

Web Science Institute A Year of Progress



Web Science Institute

We don't understand how the Web is changing our society, economy, politics, languages, computers . . . yet.

The Web Science Institute (WSI) brings together world-leading multidisciplinary expertise to tackle the most pressing global challenges facing the World Wide Web and wider society today.

Web Science has an ambitious agenda: to focus the analytical power of researchers from disciplines as diverse as sociology and computer science, economics and psychology, law and mathematics, to understand and explain the Web. It is necessarily interdisciplinary, as much about social and organisational behaviour, as about the underpinning technology.

“The Web Science Institute celebrated its first anniversary with a showcase of research, and an afternoon of debate and discussion. Our theme – ‘Privacy and Trust in the Era of Big Data Analytics’ – was one that impacts on everyone in the digital world as personal data becomes a tradeable asset, and carries wide-ranging implications for individuals, business and government.”

Professor Dame Wendy Hall

“The Web is not a technical system or a social system but thoroughly sociotechnical. Our path-breaking interdisciplinary educational programmes and links with industry, business and government are underpinned by innovative research that allows us to build the capacities we need to understand and intervene in the Web as it continues to evolve.”

Professor Susan Halford

Directors of the Web Science Institute



Professor Dame
Wendy Hall



Professor Sir
Nigel Shadbolt



Professor
Susan Halford



Professor
Leslie Carr



Dr Lisa Harris



Professor
Graeme Earl

Significant Achievements

The Centre for Doctoral Training (CDT) in Web Science now has over 80 fully-funded PhD students.

WSI hosted Distinguished Lectures during the year by Professor Evelyn Ruppert, Professor Chris Lintott, Professor Barry Wellman and Dr Phil Tetlow.

WSI is collaborating with Southampton City Council to build a Citizens Panel - an innovative form of online engagement which includes the development of citizen social science.

WSI hosted the inaugural Web Science Summer School in Southampton.

The Web Science and Data Analytics Summer School ran in Singapore collaboration with the National University of Singapore.

WSI hosted six informal lunch and networking events throughout the year, to progress specific projects in topics such as Open Data, The Law and the Web, and MOOCs.

A number of Social Media Research Projects are under way. These team projects address pressing social science research questions, such as immigration, health policy, and demographic modelling by trialling social media data and methods in collaboration with PhD students and the Web Observatory.

The Web Science MOOC ran for the third time in partnership with FutureLearn, registering more than 25,000 learners to date.

Eight new interdisciplinary projects have been progressed through the year. These are supported by the Higher Education Innovation Fund (HEIF) to stimulate interactions with business, government, industry and other users of University research.

Professor Dame Wendy Hall delivered this year's Queen's Lecture at the Technische Universität Berlin.

As part of the German Embassy Talks series, the Web Science Institute took part in an afternoon of presentations, lectures and a panel discussion on the topic: "Exploring the Emerging Digital Frontiers: From Mind to Market".

The Southampton Web Observatory portal is now deployed; sharing public and private datasets, API access (Javascript, Node) and support for streaming data.

In collaboration with ANZOG and the University of South Australia (UNSA), a Web Observatory was installed to help local/regional government understand the issues and opportunities around an ageing population.

WSI teams installed India's first Web Observatory in partnership with IIIT Bangalore where Dame Wendy Hall contributed to significant coverage of the event.

As part of the Southampton/Edinburgh/Oxford joint "Social Machines" (SOCIAM) project, emergency rescue service managers from three counties were briefed on aspects of social computing and Web Observatories.

WSI researchers formed part of the presentation and mini-conference held at Microsoft HQ in London to discuss opportunities and challenges around Social Machines.

WSI researchers took part in the 25th Anniversary "Web We Want" Festival at the South Bank showcasing Southampton technologies and projects.

WSI attended the launch of the CDEC (Digital Catapult) offices in London.

Web Science Institute One Year On: Privacy and Trust in the Era of Big Data Analytics

The Web Science Institute (WSI) celebrated its first anniversary at a special event at the Digital Catapult, London, on Monday 8 June.



