A significant proportion of social, economic and political activity across the world has moved online, and our mission is to understand this transformation. Our research draws on many different disciplines: we believe this combined approach is essential to tackle society's 'big questions'.

Our research is organised into eight clusters.
It’s an incredibly exciting time to be the director of the Oxford Internet Institute. Digital connections and data are now embedded in almost every aspect of our daily lives, and research on individual and collective behaviour online is crucial to understanding our social, economic and political world. This presents huge opportunities and challenges for industry, government, and policy makers. As researchers, we now have unprecedented access to a huge volume of rich social data, and are developing new theories, concepts and methods to analyse it. Our graduate programmes attract students from all over the world to work with our faculty at the cutting-edge of their fields. As the public policy environment enters a period of dramatic change and uncertainty we are able to provide the empirical data and conceptual analysis that is so needed to design policy solutions to societal problems. Together, we aim to positively shape the development of our digital world for the public good: this document describes just a little of what we do.

Helen Margetts, Director
www.oii.ox.ac.uk
Social data science for the public good

Our daily lives generate unprecedented quantities of digital data, providing researchers with an opportunity to study complex social systems through empirical observation of patterns in large-scale (or 'big') data. Social data science is a multi-disciplinary endeavour, combining concepts and models from the social, mathematical, physical and life sciences, and is a strand that runs through much of our work. We’re collecting and analysing social data to investigate mass-collaboration and peer production, citizen science, online labour markets, electoral behaviour, collective action and civic engagement: data on a scale that would have been unimaginable just a few decades ago. Follow-up social experiments in the laboratory or in the wild allow us to make causal inferences about the patterns we observe. This can help generate theory-informed predictive models of how individuals behave and interact in society, and inform policy interventions for problems like crime, poverty, traffic congestion, and pollution. Ethical considerations inform all our work: as digital social data is produced by identifiable individuals, we must develop a strong ethical framework for its use, particularly where findings and models are incorporated into public policy-making.

We form part of the Alan Turing Institute, which will place the UK at the forefront of worldwide research in data science. Geocoded data can provide insight into patterns of Internet use at national and local levels (left: UK, Oxford). Urban data promises to vastly improve management of our increasingly complex environment, and we are working with Oxford City on a number of smart city initiatives. Image of Turing by Tris Linnell (Flickr).
The Internet has transformed political behaviour, from voting and campaigning for policy change, to protest and even revolution. This poses a challenge to states, as political movements become more turbulent, unpredictable, and societies harder to govern. To understand this radically transformed political world, we are re-examining the models and conceptual frameworks of political science and theory, and developing social data science methodologies to understand political behaviour. Governments are increasingly reliant on complex networks of information systems, but often lag behind citizens when it comes to innovating with the Internet and social media, and developing applications to tackle policy problems. At the same time, ICTs offer new possibilities for more effective and citizen-focused service delivery and policy innovation that is cheaper and more granular. We're working with policy makers to develop new governance models and innovations like crowdsourcing, feedback systems, and experimental methodologies to co-produce public policy and services. Of course, we must also be aware of the ethical dilemmas implicit in governing a digital society. After all, technology can be used to surveil and control populations—not just to provide services. "We're developing the innovative research methods we need to understand the dynamics of new forms of political action being enabled by the Internet. This work is hugely important not only for public understanding of the rapid changes happening in today’s society, but also for governments as they attempt to re-engage with citizens in new, more dynamic, online environments."
Information governance and security

The big data generated by digital interactions between people, organisations, and artefacts is transforming the way that we live, work and think—posing numerous challenges to information governance and regulation, including of the Internet itself. We are exploring and analysing these challenges, working out how they may be overcome through new governance rules, processes, and institutions. We investigate how emerging technologies like biometrics, surveillance tools and the Internet of Things can be designed and governed to preserve the competing demands of information security, privacy and individual freedom. We examine how people interact with automated border gate technology like iris scanners; are developing techniques to retrieve and analyse data on global censorship and surveillance; and investigating how research into violent online extremism can be carried out while also protecting privacy and free speech. We're also investigating the challenges and opportunities of digital citizenship in the light of the governmental mass-surveillance measures revealed by whistle-blower Edward Snowden.

