

ISSTI

THE INSTITUTE FOR
THE STUDY OF SCIENCE
TECHNOLOGY AND INNOVATION
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newsletter

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Five New Awards for Edinburgh Energy Researchers

Congratulations to the growing team of energy researchers from Sociology and Science, Technology and Innovation Studies at the University of Edinburgh. Between them they have secured five major research awards with a combined value of some £1.5 Million. For full details of these awards see pages 2-3.

Reframing Energy Demand - Innovation for Sustainable Heat

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Reframing Energy Demand - Innovation for Sustainable Heat

The Engineering and Physical Sciences Research Council (EPSRC) has made an award of £600k to Janette Webb and colleagues Ronan Bolton, David Hawkey and Mark Winskel for research on innovations in energy efficiency and sustainable heat.

Reframing Energy Demand responds to the UK's radical plan to end the emission of greenhouse gases from all buildings by 2050. Despite the fact that almost half of the energy we use is for heating, the problems of major reductions in demand, and sustainable energy for heating, have received limited attention. Our research will compare UK, Danish and German responses to economic and environmental challenges, and the role of cities in emerging solutions in each case. Rather than narrow (and potentially misleading) technical and economic assessments, our research focuses on explaining the differences between societies in patterns of energy use for

heating. We will identify and analyse energy performance of buildings, heating systems, and energy policy and market structures. Our aims are threefold: First, to develop a new analysis of innovations in energy efficiency and sustainable heat using two related strands of social science research: social studies of technology and social studies of markets. Second, to develop detailed evidence about energy efficiency and sustainable heat in selected cities, and to analyse the implications for urban energy demand to 2050. Third, to use our research to identify the potential for shared learning between European cities. We will be working closely with UK and European policymakers,

businesses and communities. We will be working with the EPSRC's Centre on Innovation and Energy Demand, based at the Universities of Sussex, Manchester and Oxford.



Knowledge Exchange for District Energy Development

The Scottish Government have made an award of £26k to Janette Webb and David Hawkey for European knowledge exchange to contribute to the capacity of Scottish cities in development of district energy for low carbon and sustainable heating.



David Hawkey
(Sociology)

We will be working with the EC Intelligent Energy Europe-funded STRATEGO project, a European Network directed from Brussels by the research arm of the European District Heating and Cooling Association. STRATEGO is a

partnership between 23 cities/regions in the UK, Austria, Belgium, Czech Republic, Denmark, Hungary, Italy, Poland, Romania and Sweden. The Stratego Project Officer, Ruth Bush, a new member of SPS staff, is working with us

in the Institute of Governance at Chisholm House.

Local Engagement in Energy Systems Development

EPSRC and Energy Technology Institute (ETI) have made a joint award of £300k to Janette Webb, David Hawkey and Mags Tingey for further research on local engagement in energy systems.

This project is a component of the EPSRC's UK Energy Research Centre (UKERC) Phase 3, directed from Imperial College London; we will be working specifically with UKERC teams in Strathclyde and Oxford Universities. The research is mapping the present, and modelling the future, contribution of local agencies to changing UK energy production, supply and use. Findings will contribute to knowledge about the extent of local engagement in energy generation, supply and innovation

under current institutional structures, and will identify what would be feasible with more supportive governance institutions. We will identify local energy governance and business models, and examine their differential approach to value creation, and distribution of risks and rewards. We aim to engage policy actors, public and private practitioners and researchers in discussion about future potential for localised innovations to improve UK energy systems' productivity, resilience and

affordability.

Findings will inform further research on the emerging, and differentiated, patterns of social and technical innovation in localised energy, and their interaction with established network infrastructures and large-scale energy corporations.

First stage findings, published by ETI, are available from:

<http://www.eti.co.uk/wp-content/uploads/2014/07/Edinburgh-Report-Version11.pdf>

ClimateXChange/Scottish Government Fellowship

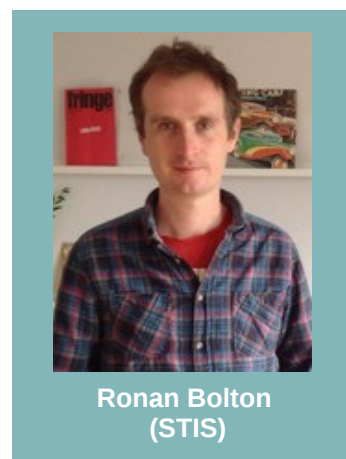
Ronan Bolton and Mark Winskel have been successful in securing £320k in funding for a 3 year post-doctoral fellowship from the Scottish Government through ClimateXChange (CXC), Scotland's national centre of expertise on climate change.

