



TWENTY65

15 to 19 March 2021 , Online

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Day 1 - 15th March 2021

- 10:00 – 10:05 **Event Opens - Joby Boxall**
- 10:05 – 10:10 **Introduction - Liz Sharp**
- 10:10 – 11:00 **Plenary Session: Why the water sector cannot do without social science**
Chair: Liz Sharp, *The University of Sheffield*
Keynote Speaker: Sarah Bell, *University of Melbourne*
Keynote Speaker: Vittoria Danino, *Anglian Centre for Water Studies*
Keynote Speaker: Jess Phoenix, *Defra*
- 11:00 – 11:40 **Discussant & Panel Discussion: Why the water sector cannot do without social science**
Discussant: Zoë Sofoulis, *Western Sydney University*
Panellists: Sarah Bell, Vittoria Danino, Jess Phoenix, Zoë Sofoulis
- 11:40 – 12:30 **Break for Lunch**
- 12:30 – 16:15 **Social Science Day presentations & workshop**

Requires separate registration

Day 2 - 16th March 2021

- 09:30 – 10:00 **Event Opens**
- 10:00 – 10:10 **Introduction - Prof. Joby Boxall**
- 10:10 – 11:00 **Plenary Session: Innovation in the water sector**
Chair: Paul Horton, *Future Water Association*
Keynote Speaker: Baroness McIntosh, *All Party Parliamentary Water Group*
Keynote Speaker: John Russell, *Ofwat*
- 11:00 – 12:00 **Panel Discussion: Innovation in the water sector**
 John Russell, *Ofwat*
 Caroline Wadsworth, *Isle Utilities*
 Peter Skipworth, *Environmental Monitoring Solutions*
 Kamal Birdi, *The University of Sheffield*
- 12:00 – 12:30 **Break for Lunch**
- 12:30 – 13:30 **Parallel Sessions 1A – 1C**
- 13:30 – 13:45 **Refreshment Break**
- 13:45 – 14:45 **Parallel Sessions 1D – 1F**

Day 3 - 17th March 2021

- 09:30 – 10:00 **Event Opens**
- 10:00 – 10:10 **Introduction - Laura Roberts**
- 10:10 – 11:00 **Plenary Session: Roadmap for the future of water innovation**
Chair: George Ponton, *Scottish Water*
Keynote Speaker: Joby Boxall, *The University of Sheffield*
Keynote Speaker: Vanessa Speight, *The University of Sheffield*
- 11:00 – 12:00 **Panel Discussion: Roadmap for the future of water innovation**
 Joanna Clark, *University of Reading*
 Michael Templeton, *Imperial College London*
 Richard Dawson, *Newcastle University*
- 12:00 – 12:30 **Break for Lunch**
- 12:30 – 13:30 **Parallel Sessions 2A – 2C**
- 13:30 – 13:45 **Refreshment Break**
- 13:45 – 14:45 **Parallel Sessions 2D – 2F**

Day 4 - 18th March 2021

- 09:30 – 10:00 **Event Opens**
- 10:00 – 10:30 **Safeguarding a sustainable supply of water for Eastern England**
 Robin Price, *Water Resources East*, *Chair:* Vanessa Speight, *University of Sheffield*
- 10:30 – 11:30 **Parallel Sessions 3A – 3C**
- 11:30 – 11:45 **Refreshment Break**
- 11:45 – 12:45 **Gathertown Networking Lunch**
- 12:45 – 13:45 **Parallel Sessions 3D – 3F**
- 13:45 – 14:00 **Refreshment Break**
- 14:00 – 15:00 **Fireside Chat: How does the water sector move forward?**
Chair: Tony Conway, *The University of Sheffield*
Panellists: Joby Boxall, *The University of Sheffield*
 Vanessa Speight, *The University of Sheffield*
 Tony Harrington, *Welsh Water*
 Nicole Ballantyne, *KTN*
 Tony Green, *National Grid*
- 15:00 **Close**

