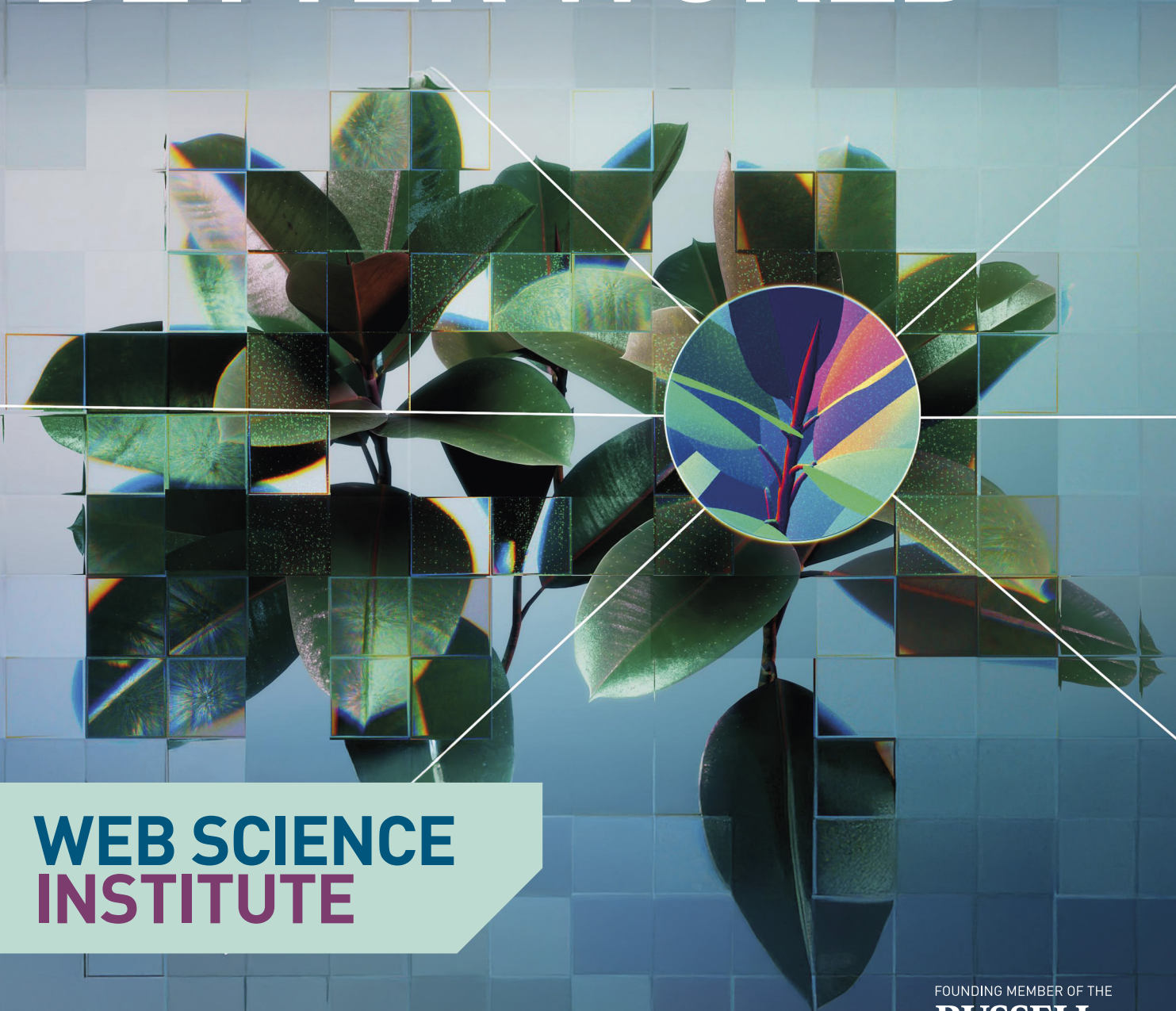


REIMAGINING AI FOR A BETTER WORLD



**WEB SCIENCE
INSTITUTE**

FOUNDING MEMBER OF THE
**RUSSELL
GROUP**

WELCOME

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Welcome to the Web Science Institute (WSI) – we are at the forefront of Web Science research, training and enterprise and are based at the University of Southampton.

We are delighted to be celebrating our 10th anniversary. It has given us the opportunity to reflect on how far we have come and all that we have achieved over the past decade.

Web science has changed dramatically in that time and the WSI has adapted with that. The emergence of AI and in particular generative AI (GenAI) is reshaping society and the WSI is committed to ensuring that we harness AI for the future good.

We are excited to be running our first AI@Southampton Festival this year which will culminate in the official launch of AI@Southampton, a new initiative co-ordinated by the WSI that brings together AI and AI-related expertise from across the University to accelerate research, education and knowledge exchange.

We are also delighted to be launching our new online Master of Arts in AI that already

has 40 people signed up to join the first course. Unlike MSc offerings, our MA will not just focus on the technology behind AI but will explore how AI can be used for human benefit in society.

Our plans to create a Civic University provide an opportunity to shape a more future-ready Southampton by applying AI in ways that directly benefit the region.

You can read more about all these initiatives throughout the report.

Finally, we are sorry to say farewell to Professor Pauline Leonard, who has stepped down from her role as WSI Deputy Director after six years. Fortunately, she will still be involved with the WSI as an Associate Director. We welcome Professor Thomas Irvine as the new Deputy Director and look forward to working with him to further strengthen our collaborations with our colleagues in arts and humanities. We also welcome Claire Wilkins who is managing AI@Southampton.

Professor Dame Wendy Hall
Web Science Institute Director



I am delighted to add my welcome to Professor Dame Wendy Hall's.

These are exciting times for the Web Science Institute. The web is a key underpinning to data science and the training and application of generative AI. It is, therefore, entirely appropriate that WSI is leading on the AI@Southampton initiative.

Furthermore, the importance of work at the socio-technical interface is ensuring the responsible and trustworthy application of AI builds on the WSI's and the University of Southampton's longstanding strengths. We have high hopes for the national and international leadership that AI@Southampton will provide.

I echo Wendy's thanks to Professor Pauline Leonard for all her excellent service as the Deputy Director of WSI.

I hope that you will share my excitement in the work that is included in this report and look forward to a very bright future.

Professor Mark Spearing
Vice-President (Research and Enterprise)



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The WSI would like to thank its dedicated team of Associate Directors:

Professor Michael Boniface
Director of the IT Innovation Centre

Professor Pauline Leonard
Professor of Sociology and Associate
Dean of Faculty (Research and Enterprise),
Social Sciences

Professor Larry Lynch
Professor of Performance Writing,
Winchester School of Art

Professor Matthew Ryan
Professor of Governance and Public Policy

Professor Peter W F Smith
Professor in Social Statistics

Professor Mark Weal
Professor of Digital Health

WEB SCIENCE INSTITUTE

The Web Science Institute (WSI) was created a decade ago to bring together the University of Southampton’s world-class, interdisciplinary, socio-technical expertise in web science, data science and artificial intelligence (AI). Its aim is to critically examine society’s use of online technologies and promote their role in tackling global challenges.

The WSI has created collaborations within the University and externally with industry, governments and third sector organisations, that bring interdisciplinary socio-technical insights and impacts to the world’s most pressing problems.

It remains a global leader in web science and AI, and Southampton academics continue to help shape policy through their cutting-edge policy-related publications.

With the growth of AI and in particular generative AI (GenAI), the WSI is leading a new initiative – AI@Southampton – that is accelerating research, education and knowledge exchange by curating and extending the University’s interdisciplinary network of world-leading AI researchers and researchers using AI.

It is also playing a key role in Southampton’s Civic AI project. The University’s commitment to being a Civic University is drawing on the WSI’s expertise to help shape a future-ready Southampton by applying AI technologies in ways that drive business innovation and efficiency and provide jobs.

The WSI is stimulating new research through pilot project and knowledge exchange and enterprise project funding, and is supporting the launch of an innovative online Master of Arts (MA) in AI that enables students to investigate the impact that AI has on society and how to harness it for good.

Human-centred artificial intelligence (HCAI) and its cohort of PhD students continues to be core to the WSI’s research.

Image:
Plant by Alan Warburton
<https://betterimagesofai.org>
Image by BBC

FOCUS ON THE LEADERSHIP TEAM

PROFESSOR DAME WENDY HALL WSI DIRECTOR



“Southampton is not just another AI lab: it is the cradle of Web Science, the national hub for trustworthy autonomy and responsible AI.”

Dame Wendy has continued her role as a key advocate for responsible AI governance and diversity in technology over the past year. She has played a crucial role in global discussions on the future of AI and attended the Paris Safety Summit. She has also been asked to advise His Majesty King Charles III and the UK Government on AI.

