

## Dr. João P. Leitão

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## New data sources and modelling opportunities to reduce flood risk in urban areas

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11:30-13:00 Uhr

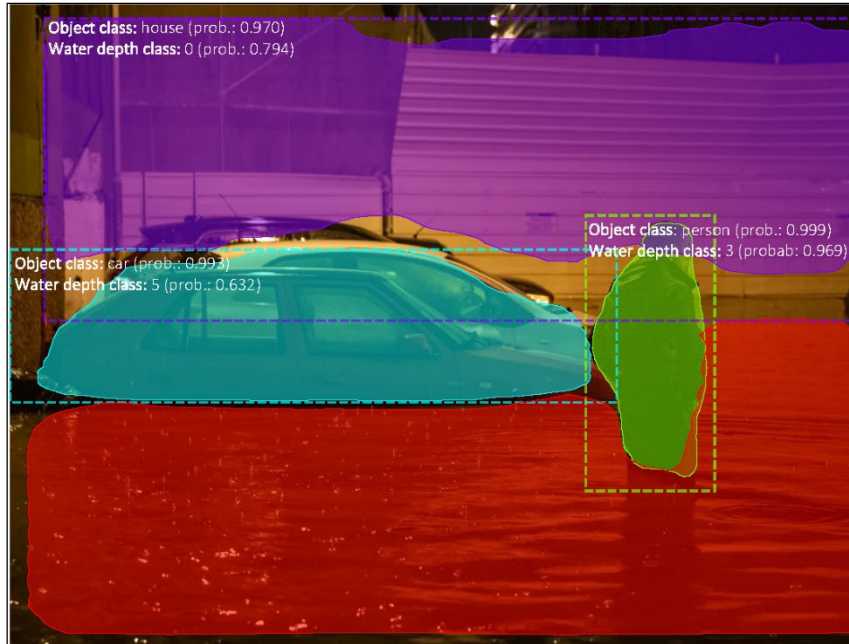
KIT, Geb. 10.81, Raum 305

oder online:

<https://kit-lecture.zoom.us/j/62760174973>



# New data sources and modelling opportunities to reduce flood risk in urban areas



## Abstract

The Seminar aims at presenting aspects relevant for flood data collection and fast modelling of flood events. In the first part of the seminar, the main challenges of obtaining flood data in urban areas will be presented, namely issues related to vandalism, intermittence, and sensor maintenance. The impacts of the lack of flood data on flood model calibration and validation will also be discussed. These aspects led to the development of novel methods to obtain flood data from ubiquitous sources, which will be discussed. The second part of the seminar will focus on the potential of data-driven two-dimensional flood models trained using physically-based model results to speed-up urban pluvial flood mapping and prediction. Flood mapping uncertainty due to the lack of data will also be presented and discussed. To close the seminar, future research directions on the topics mentioned on the two parts of the seminar will be discussed.

## Biography

The João P. Leitão is a Senior Scientist at the Department of Urban Water Management in the Swiss Federal Institute of Aquatic Science and Technology (Eawag). He studied Environmental Engineering at the Technical University of Lisbon (2001) and obtained a Master of Science degree in Geographic Information Systems (2004) from the same University. After a couple of years as Research Assistant at the Technical University of Lisbon, investigating spatial analysis methods, he moved to Imperial College London for a PhD in Civil and Environmental Engineering focusing on Enhancing elevation models for advanced urban flood modelling (2009). After the PhD, João moved back to Lisbon to work as Postdoctoral fellow (2010-2013) at the Portuguese Civil Engineering Laboratory (LNEC); there he developed new methods and coordinated projects aiming to assess the performance and the risks associated with urban water systems, with a particular focus on pluvial floods. In 2013 João joined Eawag where he established himself as Group Leader on Urban Flood Risk. Since 2018, he is also lecturing Infrastructure Systems in Urban Water Management at ETH Zurich.