

Profile

Information Systems and Innovation



LSE

**INFORMATION SYSTEMS
AND INNOVATION GROUP**

Department of Management

Introduction

Within LSE's Department of Management, we form the leading European university-based Group focusing on Information Systems and Innovation, and are recognised widely as amongst the top ten such groups in the world. We have 16 full-time academics and also benefit from the contributions of our Centennial and Visiting Professors, all of whom are scholars of international repute and leaders in the field, from Visiting Fellows who are experts in their respective fields, and from project researchers. There are also over 45 PhD students undertaking research in any one year.

The Group is international in its reputation, its activity, its staff and its students. Members are active in the International Federation of Information Processing (IFIP), the Association for Information Systems (AIS), the UK Academy for Information Systems (UKAIS), the British Computer Society (BCS), and other national and international organisations including United Nations and European Union bodies. Academic staff are Editors-in-Chief of four major journals (JIT, ITP, JSIS, JISS) and variously serve as Senior and Associate Editors on most high quality refereed journals in the IS field (eg, MISQ, MISQE, ISR, EJIS, ISJ plus over 20 others). Our students also produce a journal – *ISChannel* (available electronically from our website).

The Group's teaching has been rated as excellent by the UK's Quality Assurance Agency and its research is recognised as internationally excellent by the Higher Education Funding Council for England.

The Group has received from funding bodies and industry more than £2 million in research income in the last four years. Staff have made over 60 keynote addresses at major academic and practitioner conferences in the last five years, and have been very active in advisory and representational roles on panels and committees for governments, major corporations and institutions. Members have made major policy interventions in recent years, notably in the UK governments National Identity Card scheme 2005-07. Awards and recognition are extensive and include Frank Land's Leo award of the AIS for Lifetime Exceptional Achievement, Ciborra's AIS Distinguished Member award, and Willcocks's Price Waterhouse Coopers/Corbett Associates World Outsourcing Achievement award for academic contribution to this field.

The Group runs several high profile seminar programmes. These include the annual *Social Study of ICTs* seminar run over two days in March. This attracts over 200 international participants and has a related two day research workshop. We also host throughout the year a trans-disciplinary seminar series entitled *ICTS in The Contemporary World*. All such events are open to external participants, including doctoral students, and are advertised on our website.

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Degree programmes

We offer three degree programmes – a one-year MSc in the analysis design and management of information systems (ADMIS) focusing on theory and practice, a one-year MSc in information systems and organisation (research) (ISOR) preparing students for research design and execution, and a PhD in information systems. Two further MScs are planned for 2008-09 in the areas of information, risk and security, and global sourcing. Typically we have 150 ADMIS, 25 ISOR and 50 PhD students in any one year, drawn from more than 40 countries. Entry into the programmes is highly competitive and students are expected to be strongly motivated, as well as exceptionally capable academically.



Although some students enter directly from their first degree, work experience is viewed positively. Entry to our PhD programme requires research training equivalent to that provided by the ISOR degree. All students have excellent career prospects and go on to a wide range of careers from small businesses to the largest corporations in the world. Recent ADMIS graduates, for example, are entering business consultancies, banks, financial institutions, software and specialist computing companies, and government service. Graduates and former research students can also be found teaching information systems or related disciplines in leading institutions in the UK and across the world.

The Group is responsible for the BSc degree in Information Systems and Management, offered through the University of London External Programme. The Group also contributes to several other LSE programmes.