The aim of the fellowship is to understand and translate European-wide energy policy developments in terms of their impacts on (and opportunities for) Scottish and UK energy system transition, including markets and trading, infrastructure development, system balancing and low carbon investment. The detailed research content will be developed in close collaboration

with Scottish Government policy teams and ClimateXChange. Please email Ronan or Mark if you are interested in applying for the postdoc position: Ronan.Bolton@ed.ac.uk; Mark.Winskel@ed.ac.uk

Further details:

<http://www.climateexchange.org.uk/about-us/team/new-post-doctoral-research-fellowships/>



UK Energy Research Centre

Mark Winskel has been successful in securing research £276k in funding from Phase 3 of the UK Energy Research Centre (2014-19) to help develop and analyse new pathways of energy systems transformation in the UK. Intellectual tools from science technology and innovation studies will be used to analyse the social and technical drivers of change, and how these could interact to shape energy system development.

Further details:

<http://www.ukerc.ac.uk/support/Theme+1%3A+Future+energy+system+pathways>

Energy Governance Research Group (EGRG)

Energy systems are being transformed in the face of increasing concerns over climate change, and energy affordability and security. These changes are complex and contested, and involve technological innovation, regulatory and market reform, and changing roles for business, public bodies and energy users.

There is a growing body of research in multidimensional processes of change in energy systems governance at the University of Edinburgh, with projects and experts across the social sciences. Building on

Edinburgh University's intellectual traditions in theoretically-informed empirical inquiry, we aim to help address one of the major societal challenges of the 21st century.

Our overarching question is: how are socio-technical arrangements

for energy production and consumption changing in contemporary societies? ... a process we refer to as energy governance.

Spotlight on Energy



Research Themes

We are an inter-disciplinary research group which reaches across traditional divides. Our aim is to conduct leading-edge research which engages strongly with practitioners.

Our starting points are within the social sciences, though we actively collaborate with engineering, physical, computer and environmental scientists, as well as with policymakers, businesses and civil society. Within the social sciences, we draw, for example, on sociology, science, technology and innovation studies (STIS), social anthropology and political science. Our work is funded by, among others, the UK Research Councils' Energy Programme, UK and Scottish Governments, the UK Energy Research Centre and the Energy Technologies Institute. Much of our work involves international collaboration.

Urban Energy Governance

This strand of research examines the changing relationships across the different scales of energy systems, with a particular focus on the urban / city / community and regional levels. Research questions include the roles played by central and devolved state actors in energy systems and how cities govern their energy systems, and manage change.

Energy System Transitions

Energy system transformation is at the heart of efforts to decarbonise economic and societal activity. We draw on intellectual tools from innovation studies and other social sciences to analyse the social and technical drivers of change and how these interact over time to shape new energy system pathways.

Energy Markets and Regulation

Our research explores the making and remaking of energy markets in the UK and other European countries. We explore how energy markets are shaped by economic knowledge, new technologies, business models, financial investment practices and societal concerns.

Governing Energy Demand

Through a number of projects, often involving collaborations with colleagues in Engineering and Informatics at Edinburgh University, we are analysing the effectiveness of interventions to reduce energy demand and manage it in new ways.

Producing Data: Practices, Materialities, Values

3rd & 4th September 2014, Edinburgh Centre for Carbon Innovation, University of Edinburgh

Hosted by: Design Informatics, Edinburgh College of Art, University of Edinburgh

Organisers: Chris Speed, Gian Marco Campagnolo, Siobhan Magee and New Media Scotland

The term 'data' is ubiquitous across our homes and workplaces, academic and mainstream media, political discourses and ethical disputes. Sometimes its presence can take the form of representations of various facets of our lives, such as statistics or visualisations of figures.