"The Snowden leaks provide unprecedented insights into the workings of digital surveillance programmes. They have prompted significant debates around such issues as the nature of civil rights, the accountability of governments and corporate intermediaries, and transparency, use and configuration of technical infrastructures."
If we're to create good law and public policy, we must have a deep and clear understanding of the nature and power of information, and how ICTs are mediating and shaping our experience of the modern world. We aim to identify and analyse the pressing ethical and philosophical issues affecting today's information societies and develop approaches to help resolve them. These include issues like state-sponsored surveillance, the question of who controls institutional memory (and indeed forgetting), and individual agency in a society that is increasingly dependent on non-transparent algorithms and 'intelligent' machines. Areas we're working on include work towards the development of a European framework for the ethical use of big data (such as genomic information) in biomedical research; the civic responsibilities of increasingly powerful online service providers, for example when asked to comply with state-sponsored filtering and surveillance regimes; the adequacy of existing laws and ethical frameworks for regulation of cyber warfare; the ethics of persuasive technologies and environments (think the UK Cabinet Office's behavioural insights team, aka the 'nudge unit'); and issues around the regulation and ethics of search engines, including the 'right to be forgotten'.
Economics plays a central role in policy, business, and competition regulation—not to mention debates on issues ranging from intellectual property to network neutrality. It's important to understand how technology shapes economic life, and to study the economic and social implications of new market structures and business models. Economic analysis can be used as a methodological toolset for rigorous thinking about important social issues, with strong positive and normative policy statements emerging naturally from this foundation. Many markets have been transformed by fundamental shifts in their technological underpinnings, giving rise to powerful intermediaries and platforms (like Google and Amazon), and to changes in the institutional arrangements through which work and earnings are arranged and allocated in society (think Uber and Bitcoin). We are applying economics to these and other issues of broad social import—from media bias to cybersecurity—in order to understand the role of incentives and individual behaviour in these arenas, and to answer questions such as: how should we govern and regulate new economic environments and processes? How should marketplaces be designed to function efficiently?

Virtual game economies are microcosms of economic activity with their own markets and institutions, and we can examine how their design affects economic outcomes. There is much we can learn from them, including how a focus on social fabric can usefully inform national economies—and the economists who run them. Image by zcar300 (Flickr). Graphics: Online labour markets allow workers in low-income countries to earn income from employers in rich countries, but their country of origin influences the earnings: the Internet is not necessarily an equaliser. Left: Greg Taylor, convenor of our MSc option course on Internet economics.
Questions of equality and social justice are as important as ever in the information age. Do Internet technologies give rise to radical social change, or do they just reproduce existing social and economic divisions and relationships? By changing how people and organisations interact with each other, ICTs disrupt and reconfigure social networks, information and value flows, and geographic space: but who exactly profits? Through surveys, interviews and mapping of virtual labour and knowledge economies, we're examining the differences being made by ICTs and changing connectivities at the world’s economic peripheries, and critically considering what 'development' is (and should be) in a hyper-connected age. In particular, we aim to understand the current and potential impact of ICTs on social and economic development, and on value flows from new 'virtual' economic activities and work. While there are hopes that the Internet will collapse distance and provide everyone with access to global markets, inequalities in wages and workers' rights complicates the picture—the Internet doesn’t just 'create' development: it takes place against a background of older processes of dependence, underdevelopment, and economic extraversion.
The Internet plays an important part in our daily lives, and our research addresses the psychological, social and educational implications of the Internet across the full lifespan, with a particular focus on children and young people. We employ theoretically diverse approaches and an array of methods (including experiments, interviews and national surveys) to investigate the benefits and risks associated with the Internet in everyday life. We're particularly interested in those young people who have stopped using the Internet despite its obvious value, and are unpacking the complex interaction between Internet access and use, and education, home life, disability, bullying, and employment; work that is informing the UK's digital inclusion strategy. We provide an empirical alternative to media-fuelled fears of the supposed dangers to children of the Internet, looking at the relation between perceived risks and actual danger, and also the rights of the child in this area. We also investigate (violent) video games in an experimental setting to examine how an individual's psychological state (such as motivation, engagement, and cognition) impacts aggression and self-regulation in adolescence.
Digital knowledge and culture

