

## The Blue-Green Path to Urban Flood Resilience

Newcastle, Thursday 7<sup>th</sup> March 2019

### Speaker Biographies

#### Morning Session

**Cllr Nick Kemp** is the Cabinet member for the Environment, Newcastle City Council.

**Colin Thorne** is the Chair of Physical Geography at Nottingham University. He researches flooding and flood management. Following the 'Millennium Floods', he co-lead the Government's Flood Foresight Project (2002-4), which underpinned Defra's new policy of 'Making Space for Water'. In 2008, he advised Sir Michael Pitt on responses to the 2007 summer floods. Between 2008 and 2012, Colin was Deputy Director of the national Flood Risk Management Research Consortium, developing ideas for 'Natural Flood Management'. Between 2013 and 2016 he was Principal Investigator for the 'Blue-Green Cities' research consortium and currently leads the Urban Flood Resilience research consortium. Colin also has extensive experience in international research and gives advice to governments all around the World. In 2017 he won the 'Back Award' of the Royal Geographical Society, for his national and international, policy-related research.

**Leila Huntington** has worked for the Environment Agency (EA) since 2004. She was appointed as the Flood & Coastal Risk Manager in the North East area in 2016. Prior to this Leila was a team leader in the Partnership and Strategic Overview team within the Flood & Coastal Risk Management (FCRM) department. Leila's previous roles within the Environment Agency include national and area roles within flood incident management and asset performance teams. The area Flood & Coastal Risk Manager leads the work we do to improve flood protection and resilience of communities across the North East and as part of this is responsible for the development and delivery of the FCRM 6 year capital investment programme. This role also manages key stakeholder relationships with our partners across the Northumbria Regional Flood & Coastal Committee and Local Resilience Forums.

**Richard Warneford** is a water industry professional with more than 25 years of experience covering water and waste water operations, project management, engineering and commercial activity. As Waste Water Director he leads Northumbrian Water's waste water operations including field customer service, networks, treatment works and sludge operations. Richard also leads the Company's new development activity for both water and waste water services, also chairing the national Infrastructure Policy Group. In addition to the operationally focused work Richard also heads up our Employee Relations Framework. Richard is a Board Member of UK Water Industry Research and is keen on partnering and collaborating with Regulators and Stakeholders alike. Richard is a Chartered Civil Engineer and is also a member of the Northern Advisory Board of the Institution of Civil Engineers. Richard is a keen WaterAid supporter and visited Zambia with industry and WaterAid colleagues in 2013.

**Justin Abbott** is a Director at Arup with over 30 years consulting experience covering a wide range of water and environmental projects undertaken in both the UK and overseas. His areas of interest are around the sustainable management of water, with expertise in environmental and social impact, water scarcity and risk, water quality and urban water management and resilience. In his role as Global Water Skills leader he co-ordinates Arup's water skills development and research activities across a water community of 1600 people around the world. He is currently chairing two significant UK research projects looking at how we can begin to quantify the multiple benefits that green/blue

infrastructure provide, and at how we can greater align water management through the planning process – to support the sector in developing stronger business cases for managing water that will in turn inform better planning decisions and outcomes. Justin is also leading research within Arup looking at infrastructure, water and health. Recent projects include looking at strategic water issues in Bangladesh and Vietnam, developing approaches for nature based solutions in catchments and helping water utilities to understand social value in the management of their assets. He is currently leading an international Arup team developing a future strategy for the management of storm water and urban pollution in Shanghai and is acting as a project director for the development of new guidance for the management of surface water in humanitarian contexts.

**James Harris** is the Policy and Networks Manager at the Royal Town Planning Institute (RTPI). He works on regeneration, infrastructure, devolution, mobility, technology and strategic planning, and manages the Transport Planning Network. He leads the Institute's research on the relationship between settlement patterns, urban form and sustainability, and their 'smart city-regions' project which explores how technology can drive a new wave of strategic planning. James has an MSc in Sustainable Urbanism from University College London, and an MA in Sustainable Development from the University of St Andrews. Prior to the RTPI, he worked as a consultant specialising in European funding for the environmental and sustainability projects in London.

**Fola Ogunyoye** is a Technical Director for Water at Royal HaskoningDHV. A Chartered Engineer and Fellow of the CIWEM, Fola has nearly 30 years' experience of making communities resilient to increasing water extremes; while optimising the value of water for communities, infrastructure and industry and delivering multifunctional outcomes. He has also been involved in developing many water sensitive, water adaptive and water resilient developments and infrastructures across the UK, Europe, USA and Africa. Fola's unique blend of experience in the water industry as an operations manager, consultant, researcher and contractor, enables him to develop innovative, yet practical solutions to global water challenges. Fola has led and inputted into the development of new methods, digital tools and guidance to support the interaction between water and communities and the environment, including on SuDS, flood protection systems, fluvial design, culverts, weirs and channel management.

**Eugene Milne** is Director of Public Health for Newcastle, Board Member of the Association of Directors of Public Health and the Advisory Committee on Resource Allocation. He is actively involved in public health research as Joint Editor of the Journal of Public Health, Deputy Chair of the Fuse Strategy Board and Member of the NIHR (National Institute for Health Research) Public Health Programme Advisory Board. He is a Visiting Professor at Newcastle University.

**Iain Garfield** joined Newcastle University as Head of Estate Planning and Development in January 2016. In this role he managed the Capital Projects and Estate Planning teams, responsible for the major capital developments of the University estate. He has recently been appointed Director of Estates and Facilities. Having undertaken a first degree and research in Mining Engineering at Newcastle University Iain embarked on a career with British Coal working as an engineer and Colliery Undermanager at various mines throughout the North East. In 1994 Iain moved into the Higher Education sector taking up a role at the University of Sunderland, firstly in the School of the Environment and then the Business School before moving into the Estates department in 2004. Iain had a key role in the strategic development of the estate and implementation of the estate capital investment programme. He held the role of Head of Estate Services from 2010 before leaving to join Newcastle. He has been instrumental in introducing numerous estate innovations and adaptations of novel estate planning processes including the now widely accepted Soft Landings process. He has also presented nationally in several fora on a variety of collaborative projects.

**Ola Holmstrom** has 20 years' experience of working with water environment issues in the UK. His primary areas of experience have been in the field of hydrology hydrogeology, flooding, drainage, water quality and eco-hydrological issues. He has also extensive experience in development engineering including geotechnical engineering, structural designs for rivers and contaminated land remediation. In addition to his technical expertise he has also acted as project manager on several large multi-disciplinary projects where his role has incorporated both technical and planning related duties. These projects have involved engineering as well as consenting aspects of these various disciplines including contaminated land and air and noise considerations. Subsequently he has a good understanding not only of current best practise but also of the legal framework governing the environmental and engineering aspects of projects. His current role as Divisional Director for Water and Asset Management for Sweco UK includes managing a large portfolio of work for several of the major water companies as well as numerous local authorities and developers.

**Lisa Stephenson** has over 10 years' experience in project and partnership development; raising over £10million for community embedded regeneration schemes, including the £5m+ Land of Oak & Iron Landscape Partnership and Heritage Centre. She is currently leading the development of the Tyne Estuary Partnership; a strong, strategic and influential partnership invested in long term environmental and economic enhancement of the iconic Tyne Estuary. Lisa has a background in economic development consultancy, providing a holistic approach to regeneration and community development. Lisa is committed to using her understanding of business, economic and social development to build environmental and community resilience.

**Gwen Rhodes** is a Principal Civil Engineer who has worked at Stantec for 15 years in the UK and in the US. She has successfully delivered solutions to flooding and water quality challenges. Projects have ranged from bathing water improvement schemes, sustainable urban drainage (SuDS), surface water separation, CSO improvement, and flooding schemes. Gwen regularly presents at industry conferences to share her leading knowledge on sustainable drainage, integrated catchment modelling, and partnership working. Gwen is also active within her local community to support STEM activities to students.