For more details of the MSc programme see: www.lse.ac.uk/collections/informationSystems/MScProgramme/Default.htm

For more details of the PhD programme see: www.lse.ac.uk/collections/informationSystems/PhDProgramme/Default.htm

Research

Structure and Content

The strategic thrust of our research is outlined in Figure 1. The focus is on ICT-related activities and ICT-mediated change within and between organizations as well as at societal level. A major part of the collective research effort of the Group is concerned with the development of socio-theoretical foundations of information systems phenomena. Our theoretical work forms the foundations for research streams in the following main areas:

- Information Systems Security (Angell, Backhouse)
- Health Informatics (Cornford, Klecun)
- ICT in Financial Markets (Scott)
- Mobile Technologies (Sorensen)
- Implementation of big projects (Willcocks, Mitev, Whitley)
- ICT Policy and e-Government (Angell, Avgerou, Cordella, Cornford, Kallinikos, Liebenau, Whitley)
- ICT and Socio-Economic Development (Avgerou, Liebenau, Madon)
- Technical and Organizational Innovation (Mitev, Willcocks, Liebenau, Smithson)
- Knowledge and IS (Kallinikos, Venters, Willcocks)
- Global and Open Sourcing (Willcocks, Shaikh)

The Group also maintains close links with industry. As examples only: Smithson has collaborated with Oracle Corporation UK to study IT investment and productivity (2002-03); Scott worked with Shell International to study strategic developments in the clearing and settlement industry (2003-06), Willcocks maintained research links with six IT suppliers and 60 plus major corporations through sponsored research. We have also engaged in significant policy projects notably the national identity card project (Angell, Whitley, Hosein, Davies produced three national reports, 2005-07); Willcocks devoted a special issue of the Journal of Information Technology to the NHS Programme for IT (September 2007); Liebenau produced three major research reports for the Department of Trade and Industry.

For more details of our research projects see: www.lse.ac.uk/collections/informationSystems/research/researchProjects/Default.htm

Doctoral Research

A PhD seminar series provides students with the opportunity to present their progress at various stages of their research, and a weekly student-led Information Systems Research Forum exposes them to the research of members of staff. A rigorous procedure for the upgrade to PhD has been adopted since the late 1990s. An average of 15 students enter the PhD programme every year. Since October 2006 we have been offering an MSc in Information Systems and Organization (Research) as our new vehicle for research training. This covers research methods, epistemologies, philosophy, major currents in the IS field, carrying out and writing up research, and a dissertation. The first year had 15 students, who on successful completion can apply for entry to the PhD programme.

Academic Staff

Professor Ian Angell

Global Consequences of Information Technology; Applications of New Technology – Risks and Opportunities; Organisational and National Information Technology Strategies; Novel Organizational Forms, Creative Commons, and other Techno-Legal issues; Complexity and Systems Theory

Professor Chrisanthi Avgerou

Information Systems and Organisational Diversity in the Global Context; Information Systems Implementation; ICT Policy; ICT and Socio-economic Development

Dr James Backhouse

Managing Information Security; Valuing Information; Semantic Modelling and Analysis

Dr Tony Cornford

Alternative Concepts of Information Systems Use and Implementation; Information Technology in the Health Domain; Sociotechnical and Socio-cognitive Approaches to Information Systems; Information Systems in the Construction Industry

Dr Antonio Cordella

Relationships between IT and Organizations, Forms and Behaviours; Information Systems Infrastructures; Actor Network Theory and Information Systems; Electronic Commerce; E-government

Professor Jannis Kallinikos

Technology and Work Organisation; Information and Communication Technologies and Emerging Organisation Forms; Cognition, Information and Organisation; Large-scale Information Systems and Behavioural Standardisation; Social Construction of Predictable Worlds

Dr Ela Klecun

Health Information Systems and Telehealth; Evaluation of Information Systems; Sociotechnical Approaches to Information Systems; Application of Critical Theory in the Field of Information Systems

Dr Jonathan Liebenau

National Information Technology Policies; Telecommunications Policy and Regulation; Fundamental Concepts of Information

Dr Shirin Madon

Information Systems in Developing Countries; Information Systems in Public Administration; International Development

Dr Nathalie Mitev

Information Technology and Organisational Change; Information Systems Failures; Electronic Markets; Global Distribution Systems; Computerised Reservation Systems; Air, Rail Transport and Tourism

Dr Susan Scott

Strategic Use of Information Systems in Financial Services; Risk and Information Technology-enabled Risk Management; Electronic Markets; Electronic Trading

Dr Steve Smithson

Information Systems Evaluation; Interorganizational Information Systems; E-commerce; Information Systems Management and Use within Organisation

Dr Carsten Sørensen

The Management of Interaction and Knowledge; Mobile Informatics; Internet Technologies; Software Engineering; CSCW

Dr Will Venters

Knowledge Management, Action Research, Information Systems Development, IS Development Methodologies, Socio-technical Approaches to Information Systems

Dr Edgar Whitley

Identity policies, Philosophically and Sociologically Based Interpretations of Information Systems; Actor Network Theory; Stakeholder Analysis

Professor Leslie Willcocks

Technology, Work and Globalisation; Outsourcing and Offshoring; IT Strategies; IT Evaluation and Management; Organisational Change; Social Theory and Philosophy for Information Systems; Information, Knowledge and Learning

Emeritus Professor

Professor Frank Land

Founding Professor of the Department of Information Systems, LSE; also formerly at London Business School. Socio-technical Theory; History of Business Computing; Evaluation

Visiting Professors

Professor Bob Galliers

Bentley College, Boston, USA

Information Technology and Business Innovation; Business Transformation and the Management of Change; Information Systems Strategy; Knowledge Creation and Management; Intra- and Extra-organisational Impacts of the Internet

Professor Ole Hanseth

University of Oslo, Norway

Infrastructures; Standardization; Actor Networks

Professor Giovan Francesco Lanzara

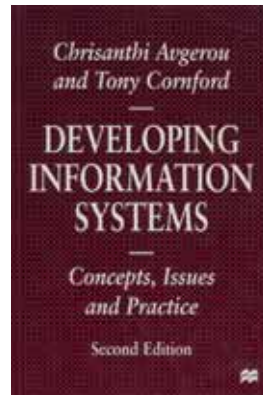
University of Bologna, Italy

Systems Theory in the Social Sciences, Behaviour of Complex Systems, Dynamics of Innovation and Change in Organizations and Institutions, and Learning Processes in Institutional Settings

Professor Allen Lee

School of Business, Virginia Commonwealth University, USA

Qualitative, Interpretive, Information Technology Use in Organisations; Information Systems Implementation; Electronic Communications



Professor Yidong Liu

Chinese Academy of Sciences, China

IT Strategy, IT in Developing Countries, Knowledge Management, Science and Technology Studies

Professor Wanda Orlikowski

Sloan School of Management, MIT, USA

Relationship between Information Technologies and Organizing Structures, Work Practices, Communication, Culture, and Control Mechanisms, Groupware Technologies and Electronic Media in Organizations

Professor Ray Paul

Brunel University, UK

Visualization and Simulation; Fluid Information Systems; The Dynamics of Business Processes and Information Systems

Research Staff and Visiting Fellows

Mike Cushman: Information and Communication Manager

Simon Davies: Visiting Fellow

Dr Ruth Halperin: Research Officer (FIDIS)

Dr Gus Hosein: Visiting Fellow

Dr Federico Iannacci: Research Officer (AGIS and ESF)

Dr Nikolaos Pisanias: Research Associate

Dr Maha Shaikh: Research Officer

Peter Sommer: Visiting Fellow

Dr Yingqin Zheng: Research Officer (Pegasus)

Group Administrative Staff

Cheryl Edwardes: Group Manager

Stella Mandehou: Research Coordinator

Melissa Waller: Course Support Administrator

Selected Recent and Forthcoming Books

C Avgerou, *Information Systems and the Economics of Innovation*, (co-edited with R. Lèbre LaRovere), Edward Elgar, London, 2003.

C Avgerou, *Information Systems and Global Diversity*, Oxford University Press, Oxford, 2003.

C Avgerou and **T Cornford**, *Developing Information Systems: Concepts, Issues and Practice*. 2nd ed. Basingstoke: Macmillan; 1998.

K Braa, **C Sørensen** and **B Dahlbom**, ed.: *Planet Internet*. Lund, Sweden: Studentlitteratur, 2000.

C Ciborra, *The Labyrinths of Information*, Oxford University Press, Oxford, 2003.

T Cornford and **S Smithson**, *Project Research in Information Systems: A Student's Guide*, 2nd ed, Palgrave Macmillan, 2005.

D Finnegan and **L Willcocks**, *Implementing CRM: from Technology to Knowledge*, Wiley, Chichester, 2007.

J Kallinikos, *The Consequences of Information: Institutional Implications of Technological Change* Edward Elgar, London, 2007.

F Land, **C Avgerou** and **C Ciborra**, *The Social Study of Information and Communication Technology: Innovation, Actors and Contexts*, Oxford University Press, Oxford, 2004.

R Mansell, **C Avgerou**, **D Quah** and **R Silverstone**, (eds) *Handbook of ICT* Oxford University Press, Oxford, 2007.

J Mingers and **L Willcocks** (eds), *Social Theory and Philosophy for Information Systems*, Wiley, Chichester, 2005.

C Sørensen, **Y Yoo**, **K Lyytinen** and **J I DeGross**, ed.: *Designing Ubiquitous Information Environments: Socio-technical Issues and Challenges*. New York: Springer, 2005.

L Willcocks and **M Lacity**, (2006) *Global Sourcing of Business and IT Services*, Palgrave, London, 2006.

E H Wynn, **E Whitley**, **M D Myers** and **J I De Gross** (eds) *Global and Organisational Discourse about Information Technology*, Kluwer, Boston, 2003.

To view full staff bibliographies please see: www.lse.ac.uk/collections/informationSystems/staff/Default.htm

To view a complete listing of the Information Systems and Innovation Group Working Papers, please see: <http://is2.lse.ac.uk/asp/aspwp/locate.asp>



The Social Study of Information and Communication Technologies and Innovation

The Group's research, teaching and dissemination strategies are closely interlinked and its distinctive focus on the social study of Information Communication Technologies (ICTs) and Innovation underlies a concern for policy and practice issues in six major fields (see Figure 1).

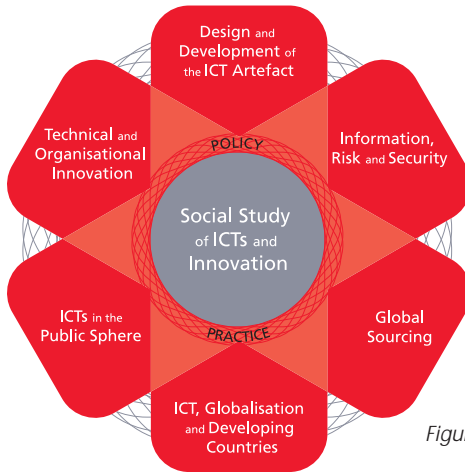


Figure 1 – Information Systems and Innovation – A Network of Expertise

All research is subsumed into these centres with research-based teaching aligned with their themes. Thus the MSc in Analysis Design and Management of IS (ADMIS) draws on all items in Figure 1, while future MScs for example in Risk and Security and in Global Sourcing are more restricted, and the present MSc in IS and Organisation (Research) draws upon research methods, social theories and philosophy inherent in the Social Study of ICTs and Innovation component. There is also strong overlap between these centres: for example, research on public sector ICTs might relate to research on globalisation and developing countries, or information risk and security. We also perform research-based teaching for other existing and planned LSE degrees in Management, Government and Media and Communication departments.

The Social Study of ICTs and Innovation

Technology is devised, developed, and delivered through social means to serve social ends. Information and Communication Technologies are distinctive in their degree of interconnectivity and pervasiveness, their flexible carrying and usage of information and their dynamic, expanding potential. They are at the same time information, control and political technologies, frequently with unanticipated, even unanticipatable consequences and impacts. The relationships between technical, social and organizational innovation are invariably complex and require robust research approaches.

We study these rich phenomena by establishing philosophical foundations, assessing, shaping and using social theoretical perspectives, and applying suitable research methods. These methods are predicated on the need to understand the contexts in which these phenomena take place, their history and how they change or stabilise over time, and their different meanings to multiple stakeholders. Rigorous, independent critical research also enables the group to provide informed commentary on and interventions in policy and practice.

A core course in our ADMIS degree focuses on social theories and philosophical foundations to give students thinking tools and theoretical perspectives with which to study and critically assess and make sense of information systems and innovation. Students also come to learn about and apply research methods in carrying out a dissertation. The ISOR degree focuses much more on qualitative and quantitative research methods, philosophical foundations, social theories, epistemology, as well as major currents in the IS field in order to equip students with analytical and research skills applicable for completing a doctorate. PhD students are encouraged to take rich, critical approaches to the research questions they choose to pursue. All Group research is undertaken with these distinctive foundational orientations, skills and approaches in mind.

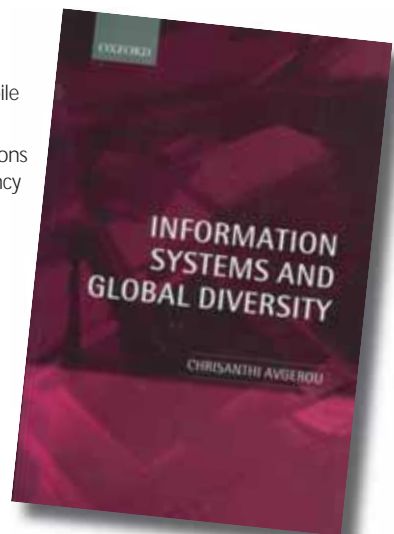
Design and Development of the ICT Artefact

Design and Development of the ICT Artefact

Whereas ICT artefacts used to be restricted to the basements of large enterprises, they have now successfully moved ever closer to us. ICT artefacts permeate all aspects of our lives at home and work. Their flexibility renders them subject to constant innovation, reconfiguration and appropriation. ICT interaction ranges from wireless connections between devices on our bodies to global information infrastructures integrating logistical processes. ICT artefacts are designed for a

diversity of organisational roles, such as, for example, supporting the standardisation of information, and automation of processes. One successful role has been that of standardising a range of globally distributed digital connections through emails, text messages and mobile phone conversations.

As complex ICT artefacts mediate the relationships between organisations and their surroundings, they increasingly offer not only the raw efficiency of automated encounters but also platforms upon which complex relationships can unfold in often unpredictable ways. The diversity of situations ICT artefacts are developed for is constantly changing the understanding of how best they can be understood and designed. Gone are the days of strict separation between distinct development phases and predictable patterns of use.



The embodiment of the ICT artefact was originally the systems development process, then it became that of the packaged standard product. The future brings us information services replacing application ownership and flexible means of mixing and matching such services into flexible complex arrangements challenging our understanding of development. Research in the Group for example studies: Mobile information services; development of grid computing in particle physics; theories of information services; development of global telecommunication standards; and innovative design paradigms.

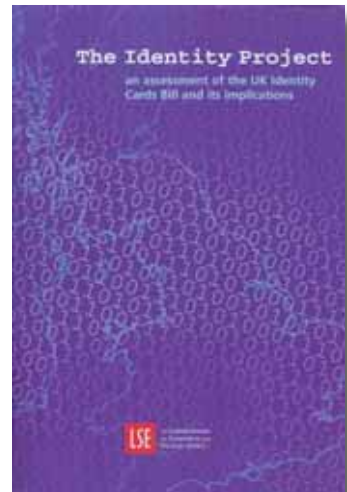
Information, Risk and Security

Information,
Risk and Security

The focus is on three important issues: interoperability of secure systems, including the policy and compliance aspects, identity and identity management, and especially the debate about individual rights and collective needs and Anti-Money Laundering systems and compliance, addressing issues of the limits of profiling and similar surveillance technology. These three issues present a substantial agenda that will provide significant food for thought in the coming debates about security, technology and civil rights in an open society. The Group has established an important research on organizational risk management including in IT and credit risk and reputation risk. Security concerns demand new approaches to identifying suspicious transactions in financial institutions and define and establish effective AML practices within and between financial institutions and regulators