Day 2 - 16th March 2021

	12:30	12:45	13:00	13:15	13:30	13:45	14:00	14:15	14:30	14:45
<p>Session 1A</p> <p>Engagement</p>	<p>Workshop: What's flood got to do with it? Chair: Phiala Mehring, Reading University</p> <p>This workshop will take attendees through understanding how flooding is constructed from their perspective, through the lens of flood communities and flood authorities. We will do a similar exercise understanding the constructions of flood risk management.</p>				<p>Session 1D</p> <p>Engagement</p> <p>Green Infrastructure, Chair: Chris Digman, Stantec</p>	<p>Challenges of implementing participatory, adaptive and integrated urban water management in South Eastern Australian seaboard Bao Anh Nong, University of Technology Sydney</p>	<p>Actions speak louder than words: raintanks and community engagement with flood resilience Christine Sefton, University of Sheffield</p>	<p>Tuber-charging sub-Saharan Africa's transition into green stormwater infrastructure systems: the policy-practice gap in a Ghanaian water catchment Alhassan Ibrahim, University of Adelaide</p>	<p>Evaluating a co-produced community rainwater management intervention - learning why we need to evaluate, how and for whom Jo Birch, University of Sheffield</p>	
<p>Session 1B</p> <p>Climate Change</p>	<p>Workshop: The move to net zero carbon emissions: harvesting heat energy from water infrastructure Chair: Simon Tait, University of Sheffield</p> <p>Low grade heat recovery is one of the established technologies anticipated to be crucial in achieving the carbon emission target of net zero by 2050. The aim of this workshop is to bring together recent research in harvesting heat energy from water infrastructure to lower carbon emissions.</p> <p>Fei Liu, Alma Schellart, Will Shepherd, Simon Tait, University of Sheffield; and Ross Stirling, Newcastle University</p>				<p>Session 1E</p> <p>Climate Change</p> <p>Workshop Continued: The move to net zero carbon emissions: harvesting heat energy from water infrastructure Chair: Simon Tait, University of Sheffield</p> <p>Interactive Discussion</p>					
<p>Session 1C</p> <p>Emerging Solutions</p> <p>Innovations in sensors and data Chair: Mike Strahand, Smartwater</p>	<p>Dense data for improved wastewater monitoring and autonomous intervention Samuel Shelley, Nuron</p>	<p>Digitally connected drainage: how sensors in SuDS can help to monitor and control run-off Alex Stephenson, SUDSPlanter</p>	<p>Characterisation of water infrastructure using impedance spectroscopy Shiyao Wang, University of Sheffield</p>	<p>Biosensors: the advantages of tracking your microbiology in real time Tom Williams, Enebio</p>	<p>Session 1F</p> <p>Emerging Solutions</p>	<p>Workshop: Pervasive sensing of buried pipes and AI Chair: Kirill Horoshenkov, University of Sheffield</p> <p>Pervasive sensing of pipes with robot swarms, Simon Langdale, Synthotech Pervasive sensing of pipes with fibre-optic nervous system, Paul Dickenson, Nuron</p> <p>Interactive Discussion</p>				