At the OII we’re charting the digital transformation of the sciences, social sciences, arts and humanities, in order to understand the impact of ICTs on scholarly and public engagement with knowledge, arts, and culture. Oxford has more Digital Humanities activity than any other UK institution, and we’re a key actor in that. We’re interested in how researchers access and engage with data, such as how they negotiate institutional structures (data storage, rights, ethics) during the process of medical discovery, and work with the Bodleian and British Libraries to research how access to open digitised texts and images can contribute to and transform the scholarly process, and support public engagement. Visits to libraries and museums can begin long before we step through the door, and access to deep, rich contextual resources can enhance our engagement with the arts, sciences and heritage environments. We’re particularly interested in how value is created via platform-mediated crowds, such as those engaged in citizen science, open film production, and tagging and augmentation of our digitised heritage. Our work in this area has involved physicists, marine biologists, historians, theatre companies, film makers, scholarly archives, libraries, museums, and the BBC.
Our graduate students come from a wide range of disciplinary backgrounds to study academic, practical and policy-related issues of the Internet from a multi-disciplinary perspective. Our first-of-its-kind MSc in the Social Science of the Internet is offered (full and part-time) to students interested in careers in the technology industry, consulting, government, NGOs, or further study, while our DPhil in Information, Communication and the Social Sciences allows students to develop an original research project under the supervision of faculty working at the cutting edge of Internet research. Our diverse faculty teach a broad range of courses that help students develop the knowledge and skills necessary for helping to advance our understanding of the Internet and its role in society. If you’re interested in rigorous Internet-related study and research, and want to join a challenging but friendly intellectual community, then the OII could be the place for you!

Attending one of our open days is a great way to find out more about the programmes from the admissions team, teaching faculty, and students. http://www.oii.ox.ac.uk/graduatestudy/
Our students come from all over the world (above) and go on (right) to secure excellent positions in industry, government, NGOs, or pursue doctoral studies at top universities like Harvard, Princeton, and the LSE, as well as at the OII and other departments at Oxford. Our alumni have gone to Google, Facebook, and smaller start-ups like Academia.edu, as well as regulatory agencies and consultancies. Images clockwise from top: sessions during the annual student-organised 'Connected Life' conferences; Tim Berners-Lee with students of our popular Summer Doctoral Programme, which has been taken overseas to partner institutions in Beijing, Boston, Toronto and Brisbane (pictured)—a truly global programme that contributes to our large international network.
Supporting our work

Our achievements would be impossible without the generosity of our institutional and individual supporters, as well as support from research councils and private sector organisations. It is they who enable us to build on our strengths and extend our work globally to meet the challenges of the digital future. We continue to need new friends and partners to provide philanthropic support to ensure the quality and impact of our research and to attract top academic talent. Our graduate programmes are designed to train future leaders in academia, business and policymaking. Support for scholarships enables us to offer places to the brightest candidates and gives young scholars the means to fulfil their full academic potential during their time with us. We are proud of the strong relationships we’ve built with our existing funders and are delighted to publicly acknowledge their support. We always seek to engage our sponsors in the department’s activities and would be excited to discuss such opportunities with any new parties interested in supporting our important work.

Victoria Nash, Deputy Director
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The OII Internet Awards aim to give something back to those extraordinary individuals and organisations whose achievements have so shaped the digital space we study every day. They also embody everything we stand for: a belief in the great public good of a free and open Internet, in the vital importance of innovation, research and exploration, in the moral significance of hard work and aspiration tempered by a strong social conscience. Award winners include (top) Dame Stephanie Shirley and Sir Tim Berners-Lee; (top-middle) Pete Lomas for Raspberry Pi; (top right) Laura Bates and Beth Noveck; (below, at back) John Seely Brown, Max Schrems, Chris Lintott for Galaxy Zoo, and Alec Ross.