Urban River Sediment Pollution Dynamics: PhD studentship available

PhD studentships in hydrological themes are now available at Coventry University for project starts from January 2015. Studentships are available for UK and EU students only.

Please forward this email and attached details to colleagues interested in a PhD opportunity. This would suit a recently-completed Masters student.

Apologies for any cross-posting…Thanks, Damian Lawler

http://www.coventry.ac.uk/research/research-students/research-studentships/

Application closing date: Monday 3 November 2014

One example project is:

What controls storm-event sediment pollution dynamics in urban rivers?

The project is supervised by Professor Damian Lawler:
Damian.Lawler@coventry.ac.uk,

The studentship is based in the newly-launched University Research Centre for Agroecology, Water and Resilience (CAWR) at Coventry University, UK.

Full details are available below, and at:

http://www.coventry.ac.uk/research/research-students/research-studentships/90814/

Project Title:

"**What controls storm-event sediment pollution dynamics in urban rivers**?"

Sediment pollution in rivers generates serious ecological problems. But very little is known about storm-event turbidity and suspended sediment flux dynamics in urban rivers, despite many studies elsewhere in rural catchments.

This is surprising given the importance of dynamic behavior in understanding storm-event sediment delivery and transfer, sediment source definition, sediment storage magnitudes and locations in fluvial systems, upstream erosion rates and processes, bank sediment delivery processes, sediment-associated pollutant-transfer, the health of aquatic habitats, hydraulic connectivity in catchment, and downstream sedimentation problems. Knowledge is especially lacking for urban rivers at the storm event timescale (but see Lawler et al., 2006a, *Science of the Total Environment*; Lawler et al. 2006b *IAHS Proc*; and Barker, Lawler et al., *Earth Surface Processes and Landforms* 2009; Lawler and Walsh, 2014). What we do know is that, in some urban catchments at least, sediment flux dynamics differ substantially from responses in rural catchments.

However, the controls on this complex behaviour are not well understood, and this novel project addresses key knowledge gaps. Also, given the current rate of increasing global urbanisation, and the ecological impact of fine sediment in rivers, it is vital that we develop improved understandings of urban impacts on environmental processes, including the dynamics of sediment and contaminant behaviour in rivers during critical high flows.

The aim of this studentship, therefore, is to clarify (a) understanding of the magnitudes, patterns and controls of turbidity and suspended sediment dynamics in urban rivers, and how these change through catchments during downstream translation, and over time; and (b) determine the key driving processes which control such extraordinary sediment concentration responses through rainstorms in urban rivers.

Informal enquiries may be addressed to:

Prof Damian Lawler

Professor of Hydrology

Centre for Agroecology, Water and Resilience (CAWR)

Coventry University, UK.

Damian.Lawler@coventry.ac.uk

Research Gate profile:
https://www.researchgate.net/profile/Damian_Lawler/?ev=hdr_xprf

Applications are invited from suitability qualified candidates, who must have a strong Masters degree in Hydrology, Sediment Transport, Hydraulics or Fluvial Geomorphology.

Funding source means that only UK/EU citizens are eligible, with the academic requirements listed at:

http://www.coventry.ac.uk/research/research-students/research-entry-criteria/

For the Application Procedure and to check eligibility, please click on this link:

http://www.coventry.ac.uk/research/research-students/phd/

For other studentships, including in the hydrological sciences, please see: