



Physical Sciences Seminar

Hydraulic engineering and modelling needs and research developments

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Host: Björn Hof

Rivers provide mankind with key benefits, such as water supply, food, hydropower, navigation, irrigation, ecosystem services and recreation. They are fundamental to life and frequently possess major cultural significance. Rivers are currently threatened by unsustainable overuse, increasing human pressure on their catchments and problems of increased floods and droughts driven by climate change, leading to changes in morphology, increased pollution, degradation of aquatic habitats, extinction of fish species etc.. In this context Hydraulic Engineering has accompanied society since thousands of years, but the new challenges lead to new demands and needs in terms of research. The lecture is focusing on recent examples of ongoing research using field monitoring, physical and numerical modelling. In particular the spatio-temporal variability of sediment transport will be discussed in relation to flood risk management, hydropower, navigation and ecology. Thereby deficits in existing knowledge show the need for fundamental research, whereby especially scaling issues are of importance. In this context, the new CD-Laboratory Sediment Research and Management aims to analyse bedload and suspended sediment transport processes and their interaction with engineering measures in order to meet management needs. Finally the new research infrastructures, namely the already existing research channel and the planned modern BOKU hydraulic engineering laboratory, being a unique research infrastructure with a free flowing discharge of up to $10 \text{ m}^3 \text{ s}^{-1}$, allowing the study of basic processes and interrelations with river engineering measures, are presented.

Thursday, January 25, 2018 10:00am - 11:00am
IST Austria Campus Mondri Seminar Room 1, Central Building



This invitation is valid as a ticket for the IST Shuttle from and to Heiligenstadt Station. Please find a schedule of the IST Shuttle on our webpage: <https://ist.ac.at/en/campus/how-to-get-here/> The IST Shuttle bus is marked IST Shuttle (#142) and has the Institute Logo printed on the side.