Dame Wendy has regularly featured in the media, taken part in interviews and discussions, and appeared on panels and as a speaker at events around the world including the UN roundtable in New York, the Foundation for Science and Technology Governing AI for Humanity event, and the UK-India AI Conference: Opportunities with a Focus on Safety and Security.

As well as AI on the international stage, Dame Wendy has also been involved with the expansion of AI research at the University. She is spearheading two initiatives AI@Southampton and the Civic AI project.

AI@Southampton will ensure Southampton forges a reputation as a global expert in AI and AI-related research and education, and will extend the University’s interdisciplinary network of world-leading AI researchers.

The Civic AI project is building on the Civic University Agreement to shape a more future-ready Southampton, improve services for its residents and drive economic growth by applying AI technologies in ways that directly benefit society.

She said: “Southampton is not just another AI lab: it is the cradle of Web Science, the national hub for trustworthy autonomy and responsible AI, and a university whose new AI@Southampton initiative fuses engineering excellence with the arts, social science and real-time policy impact.

“This triple distinction is what sets Southampton apart from every other institute on the UK landscape.”

Last year saw the successful celebration of the 50th anniversary of the Internet at a special event at the Royal Society, in London.

Organised by the WSI, the event featured a talk by Internet inventor Dr Vinton Cerf.

Dame Wendy said: “We are building on this with another special event this year to mark the 75th anniversary of the Turing Test.

“A celebration will be held at the Royal Society in the autumn to commemorate Alan Turing’s seminal paper Computing Machinery and Intelligence.”

PROFESSOR LESLIE CARR WSI DEPUTY DIRECTOR



“People, employers, governments and organisations want to learn about how to use AI responsibly, to harness it for good, to make society better and more efficient.”

Les shares his excitement about the launch of Southampton’s innovative online Master of Arts (MA) in AI that is already generating interest nationally.

Complementing Southampton’s face to face MSc programmes in AI and in Management and AI, our new online MA investigates the impact that AI has on society and enables students to harness it to ensure good outcomes.

As Les says: “The MSc is for ‘builders’ of intelligent systems and the MA is for ‘bridgers’ – professionals and leaders who will translate, govern and deploy AI responsibly across society.

“We are really excited about launching our MA in AI. Unlike the majority of MSc courses that teach you the complex process of programming AI software, this MA is about seeing AI in a wider context and managing its responsible impact across society, on jobs and on the economy.

“That means challenging the messaging from tech billionaires about job losses and threats from AI, and understanding that AI can be used for human benefit in society. Participants on the course will get an understanding of the technology and how it works, and will explore that in terms of how it affects their businesses, their families and their culture.

“It will help them to look at the biases, weaknesses and problems that AI brings alongside its transformative potential and to think about the critical decisions that need to be made about how to deploy AI to ensure a society that’s fair, effective and thriving.”

Les acknowledges that the impact of AI is one of the key challenges at the forefront of the political landscape at the moment with many of the world’s leaders coming together at the AI Safety Summits (including WSI Director Professor Dame Wendy Hall).

He said: “People, employers, governments and organisations want to learn about how to use AI responsibly, to harness it for good, to make society better and more efficient but not at the expense of trampling everything that we value underfoot.”

See page 25 for more details of Southampton’s new online MA in AI.

NEW WSI DEPUTY DIRECTOR

Professor Thomas Irvine has been announced as the new Deputy Director of the WSI.

Tom, who is currently Head of Music at the University, has contributed to the WSI's success as an Associate Director since 2018.

He said: "I am honoured to have been appointed to a more responsible role at WSI. The institute has been a professional and intellectual home, and I am delighted at the chance to give something back to my wonderful colleagues there by continuing to offer the perspectives of a musician and humanities scholar to the WSI's important work as thought leaders on the relationship between humans and technology."

He aims to use his new role to foster closer collaboration between faculties and research groups, to learn more about how the arts and humanities can help solve critical challenges in web science, data science and AI. He said: "I'm passionate about getting people in the same room who wouldn't otherwise have that chance.



Professor Thomas Irvine

If I, a music historian and former orchestra musician, can 'get into AI' then anyone can!"

Recalling his time at the WSI, Tom said: "I am, first of all, a humanities scholar with a professional music background. I care a lot about individual human expression and my association with the WSI really changed my academic trajectory. Through the institute I was lucky enough to be awarded a Turing Fellowship to examine the role of machine learning in jazz composition that profoundly impacted my career, much for the better."

Tom acknowledges that the WSI is facing a time of change with the arrival of generative AI (GenAI). He said: "GenAI has reminded us of the absolutely crucial role we have to play at a moment of profound change. Nothing that agents like ChatGPT do would be possible without the Web and the way it has stored up so much of human experience and knowledge.

"I'm really proud of all that we have been doing, from Wendy's global public advocacy, to the powerful work in social sciences, our civic engagement, work in health and data, to last year's AI Arts Festival."



Professor Pauline Leonard

FAREWELL AND THANKS

Former WSI Deputy Director Professor Pauline Leonard has stepped down from the role after six years.

She has been a valued member of the leadership team and has played a vital part in developing the institute from its early stages to the successful entity it is today.

Her expertise and contributions in socio-technical research have helped shape a collaborative and interdisciplinary culture at the WSI, whilst widening the scope and volume of new research projects.

Pauline is remaining on the WSI board of directors where she will continue to demonstrate her impact as an Associate Director.

She said: "It has been a real pleasure and privilege to be a Deputy Director for the WSI. The institute has grown in strength and numbers in that time and is entering yet another exciting phase with the creation of AI@Southampton.

"Thank you to Wendy and Les for their support and to the whole WSI team who have made being in the role so enjoyable."

WSI Director Professor Dame Wendy Hall added: "We are so grateful for Pauline's contributions in developing the WSI and are very pleased that she will continue with us as an Associate Director. Retaining her brilliant expertise and experience will ensure that we build on our momentum to position Southampton at the forefront of Web Science and AI research."

NEW CHAIR OF ADVISORY BOARD

Technology journalist and research engineer Bill Thompson is the new Chair of the WSI Advisory Board, taking over at a time when the emergence of generative AI (GenAI) is reshaping the ways we do web science and creating new possibilities for influence and impact.

Bill, who is currently Head of Public Value Research at BBC Research & Development, joined the board eight years ago having followed the development of the web and web science since it started, and having known and worked with Professor Dame Wendy Hall and Professor Sir Nigel Shadbolt for many years.

Here he talks about the importance of the advisory board in helping the WSI leadership team develop and deliver its strategy and vision.

Bill acknowledges that although AI has been around for a long time, the emergence of GenAI has changed the game and is now an area where the WSI can make a real difference.

He said: "A great deal of the work done within web science is directly relevant to the ongoing development of AI technologies and policies, in the short and longer term. The WSI has the potential to be influential in this research due to its credibility in the academic and business communities, its expertise in dealing with big data and socio-technical research, and its ability to shape research programmes to respond to emerging technologies like GenAI."

He believes that the role of the advisory board is to offer support to the WSI leadership team, to be a trusted critical friend, to provide an external perspective, and to help ensure that plans are well thought through and likely to succeed.

"I think it's important to enhance the WSI's ability to deliver its objectives, and as an



advisory board, we can help by bringing a wide range of expertise to the table. The board needs to ask the right questions and offer advice at the right level, supporting and not getting in the way," he added.

Bill is proud of what the WSI has achieved so far – its students who have gone on to have significant careers inside and outside academia, as well as the way the WSI has solidified its position as a leading centre for interdisciplinary research.

He said: "The WSI has published a range of influential policy papers on a wide range of topics from online democracy to Web3 or sustainable cities, and it continues to make a vital contribution to the broader debate on AI."

Bill's experience is at the intersection of technology, media, academia, and policy, all of which enabled him to be a useful connection between these different worlds and the advisory board.

As well as his work leading research teams within the BBC R&D, he has previously presented a weekly radio show about technology on the BBC World Service, been involved with think tanks and governments developing technology policy, and been a visiting professor at the Royal College of Art.

WSI ADVISORY BOARD

The WSI benefits from the strategic advice of leading web and data science authorities from business, academia and government.

The Advisory Board includes:

Chair – Bill Thompson
Principal Research Engineer at the BBC

Tom Barnett
Founder and CEO, Chronotis

Liz Brandt
CEO, Ctrl-Shift

Dean Drew
Partner, Lester Aldridge

Professor Keith Jeffery
Keith G Jeffery Consultants

Liam Maxwell
Director, Government Transformation at Amazon Web Services

Matt McNeill
Managing Director, Solutions and Technology, Google Cloud

Professor Steven Meers
Head of AI Lab, Defence Science and Technology Laboratory (Dstl)

Lohan Presencer
Executive Chairman, Ministry of Sound

Professor Sir Nigel Shadbolt
Principal of Jesus College, University of Oxford

Dr Jeni Tennison
Executive Director, Connected by data

AI@SOUTHAMPTON: BRINGING TOGETHER EXPERTISE FROM ACROSS THE UNIVERSITY AND THE REGION

AI@Southampton is a new University of Southampton initiative, led by the WSI, that is accelerating research, education and knowledge exchange in the rapidly evolving and exciting field of AI.

