European Geosciences UnionGeneral Assembly 2017

Vienna | Austria | 23–28 April 2017

Call for abstracts HS9.8/GM9.8
Experimental and numerical investigation of river confluence hydrodynamics and morphodynamics (co-organized)

Dear Colleagues,

We would like to call your attention to the session on *Experimental and numerical modelling of river confluence hydrodynamics and morphodynamics* that we organise at the forthcoming EGU General Assembly, to be held in Vienna, 23-28 April 2017.

We encourage contributions on experimental, field, theoretical and numerical studies of different aspects of river (and open channel) confluence hydrodynamics and morphodynamics, which include, but are not limited to studies of: the 3D flow structure and its turbulence characteristics, characteristics of the mixing layer, the mechanism by which turbulence affects sediment movement, effects of the sediment size and transport rate on morphological changes of the riverbed, mitigation measures against excessive erosion, etc.

Abstracts should be submitted through the website of the EGU General Assembly 2017, Hydrological Sciences, HS9.8/GM9.8: http://meetingorganizer.copernicus.org/EGU2017/session/23818

Please note two important deadlines:

December 1, 2016: Deadline for Support Applications (abstract should be submitted; for more details about receiving financial support for attending the conference please visit the page: http://egu2017.eu/financial_support.html)
January 11, 2017 (13:00 CET): Deadline for Abstract submission

If you have questions or queries, please do not hesitate to contact us!

Looking forward to seeing you at the EGU2017!

Best regards,

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Topic description

River confluences play a very important role in river channel networks. They affect the drainage dynamics of a catchment, the sediment transport through the river channel network and mixing processes in rivers. River confluences are characterised by a strong interaction between converging flows on the one hand, and their interaction with the riverbed bed on the other. These interactions result in enhanced turbulence at the confluence, development of complex, 3D flow patterns and characteristic morphological features in the riverbed, and may affect bank stability.

The influence of different morphological elements in the riverbed on the 3D flow structure and its turbulence characteristics is still not fully understood, neither is the mechanism by which the generated turbulence affects sediment movement and morphological changes of the riverbed. The interest in studying different aspects of river confluence hydrodynamics and morphodynamics is constantly increasing and we feel that the knowledge about river confluences would benefit if researchers are joined in a network.

The main goal of this session is to bring together experimentalists, field researchers and numerical modelers with an expertise in open-channel hydraulics, turbulence measurement and modelling, measurement instrumentation and techniques, sediment mechanics and river morphology. Specific topics of interest could include, but are not limited to: the influence of different controls such as the planform geometry, the junction angle, the extent of bed elevation discordance, the momentum-flux ratio of the combining flows and the width-ratio of the combining channels on the 3D flow hydrodynamics in river confluences, hydrodynamic processes, structure of turbulent flow, characteristics of the mixing layer, as well as the influence of sediment size and transport rate on the development of avalanche faces and separation zone bars, and the bed erosion mechanism.