Data is a part of the contracts that we make with each other, companies that we deal with, and the fallout of the devices that we use. Our positions within these relationships change our competences based upon whether we are a professional producer of data or an amateur. In other instances, 'data' appears not as information in its own right, but as a lens through which to discuss, and often critique, governments and corporations. The reverberations of Big Data controversies for example, suggest that data is developing to be one of the key political issues of our time: a point of convergence for politics and economics, technology, and statecraft. Despite, or perhaps because of, this ubiquity, the

meaning of data is blurred. However rather than calling for the creation of a rigid definition of data, this context suggests the need for comparison and discussion:

The relationships between different generators of data and the constitution of the data that they produce.

Campaigning, hacker, and hobby communities forming around open data.

Alternative knowledge communities that engage in citizen-led science, social science and journalism made possible by creating, sharing and leaking data.

The spatial organization and location of data and its ongoing distribution and deformation through socio-material transportation.

How the truth claims of data are substantiated and compromised by individuals, communities, institutions.

The marketisation of data and creation of

markets through data.

Affective and aesthetic aspects of data.

Understanding data through its function and dysfunctions in everyday and professional settings.

Making data material, accountable and reportable for performing economies, states and environments.

The event was funded by the EPSRC and Design Informatics, University of Edinburgh as part of the Internet of Second Hand Things research project with University College London, and co-organised with ISSTI.

Outputs from the workshop will be available shortly.

Chris Speed: c.speed@ed.ac.uk



THE SCIENCE AND ART OF ANALYSING DOCUMENTS: MULTIDISCIPLINARY PERSPECTIVES

What counts as a document and how do scholars from a wide variety of disciplines go about analysing them?

Do we and should we approach documents differently from other sources of information? Are there discipline-specific ways in which documents are used and, if so, are there beneficial ways in which these approaches can be combined? These were some of the questions posed at the day-long document analysis workshop held at the University of Edinburgh on the 17th of June 2014, as part of the Summer School of the Scottish Graduate School of Social Science. The workshop was organized by Miguel Garcia-Sancho with support from the Graduate School of Social and Political Science.

The workshop was divided into three panels devoted to socio-legal perspectives, the process of policy-making, and approaches from history and the digital humanities. Each session was followed by a significant amount of time for discussion. The idea behind the workshop and the format was to create a genuinely interdisciplinary set of talks and to allow for academics from postgraduate to faculty levels to share their experiences around the topic.

The day began with Lilliana Riga (Sociology) who spoke about her use of biographies in reinterpreting the Russian Revolution. She was followed by Chlöe Kennedy (Criminal Law) who explored the challenges she encountered in the use of documents in her research on the influence of Presbyterian thought in the Scottish criminal law. The session ended with Jonathan Hearn (Sociology) who

discussed how he turned his own ethnographic notes into historical documents for a project on the banking crisis beginning in 2008.

The second session of the day turned the focus onto documents in relation to policy and policy making, beginning with a talk by Jackie Gulland (Social Policy) about the ins and outs of using archival material to investigate the development of social security in the 20th century. Richard Freeman (Politics) then took over to tell the story of the 'possible Scot' highlighting questions about the ways in which ideas travel both with and through documents, and the complexity of the relationship between an idea and a document. Miguel Garcia-Sancho (Science, Technology and Innovation Studies, STIS) then discussed the different narratives in the history of science that may emerge through the use of unpublished documents on the one hand and autobiographies and institutional chronologies on the other, suggesting that the administrative records around big research projects may be particularly useful for mediating between the two.

The third and last set of talks began with a presentation by Paolo Quattrone (Accounting and Finance) about his experience of archival research in the context of his work on the accounting practices of the Jesuits, paying particular attention to the ways in which both the documents themselves and the analysis of them change in relation to the context in which they are utilised. Lisa Otty (Centre for the History of the Book), then spoke about viewing the book not just as a document but also as an artefact, not just as a reflection of 'real life' but as an object with a recorded life of its own. The final

talk of the day was given by Clare Llewellyn (Institute for Language Cognition and Computation) on text mining and the benefits and challenges of combining historical methods with the practice of computerised data mining in a collaborative project on trends in commodity trading in the 19th century.