Find out more:
www.southampton.ac.uk/ai

AI is a key priority of the WSI and a strategic priority of the University. As AI continues to shape society and influence daily life, AI@Southampton will ensure that Southampton continues to forge a reputation as a global expert in interdisciplinary socio-technical research and education.

Led by WSI Director Professor Dame Wendy Hall and coordinated by the WSI, AI@Southampton is helping to curate and extend the University's interdisciplinary network of world-leading AI researchers.

It will also provide support in building relationships with public service providers, businesses and residents in and around the city as part of the Civic AI agenda.

AI@Southampton will:

- build a global network of researchers who are using and investigating AI;
- develop partnerships with businesses, academics and policymakers, nationally and internationally;
- help researchers access funding to use or carry out research into AI;
- expand its suite of AI courses and degrees;
- affirm the University of Southampton as a global leader in interdisciplinary AI research, education and knowledge exchange.

MANAGING AI

Claire Wilkins is the Manager of AI@Southampton and her role is to raise awareness and understanding of AI@Southampton.

Claire has been at the University since 2007 and has worked across projects and programmes with various academic and professional stakeholders, including developing its first AI Arts Festival in 2024.

She said: "Our first three years will help us become the key point of contact for faculties, researchers and civic entities to come together, collaborate and share their expertise, to highlight AI innovation across the University."

"AI is making an impact in education, research and industry, so it's important to reflect that in our activities around the University. What better way to do that than by encouraging academic researchers across all our campuses to start a conversation?"

Continued on page 12 →

"Our first three years will help us become the key point of contact for faculties, researchers and civic entities to come together, collaborate and share their expertise, to highlight AI innovation across the University."

Claire Wilkins
Manager of AI@Southampton

AI@SOUTHAMPTON FESTIVAL AND LAUNCH

AI@Southampton held its first ever Festival that culminated in the official launch of the AI@Southampton initiative.

More than 50 contributors from across the University came together on the Highfield and Avenue campuses, and online, to participate in ten days of AI-related events, talks, workshops and performances.

Festival-goers got the opportunity to see, hear and learn more about the breadth of world-leading AI-related research, education and training activity that takes place at the University.

The event concluded with the official launch of AI@Southampton led by the University's President and Vice-Chancellor Professor Mark E. Smith, and featured talks by Professor Dame Wendy Hall and Professor Gopal Ramchurn. Guest performer Ted Hill performed an AI-themed stand-up comedy routine.

Festival events included an exciting online exhibition showcasing the work of local schoolchildren who have written AI-driven stories on climate action, music at Turner Sims that demonstrated the use of machine learning and analogue sound to compose music, and founders shared their experiences on the role of AI in startups. There was also an AI Film Night and AI Games Night.



AI Arts Festival 2024



Comedian Ted Hill, AI Arts Festival 2024

AI@SOUTHAMPTON ACTIVITIES

AI@Southampton is already involved in a number of events and initiatives.

AI CHAMPIONS

AI Champions have been appointed for the University's faculties and professional services. They will work closely with academic staff and professional services to contribute to the University's strategic plans by supporting the opportunities created by AI and the potential challenges it brings for research, knowledge exchange, enterprise and education.

The champions will lead on delivering events and workshops in their departments, ensure researchers and staff have access to information relevant to AI-focused research projects, and liaise with stakeholders to share key updates and trends affecting and affected by AI developments.

SPECIAL INTEREST GROUPS

AI@Southampton has established the first of a number of University-wide Special Interest Groups (SIGs) to enable collaboration across the University to shape the foundational elements of fairness and transparency in AI research.

AI reaches beyond traditional disciplinary boundaries, so the need for promoting ethical and responsible AI practices is more important than ever.

Called the Responsible AI SIG, the group is strengthening connections, organising regular meetings and providing a platform for people to share ideas, knowledge and insights for collaboration and projects.

AI@Southampton is actively looking for other areas where a SIG may be beneficial.

EARLY CAREER COLLEAGUES (ECC) NETWORK

The ECC Network aims to increase the internal and external visibility of early career colleagues and promote cooperation between researchers working with AI and data science.

It also shares upcoming opportunities including those available through the University's membership of the Turing University Network.

OTHER UNIVERSITY AI-RELATED INITIATIVES

TURING UNIVERSITY NETWORK

Southampton continues to be a member of the Turing University Network that provides universities with an interest in data science and AI the opportunity to engage and collaborate both with the Turing and its broader networks.

The WSI is responsible for coordinating the University's Turing-related activities including running engagement and cohort activities and sharing Turing opportunities and events.

RESPONSIBLE AI-UK (RAI-UK)

WSI Director Professor Dame Wendy Hall is a co-investigator on the RAI-UK project that is led by Southampton Professor of AI Gopal Ramchurn.

The £31m project has brought together experts to create an international research and innovation institute to create trustworthy and secure AI that responds to the needs of society.

AI AND SOCIETY HUB

The AI and Society Hub is one of four Public and Community Engagement Hubs that bring together the local voluntary, community and social enterprise sector with staff, students and researchers. They support impactful collaborations and drive positive social change that celebrates and enriches the city and region.

The AI and Society Hub's goal is to improve University-community connections on a variety of themes relating to AI, as well as to help establish Southampton as a city of AI innovation.

FROM PEANUT BUTTER TO EFFECTIVE POLICY IMPACT

WSI Specialist Policy Officer Alistair Sackley has recently had an article published in The Times Higher Education Campus. In it he explores why each university needs a policy strategy that focuses institutional expertise where it will make the most difference.

“I was doing too much, too evenly, and excelling at nothing,” he says in the article.

The kind of thing that kills great ideas in committees and turns ambition into busywork. I had become Yahoo! in the Peanut Butter Manifesto, spread too thin.

The problem? “I stopped asking: Is this project worthwhile? and started asking: Is this mine to do?”

That single question changed everything. I stopped writing strategy decks. Instead, I built a working interface, a mechanism that aligned what we already had (data, people, ideas) with what decision-makers needed.

“I mapped internal assets such as Pure and ePrints to local priorities: freight emissions, digital inclusion, skills gaps.”

Impact shifted from a compliance checkbox to a design brief. I stopped seeking permission to matter and started transforming research into public infrastructure.

“Wind tunnels, data collectives and high-voltage labs viewed narrowly are academic facilities. But seen through a civic lens, they’re infrastructure for the region.”


That reframing changed the conversation. We weren’t seeking relevance; we were offering tools. We weren’t asking for collaboration; we were inviting co-ownership. Strategy became stewardship.

“Our partners became co-investors in shared capability, tools with public purpose.”

And in this age of generative everything, the same rule applies to AI.

“Agentic systems, maritime autonomy, clean freight... These aren’t just research themes. They’re tools for governing regional development, if we choose to use them that way.”

Which brings us to the job that every university now needs.

 **Read the full article at:**
www.timeshighereducation.com/campus/peanut-butter-effective-policy-impact



Alistair Sackley

THE ROLE OF A SPECIALIST POLICY OFFICER

Specialist Policy Officers (SPOs) take rigorous ideas and make them politically relevant, without dumbing them down. They are translators, connectors, and sometimes, instigators.


At Southampton, SPOs are deployed across areas where there are genuine strengths: AI safety, maritime autonomy, photonics, and beyond. Alistair’s work spans Web Science and Electronics and Computer Science. Others lead on cultural policy, sustainability, health innovation. What unites them is a commitment to action over abstraction.

SPOs are part of Public Policy|Southampton (PPS), the University’s policy team. Their

goal is simple: make it harder for good research to go unheard, and easier for decision-makers to act on what matters most.

Former WSI PhD student Justyna Lisinska is an SPO at the University’s CORNERSTONE Photonics Innovation Centre (see her profile on page 29).

 **Learn more about SPOs at Southampton at:**
www.southampton.ac.uk/wsipolicyofficers

 **Find out more:**
www.southampton.ac.uk/wsi

RECENT POLICY PAPERS PUBLISHED BY THE WSI

The WSI has published a portfolio of cutting-edge policy-related publications that sum up their research and analysis of the recent developments in web science, data science and AI.

Here are a sample of the most recent publications.

LARGE LANGUAGE MODELS AND GENERATIVE AI: THE CHALLENGES OF PREDICTION

Professor Dame Wendy Hall, WSI Director, and Dr Ben Hawes, technology policy consultant

Generative AI techniques and in particular Large Language Models (LLMs) are attracting vast investment from global technology giants. Could these models be about to achieve human level intelligence, how do they manage copyright on the text they use for training, and what harm could their factual errors cause?

