

Seminar



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DI INGEGNERIA CIVILE
E AMBIENTALE

Dealing with floating debris to improve flood safety

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via Santa Marta, 3 - Firenze

ABSTRACT

In this talk general information on input, transport and deposition of woody debris in rivers will be given first. Potential damage processes resulting from floating debris, e.g. clogging at critical infrastructure such as bridges and weirs, will then be discussed as a basis for a proper risk assessment. To do so, the clogging risk needs to be estimated. Recent findings from model studies performed at the Laboratory of Hydraulics, Hydrology and Glaciology of ETH Zurich, Switzerland, will be presented. Based on the clogging risk assessment, mitigation measures like structural adaptation of bridge design or floating debris retention can be projected. Regarding the latter, a rather novel bypass driftwood retention structure will be presented and illustrated based on two recent case studies in Switzerland.

Prof. Dr. Robert Boes

- Prof. Dr. Robert Boes studied civil engineering at RWTH Aachen University (Germany), Ecole Nationale des Ponts et Chaussées in Paris (France), and the Technical University of Munich (Germany), from where he graduated in 1996. He then became a research engineer at ETH Zurich, Switzerland, obtaining a Doctorate in hydraulic engineering in 2000.
- After a post-doctoral research period at ETH Zurich, he joined the Hydro Engineering Department of the Tyrolean utility TIWAG in Innsbruck, Austria in 2002.
- He became head of the dam construction group at TIWAG. In 2009 he was appointed professor for Hydraulic Structures at ETH Zurich, where he currently directs the Laboratory of Hydraulics, Hydrology and Glaciology (VAW). He is involved as a consultant in dam and flood protection projects and is a board member of the Swiss Association of Water Resources Management and the Swiss Committee on Dams.
- He currently stays at the hydraulic laboratory of the University of Pisa in the frame of a sabbatical leave.