The event opened with an exhibition showcasing interdisciplinary Web Science research. This included the Macroscopic - a vital tool for studying the World Wide Web in great detail. The Macroscopic can monitor the 500 million posts created daily on Twitter, 100 million posts on Chinese microblogging site Weibo, and 500,000 edits to Wikipedia, amongst others. This enables researchers in the SOCIAM ('Social Machines') project to capture significant effects that may usually be missed – such as trending topics, conversations and collective actions taking place across the Web - thus providing valuable analytical insight for Web Scientists and the wider research community. The Macroscopic builds on the Web Observatory project that also forms part of SOCIAM and is coordinated globally by the Web Science Trust.

Institute Directors Professor Dame Wendy Hall, Professor Sir Nigel Shadbolt, Professor Susan Halford, and Professor Les Carr, then joined other leading figures from Web and internet science, in panel-led discussions on 'Privacy and Trust in the Era of Big Data Analytics'.

Distinguished speakers included: Sir David Omand, Commissioner for the Global Commission on Internet Governance; John Taysom, Web Science Trust; Dr Dan McQuillan, Goldsmiths, University of London; Dr Caroline Wilson, Anura Consulting Ltd; Philip Sheldrake, author of 'The Business of Influence'; Dr Liz Brandt, Director and Consultant; Gavin Starks, Founding-CEO of The Open Data Institute; Dr Alison Powell, Assistant Professor, London School of Economics.

Panel discussions focused on 'Digital Privacy and Security', 'Private and Personal in the Age of the Web of Data', and 'Algorithms and Accountability'. The final panel discussion focused on some of the PhD research taking place at the Web Science Centre for Doctoral Training at the University of Southampton. PhD students Reuben Binns, Emma Cradock and Richard Gomer talked about some of the issues being covered in their multidisciplinary research, including consent, consumer data profiling, and privacy.



Web Science at the University of Southampton

The University of Southampton has played a significant role in the development of the Web over the last 25 years, including the foundation of the innovative discipline of Web Science 10 years ago. As the Web continues to evolve, so too do the opportunities for University of Southampton students to help shape its future.

Centre for Doctoral Training

The Web Science Centre for Doctoral Training at the University of Southampton was established as part of a £250 million investment in the future of UK science and technology by the RCUK Digital Economy Programme. The Centre will train a cohort of 80 PhD students in a thorough understanding of how to innovate and create new forms of value through the Web, and prepares them to become agents of change in the digital economy. Through relationships with its industrial network it provides students with the expertise and leadership capacity to apply Web Science principles and produce a significant impact on the UK economy.

dtc.webscience.ecs.soton.ac.uk

Undergraduate Study

Pioneering the development of Web Science, the University of Southampton aims to provide a thorough understanding of the Web as a social and technical phenomenon. This demands new ways of working, across traditional academic disciplines, to build skills and expertise in the technical underpinnings of the Web as well as the social processes that have shaped its evolution and the impact of the Web on society.

Whether electing a social science or computer science pathway, Web Science undergraduates can expect to be taught by researchers at the forefront of their disciplines and be equipped to become leaders in the emerging digital economy. New pathways in Music and Management are in development and others will be added over time.

www.southampton.ac.uk/webscience

Massive Open Online Courses

In 2013, the University launched its series of MOOCs with 'Web Science – how the Web is changing the world' in partnership with FutureLearn. This course examines the origins and evolution of the Web, and considers key questions of security, democracy, networks and economy from both computational and social science perspectives. It has run three times so far and is now being updated for Autumn 2015

www.southampton.ac.uk/moocs



WSI Research Collaboration Stimulus Fund 2014-15

The Web Science Institute was awarded a grant of £100,000 to establish a Research Collaboration Stimulus Fund for the academic year 2014-15. Funded from the Higher Education Innovation Fund which was allocated to the University of Southampton by HEFCE, the grant is expected to stimulate interactions with business, government, industry and other users of University research.