Dame Wendy said: “As public use of LLMs like ChatGPT becomes more widespread, so does the exposure to a multitude of risks. If misleading text is produced by an LLM, it can pollute the internet and if that text is then used in turn for more training, the models can decline in performance. It becomes a vicious circle.

“The most recent news about the Chinese DeepSeek model reinforces the questions we ask here about how the major US tech companies expect to realise revenues from their huge investments in LLMs.”

These issues and challenges along with many more are explored in this position paper, including the legal issues around LLMs, their labour-saving potential and the possible career threatening implications.

 **To see more WSI policy papers visit :**
www.southampton.ac.uk/wsipolicypapers

POLICY AND GUIDANCE ON THE USE OF GENERATIVE ARTIFICIAL INTELLIGENCE IN UK HIGHER EDUCATION

Arjun Raj Awasthi, PhD student, and Dr Achala Gupta, Lecturer in Sociology

This white paper outlines guidance on the use and integration of generative AI (GenAI) in the higher education sector. Arjun and Achala consider perspectives from government, academia and industry on the contentious debates surrounding GenAI tools and the new opportunities arising for the higher education sector as a result of their increasing popularity.

Archala said: “GenAI is reshaping higher education, bringing both opportunities and challenges. Our white paper unpacks the key debates, policies, and possibilities surrounding GenAI in higher education. Across the sector, it is vital to move beyond uncertainties and critically explore how these tools can be responsibly integrated to enhance learning, teaching, and research.”

The paper offers guidance to higher education institutions looking to responsibly implement new AI technologies.

DEMOCRACY ONLINE: TECHNOLOGIES FOR DEMOCRATIC DELIBERATION

Adam Meylan-Stevenson, PhD student, Dr Ben Hawes, technology policy consultant, and Professor Matt Ryan, WSI Associate Director

This paper explores the use of online tools to improve democratic participation and deliberation. These tools offer new opportunities for inclusive communication and networking, specifically targeting the participation of diverse groups in decision-making processes.

It summarises recent research and published reports by users of these tools and categorises the tools according to functions and objectives. It also draws on testimony and experiences recorded in interviews with some users of these tools in public sector and civil society organisations internationally.

SHAPING A FUTURE-READY SOUTHAMPTON

The University of Southampton’s Civic commitments play a central role in the ambition of the WSI, finding socio-technical solutions to complex problems.

As a University, we are at the heart of our central South region and have made a strategic commitment to being a Civic University and making a significant positive impact on the economic, social, environmental and cultural prosperity of our region and the people who live, work and visit.

In 2023, the University signed a Civic University Agreement with partners from neighbouring local authorities, Southampton and Winchester City Councils, Test Valley and Eastleigh Borough Councils, and Hampshire County Council.

As a Civic University, Southampton offers the region our academic and research expertise in response to regional challenges and opportunities that have been identified by our Civic partners.

WSI has a key role in this major Civic AI project, putting into practice the WSI’s expertise to help shape a future-ready Southampton, improve services for its residents and drive economic growth by

applying AI technologies in ways that drive business innovation and efficiency and provide jobs.

Southampton’s Civic AI project is engaging with members of the community and like-minded partners from local government, industry and education through a steering group, events and workshops to better understand how we can work together.

Professor Dame Wendy Hall, WSI Director and Co-Chair of the Civic AI Steering Group, said: “As AI technologies become increasingly woven into lives, the Civic AI project highlights the importance of grounding technological innovation in a framework of civic responsibility and impact.

“Our AI work with the City of Southampton sets a powerful example for how universities can contribute to shaping a more equitable, sustainable, and technologically aware society by equipping the people of Southampton with the skills, education and awareness they need to succeed in an AI-led world.”

“Our AI work with the City of Southampton sets a powerful example for how universities can contribute to shaping a more equitable, sustainable, and technologically aware society by equipping the people of Southampton with the skills, education and awareness they need to succeed in an AI-led world.”

Professor Dame Wendy Hall
WSI Director, and Co-Chair of Southampton’s Civic AI Steering Group

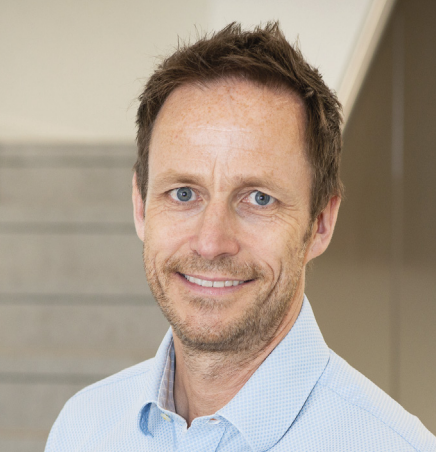


“The hallmark of our work as an outstanding Civic University is listening. The work that the WSI is leading with the Civic team is an exemplar of that approach. Local councils, businesses, schools, colleges and the voluntary sector told us their organisations need support in the safe and effective adoption of AI. The WSI, as part of the Civic University of Southampton, is helping our partners achieve that goal.”

Sue Littlemore
Director, Civic University, and Co-Chair of Southampton’s Civic AI Steering Group

THE ROBERTA PROJECT: DESIGNING DATA TRUSTS FOR MATERNAL HEALTH AND WELLBEING

How can we empower communities to take control of their own health data in a way that is ethical, inclusive, and impactful?



Professor Michael Boniface,
WSI Associate Director and
Professor of Information Technology

“At its heart, the Roberta Project is about co-design. It invites people who have experienced pregnancy loss to help shape a new kind of data governance – one that centres their voices, values, and experiences.”

The Roberta Project, part of the Southampton Biomedical Research Centre’s Data, Health and Society theme and supported by the WSI, is tackling this question head-on, by exploring the idea of data trusts for maternal health.

At its heart, the Roberta Project is about co-design. It invites people who have experienced pregnancy loss to help shape a new kind of data governance – one that centres their voices, values, and experiences. The project focuses on a growing source of health information: community-based data. This includes everything from fitness trackers and wellbeing apps to personal logs and digital diaries. Although this data is increasingly generated by individuals, more can be done to support its use in meaningful ways to improve care or support research.

The Roberta Project sets out to change that by designing a blueprint for a ‘data trust’ – a framework for individuals and communities to decide how their data should be managed, shared, and used. In this case, the trust is imagined as a way for people affected by pregnancy loss to voluntarily contribute data they generate in daily life, not only to support others through research and policy change, but to ensure their data is handled with care, transparency, and consent.

The project is undertaking a series of co-design workshops involving people with lived experience, clinicians, community groups, policy makers, and legal experts. Participants

explore scenarios using a fictional character, Roberta, who navigates pregnancy after loss using digital health tools. Through these sessions, participants discuss the realities of using and sharing personal health data, the risks and benefits of data donation, and how a data trust might protect their interests while enabling social good.

Digital health tools are a growing part of people’s lives, but they aren’t always designed with empathy. Some commercial apps fail to account for pregnancy loss, often continuing to send notifications after a miscarriage. Roberta’s story helps participants surface these challenges and reimagine what respectful, inclusive digital health design might look like.

Beyond design, the project is also building practical pathways for implementation. It draws on legal models such as the Digital Jersey Data Trust, applying this to maternal health in the UK context. The Roberta Project connects cutting-edge legal, technical and social insights to explore how data trusts can be piloted in real-world health settings.

By creating a space where affected communities co-design how their data is used, the Roberta Project represents a powerful model for participatory data governance. It blends web science, public health, and ethical technology design, championing data stewardship that is not only trustworthy but deeply human.



Professor Age Chapman,
Professor of Computer Science

“The Roberta Project represents a powerful model for participatory data governance. It blends web science, public health, and ethical technology design, championing data stewardship that is not only trustworthy but deeply human.”

BRIDGING MOVEMENT, MUSIC AND MUSCULOSKELETAL HEALTH

Expanding the performance capabilities of modular synthesisers and supporting rehabilitation and physical therapy through joyful music-making exercises is the aim of an interdisciplinary project using WSI pilot project funding.

The project is led by Dr Pablo Galaz, a Lecturer in Composition and Analysis, and draws together academics from arts and humanities, and environmental and life sciences.

Pablo and his team are exploring the potential of using machine learning algorithms to better control modular synthesisers, which are usually interfaced with buttons and dials, and sometimes keyboards. The aim is more musical expression through a wider range of bodily gestures.

Pablo said: “Body movements are essential aspects of musical performance. When we make music, we spontaneously use our bodies to match the sonic features we associate with musical expression.

“We are investigating how to enhance the experience of performing modular synthesisers by developing tools and strategies for mapping bodily gestures to sound synthesis parameters. We are allowing users to expressively control the sound of modular synthesisers using their bodies, making the performance a rich embodied experience.”

