

NEW INTERDISCIPLINARY INSTITUTE FOCUSES ON A SUSTAINABLE FUTURE

There are few more pressing questions than how we will choose to manage our planet for ourselves and future generations. It is this question which is driving the University of Southampton's newest interdisciplinary institute.



SRI Director, Professor Craig Hutton

The Sustainability & Resilience Institute (SRI) was officially launched by the Vice-Chancellor, Professor Mark E. Smith, on 1 November 2023. The new institute will be the focus of inter- and transdisciplinary work in sustainability around the University. It will take an integrated approach to sustainability, involving research, education, operations and student experience.

Led by Director Professor Craig Hutton, the SRI aims to give students as well as staff the opportunity to be involved in world-leading solutions-led research, education and enterprise. Craig is joined by Deputy Directors, Dr Lindsay-Marie Armstrong (Associate Professor, Engineering) and Professor Simon Kemp (Geography and Environmental Science).

Southampton is already strong on research that addresses the UN Sustainable Development Goals, and the Sustainability and Resilience Institute's research themes will build on those strengths. The University is also known for its interdisciplinary research but, said Craig, "we still have a tendency to think of sustainability and resilience as the Environment."



SRI Deputy Director, Dr Lindsay-Marie Armstrong

In fact, sustainability is usually defined as having three pillars: environmental, economic and social. To those three themes, the SRI team would add 'culture'. "Sustainability is the interaction between the environment and people," explained Craig, who is Professor of Sustainability Science, Geography and Environmental Science.

The new institute will support research which focuses on the means of achieving a sustainable future. This could range from renewable energy and decarbonisation to climate change and health, Nature-based Solutions, and tools for sustainability and resilience.

Through the SRI researchers can apply for seed funding and access support, events, and networks for potential University and industry collaborations.

We all have a part to play

"One of our aims is to broaden the understanding of sustainability across the University and broaden the participation of people in those research themes," said Craig. "We believe all disciplines – from business to engineering, environment to humanities,



SRI Deputy Director, Professor Simon Kemp

information systems to health and social sciences – have a part to play."

Within each research theme, the Institute will be looking for proposals that consider the social-economic, cultural, health and governance contexts and implications.

"If you are looking at renewable energy for example, you need to look at what land is being used, what training is required, what transport links might be needed. And who benefits and who disbenefits from those things," explained Craig.

As a society, we need to engage with this interconnectedness, using what Craig termed a 'systems thinking' approach.

"Right now, we are quite naive about the way we look at things like Nature-based Solutions. We are planting forests, but many of them are mono planting. They are capturing carbon, but some of them are actually reducing biodiversity. We are failing to consider the social and biological contexts."

Universities have a role to play in undertaking the more complex thinking that is required

to achieve sustainability and resilience, and sharing that with industry, government and NGOs.

The SRI team is keen to improve the interconnectedness between researchers within the University already working on research addressing sustainability, and to facilitate collaborations with external partners.

“If we are going to make the Sustainable Development Goals a reality as a society, then we have to accelerate progress and that means connecting academia with different industry sectors, with policymakers and with wider society,” explained Lindsay. “It is hearing what their challenges are that will drive the research we choose to do.”

Sustainable research and education

Part of the new institute’s purpose is to help academic colleagues across the University to understand and talk about the sustainability of their research. Increasingly, funders are expecting bids from all disciplines to consider environmental, social and economic impacts.

“We want to enable and support researchers to see the bigger picture,” said Lindsay.


As well as upskilling established researchers, the SRI is determined to harness the energy that early career researchers, postgraduates and undergraduates bring to sustainability.

“What makes our institute distinct from similar institutes in other universities is that we want our interdisciplinary research to feed directly into the curriculum,” explained Simon, who is University Lead for Education in Sustainable Development.

The aim is to create a pipeline of future researchers to address the big questions, and to train the next generation “to advocate from the ground up,” said Lindsay.

“I engage with lots of different sectors. For a lot of companies, sustainability is a whole new world that they don’t have the knowledge or skills to navigate.


“We want to create a workforce – equipped with these skills because it has been embedded in their education – who can go out and make the change, no matter what sector they go into,” explained Lindsay.

 **Read more about the SRI:**
www.southampton.ac.uk/research/institutes-centres/sustainability-resilience-institute



INTRODUCING THE SRI:

- **Craig Hutton**
Director
- **Lindsay-Marie Armstrong**
Deputy Director
- **Simon Kemp**
Deputy Director
- **Jon Lawn**
Collaboration Officer
- **Grace Compton**
Policy Officer
- **Alice Brock**
Sustainable Development Officer
- **Ellie Pun**
Co-ordinator
- **Lou Payne**
Communications & Marketing Manager

 **Get in touch:**
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Engage:

Staff can engage with the SRI through a range of membership options. More information for staff is available at:
<https://soton.ac.uk/sharepoint.com/teams/sustainabilityandresilienceinstitute>

SRI membership is also open to external partners. To find out more, please contact:
sri@soton.ac.uk

Listen:

Engage with the sustainability debate and learn more about the critical challenges we face, with the Meliora podcast from the Sustainability and Resilience Institute:
<https://meliorapodcast.buzzsprout.com/share>

£15M AI FOR SUSTAINABILITY TRAINING CENTRE LAUNCHED

A new £15million training centre at the University of Southampton, launched in Autumn 2023, is tasked with nurturing British tech talent and developing AI to tackle climate change.

A funding package, which included £8million from UK Research and Innovation (UKRI), enabled the University to establish the new UKRI AI Centre for Doctoral Training in AI for Sustainability, known as SustAI.