The WSI Research Collaboration Stimulus Fund is intended specifically to pump-prime small research projects that lead to the development of new research grant applications involving significant collaboration with external stakeholders, as well as collaboration between disciplines, and to demonstrate a strong commitment to the development of Web Science. Further information about these projects can be found on the WSI website at www.southampton.ac.uk/wsi/research/research_collaboration_stimulus_fund.page

Measuring Financial Sentiment in Social Media

Principal Investigator: Professor Frank McGroarty, Southampton Management School

Co-Investigator: Dr Sha Liu, Southampton Management School

Co-Investigator: Paul Gaskell, Web Science Doctoral Training Centre Student, Electronics and Computer Science

The Quantified Self and Clinical Decision-Making

Principal Investigator: Dr Richard Giordano, Health Sciences

Co-Investigator: Dr Max Van Kleek, Electronics and Computer Science

Co-Investigator: Dr Jeff Vass, Social Sciences

Co-Investigator: Dr John Coggon, Law

Co-Investigator: Peter West, Web Science Doctoral Training Centre Student, Electronics and Computer Science

Participation and Responsible Innovation for Co-Design for Exchange (PRICE)

Principal Investigator: Professor Melanie Nind, SEds

Co-Investigator: Dr Sarah Parsons, SEds

Co-Investigator: Dr Andrew Power, SEds, Geography

Co-Investigator: Dr Clare Hooper, IT Innovation

CLEAR: Comparing Learning Event and Actual Resuscitation Data. A Web Observatory for resuscitation Data

Principal Investigator: Dr Eloise Monger, Health Sciences

Co-Investigator: Dr Mary Gobbi, Health Sciences

Co-Investigator: Dr Mark Weal, Electronics and Computer Science

Digital Police Officer: Linguistic Analysis to Identify Cybercriminals

Principal Investigator: Dr Clare Hooper, IT Innovation

Co-Investigator: Dr Craig Webber, Criminology, Social Sciences

Massive Open Online Annotation Framework

Principal Investigator: Dr Mike Wald, Electronics and Computer Science

Co-Investigator: Professor Graeme Earl, Archaeology

Co-Investigator: Adam Proctor, Winchester School of Art

Dissemination and 3D Visualisation of Hampshire Aerial Data

Principal Investigator: Jason Sadler, GeoData, Geography and Environment

Co-Investigator: Dr Elena Simperl, Electronics and Computer Science

Obesity and Health over Social Networks

Principal Investigator: Dr Antonella Ianni, Economics, Social Sciences

Co-Investigator: Dr Markus Brede, Electronics and Computer Science

Co-Investigator: Dr Emmanouil Mentzakis, Economics, Social Sciences

Web Science Institute Associated Projects

Web Science Trust

The Web Science Trust is a charitable body with the aim of supporting the global development of Web Science through a network of world-class laboratories known as WSTNet, hosted by the University of Southampton.

webscience.org

Web Observatory

The Web Science Trust has proposed a new class of scientific instruments (akin to microscopes or stethoscopes) designed to take measurements from the Web. These will be connected and operate globally, offering access to data sets and open analytics and will support a range of stakeholders from academia, government and business. The University of Southampton is committed to the development of the Web Observatory which will not only support Web Science research but will offer broader insight into the mechanisms of modern society and “social machines” on the Web.

webscience.org/web-observatory

SOCIAM

SOCIAM – the Theory and Practice of Social Machines – is a major research programme funded by the EPSRC which aims to deliver greater insight into understanding and building the next generation of ‘social machines’. These are part-technical and part-human systems that are co-created and develop capabilities ranging from solving routine tasks to handling emergencies. Led by the University of Southampton, SOCIAM also includes the University of Oxford and the University of Edinburgh.

sociam.org

The Macroscope – an observational lens for the World Wide Web

The Macroscope is a vital tool for studying the World Wide Web and has been developed by SOCIAM. The Macroscope enables us to observe, analyse and better understand the Web and Social Machines. It builds on the Web Observatory project that also forms part of SOCIAM and is coordinated globally by the Web Science Trust.

sociam.org/content/what-macroscope

Open Data Institute

The University of Southampton is an honorary founding partner of the Open Data Institute, a world-leading organisation that pioneers new social and commercial value from open data.