The outcomes of the project could potentially have significant repercussions in the music performance, human-machine interaction, and musculoskeletal and neurological health, particularly injury recovery and muscle rehabilitation.

Pablo added: “Combining music-making with body gestures and movement can contribute to the design of enjoyable exercises, making rehabilitation and physical therapy rewarding and joyful but also creative experiences.”

MAKING CLINICAL RESEARCH MORE INCLUSIVE AND ACCESSIBLE

Using AI to translate clinical trial documentation into other languages could make clinical research more inclusive and accessible.

The WSI pilot project-funded study, led by Liz Allaway, Southampton Clinical Trials Unit Communications and Engagement Manager, is exploring the use of AI applications to provide quick and free machine translations.

Liz is collaborating with colleagues in Languages, Culture and Linguistics, as well as patient and public representatives and native speakers of the languages the documents are being translated into. She said: “Research participation by people from diverse backgrounds is essential to understand the generalisability of trial findings. However, people taking part in clinical trials are not always representative of the race and ethnicity of the whole population or those affected by different diseases.

“Recruiting homogenous populations is likely to have detrimental consequences for the health of underserved groups, such as ethnic minorities and migrants, and may increase social inequalities in health.”

There are many different barriers to diverse recruitment into clinical trials but the inability to speak and understand English is an exclusion criterion for many trials with processes often relying heavily on written materials. Professional translation of trial documentation into other languages can be expensive and resource heavy, and this is often not covered by a trial budget.

This project aims to improve health equity and cultural inclusion and will compare the machine translation of trial documents to translations done by professionals.

GIVING PROJECTS A HEAD START

PILOT PROJECTS

The WSI Pilot Project Fund stimulates and pump-primes interdisciplinary research collaborations that will lead to full research grant proposals. The projects can be in any relevant research area related to web science, data science, human-centred AI or socio-technical studies.

Here we look at some projects that have recently received funding:

DEVELOPING AI-ENHANCED MATHS PROBLEMS AND PUZZLES

Creating a suite of AI-enhanced mathematical activities aiming to enhance secondary student engagement and enrich teacher professional development.

Led by Dr Athina Thoma, a Mathematics Education Lecturer, the project will develop maths puzzles, problems and activities for secondary students and provide teachers with professional development opportunities aiming to utilise AI tools confidently and effectively in mathematics classrooms.

A recent Royal Society report revealed that most secondary mathematics teachers in the UK are not effectively using digital technologies in their teaching. While AI tools are just one part of the broader landscape of digital technologies, their potential to enhance mathematics education is receiving growing international recognition.

This study brings together secondary maths teachers, mathematics researchers and education researchers to address the critical need to enhance mathematics education in secondary schools.

Through collaborative design and evaluation, the project will empower teachers to effectively use AI tools, enhancing both their instructional methods and students' learning experiences in mathematics.

IMPROVING COASTAL RESILIENCE THROUGH AI-DRIVEN WAVE PREDICTIONS

Collaborative research between the University of Southampton and the Channel Coastal Observatory (CCO) could improve coastal resilience to storms.

Professor Jason Sadler, Principal Research Fellow in Geography and Environmental Science, is leading the study to incorporate predictive capabilities in the CCO's Waverider buoys.

The buoys are part of England's National Network of Regional Coastal Monitoring Programmes and play a critical role in supporting Flood and Coastal Erosion Risk Management across the country.

Machine learning-based wave predictions that are trained on the buoy's own historical data will be introduced. This will generate

more accurate site-specific wave predictions that could greatly enhance the ability of risk management authorities such as the Environment Agency and local authorities to prepare for storms and mitigate the risks to coastal communities, infrastructure and the environment.

The increased predictive capabilities can help the organisations make timely decisions such as closing flood gates, issuing evacuation orders, disseminating public warning and implementing road closures.

Jason said: "By using artificial intelligence to develop machine learning-based predictions for wave conditions, we will support more sustainable coastal management practices and help communities adapt to the impact of climate change.



"The proposed system will enhance our ability to predict and respond to extreme weather events that are becoming more frequent and severe due to climate change. This also contributes to two United Nations Sustainable Development Goals."

LOOPS OF PERCEPTION

The use of artificial intelligence (AI) in the remote sensing of distant places, specimens and artefacts is being examined as part of a University of Southampton interdisciplinary project.



The study is led by Dr Luci Eldridge, Lecturer in Fine Art at Winchester School of Art and co-director of Robot Futures, a research group exploring the practices and implications of robotic seeing and sensing, and Dr Daniela Mihai, a New Frontiers Fellow in Electronics and Computer Science.

It brings together expert, image-centred researchers from electronics and computer science, physics and astronomy, and ocean and earth science.

They are working together to critically discuss the wide-ranging fields of non-biological sensing such as Mars rovers, autonomous marine vehicles and aerial mapping. These sensors use AI in the capture, processing and creation of data, and this AI technology is shaped by human perspectives and desires.

The images produced by this sensing, in turn, reshape human perception and understanding, and this project is critically examining the urgency and impact of this 'loop'.

Interdisciplinary workshops are being held to explore these questions speculatively, critically and creatively. They will lead to the construction of a low-fi underwater remote sensing device.

Luci said: "This project will examine how robotic imaging practices and AI tools reframe our experience and understanding of distant subjects. We will learn about the crossovers between disciplines specifically around how images are created and used, as well as learning how to begin to develop transdisciplinary workshop methods that might be developed in future projects."

KNOWLEDGE EXCHANGE AND ENTERPRISE (KEE) FUND

The WSI Knowledge Exchange Fund supports interdisciplinary socio-technical projects in the areas of web science, data science and human-centred AI. These projects are collaborations with business, industry, local government, public sector or charitable organisations, community bodies, and the wider public.

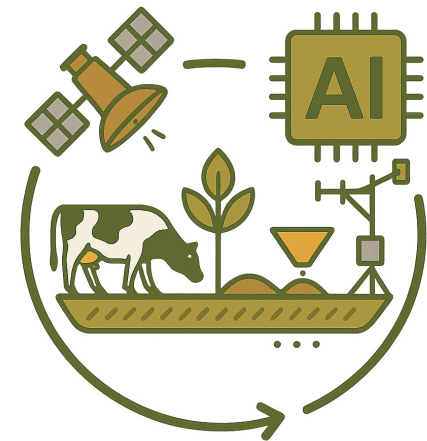
USING AI TO SUSTAINABLY MANAGE UK GRASSLANDS

This project will help translate cutting-edge research into practical tools that can support sustainable UK grassland management in the face of climate change, ultimately enhancing food security and ecosystem resilience across the UK.

Grasslands cover approximately 40 per cent of the UK’s land area and are essential for food production, carbon sequestration, and maintaining ecosystem health. However, increasing climate extremes are straining grassland systems, impacting feed availability, livestock productivity, and carbon storage.

Despite the critical role of grasslands, management practices remain insufficiently informed by the latest data and modelling tools, limiting the ability to adapt to climate stress. The Unified FLUXes (UFLUX) framework, a hybrid model combining process-informed AI with ecological models, has been globally validated for assessing the resilience of land ecosystems under climate change but it is not yet widely available or implemented for practical land management decisions.

Led by Dr Songyan Zhu, a Lecturer of Geospatial Data Science, this project aims



to translate the established UFLUX research into a user-friendly tool with game theory that provides actionable insights to grassland managers across the UK.

Academics from Geography and Environmental Science, Electronics and Computer Science and GeoData, will work with end-users including the Centre for Ecology and Hydrology and Rothamsted Research to incorporate their needs, such as grazing intensity and fertiliser applications, into the framework.

CREATING A VISION OF A FUTURE-READY CITY

An interdisciplinary team is exploring how to embed AI technology responsibly in the fabric of the city of Southampton.

Led by the University of Southampton, the project draws together academics from across the University with an established network of Civic AI partners, including the Future Towns Innovation Hub, local authorities, businesses and residents of Southampton.

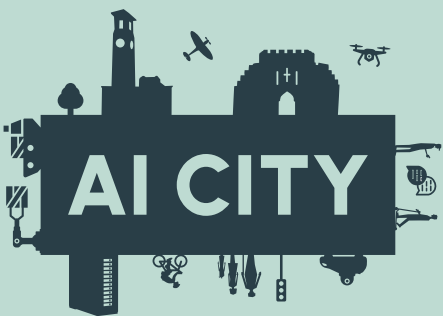
The project will develop a bottom-up vision using participatory design (PD) methods. Currently there is no single guiding idea for how AI might, or should be, embedded responsibly into the life of a city.

Dr Richard Gomer, Lecturer in Computer Science, said: “To be truly excellent, we need

to embed AI technology responsibly into the fabric of the city in a way that enriches people and place, and perhaps challenges some of the top-down visions being offered to us.

