

JBA Trust - Update Summer 2013

What is the JBA Trust?

The JBA Trust was created in 2011 as an independent charity to support and promote scientific research, education and training in the fields of environmental risks and resources, especially related to flood risk and the water environment.

How do we work?

The JBA Trust works with NGOs, charities and not for profit organisations, leading academic researchers and the JBA Group of companies to:

- create opportunities for project placements, especially for postgraduate students or early-career professionals
- support students and courses within higher education
- help with knowledge exchange and training resources for relevant professions

How is the Trust funded and managed?

Core funding for the JBA Trust comes from JBA Group dividends and we also seek to gain external sources of funding where appropriate.

The Trust is independently managed and governed by a board of Trustees. The board of trustees includes Professor Jim Hall of Oxford University, Professor Keith Beven of Lancaster University, independent financial consultant Nick Russell and Jeremy Benn and Rob Lamb from JBA Group.

JBA Trust Research

The Trust is uniquely placed to facilitate collaboration between industry, academia and the 3rd sector.

We support post-graduates in academia (MSc or PhD students) and provide training through research projects within JBA.

The Trust provides a platform for highly respected research work and delivers public benefit through publishing and disseminating research outputs and enabling knowledge exchange.

Knowledge Exchange

JBA Trust co-funded a two day River Restoration conference with the University of Gloucester in 2012.

Following the release of funding to River and Wildlife Trust to support delivery of WFD objectives, many river and floodplain restoration projects have been implemented and the workshop aimed to share information and experiences from these projects.

You can see the outputs of the conference on the JBA Trust website www.jbatrust.org/riverrestoration

Demonstration Flume

JBA Trust now has a mobile flume to demonstrate channel hydraulics. The flume is a scale model of the flow of water in a simple channel, driven by a system of re-circulating pumps and featuring scale models of typical engineered structures such as weirs, bridges, culverts and debris screens.

Observers can see in real time how different structures interact with the flow and what happens under flood conditions.

The JBA Trust is looking for opportunities to take this on the road and help show how good channel design and maintenance can help to manage flood risk.

This summer the flume will be at the 'Big Bang' Young Scientists and Engineers Fair which aims to inspire interest in science, technology and engineering.

If you know of any other groups who would benefit from a demonstration, please get in touch.



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2012-13 Research Programme Summary

Railway network flood risk

This project applies the JBA spatial risk assessment method to the railway network. Phase 1 is now complete and has produced an 'event set' methodology that assesses the probabilities associated with multi-location events. Phase 2 will build on this proof-of-concept to analyse events that are relevant for operational risk management or investment planning and develop links with the EPSRC Infrastructure Transitions Research Consortium.

PhD on modelling to support resilient integrated catchment management

The Trust is co-funding a PhD at Lancaster University by Peter Metcalfe to investigate "intermediate complexity" modelling approaches for catchment management. This builds on JBA's expertise in broad scale modelling and Lancaster's interests in particle tracking and uncertainty.

Flooding from intense rainfall (NERC)

JBA has been contracted as a partner in this NERC academic consortium project to provide historical flood event chronologies and event modelling reanalysis. JBA's contribution will be managed through the Trust.

Morphological Model Trial

The Trust has helped to set up a case study at Keswick and is funding co-supervision time for a Leeds University PhD student to run trials of a new hydro-morphological model at field scale

Scour and Flood Failure Database

The Trust is supporting an 8 week student placement to create a '*Railway Assets Scour and Flood Failure Incidents Database*' including detailed incident reports and causes of failure. The database will be publicly available for use as a research and educational resource.

Sponsorship

Following the withdrawal of the Natural Environment Research Council's masters degree sponsorship in 2011, the British Hydrological Society recognised the gap in funding and created an award scheme to support potential MSc students wishing to pursue an MSc in hydrology or catchment management.

JBA Trust is sponsoring the BHS MSc Studentship Award again in 2013 and we are working with the BHS to recognise outstanding student achievements.

MSc Project Focus

Newcastle Urban Flood Model Comparison

JBA Trust is supporting Robert Bertsch, an MSc student at Newcastle University, by co-supervising a dissertation project to compare urban flood models at city scale, namely CityCAT and JFlow.

The project will also investigate the 'Toon Monsoon' events of July 2012 for a smaller area testing grid resolution dependency and using crowd-source observations as a guide to attempt to ground-truth the modelling.

Historical review of flood defence performance

JBA Trust is supporting Janie Haven, an MSc student at Bristol University, by co-supervising a dissertation project to review historical evidence of flood defence failures or near misses.

We are working with the Environment Agency to compare their asset performance data against modelling approaches.

Our Research Partners



The Lancaster Environment Centre



LANCASTER UNIVERSITY



Environmental Change Institute