theodi.org

ILlAaD

ILlAaD - The Institute for Learning, Innovation and Development provides expertise, support and professional development to help the University of Southampton realise its strategic ambition of revolutionising its educational offering by 2020

www.cite.soton.ac.uk/

SoFWIREd

SoFWIREd is a partnership with the Fraunhofer Institute in Germany in which we are developing a comprehensive platform for processing and analysing the Web of data, to support companies and governments and enable the transition towards collective intelligence by global industry.

www.sofwired.org

Interdisciplinary Research at the University of Southampton

The University of Southampton has established a number of interdisciplinary research groups and institutes to develop cross-faculty, interdisciplinary initiatives – such as Web Science. These address key national and international priority research themes towards understanding and alleviating some of society’s global challenges. Each theme draws together researchers from across the University, combining our research in engineering, social sciences, biological and physical sciences, medicine and health technologies as well as law, management and art.

To find out more or to become a member or partner of a particular group please contact:
interdisciplinary@soton.ac.uk

Interdisciplinary Research Groups at the University of Southampton:

- Ageing and Lifelong Health
 - Autonomous Systems
 - Clean Carbon
 - Complexity in Real-World Contexts
 - Computationally Intensive Imaging
 - Energy
 - Network for anti-microbial resistance and infection prevention
 - Population Health
 - Sustainability Science at Southampton
 - Work Futures
- Institutes:
- Institute for Life Sciences
 - Southampton Marine and Maritime Institute
 - Web Science Institute
 - Zepler Institute

www.southampton.ac.uk/interdisciplinary

Web Science Institute: From research to innovation

The WSI is very grateful to all our collaborators and supporters:

Ad Venture	Fraunhofer	NTU Singapore
BBC	Fraunhofer UK	Ocado
Bertelsmann Stiftung	German Embassy, London	Office for National Statistics
Big White Wall	German Ministry of Research	Office of Public Sector Information
Bristows	Google	Open Data Institute
British Library	Group Partners	Ordnance Survey
BT	Hampshire County Council	Peer 1 Hosting
Business Collaborators	Haymarket Media	Razorfish
Business South	Headstream	Roke Manor Research
Cabinet Office	Herbert Smith Freehills	salesforce.com
Cap Gemini	Highlands and Islands Enterprise	Samsung
Channel 4	Home Office	Simplyhealth
Computer Weekly	IBM Ireland	South East Regional Organised Crime Unit
Digital Catapult	IBM UK	Switch Concepts
Consult Hyperion	Internet Society	Thomas Eggar
Ctrl-Shift	JANET	Thomson Reuters
D&G Media	JP Morgan	UKTI
Defence Science and Technology Laboratory	KnowNow	Unit 4
Deloitte	Lawton Communications Group	University of Oxford
Deutsche Bank	Mendeley	Visceral Business
Edelman	METIS Educational Partnerships	Yahoo!
Elsevier	Microsoft Research	100% Open
EPSRC	National Archives	
ERCIM European Research Consortium for Informatics and Mathematics	National Crime Agency	
Ethos	NHS Direct	
Euler Partners	Nominet	
Facebook	Not on the High Street	
Flying Binary		

Web Science Institute at German Embassy

As part of the German Embassy Talks series, the Web Science Institute took part in an afternoon of presentations, lectures and a panel discussion on the topic “Exploring the Emerging Digital Frontiers: From Mind to Market”.

The event was organised in cooperation with the Southampton Fraunhofer Web Science, Internet, Research & Development (“SoFWiReD”) project. SoFWiReD is a collaborative venture between the University of Southampton and the German Fraunhofer-Gesellschaft.

Partners of SoFWiReD had the opportunity to present their projects in a small exhibition to guests from science and business. These included demonstrations of “social machines”, building visualisation software BIM, photonics, and others. Professor Dame Wendy Hall, Executive Director of the Web Science Institute and SoFWiReD co-founder, then opened the series of short lectures of leading web scientists from both the UK and Germany.

www.southampton.ac.uk/wsi

www.twitter.com/sotonwsi

www.youtube.com/user/webscienceinstitute

www.blog.soton.ac.uk/wsi