The workshop finished with a session dedicated to a whole group discussion. It began by STIS PhD students Alvaro Sáez, Michael Kattirtzi and Thokozani Kamwendo commenting on the talks, and sharing some of their thoughts throughout the day. Impressions of the day varied, but the final discussion largely centred on the different ways of 'doing history', the sometimes surprising ways in which scholars find their way to various kinds of documents in their work, as well as the challenging question of whether our definition of what constitutes a document and how we approach them is at times unnecessarily narrow.

There was also a poster session in which doctoral students Arno Simmonds, Michael Kattirtzi, Sara Marsden and Coree Brown showcased their respective work-in-progress.

The proceedings of the day will soon be available as audio recordings at the website of the Scottish Graduate School of Social Science. Planning for a second edition in the summer of 2015 has already started.

**Thokozani
Kamwendo**



ISSTI Retreat Newbattle Abbey 9 – 10 June 201

This year ISSTI retreat took place in the beautiful setting of Newbattle Abbey. Johan Schot, newly appointed Director of the Science Policy Research Unit at the University of Sussex gave the keynote. This introduced one cross cutting theme for discussion about Bridging STS and Innovation Studies. We summarise some of the key thematic sessions below. The presentations are now [available online](http://www.issti.ed.ac.uk/events/retreats). The programme can be found here: <http://www.issti.ed.ac.uk/events/retreats>

Selected Highlights

Debate: 'STS meets Bioethics'

Miguel Garcia Sancho Sanchez discussed how debates about the relationship between genetics and society have evolved from the Asilomar meeting in the mid-1970s to today. Miguel talked about the emergence of ELSI research on the Human Genome Project, and also addressed the rise of ELSA in Europe. Cate Heaney defended a Deleuzian form of ethics, Emma Frow talked about responsible innovation and care, Jane Calvert tried to work out what it is she doesn't like about bioethics. Steve Yearley is writing on STS/Bioethics at the moment.

Ronan Bolton, Dave Hawkey, Janette Webb, Mark Winskel: Towards a Social Studies of Energy Markets

The talk focused on the contemporary dynamics of energy markets in the UK context. The UK pioneered the liberalised model of energy markets in the 1980s when the previously state owned and operated energy system was privatised and segmented into competitive and regulated components. Declining investment in UK energy infrastructure and new legislative targets for decarbonisation have prompted formal re-establishment of energy policy, and recognition that a low carbon, secure and affordable energy system is unlikely to be delivered under current market structures (UK DECC 2010). The financial crisis has significantly damaged economic

stability and investment, stimulating further debates on the future of energy markets, and the trajectory of low carbon energy in an increasingly uncertain political context.

John Henry: Could Isaac Newton have believed in action at a distance? Empiricism versus Theory in the History and Sociology of Science.

One of the most remarkable things about Isaac Newton's natural philosophy (and one of the major reasons for its success) was that it was openly based on a belief in action at a distance—thereby rejecting the principle, dominant since the Ancient Greeks, that "a body cannot act where it is not". When I pointed this out, firstly in 1994, a group of philosophers of science began to publish critiques of my claim. Their arguments were based on the fact that they believed nobody in their right mind could possibly accept action at a distance, and therefore Newton could not have accepted action at a distance. John spent time discussing this on-going dispute, by way of illustration, but opened it out to a discussion of correct methodology in STS. To me, it seems obvious that we should base our conclusions on empirical evidence, but there are a significant number in our field, as well as in philosophy, who seem to believe that if you don't operate in accordance with a pre-conceived theory you are mentally, and methodologically, deficient.

Ann Bruce, Isabel Fletcher, Christine Knight Panel: Bridging history and innovation in food research

The goal of the session was to explore synergies between research in ISSTI and elsewhere on food innovation, and the history of nutrition and food (with implications more broadly for colleagues working on food, culture and society). The session stemmed from the hypothesis that there are remaining missed opportunities within ISSTI for discussion and collaboration amongst those working on food issues from different perspectives, especially innovation studies and history of food & nutrition. Speakers reflected on their personal research trajectories in relation to food; how they saw different approaches to the study of food currently relating within ISSTI, the university, and across academic disciplines more generally; and what opportunities they perceived for the future.



