



## Competition Judges

### COMPETITON CHAIR OF JUDGES

#### Professor Keith Beven Lancaster University

Keith Beven has worked at Lancaster University for 26 years and is now a Distinguished Professor in the Lancaster Environment Centre. He is the most highly cited hydrologist and has published 10 books and over 350 papers. Recent books include *Environmental Modelling: An Uncertain Future?* (2009); a 4th Edition of *Shaw's Hydrology in Practice* (with Nick Chappell and Rob Lamb, 2011) and a 2nd Edition of *Rainfall-Runoff Modelling: The Primer* (2012).

His main research interests are in hydrological modelling and understanding the prediction uncertainties associated with environmental models (see [www.uncertain-future.org.uk](http://www.uncertain-future.org.uk)). He was the originator with Mike Kirkby of the TOPMODEL Concepts and the originator of the Generalised Likelihood Uncertainty Estimation (GLUE) methodology. GLUE has been applied to a wide variety of fields including rainfall-runoff modelling, flood inundation, water quality modelling, sediment transport, recharge and groundwater modelling, vegetation growth models, aphid populations, forest fire and tree death modelling. Current projects include leading the NERC/ScienceWise Catchment Change Management Hub project ([ccmhub.net](http://ccmhub.net)), novel modelling of flow and transport on hillslopes and in catchments, modelling the impacts of climate and land management on flood runoff and flood frequency, nonparametric estimation of the rainfall-flow nonlinearity, and flood forecasting.

His research has resulted in a number of awards including the Horton and Langbein Awards of the American Geophysical Union, the John Dalton Medal of the European Geophysical Union, and the IAHS/WMO/UNESCO International Hydrology Prize. He also still likes to try and find time to take some photographs (mostly of water, see [www.mallerstangmagic.co.uk](http://www.mallerstangmagic.co.uk)). Author/co-author for several water quality and pollution control books. Author and presenter of over 30 technical papers on a wide range of topics, including hydraulic modelling, water quality modelling, coastal studies, flood forecasting, flood risk management and decision support system.

#### ALISTAIR MALTBY

##### Operations Director, the Rivers Trust

Alistair has worked in the rivers trust movement since 1997. Beginning at Westcountry Rivers Trust he was part of the small team which implemented the Tamar2000 project, which developed the principles of achieving catchment improvements through economic savings on farms, and evolved into Defra's Catchment Sensitive Farming. Moving to Thames21 he delivered London Probation Service's Millennium Project to restore urban rivers through Community Service, and integrated environmental quality objectives for the river catchment with the canal network using the Single Regeneration Budget. Alistair moved to Eden Rivers Trust to deliver an ambitious whole catchment restoration, and initiated the first rivers trust programme of catchment modelling and monitoring to inform prioritisation of funding and restoration work.

Alistair was a founding trustee of the Association of Rivers Trusts in 2004 and moved to work for the umbrella body in 2005, now known as The Rivers Trust. Since then, Alistair and colleagues have facilitated the growth of the rivers trust movement from five founding trusts, to over 50 community-led organisations in England,

Wales, Northern Ireland and now the Republic of Ireland. Alistair's most recent achievement has been as technical author of a €20M Life Integrated Project to deliver the NW River Basin Management Plan using principles of integrated water management. Alistair sits on United Utilities' "Your Voice" and Yorkshire Water's "Customer Forum", customer challenge groups for business planning and expenditure. Alistair is a Winston Churchill Travelling Fellow (2007) on the subject of managing rivers in a changing climate.

## **SUSAN PENWARDEN**

### **Chief Underwriting Officer, Global Commercial Lines, Aviva**

Susan is a highly accomplished senior executive with 7 years' experience operating at Board level in a variety of challenging roles both in the UK and globally. A seasoned executive with excellent communication, influencing and change management skills, she has solid track record of leading businesses through major transformational change resulting in exceptional results. She is a critical thinker, with a breadth of capability encompassing strategy, risk management and governance. Her motivational and engaging leadership style inspires her people to perform whilst maintaining an environment based on personal integrity, honesty and trust.

Susan reports to the MD, UK Commercial Lines and CEO, and is responsible for commercial underwriting and pricing across UK, Ireland and global business units. She has been with Aviva for 3 years and prior to that worked both in the UK and Canada for RSA. She also worked in Denmark in the insurance industry.

Aviva is the largest UK commercial lines insurers and continues to maintain our commitment to our business customers in areas at risk of flooding as well as protecting homes. Last winter's adverse weather affected a significant number of business premises flooding as well as homes.

