inform Assoc* doi:10.1136/amiajnl-2013-002252

García-Sancho M., González-Silva M. and Santesmases M.J. (2014) 'Shaping biomedical objects across history and philosophy: a conversation with Hans-Jörg Rheinberger', *Dynamis*, 34(1): 193-209.

Pickersgill M, Niewöhner J, Müller R, Martin P and Cunningham-Burley S (2013) 'Mapping the new molecular landscape: social dimensions of epigenetics'. *New Genetics and Society*, 32(4): 429-447.

Pickersgill M (2014) 'The endurance of uncertainty: antisociality and ontological anarchy in British Psychiatry', 1950–2010. *Science in Context*, 27(1): 143-175.

Spinardi, Graham (2014) 'Technical Controversy and Ballistic Missile Defence: Disputing Epistemic Authority in the Development of Hit-to-Kill Technology', *Science as Culture* Vol. 23, Iss. 1,

Synthetic Aesthetics: adventurous collaboration yields new book

From January, 2010 to December, 2011, scholars from the University of Edinburgh collaborated with colleagues at Stanford University in California to run Synthetic Aesthetics, a bold and unique research project on the role of design in synthetic biology.

STIS Reader Jane Calvert was one of three Principal Investigators with Alistair Elfick (University of Edinburgh, School of Engineering) and Drew Endy (Bioengineering Stanford University, California). Pablo Schyfter, now a STIS Lecturer, served as Postdoctoral Scholar. The project supported collaborative partnerships between synthetic biologists and design practitioners (including bio-artists, architects, critical designers, and even a scent designer). Each of these teams produced different artistic and scientific outputs, but all examined important facets of synthetic biology's desire to design with the stuff of living nature. Calvert and Schyfter brought perspectives from Science and Technology Studies to 'Synthetic Aesthetics,' and carried out a sociological

investigation of the collaborative process.

The project resulted in Synthetic Aesthetics, a book which has just been published by The MIT Press. The book is just as unique and boundary-crossing as was the project itself. It contains chapters by each of the 12 artists and scientists, and every member of the organising team, including Calvert and Schyfter. Synthetic Aesthetics also features many visual outputs produced by the participants. Like the project, the book explores the notion of 'designing with nature' in synthetic biology through a rich collection of diverse perspectives, arguments, and media.

Together with The MIT Press, the 'Synthetic Aesthetics' team is preparing book launch event. It will take place on April 25th at London's Victoria & Albert Museum. The book launch will

serve as public outreach event, and included lectures by project participants, invited speakers, and the 'Synthetic Aesthetics' organizing team. The event – like the project – will critically engage with a range of topics to do with science, technology and design. Full details can be found here:

<http://mitpress.mit.edu/books/synthetic-aesthetics>