Prof Robin Williams

Videos now available:

<http://www.youtube.com/playlist?list=PLEo0R09o57HXv6CQgo4mPLpvS5RCU5y00>

Regulating Bioscience: Between the Ivory Tower and the Policy Room

6th October at the Wellcome Trust Conference Centre, Euston Road, London

Dr Martyn Pickersgill (Wellcome Trust Senior Research Fellow in Biomedical Ethics) is organising an event on the role played by think-tanks and quangos in the governance of science. Titled 'Regulating Bioscience: Between the Ivory Tower and the Policy Room', it will take place during

the afternoon of the 6th October at the Wellcome Trust Conference Centre, Euston Road, London. Speaking will be Joanna Chataway (RAND Europe), Hugh Whittall (Nuffield Council on Bioethics), Jack Stilgoe (UCL), and ISSTI's own Jane Calvert. The event forms part of Martyn's

AHRC project (with Emilie Cloatre, PI, Kent Law School) on 'Technoscience, Law and Society' (see: <http://www.kent.ac.uk/law/tls/>).

To register, please contact: martyn.pickersgill@ed.ac.uk.

Postgraduate Study

Making Use of Digital Research Scholarships

Up to three scholarships are available for students commencing the PGCert in Making Use of Digital Research online distance learning programme in January 2015. [Find out more.](#)

This new PGCert aims to create opportunities for students in the commercial sector and beyond (e.g. user experience consultants, industry analysts). By offering a critical overview of digital research applications in different fields (user analytics, influence marketing and institutional reputation management), the programme will provide relevant skills for careers in marketing, design and policy making.

For further information contact: PGCertDigital@ed.ac.uk



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<http://goo.gl/c2xmG2>



"How to adapt your career to the fast moving field of big data? Being at the forefront of technology & innovation studies, our team is uniquely positioned to deliver training that answers to this urgent question." (Gian Marco Campagnolo, Programme Director of "Making Use of Digital Research")



Gian Marco Campagnolo

Welcome Niki Vermeulen

We welcome, Niki Vermeulen, our new lecturer in the History and Sociology of Science



Niki Vermeulen specialises in science and innovation policy and the organisation of research, with an emphasis on collaboration in the life sciences. Her current Wellcome Trust project looks into the emergence of systems biology and ways of working together on local and (inter)national levels. Niki holds a PhD from Maastricht University, was a Marie Curie fellow at the University of York, and held positions at the University of Vienna and the University of Manchester. In addition, Niki has been working for Technopolis Group, the Netherlands Scientific Council for Government Policy, and the Scientific Council of the Royal Netherlands Embassy in Washington D.C.

Mark Winskel wins Chancellor's Fellowship

We are delighted that Mark Winskel has joined STIS as a Chancellor's Fellow

Mark's fellowship research will address energy innovation from a STIS perspective, looking at issues such as expertise, interdisciplinarity and research-policy exchange. The overall aim is to help develop a distinctive STIS-based analysis of energy, and to strengthen STIS's contribution to energy research at Edinburgh University. Mark was

previously national Research Co-ordinator of the UK Energy Research Centre and a Research Fellow in the Institute for Energy Systems at Edinburgh University.

Further details:

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



Catherine Lyall secondment to IAD



From 1 September, Catherine Lyall, Professor of Science and Public Policy, will be undertaking a two-year, part-time secondment (two days per week) with the University's Institute for Academic Development (IAD) (www.iad.ed.ac.uk). At the core of this secondment will be a research project to assess current international practice in interdisciplinary research training for graduate students, as a result of which we hope to develop a range of new opportunities for IAD to support the work of interdisciplinary researchers, especially those in early career stages, in order to contribute to the University's strategy for interdisciplinary research capacity building.

Congratulations to Geoff Gregson

ISSTI Associate Geoff Gregson has been appointed the JR Shaw Chair in New Venture and Entrepreneurship at the Northern Alberta Institute of Technology in Edmonton, Alberta, Canada. Geoff has been at the University

of Edinburgh since 1999, when he arrived from Canada to pursue a PhD. He has been Deputy Director of the Centre for Entrepreneurship Research in the Business School since 2007.