## **Afternoon Sessions**

**Emily O'Donnell** is a Research Fellow in Urban Flood Resilience at the University of Nottingham and leads the research on the Urban Flood Resilience project. Her current research focuses on identifying the uncertainties and challenges that act as barriers to the widespread implementation of Blue-Green flood risk management solutions. Emily is working closely with local government and industry stakeholders in Newcastle and Ebbsfleet (UK) to develop sustainable visions for urban surface water and flood risk management via Learning and Action Alliances. Emily is interested in how cities can adapt to future climate change through the implementation of multifunctional Blue-Green infrastructure that is designed to generate co-benefits for the environment and society, while providing an effective flood risk management function. Emily is also exploring how Blue-Green futures may be developed as new forms of environmentally sustainable urban governance as part of a British Academy TUKIC (Tackling the UK's International Challenges) grant.

**Sangaralingam Ahilan** is a Research Fellow in the Centre for Water Systems, University of Exeter. He has a civil engineering background with research interests in statistical and physics-based modelling in water engineering. Ahilan took part in a number of EU and national research projects in Irish and UK Universities. Ahilan obtained a PhD from University College Dublin, Ireland where he researched on influences of the floodplain on Irish flood estimation procedures. At Leeds, he participated in two EPSRC projects, Blue-Green Cities and SESAME. In the Blue-Green Cities project, he investigated long-

term performance of green infrastructure in the urban environment. Ahilan's current research focuses on the potential of rainwater harvesting systems on water supply augmentation and flood resilience in the UK cities; and urban metabolism modelling to integrate water, wastewater and material flow in the new build Ebbsfleet Garden City. Ahilan also serves as an editor for the Journal of Water and Climate Change, IWA publishing.

**David Butler** has over 35 years' experience as an internationally-leading academic, researcher, teacher, manager, mentor and consultant in the water sector. He is professor of water engineering, a chartered civil engineer and a fellow of the Royal Academy of Engineering, the Institution of Civil Engineers and the Chartered Institution of Water & Environmental Management. Following positions at consultant Arups, London South Bank University and Imperial College London, he is now Director of the Centre for Water Systems at the University of Exeter, UK and Director of the EPSRC Water Informatics Science and Engineering (WISE) Centre for Doctoral Training. He is a recognised expert in urban water management with specialisms including wastewater systems, sewerage, urban drainage, SuDS, flooding, water harvesting and reuse, sustainability and resilience. His research has been funded extensively by the Engineering & Physical Sciences Research Council and includes 25 grants - 13 as principal investigator, 2 platform grants, leadership of several multi-million-pound research consortia and an established career fellowship. He has supervised over 40 PhD students to completion and externally examined a further 50. David is widely published including 350 technical papers, key texts (Including Urban Drainage, now in its 4th edition) and several practice-based reports. He is co-founder and co-editor-in-chief of the Urban Water Journal.

**Steve Birkinshaw** is a researcher at Newcastle University (s.j.birkinshaw@ncl.ac.uk) Steve graduated from Nottingham University with a mathematics degree and then completed an MSc and PhD in hydrology at Newcastle University. Since then he has remained at Newcastle focusing on the computer modelling of water flows in the rural and urban environment. Steve is responsible for developing and maintaining the Shetran catchment modelling system, which has been at the forefront of hydrological modelling research for the past 20 years. Steve has been instrumental in making the model more accessible and user friendly leading to a large increase in the number of users. More recently he has become an expert in modelling of water flows in urban catchments using the CityCat hydrodynamic model.

**Glyn Everett** is a Research Fellow in the Centre for Architecture & Built Environment Research (CABER) at the University of the West of England (UWE). He has worked on projects around education, natural history and flooding for almost fifteen years. Glyn's work focusses on the importance of involving public voices in flood risk management, both to gain from local expertise and understanding of community dynamics, and also to ensure that devices satisfy local preferences in order to improve public engagement, understanding and encourage behaviour change. As a wheelchair-user, Glyn is also interested in researching the position of disabled people with regard to emergencies within the built environment, and their capacities for embodied expertise and resilience as well as, or instead of, the more traditional framing of 'vulnerable people'.