Day 3 - 17th March 2021

	12:30	12:45	13:00	13:15	13:30	13:45	14:00	14:15	14:30	14:45
<p>Session 2A</p> <p>Collaborative Innovation</p> <p>Case Studies <i>Chair: Arlene Goode, Arup</i></p>	<p>The Hydropolitics of Trust: Changing modes of public trust in drinking water Zoë Sofoulis, Institute for Culture and Society, Western Sydney University</p>	<p>Predicting Pollution from Combined Sewer Overflows: An academia-industry success story Adam Cartwright, Siemens</p>	<p>COVID-19 : UK water sector organisational response Elizabeth Lawson, University of Exeter</p>	<p>Becoming an informed customer on available technologies Iain Naismith, IKT</p>	<p>Session 2D</p> <p>Collaborative Innovation</p>	<p>Workshop: Collaborative innovation in the water sector: from research to practice <i>Chair: Kamal Birdi, University of Sheffield</i></p> <p>The water sector's need for collaborative innovation is increasing yet our understanding of how best to do this has been lacking. In this session, we will present our new research-based Guide to Collaborative Innovation and work with participants to identify how to turn it into an effective training programme.</p> <p><i>Tony Conway and Kamal Birdi, University of Sheffield</i></p>				
<p>Session 2B</p> <p>Engagement</p>	<p>Workshop: Not such strange bedfellows: public involvement meets applied water resources science to inform better practice <i>Chair: Tally Palmer, Rhodes University</i></p> <p>High quality public and community involvement and engagement (PCIE) can make a real difference to research, policy and practice. The workshop will introduce the Adaptive Systemic Approach (ASA) and give real examples of constructive ways to engage with PCIE in applied research regarding water use inequity and contestation.</p> <p><i>Ana Porroche-Escudero, Lancaster University and Bukho Gusha, Rhodes University</i></p>				<p>Session 2E</p> <p>Climate Change</p> <p>Green infrastructure and resilience <i>Chair: Phil Sellwood, Energy Savings Trust</i></p>	<p>Carbon Capture in the Water Industry David Hodkin, WRc</p>	<p>Designing blue green infrastructure for water management, health and wellbeing Liz Sharp, University of Sheffield</p>	<p>Ecological infrastructure as a sustainable solution for water security: Research from South Africa Sukh Mantel, Rhodes University</p>	<p>City of London Climate Action Strategy - Water Sector Rob Casey, Worshipful Company of Water Conservators</p>	
<p>Session 2C</p> <p>Emerging Solutions</p> <p>Technology Innovations <i>Chair: Jonathan Abra, KTN</i></p>	<p>The use of self-healing in water infrastructure systems Lauren McMillan, University College London</p>	<p>The feasibility of domestic raintanks contributing to urban flood resilience Liz Sharp, University of Sheffield</p>	<p>Intelligent autonomous control of wastewater treatment processes for phosphorus removal Sonja Ostojin, Environmental Monitoring Solutions Ltd</p>	<p>A Practical Biofilm Monitoring Device for Water Distribution Systems Fran Pick, University of Sheffield</p>						

Day 4 - 18th March 2021

10:30 10:45 11:00 11:15 11:30 12:45 13:00 13:15 13:30 1345

Session 3A
Green Infrastructure

Workshop: Research and practice
Chair: Virginia Stovin, University of Sheffield

This session will share information and experience about current research and practitioner case studies related to green infrastructure, with topics ranging from quantifying stormwater management performance to community engagement, followed by an open discussion.

Virginia Stovin, University of Sheffield; Daniel Green, Newcastle University; Ross Stirling, Newcastle University; Hamza Askari, University of Sheffield

Session 3D
Collaborative Innovation

Workshop: Global Water Security Challenges and Solutions
Chair: Claire Walsh, Newcastle University

This workshop will explore challenges, opportunities and solutions to a range of global water security challenges, drawing upon examples from low and middle income countries.

Claire Walsh, Newcastle University; Renu Khosla, Centre for Urban and Regional Excellence Delhi; Barbara Evans University of Leeds; and David Hetherington, Arup

Session 3B
Emerging Solutions

Technology Innovations
Chair: Steve Kaye, UKWIR

Immobilised complexes of Earth-abundant copper as antibacterial photosensitisers for water treatment
Martin V. Appleby, University of Sheffield

DMA flushing helps understand and reduce upstream discoloration risk
Manar Al-Saffar, Yorkshire Water

Nature-based processes for treating contaminated stormwater from an informal settlement, South Africa
Kevin Winter, University of Cape Town

AMBI-ROBIC –direct, ambient, anaerobic treatment for municipal wastewater – now an available alternative
B. Conall Holohan, NVP Energy

Session 3E
Emerging Solutions

Catchments
Chair: Nigel Graham, Imperial College

Real-time flow forecasting informed surface water abstraction operation
Mohammed Yassin, University of Sheffield

Estimating the productivity of communally-managed, unimproved rangelands of north Eastern Cape, South Africa
Gusha Bukho, Rhodes University

Catchment scale land use: optimisation using genetic algorithm to mitigate acute diffuse pollution
Vaida Suslovaite, University of Sheffield

Monitoring leaky barriers for natural flood management within a community-led, Defra-funded project
Gabrielle Powell, University of Reading

Session 3C
Collaborative Innovation

Workshop: Enabling innovation in the water sector
Chair: Caroline Wadsworth, Isle Utilities

Led by the delivery team of the Ofwat Innovation Fund, this interactive session will explore how to support and accelerate innovation across the water sector. Share your thoughts and hear from others about the steps we need to take to overcome current barriers to innovation, the technologies and industries that hold the most promise for innovative solutions to sector issues and more.

Caroline Wadsworth, Isle Utilities; Catherine Thompson, Nesta Challenges; Tom Doyle, Arup