There has been an Information Risk and Security element in the LSE Information Systems Group for over 12 years. It has focused on the social and organisational aspects of information risk and security in the developing information society. As information and communications technology diffuses into business, government and social affairs the risks to normal operations associated with information loom ever larger. Dependency on information systems renders public and private enterprise and citizens vulnerable to attacks on the confidentiality, availability and integrity of information. The Information Risk and Security group teaches an MSc option in security that focuses on the behavioural aspects of information security rather than on technical issues. The course considers organisational risk management and the implementation of countermeasures using appropriate technology and policy. It analyses the role of perception and cognition, of power and responsibility, of law, regulation and compliance in the successful contrasting of information risk.

Members of the group have, in recent years, led research projects for the ESRC and the EU examining a range of information risk issues including identity and security, anti-money laundering, and public key infrastructure and interoperability. We also engage strongly with practice including a major project on ICTs in financial markets. The group is active in professional security areas with representation in forums from the British Computer Society, the Institute of Information Security Professionals and in security standards development bodies. The group has published recently in journals ranging from MISQ, JAIS, Journal of Financial Crime, CACM, Organization Science, Information and organization, and EJS. Other work in this area focuses on privacy practices, trans-border data flows and private sector use of identity management. This work has been published in academic journals and has also been influential in developing government policies in the UK, mainland Europe and North America.



Global Sourcing and ICTs

Global Sourcing

Global sourcing of business and IT services has received increasing attention since 2000 and the offshoring role in Y2K work. In developed economies many organizations have rapidly evolved global models involving a mix of third parties at a range of geographical locations. Meanwhile developing economies have looked to develop their own industries to stimulate and meet demand. Both domestic and offshore suppliers are increasingly intent on designing more sophisticated sourcing arrangements, including offshore, nearshore and onshore components. The 2007 markets for IT outsourcing (ITO) and business process outsourcing (BPO), in terms of supplier revenues, exceeded \$US200 billion and \$US140 billion respectively, and are anticipated, on our figures, to rise at about 5 per cent and 7 per cent through 2007-12.

We are at the forefront of research in relation to these phenomena, and look to further lead thinking in developments, and to provide rich understanding of, and lessons from, global sourcing experiences. Areas our Global Sourcing research programme is focusing on include, job markets, skills and capabilities, service and market developments, infrastructure requirements, learning, innovation and intellectual property issues in global sourcing arrangements. New themes, for which sponsorship is being invited, include: 'from IT-related services to service verticals and multi-tower BPO'; 'emerging offshore issues'; 'retained core capabilities'; 'service-orientated architecture'; and 'shared services'.

This research stream is led by Professor Leslie Willcocks and is backed by an annual March conference: 'Global Sourcing: Services Knowledge and Innovation', and a Palgrave book-series entitled Technology Work and Globalization. A new MSc in Global Sourcing is also planned to start in 2008-09.