**Kim Vercruyse** (University of Leeds) joined the Urban Flood Resilience research project in October 2017, where she mainly focusses on exploring ways to promote and guide interoperability between infrastructure systems to make urban flood management more system-oriented. Before joining the project, Kim completed her PhD on sediment transport in rivers as part of the Leeds Flood Alleviation Scheme at Cranfield University (2014-2017), worked at UNESCO's Water Sciences Department (2014), and got both a masters' degree in Physical Geography (KULeuven, Belgium) (2010-2012) and International Development (UGent, Belgium) (2012-2013), providing her with an interdisciplinary background ideally suited to study the many and complex physical and societal interactions related to water and flood management.

**David Dawson** is a lecturer in Transport Management and Resilience in the School of Civil Engineering, University of Leeds. His research centres on sustainable and resilient infrastructure systems, including assessing sustainable transport transitions and long-term climate and flood resilience (hazards and appraisal). He has worked on multiple UKRI research grants and undertaken fellowships engaged on resilience and sustainability both nationally and internationally, and has provided expert evidence for Government assemblies on the management of resilience in the transport sector.

**Vladimir Krivtsov** is a hands-on researcher with diverse background in natural sciences. He has worked both in Industry and Academic Institutions on a range of experimental, monitoring, and modelling projects in geosciences, ecology, and environmental engineering. Vladimir's current research is related to water quality, hydrology, sedimentology, chemistry, and provision of biodiversity and ecosystem services by BGI and SuDS. He is also involved in part-time tutoring. Vladimir is passionate about Natural History, and in his spare time enjoys contributing to ecological and biodiversity surveys on a range of citizen science activities. He participated in >50 peer-reviewed publications (currently >1000 citations), has served on a number of editorial boards, and has previously acted as an associate editor in Earth Sciences for Versita and De Gruyter Publishers, as well as a guest editor for Ecological Modelling.

**Leon Kapetas** is a hydrologist and Research Associate in the Engineering Department, University of Cambridge. Leon uses hydrodynamic models and multiple socio-environmental benefit evaluations to develop adaptation pathways for drainage infrastructure using nature-based solutions. He also focuses on aspects of urban flood management which see stormwater as a valuable resource. He has been investigating the potential for micro-hydropower generation and aquifer recharge from SuDS. His aim is to identify opportunities to accelerate transitions towards more sustainable approaches to water management and find ways of integrating these into practice. Leon has worked in different research and consulting roles across different countries. He has worked as an urban resilience consultant for the "100 Resilient Cities" in Greece focusing on challenges in the areas of the natural and built environment. He has also worked as a postdoctoral researcher on multi-phase subsurface flow problems at Delft University of Technology, the Netherlands, and the Weizmann Institute of Science, Israel.

**Tudorel Vilcan** is a research assistant at the Open University and part of the Urban Flood Resilience research consortium, which investigates novel approaches to achieving urban flood resilience. He was awarded a PhD from the University of Southampton, in which he investigated the UK Government's application of resilience policies to flood management. His current work focusses on identifying the barriers to the uptake of green and blue infrastructure in the UK and on overcoming these barriers with the help of stakeholder-led collaborative initiatives.

**Karen Potter** joined the Open University (OU) in March 2016 as a Research Fellow in Collaborative Governance in the Department of Public Leadership and Social Enterprise (PuLSE). She is involved with one of the University's priority research areas aimed at addressing 21st century global challenges, Citizenship and Governance, rethinking the changing relationships between states, markets and citizens in the 21st century. Karen is working on the EPSRC Urban Flood Resilience project to evaluate how resilient urban flood risk management can be put at the heart of urban planning and how challenges to innovation can be overcome despite uncertainties in future urban climates, land-use, development and political leadership. With former qualifications in environmental management and planning, Karen initially worked in practice at the Forestry Commission and as Local Authority Planner, involved (with the benefit of academic hindsight) in the 'New Public Governance' era of development of cross sector and multi-agency environmental and regeneration partnerships in public policy

decision making and delivery. Before joining the OU she was lecturing in planning and environmental management at the Department of Geography and Planning (University of Liverpool).