It will train at least 70 PhD students in AI and sustainability, with plans to advance the technology for use across a number of areas such as transport, renewable energy, biodiversity, and reducing carbon emissions and waste in manufacturing and supply chains.

SustAI director Professor Enrico Gerding (Electronics and Computer Science) said: “Environmental sustainability is one of the greatest challenges our world is facing – and many countries are setting ambitious targets to reduce emissions and increase renewable energy production.

“AI will be key to achieving these targets and, through SustAI, we will nurture the next generation of researchers, engineers and technologists who will be trained to create a sustainable future using AI.”

The award followed the announcement of £31million funding from UKRI for the University to launch the Responsible AI UK consortium to develop trustworthy artificial intelligence.

Associate Professor Dr Lindsay-Marie Armstrong, from the SustAI team, added: “Sustainability is at the heart of the centre, both in its research and ethos. We will equip our students with the ability to transform academic research and make a real change to businesses and society.”

More than ten other training facilities across Britain were also announced by UKRI, as part of a £117million package, all aimed at developing artificial intelligence.

SustAI is now accepting applications for students for the start of the 2024 academic year.

 **Read more about SustAI:**
www.southampton.ac.uk/research/institutes-centres/doctoral-training-centre-for-ai-sustainability



Professor Enrico Gerding

GOING GREEN: DEBATING THE SOCIO-ECONOMIC IMPACTS OF ACHIEVING NET ZERO



Professor Keith Bell, Scottish Power Professor of Future Power Systems, University of Strathclyde, delivering the keynote address

In January 2024, as part of the UN's Sustainable Development Solutions Network (SDSN) UK, the SRI brought together researchers, policy makers and industry professionals in Southampton for a major conference: ‘Going Green: Debating the socio-economic impacts of achieving Net Zero’.

Focusing on the economic and social factors that will drive or impede the Net Zero transition in the UK, the event aimed to identify the most pressing research questions for a Net Zero future. Experts from different sectors and academic disciplines contributed “their unique perspectives on what the greatest challenges and opportunities are for decarbonisation,” said Grace Compton, SRI Policy Officer.

Following the event, members of SDSN and attendees can apply for seed funding to develop new research proposals that address the research questions identified in discussions.

“We anticipate that connections made at the event will enable attendees to build new research partnerships and collaborations around the socioeconomic impacts of achieving Net Zero.”

Grace Compton

£1MILLION-PLUS DECARBONISATION FUNDING BOOST FOR THE SOLENT CLUSTER

The Solent region is set to benefit from an investment of over £1million to decarbonise industries following a successful bid for national funding.

Minister for Energy Efficiency and Green Finance, Lord Callanan announced the winners of the Local Industrial Decarbonisation Plan competition, on a visit to the region in January 2024.

As part of the Government's £6 million funding for projects across the UK, The Solent Cluster is in line for up to £757,601. Matched contributions from Solent Cluster members means that £1,032,540 will be earmarked for the development of a comprehensive plan to decarbonise the Solent region.

Lord Callanan said: "Reducing emissions from industry in every corner of the UK will be essential for us to reach net zero. I look forward to seeing The Solent Cluster's plans to cut its carbon footprint, create green jobs and grow the local economy."

The University of Southampton is a founding member of The Solent Cluster (featured in [Re:action Spring 2023](#)), the country's largest and most diverse decarbonisation cluster, which brings together expertise in carbon capture and hydrogen technologies.

Dr Lindsay-Marie Armstrong, Associate Professor of Mechanical Engineering, SRI Deputy Director, and Academic Lead for The Solent Cluster, said:

"We are incredibly pleased to have received this funding from Innovate UK as part of The Solent Cluster Local Industrial Decarbonisation Plan.

"In partnership with regional industrial partners and local authorities, Professor Craig Hutton, Dr Mohamed Hassan-Sayed and I will be conducting a range of stakeholder engagement workshops to identify plausible decarbonisation scenarios.

"This objective research study will work alongside further socio-techno-economic evaluation conducted by project partners and aims to support future regional decarbonisation strategies with wider perceptions incorporated earlier in the decision-making process."

This 12-month interdisciplinary project is one of the first successful funded projects to be established through engagement activities from the Sustainability and Resilience Institute.

STUDENTS' CREATIVE CLIMATE SOLUTIONS



The University of Southampton has been selected as one of just five universities globally, and the only one in the UK, to take part in the Universities for Goal 13 Student Competition run by Siemens Gamesa and the UN Sustainable Development Solutions Network.

In 2015 the UN agreed 17 Sustainable Development Goals created with the aim of 'peace and prosperity for people and the planet, now and into the future.' Goal 13 is: 'Take urgent action to combat climate change and its impacts.'

In the competition, teams of students, supported by an academic staff member, will compete with their creative solutions for energy transition and environmental sustainability.

Projects must demonstrate a multidisciplinary approach considering technological, legal, economic, and social aspects of the transition toward a carbon-free economy.

Teams shortlisted by the SRI will work with a mentor from Siemens Gamesa to further develop their idea until the competition judging in July 2024. The winners will receive USD \$10,000 in prize money for development and implementation.



Left to right: Zoë Colbeck and Anne-Marie Mountifield, The Solent Cluster, Nick Bone – ExxonMobil, Lord Callanan – Minister for Energy Efficiency and Green Finance, Katriona Baker – Geo Specialty Chemicals, Michael Foley – ExxonMobil, Maria Brucoli – SSE, Damian Morris – Ada Mode, Lindsay-Marie Armstrong – University of Southampton, Ralf Rashbrook – ExxonMobil, Stuart Baker – The Solent Cluster