Knowledge on Trial

A network led by Graham Spinardi, including members from STIS, Law, Engineering, Architecture, Mathematics and Education, received £1075 from the Academic Researcher-Led Networking Fund to look at 'Knowledge on Trial: Uses of Scientific Evidence and Professional Judgment in the Legal Context'



Graham Spinardi



Interdisciplinary Energy Research Network

Mark Winskel, together with Dan van der Horst (Geosciences) and Nicola McEwen (Social and Political Science) have received a small grant from the Institute for Academic Development's Academic Researcher-led Networking Fund to develop a University-wide interdisciplinary energy research network. If you are interested in joining the network please email mark.winskel@ed.ac.uk

Further details:

<http://www.ukerc.ac.uk/support/Theme+1%3A+Future+energy+system+pathways>



Emma King

Emma King - Field Trip to Argentina

Emma King, Research Fellow, spent most of August in Buenos Aires, Argentina. During this visit she spent time with Dr Fabiana Arzuaga, formerly of the Genomics Forum and who maintains close links with colleagues at Edinburgh. Emma's work is on blood transfusion, particularly the introduction of a new method of producing laboratory cultured red blood cells.

This visit was an excellent opportunity to compare blood transfusion and stem cell therapy use in another country. Like the UK it appears that Argentina is also experiencing a 'hype' in stem cell therapies which outstrips the reality of therapy development. Meetings were held with patient groups, clinicians, and other social science researchers, with a visit to the blood and tissue bank at a large paediatric hospital being one of the highlights of the trip. This visit coincided with the 4S conference, where Emma presented her work on the cultured blood project.

Christine Knight appointed to Young Academy of Scotland

Dr Christine Knight, Wellcome Trust Senior Research Fellow in Science, Technology & Innovation Studies, has been appointed to the Royal Society of Edinburgh's Young Academy of Scotland. Established by the RSE in 2011, the Young Academy of Scotland is designed to bring together Scotland's brightest early career academics to address the most challenging issues facing society in Scotland and beyond. Christine joins other ISSTI members including Dr Emma Frow, Dr Martyn Pickersgill, Professor Luke Bisby, and Professor James Smith.



Christine Knight

Selected Publications

Garcia-Sancho, M. (2015) "Genetic information in the age of DNA sequencing", *Information & Culture: A Journal of History*, 50(1).

Mozaffar, H., Williams, R., Cresswell, K., Morrison, Z., Slee, A. et al (2014) 'Product Diversity and Spectrum of Choice in Hospital ePrescribing Systems in England' *Plos ONE* 9 (4) e92516

Pickersgill, M. (2014) Debating DSM-5: diagnosis and the sociology of critique. *Journal of Medical Ethics*, 40(8): 521-52

Vogel, K. & Knight, C. (2015) "Analytic outreach for intelligence: Insights from a workshop on emerging biotechnology threats", *Intelligence and National Security*, vol. 30, issue 4. Published online May 2014.

Winskel, M. (2014) 'Embedding Social Sciences in Interdisciplinary Research: Recent Experiences from Interdisciplinary Energy Research' *Science as Culture* 23(3): 413-418. DOI: 10.1080/09505431.2014.926150. Full paper available at: <http://bit.ly/1yUMU7A>

Innovation in Information Infrastructures

Special Issue of the Journal of the Association for Information Systems on Innovation in Information Infrastructures



Robin Williams, Neil Pollock and Eric Monteiro have edited a double special issue of the prestigious *Journal of the Association for Information Systems (JAIS)* on Innovation in Information Infrastructures (Double issue Volume 14, Issues 4 & 5, April/May 2014). It examines the emergence and implications of new kinds of information infrastructures (IIs): systems of systems that connect a growing number of systems and data, purposes and users. IIs are thus shaped and used across many different locales and endure

over long periods (decades rather than years). As IIs permeate an increasingly broad range of social and institutional contexts, they generate both new kinds of challenges for information systems development, and new social, organizational and market forms as foci for social scientific investigation. The special edition includes six papers that explore the dynamics of II innovation and how these may vary across different settings and the challenges of making knowledge mobile through IIs. The editorial sketches out an agenda for the development of II studies.

The special issue arose from an international research conference and doctoral workshop that

addressed these issues organized by ISSTI (9-11 October 2012, University of Edinburgh) with joint support from the University of Edinburgh Business School and the Scottish Graduate School of Social Science.

A further workshop of Innovation in Information Infrastructures will be hosted by University of Oslo, Norway 13th – 16th October 2014

<http://www.mn.uio.no/ifi/english/research/news-and-events/events/conferences-and-seminars/iiios2014/>