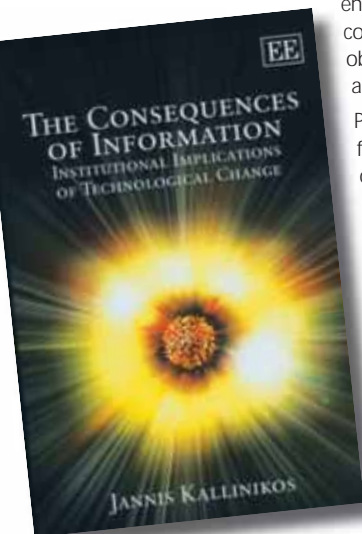
ICT, Globalisation and Developing Countries

Globalisation has focused academic and policy attention towards addressing the role of ICTs in developing countries. The topic area is of increasing business and policy relevance to a host of players at global, national and local levels. Management consultancies, IT companies, international governmental and non-governmental organisations are increasingly involved in the supply of IT products and services in developing countries. Their mandate is to harness ICTs in order to promote global economic activity and to encourage international development policy prescriptions. Within developing countries, central and local government bodies have to grapple with the twin objectives of harnessing ICTs in order to participate in global economic activity and addressing other pressing social development priorities.

ICT, Globalisation and Developing Countries

Participation of developing countries in the global economy may be important for economic development, but this activity only touches a small percentage of the population of many developing countries. Huge sections of the population have few opportunities even to enjoy basic amenities such as employment, education and good health. At the local contextual level where ICT projects are implemented, there are a host of different issues which need to be faced related to the interplay between ICT and the local socio-political and cultural milieu within which the artefacts are embedded.

The issues that emerge at these various contextual levels are clearly interdisciplinary and we draw on the fields of development studies, anthropology and social policy to enable a more critical analysis of the interaction between ICTs and developing countries in the context of globalisation.



ICTs In The Public Sphere

This aspect of our research examines how public sphere initiatives are established and pursued, their goals, and their wider consequences are for both the state and the citizen. Government in both industrialized and developing countries have long been large-scale users of ICT to provide services to their citizens. More recently, the trend has been towards electronic portals and one-stop shops for such services (e-government). Moreover, e-government interventions are closely linked with efforts for organizational and management reform of the public sector. With the active encouragement of the major development institutions, e-government initiatives in developing countries aim at delivering good governance as a basis for economic growth and social development.

This leads us to an interest in issues of civic space and, for example, the potential of ICT to improve the quality of democratic involvement and citizens' trust in democracy, to alter the privacy rights of individuals, to shape new understanding of intellectual property, and to undermine government's ability to raise taxation and police borders.

Research in this area is undertaken in both industrialized and developing countries. Themes addressed include national and local e-government strategies and projects, the development of information infrastructures in health care systems, electronic voting, and national identity cards. We are also concerned with how the citizens approach these new technologies and whether they fulfil their promise to reduce inequality in access to information and participation or lead to further exclusion of the most marginalised. Thus we are concerned both with the nature and design of technologies and their conditions of use.

Technology Management, Innovation and Organisations

Technical change, along with improved organisational practices, account for so much of modern economic growth. Major corporate, local, national and international policies and managerial practices are predicated on the assumption that ICT-led productivity growth will increasingly become the source of social improvement. We apply a variety of methods to investigate the factors affecting success and failure in the use of ICTs and the character of innovation at the level of the organisation, the technical system, and beyond.

Our studies range from investigations of the effects on innovative activity of national, European Union and other regional policies, to studies of corporate innovation strategies and of R&D management, and research on decision-making practices associated with high technology. We have special interests in internet governance and telecommunications as well as other infrastructure and network industries, and on the characteristics of regulation, governance, and exchange regimes as applied to new business models.

Our analytical approaches include techniques from economic sociology, social anthropology, policy studies, and the critical insights associated with science and technology studies, especially as applied to the analysis of systems failures and of political and economic interest groups.





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Equality and diversity are central to the aims and objectives of LSE. The School actively promotes the involvement of all students and staff in all areas of School life and seeks to ensure that they are free from discrimination on the grounds of gender, race, social background, disability, religious or political belief, age and sexual orientation. At LSE we recognise that the elimination of discrimination is integral to ensuring the best possible service to students, staff and visitors to the School.

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The information in this leaflet can be made available in alternative formats, on request. Please contact: Stella Mandehou, Research Coordinator, Email: s.mandehou@lse.ac.uk