Aviva has consistently been advocating for a more comprehensive approach that focuses on resilience across the system, not just flood defences, and believes SME's should a) know whether their properties are at risk, 2) receive support to become more resilient if indeed and 3) look at the ecosystem operating in the catchment areas to address the flood risk more broadly. This activity supports communities and local businesses, and therefore local economies and jobs. It also has particular impact for areas outside of London, where the government is keen to rebalance the economic activity.

## **JO HARRISON**

### **Director of Asset Management, United Utilities**

Jo Harrison is the Director of Asset Management at United Utilities, the regional Water and Sewerage Company in the North West of England. She has over 20 years of experience of working in the water industry and has worked for UU since joining the company in 1998.

In her current role she is accountable for setting the asset management strategy for the wholesale business for the next 25 years; including developing and strengthening the Company's approach to asset management and environmental regulation and quality as well as improving service to the customers.

Jo has a BSc in Geography and Ecology from the University of Sheffield and an MSc in Pollution and Environmental Control from Manchester University. She is a chartered member of the Institute of Water and Environmental Managers (CIWEM) and a Chartered Environmentalist. She is also a member of the UKWIR Board, a member of the North West Flood and Coastal Committee (RFCC), a Trustee of the Community Forest Trust and a Trustee of the Healthy Rivers Trust, covering Manchester, Liverpool and Cheshire.

## **GLYN VAUGHAN**

### **Chairman of the Eden Rivers Trust**

Glyn is a flood risk engineer, with almost 40 years' experience in a career that has been focussed on Flood Risk Management within the Environment Agency and predecessor organisations. From shortly after his retirement from the Environment Agency in 2011 until the present day, Glyn has been a trustee and, for the past three years, Chairman of the Eden Rivers Trust, where he has been involved in ensuring that the reduction of flood

risk in rural communities has been placed high on the Trust's agenda. This has involved extensive partnership working with Cumbria County Council and the Environment Agency in order to maximise funding to carry out research plus extensive site work including river restoration and 'slow the flow' projects.

From 1986, Glyn worked in management roles, culminating in the Area Flood and Coastal Risk Manager (Cumbria and Lancashire) post from 1996 until retirement in 2011. Over this period, he gained extensive experience of working with professional partners, stakeholders, and community groups. Glyn completed an MBA in 1997 to compliment his technical qualifications. The two major Cumbrian flood events of 2005 and 2009 were testing times for the Environment Agency and Glyn, as the Area Flood and Coastal Risk Manager, was the main local Environment Agency manager for the event itself and the recovery phase. He was actively involved in creating the 'Making Space for Water' groups, and working with community groups to raise partner funding. The Cockermouth and Keswick Flood Alleviation schemes were only viable due to additional funding from the community groups and other partners. Glyn also worked closely with the private sector, including several large businesses that had suffered from the flooding. Glyn's experiences in the 2005 and 2009 Cumbrian floods were put to good use in the December 2015 floods, when he assisted the Environment Agency with the immediate aftermath of the event.

Glyn lives in the Eden Valley, and has witnessed the effects of the flooding first hand, including the on-going recovery process.

### **LYDIA BURGESS-GAMBLE**

#### **Principal Scientist Flooding and Communities, Environment Agency**

Principal scientist in a research team at the Environment Agency. This is predominantly a project and programme management role. I am also the technical lead on the theme 'Working with nature to reduce flood risk.

In this role I have developed a research and development framework, this is a programme of research projects which once implemented will provide the Environment Agency and our partners with the evidence needed to build flood risk management schemes which work with nature to reduce flood risk.

I project manage a portfolio of applied research projects and undertake communications activities to share the outputs of these projects, embed them into the business and run training events with colleagues and external partners. I work with academics in my field and research councils to help shape and support research calls.

### **Dr BEN GROOM**

#### **Associate Professor in Environment and Development Economics, London School of Economics**

Ben joined the London School of Economics from the University of London's School of Oriental and African Studies (SOAS), where he was a Senior Lecturer in Economics. He studied Economics at Sheffield University, Environmental and Resource Economics at UCL, and completed his PhD in Economics at UCL in 2005 on empirical and theoretical aspects of social discounting for distant time horizons.

Ben has served as a Consultant for numerous international organisations, including the World Bank, the Asian Development Bank and the WWF. He has also advised government in the UK, USA, China and Pakistan on various aspects of environmental policy. His research areas cover;

- Environmental and development economics, in particular social discounting
- The microeconomics of deforestation
- Agricultural technology adoption in West Africa
- The economics of water