“Doing so demands attention to the wide range of experiences and aspirations that the people of Southampton have, and the different roles that they play in the life of the city. The opportunities for businesses, charities, communities, and individuals, need to be explored and understood; and then formed into a cohesive vision that can be pursued collectively.”

The team will host a series of workshops with diverse stakeholders to answer these questions.



The findings will be used to form an outline vision that can be used as a catalyst for more detailed discussions with key partners including local authorities at local and regional level.

ENHANCING MIGRANT WOMEN’S ACCESS TO INFORMATION THROUGH GENERATIVE AI AND CULTURAL EXCHANGE

This interdisciplinary project will support migrant women to use generative AI (GenAI) tools to enhance their access to essential health and daily life information resources.

The project is led by Dr Chiying Lam, a Lecturer in Community Music and Social Justice, and Dr Tan Viet Tuyen Nguyen, a Lecturer in AI. The project will integrate a Multimodal Large Language Model with Retrieval-Augmented Generation (RAG) to deliver real-time, context-specific information through multimodal channels such as texts, images and music.

University students will then engage with migrant women to understand how their cultural knowledge and lived experiences can

be effectively incorporated into the training and refinement of these AI models.

In collaboration with Nagina Kaleem, founder of the Cross-Culture Hub – a social enterprise dedicated to empowering and integrating immigrants into society – the project team will support participants in developing the skills needed to effectively use GenAI tools to access health, education, and civic resources.

Chiying said: “Music helps build community trust across generations and cultures, creating a shared foundation. This trust is essential when exploring the use of GenAI, as it ensures that any technology introduced is meaningful, inclusive, and shaped by the people who use it.”



EDUCATION AND TRAINING

STUDYING A MASTER’S IN ARTIFICIAL INTELLIGENCE

Southampton has just launched its new online Master of Arts (MA) in AI and already has a significant number of people signed up for the first course.

The new programme is different to the usual MSc offerings where the focus is on the technologies behind AI. The MA explores the impact of AI on society and how it can be harnessed for the benefit of businesses, jobs, economies, families and culture. It is being delivered in conjunction with the Cambridge Education Group.

WSI Deputy Director Professor Les Carr, who is leading the introductory module of the course, said: “Participants on the programme will discover how AI is changing the way we work, influencing careers, and affecting everyday life.

“Companies everywhere need professionals who can do more than build technology, they need people who can understand how AI works, its ethical challenges, and its role in society.

“Our part-time online MA will build a clear understanding of AI’s strengths and limitations, enable participants to spot workplace challenges that AI can fix and see how it can enhance human skills.”

There will be three enrolment opportunities throughout the year, and students will learn about many different aspects of AI from experts in a range of areas including sociology, criminology, psychology and law.


Les hopes that the MA will be used as a basis for developing further teaching and intensive training activities in AI, aimed at a specific group of people such as management boards or boards of directors.

The MA is available in three different pathways:

MA IN AI – where you will gain the skills to apply and evaluate statistical and machine learning tools with a strong focus on ethical and practical considerations.

MA IN AI (DIGITAL TRANSFORMATION) – where you will learn how AI drives governance, economic and workplace transformation, focusing on innovation, ethics and evolving workforce skills.

MA IN AI (CRIMINAL JUSTICE SYSTEMS) – where you will examine the ethical, social and political challenges of AI in criminal justice, focusing on surveillance, predictive tech and global AI-driven harms.

 **To find out more about our MA in AI go to:**
www.online.southampton.ac.uk/courses/studying-artificial-intelligence

BRINGING AI TO THE UNIVERSITY’S SUMMER SCHOOL

The WSI is providing a module on AI and Society for the University of Southampton’s Summer School in July.

The two-week course *AI and Society: From creativity to justice and global challenges* invites participants to explore the transformative potential of AI as it revolutionises society, creativity and global challenges.

The University and the WSI are global leaders in AI research and innovation, and the course draws on multidisciplinary expertise at the cutting-edge of the field.

Participants will gain insights into the diverse applications of AI including:

AI IN COURT:
Algorithms for justice

AI AND MUSIC:
Creativity and creative industries

AI AND ART:
Imagery, artists and artwork

GENERATIVE AI:
Writing, story-telling, and intellectual property

AI AND DEMOCRACY:
Opinions, elections, hate, trolls, and bots

INTERNATIONAL AI:
The United Nations of responsible AI

AI SCIENCE:
The maths and computer science behind AI

AI SKILLS:
Using AI systems to solve practical problems

TRAINING IN PUBLIC ENGAGEMENT SKILLS

The WSI and AI@Southampton have teamed up with the University’s Public Engagement with Research Unit (PERu) to enable more researchers to develop their public engagement with AI activities.

WSI Deputy Director Professor Les Carr and WSI Collaboration Manager Courtney Lee joined PERu’s Lisa Hanley to deliver the first Introduction to Public Engagement with AI training session.

The session helped researchers and academics consider the wide range of motivations for engaging public audiences in research; how to develop different activities and approaches to public engagement with AI research; and think about how success can be measured.

SPOTLIGHT ON STUDENTS

MELYSSA ORTIZ
PHD IN WEB SCIENCE WITH A FOCUS ON HUMAN-CENTRED AI

Melyssa is a doctoral researcher in Web Science, specialising in Human-Centred Artificial Intelligence (HCAI).

Her research explores the complex relationship between public trust, responsible and trustworthy AI governance, and societal engagement in the context of AI regulation. She examines how governments, the private sector, and the public can collaborate to develop ethical approaches to AI governance.

Regulating AI is a complex challenge, with ongoing debate over how to balance technological innovation with societal safety and values. As AI becomes increasingly embedded in everyday life, concerns about its risks have intensified, making public trust a key issue for governments.

Melyssa said: “I believe that public trust is a consequence of a regulatory ecosystem that genuinely protects the public interest.”

With extensive professional experience leading strategic initiatives and launching AI-driven products across a range of organisations, from startups to global corporations, she combines practical expertise with academic research to address the challenges of adopting and regulating emerging technologies.



Her interdisciplinary work bridges ethics, technology, political science, and society. She said: “What caught my attention about Southampton was its reputation and commitment to high-impact research. When I discovered the WSI, I knew it was perfect for me.”

By generating critical insights and promoting collaborative strategies, Melyssa aims to contribute to responsible AI governance. Her goal is to ensure technological progress benefits the broader public interest, fostering constructive relationships between industry, government, and the public to create innovative and socially conscious AI products.

RUISHI WANG
PHD IN COMPUTER SCIENCE

Ruishi spent ten years working in industry before starting her PhD focused on the safety issues that arise when Large Language Models (LLMs) are integrated into Multi-Agent Systems (MASs).

She said: “Before starting my PhD, I worked on bridging the gap between research and commercial applications, helping to bring lab innovations to market. That experience opened my eyes to both the power of new technologies and the potential risks they carry if safety is not considered early on.

“Southampton and WSI have a strong focus on responsible AI, thinking carefully about how it can be used for good. Being part of that mission really appealed to me.”

“Studying at Southampton has provided me with a much more systematic training, both technically and methodologically, and has reshaped the way I think.

“My research looks at what could go wrong when powerful AI systems work together. Imagine a team of AI agents making decisions, just like members of a human team, but if one of them makes a mistake or is receives incorrect information, it could affect the whole system.

“I am working on ways to detect those safety concerns early and build smarter safeguards, particularly as Large Language Models like ChatGPT become part of these systems.”

She said the programme is well structured and she has had the opportunity to engage with cutting-edge research projects, which has been both challenging and exciting.



“I have developed two key perspectives. One is an interdisciplinary mindset and the other one is the ability to think long-term, not just focusing on immediate technical problems, but also considering the broader implications of technology in the future,” she added.

“Web Science plays a crucial role in helping us understand the complex, evolving relationship between technology and society. As AI systems become more powerful and integrated into daily life, it’s more important than ever to examine their impact from technical, ethical, legal, and social perspectives. At this moment in time, interdisciplinary collaboration is more vital than ever to explore the way forward, for helping ensure that innovations in AI serve the public good.”

One of her highlights of the programme has been working with supervisors from very different academic and professional backgrounds. She said: “Their diverse perspectives have helped me realise that responsible technology development is as important as pushing the boundaries of science.”

FRANCES GREENWAY
PHD IN WEB SCIENCE, COMBINING ELECTRONICS AND COMPUTER SCIENCE AND PSYCHOLOGY

Frances is in the third year of her PhD focusing on the role of human-centred AI and digital interventions in treating mental health conditions such as psychosis and obsessive compulsive disorder (OCD).

Digital tools are increasingly being used in mental health care and are showing promising results. Frances is investigating how symptoms of disorders like OCD interact with trust in technology, and how these factors influence individuals’ engagement with digital systems.

She is currently working with patient and public involvement and engagement partners to co-develop an app designed to complement traditional therapy.

She said: “I have thoroughly enjoyed immersing myself in research. It’s been a rewarding experience to explore new areas beyond my original training, gaining knowledge and skills in disciplines I hadn’t previously studied.

“One of the key highlights of my studies so far, has been discovering just how multidisciplinary psychology can be. Coming from a background in clinical psychology, it’s been fascinating to explore web science and digital technologies, areas that were completely new to me. This has opened a fresh perspective on how psychology can be applied in innovative ways.



“My WSI-funded PhD has significantly enhanced my research skills, particularly in academic writing and publishing, and perhaps most importantly, the connections I’ve made with other researchers and professionals have been invaluable. I’ve learnt so much through these interactions and gained experiences that will undoubtedly shape my career.”

After she graduates, Frances is hoping to continue working in clinical research and further develop the app.

She added: “I’d like to take it beyond the current feasibility stage and eventually test it in a clinical sample to evaluate its practical effectiveness and feasibility. I also have a strong interest in women’s health within inclusion health groups, which I am currently researching alongside my PhD. I would love to continue working in this area and, if possible, find ways to combine both fields.”

ALUMNI: WHERE ARE THEY NOW?

DR ASHTON KINGDON
PHD IN WEB SCIENCE, 2022



Over the course of her exemplary career, Ashton, currently a Southampton lecturer in criminology, has become a globally recognised authority in the study of far-right extremism, combining her extensive expertise in history, criminology, and computer science research to uncover the complex methods deployed in radicalisation.

With the recent launch of her new book *World White Web: Uncovering the Hidden Meanings of Online Far-Right Propaganda*, she reflects on her successes and learnings from a covert research project she conducted as part of her PhD.

She said: “I was thrilled to have launched my new book. Through an interdisciplinary lens combining criminology, history, and computer science, it reveals how extremists bridge fringe and mainstream ideas across diverse contexts and time periods.

“The thing I gained most from studying my PhD was the power of diverse thinking and working in interdisciplinary ways. Complex global problems such as online radicalisation need perspectives and knowledge that may be different from what we are comfortable with or trained in.”

Ashton has also built a reputation as a leading research authority beyond academia. Since completing her PhD, she has established herself as an esteemed advisor to several governments and organisations, including the Accelerationism Research Consortium, the British Society of Criminology’s Hate Crime Network, and the Extremism and Gaming Research Network (EGRN).



DR RAMINE TINATI
BSC COMPUTER SCIENCE, 2009
MSC AND PHD IN WEB SCIENCE, 2013

Ramine is currently Managing Director at Accenture, a multinational management consulting, technology services and outsourcing company, where he uses the skills he learnt from his studies at Southampton on a daily basis.

In his role, he is working with clients to architect new technical solutions, and working with his team to build production-ready software and services that millions of customers use every day.

He said: “The leadership skills that Professor Dame Wendy Hall, Professor Sir Nigel Shadbolt and Professor Les Carr provided me with during my research fellowship, have been critical in helping me build teams.”

Since graduating, Ramine has worked as a postdoctoral fellow on the SOCIAM (the theory and practice of social machines) research project at Southampton, moved to Singapore to join Microsoft, worked at Amazon, and is now at Accenture, where he leads the APAC Center for Advanced AI.

He is responsible for a group of more than 300 engineers, developers, data scientists, data engineers and consultants, working with clients across Asia and Australia building technology to help them grow their business and become more efficient.

He said: “My computer science training was the foundation for my career, teaching me how to build systems, how to solve complex technology problems, and how to scale technology from a concept to something that can serve millions of customers.

“My web science PhD and Research Fellowship taught me to think about how to take these concepts and apply them to real-world problems, as well as how to bridge academia and industry.

“The most important thing I gained from my time at Southampton was multidisciplinary experience across different faculties, as well as industry exposure and understanding how a business works. I also learnt how research could be applied into business and how to transform an idea into a real-world application.”

Ramine says he has had several transformative mega-scale projects since he left research, some which have had a significant impact to the safety and efficiency of citizens and workers.

He added: “The highlight has been having the responsibility of architecting how the solution should be built, and the ways in which the system will be interacted with by millions of people on a weekly basis.”



DR JUSTYNA LISINSKA
MSC IN WEB SCIENCE, 2017
PHD IN WEB SCIENCE, 2021

Justyna is a Specialist Policy Officer at CORNERSTONE. She is at the forefront of shaping how technology and innovation intersect with society, translating complex ideas into actionable, forward-thinking policies that influence decision-makers, inspire industry leaders, and empower communities.

She is passionate about the transformative potential of AI and addressing the challenges and opportunities that emerging technologies present to modern economies.

Her current role as a Specialist Policy Officer at the University’s CORNERSTONE Photonics Innovation Centre emphasises access to innovation for industry and the importance of silicon photonics in advancing the UK economy.

She said: “The strong link between academia and industry, our world-class expertise and facilities, and its relevance to the government priorities was what drew me to the role. To achieve the government’s growth ambitions, we need real breakthroughs and those will not come from software alone. We need hardware too.

“With leading expertise in both hardware and software, and outstanding facilities, Southampton is exceptionally well positioned to deliver on those promises.”

Justyna says the most important thing she gained from her studies was working across different disciplines. “Dame Wendy often spoke about a critical need for experts that can work across disciplines to solve the most pressing challenges. Gaining this interdisciplinary expertise helped me land my first job as a Policy Research Fellow, at the Policy Institute, King’s College London,” she recalled.

“I also did a secondment at the Cabinet Office and that early exposure laid the foundations for the work I do now.”

Justyna uses the policy writing, synthesis and interdisciplinary skills she developed at Southampton every day in her current role.

Justyna says her career highlights so far have been hosting high-level events in Parliament that bring stakeholders from government, industry and academia together to shape the national conversation on emerging technologies.

She said: “Recently I co-organised a cross-party reception at the House of Commons on Women in Tech Policy, that amplified female voices in two areas that are most under-represented – technology and policy.”



DR CLARE WALSH
MSC IN WEB SCIENCE 2016
PHD IN WEB SCIENCE, 2020

Since graduating, Clare has pursued a career supporting others to become digital and data literate, particularly working to avoid excluding social groups from the data transformation.

She advises business leaders and regularly features in the media giving advice, as well as creating pathways to upskilling for thousands worldwide.

Clare has participated in discussions advising national governments on AI legislation globally, and regularly talks at large data and digital events worldwide on a range of topics from ethical data and AI to data adoption.

She is currently Director of Education at the Institute of Analytics and says she uses all of the skills she learnt at Southampton in her everyday work. She supports individuals, organisations and governments in digital transformation through thought leadership, planning and training. She brings a focus on identifying the benefits of human and machine thinking that resonates well with people at the cutting-edge of developing solutions.

She said: “The myth that you are either a technical person, or a business person, is very persistent. Showing that these are not separable roles has helped me to support others to see their potential.

“Everything about my studies at Southampton was so important. There were so many opportunities to learn from such a vast team. Things that seemed irrelevant at the time have taken on new significance now I’m in new contexts.

“The balanced and measured approach to new technologies that the WSI takes is very much part of the dialogue we see now in some of the more forward-thinking businesses and industries.”

The highlight of Clare’s career so far has been being invited to work with the Thai government to represent the UK in AI legislation talks.

She said: “There is so much misunderstanding around AI, and we are currently at a time when these technologies are being baked into the hardware that we use. It’s a very transformative time and we need to have these discussions now.”

Outside of work Clare is continuing her passion to ensure the inclusion of all groups to be digital and data literate. After an earlier career developing learning materials for a global audience, she is combining her professional experience and WSI training to develop learning materials for the Early Years curriculum, where positive interventions can impact many. They build on concepts of fairness and introduce early probability, the basic concepts that will be needed for data analytics in the future.

JUST OUTCOMES: AI FOR THE COMMON GOOD

The WSI collaborated with the Nuffield Foundation and the University of Cambridge’s Bennett Institute for Public Policy to explore what is not yet known and what needs to be considered or implemented as AI technologies continue to develop at a rapid pace, deployed to automate processes and informing decisions in the public sector.

Many urgent questions remain unanswered about the potential far-reaching impact AI will have on people’s lives as this technology continues to dominate conversation across industries, sectors and organisation. This project aimed to address the overarching question: what is needed for AI to work for the common good?

Led by WSI Director Professor Dame Wendy Hall and Professor Dame Diane Coyle of the Bennett Institute for Public Policy, the project held four workshops to foster discussion and generate new research ideas on how to steer the development and use of AI in the public sector for the benefit of people and society.

Workshop themes included:

- Just outcomes: AI and administrative justice
- AI and public health
- Civic AI for place-based solutions
- Market failures: what will Silicon Valley not do?

Each workshop brought together leading stakeholders, experts, and policymakers from a range of sectors and disciplines, including technology, governance, healthcare, social care, legal experts, computer scientists, and economists.

The workshops surfaced areas where research could offer new approaches to steering development and application of AI. It is widely accepted that many harms could be caused, or made worse, by using AI to automate existing systems without careful consideration. But there are green shoots of hope too: it is clear that the challenge of making good use of AI can help reassess the way things are done.

These and many other insights will be available in a full report suggesting areas for further research and exploration from www.southampton.ac.uk/wsi.

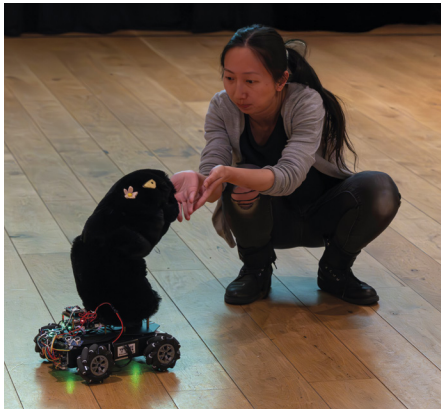


SHOWCASING AI TO FUTURE GENERATIONS

The WSI was pleased to bring AI@Southampton to the University of Southampton’s Science and Engineering Festival (SOTSEF).

SOTSEF is one of the University’s annual flagship events that attracts thousands of visitors for ten days of scientific discovery and celebration.

From music to pet robots, AI-generated photography, and imagining a Southampton of the future, the WSI and AI@Southampton contribution covered a lot of ground and they were thrilled so many visitors stopped by to talk to them about AI technologies.



Postgraduate researcher Ink Gao’s AI robotic pet, GUA, that can sense light, touch, movement and sound, and ‘thinks’ and acts independently

SOTSEF provided a fantastic opportunity to demonstrate different types of AI in action and hear from members of the public about their expectations, hopes and fears for the age of AI.

COMBINING SCIENCE WITH COMEDY

Southampton researchers are learning how to blend science communication with stand-up comedy in a Comedy Academy programme, founded and led by WSI Deputy Director Professor Les Carr.

The programme equips academics with the skills to engage public audiences with humour and storytelling in order to convey complex scientific concepts.

The University’s research mission is to address global challenges including international threats to public health, environmental sustainability and the responsible development of AI, by finding more ways to engage with the public, build their trust and help them to understand its research.

It is becoming more important for higher education to combat the adversarial positions of populist political, commercial and anti-science lobbies that are increasingly opposed to action and interventions that would promote health, climate and AI safety.



Professor Les Carr and comedian Ruby Carr

The Comedy Academy offers writing workshops, storytelling exercises and performance opportunities with feedback from award-winning comedian Ruby Carr, and Les, who have appeared at the Edinburgh Fringe Festival.

Academics will learn how to craft compelling narratives that make science accessible, memorable and enjoyable. They will finish the programme having written, developed and finessed a 15-minute set about their research and have the chance to perform it at Southampton Science Comedy, a monthly comedy night held in October Books, in Southampton.

INTERNATIONAL IMPACT



GLOBAL AI SAFETY SUMMIT

WSI Director Professor Dame Wendy Hall joined global leaders, industry experts and academics at the AI Action Summit held in Paris in February, to deliberate on the future of AI.

A significant focus of the summit was the need to balance rapid AI innovation with robust safety measures. Dame Wendy joined other experts in emphasising the critical need for establishing global safety standards to mitigate the potential risks associated with advanced AI systems and ensure that AI technologies are beneficial to all of humanity.

She warned that without such measures, the world could face unprecedented disasters stemming from uncontrolled AI advancements.



WEB SCIENCE TRUST (WST)

WSI Director Professor Dame Wendy Hall gave the closing keynote talk at this year's ACM Web Science Conference that was held in the USA in May.

The conference was established by WST in 2009, a registered charity hosted by the University of Southampton that aims to support the global development of web science.

The WSI is a founder member of the International Web Science Trust Network of Laboratories (WSTNet).

WST has recently formed collaborations with the People-Centered Internet, The Digital Enlightenment Forum and The Digital Humanism Initiative.

This alliance will work to strengthen their relations in areas of common interest, regularly exchange views on their respective activities, and prepare and implement common strategies and programmes for the priorities and areas of shared interest.



AI, ART AND THE KOCHI BIENNALE

A collaboration led by Professors Sunil Manghani and Ed D'Souza with OP Jindal Global University, in India, is developing an intelligent, read/write archive for the Kochi Biennale.

Kochi Biennale transforms India's southern coastline into one of the world's most vital sites for contemporary art and brings together hundreds of artists and tens of thousands of visitors.

The project goes beyond preservation to enable dialogue, discovery and critical reflection, exploring AI technologies to help navigate this new kind of archive. It will be showcased at the next Kochi Biennale, as part of a public symposium on AI and arts.

The project builds on a year-long AI public programme project with Tate Britain, which includes the development of a prototype assistive AI tool called Listening Machine that was supported by WSI pilot project funding.



CELEBRATING THE TURING TEST

The 75th anniversary of the Turing Test is being celebrated with a special event at the Royal Society, in London.

The WSI is co-organising the event with the Royal Society that will commemorate Alan Turing's seminal paper Computing Machinery and Intelligence that was published in October 1950.

In the paper Turing proposed a test to determine whether machines could think and the hope that machines would eventually compete with humans in all intellectual fields.

Seventy-five years later we see this emergent competition between intelligent machines and humans played out in the news media, accompanied by international government interventions and widespread public concern.

Computer science pioneer Alan Kay, and leading voice in AI Gary Marcus will be opening the event that will look back at Turing's vision for AI, analyse the impact this has had over the last 75 years, and face the challenge of a new Turing Test that is fit for the future.

PRESENTING RESEARCH TO AN INTERNATIONAL AUDIENCE

WSI Associate Director Professor Pauline Leonard has been presenting research papers at international conferences.

At the Second International Symposium on Trustworthy Autonomous Systems conference, in the USA, Pauline and Dr Asieh Salehi Fathabadi, Lecturer in Computer Science, presented a paper about Developing Socio-technical Frameworks for Trustworthy Defence and Security Automated Systems.

With the dramatic rise of the use of automated systems across industries, a key challenge is to ensure they are judged as trustworthy by their users. This is

particularly important to the Defences and Security sector where a failure of the system could result in fatalities in significant numbers.

The paper draws on new interdisciplinary research conducted in the Defence and Security sector, exploring social and technical conditions and understandings of trustworthy automated systems.

At the American Sociological Association Annual Conference: Intersectional Solidarities, in Canada, Pauline presented her paper Can we trust them? Working with Robots in an Industrial Cleaning Context.

The paper examines the extent to which robots are perceived as trustworthy and on what sociological factors their future roles are imagined. It draws on qualitative research conducted in an industrial cleaning context to better understand the social processes of trust involved in the acceptance of robots within work teams.

WSI PhD student Rachel Hayward also presented a paper about her WSI-funded research Advancing Women’s Active Travel Safety through Technological Interventions at a round table discussion at the conference.

CELEBRATING THE 50TH ANNIVERSARY OF THE INTERNET

Pioneers of the internet and web science gathered at the Royal Society in London to mark 50 years of the internet.

WSI Director Professor Dame Wendy Hall and former Director of the Optoelectronics Research Centre Professor Sir David Payne joined an impressive gathering of internet luminaries at the event that was organised by the WSI.

The celebration featured eminent speakers including Dr Vint Cerf, co-inventor of the internet who received an honorary degree from Southampton last year and Alan Kay, the father of the personal computer.

More than 300 people joined the event in person or via live stream to hear from Vint, as well as participate in panel discussions covering topics such as The Internet and Society and The Internet as a Facilitator of Opportunity.



Dame Wendy, who chaired a panel, said: “To bring together such an esteemed group of colleagues, all of whom have been so instrumental in the creation of the internet, the Web and web science was very special indeed.

“So much progress has been made since the invention of the internet protocols by Vint Cerf and Bob Kahn 50 years ago. It was fascinating to discuss that progress,



current challenges and prospects for the future as we move into the next era of internet development which will include the interplanetary internet.”

The event was co-organised by the Royal Society, sponsored by the Association for Computing Machinery (ACM) and supported by the Web Science Trust, the People-Centered Internet, the Digital Enlightenment Forum, and the Digital Humanism Initiative.



Professor Sir David Payne, Professor Dame Wendy Hall and Dr Vint Cerf

“To bring together such an esteemed group of colleagues, all of whom have been so instrumental in the creation of the internet, the Web and web science was very special indeed.”

Professor Dame Wendy Hall
WSI Director



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