

Organizational matters

Registration

The workshop is limited to 40 participants.

Please register online until November 16, 2018
via

https://www.conference-service.com/W_1118/participants.html#form_top

Registration fee: 60 €

Payment is possible with credit card or by bank transfer.
The necessary data is given after online registration, see
"payment".

Information

Organizer of the workshop

Federal Waterways Engineering and Research Institute
(Bundesanstalt für Wasserbau)

Further information as well as a location sketch are
available in the online registration.

Contact



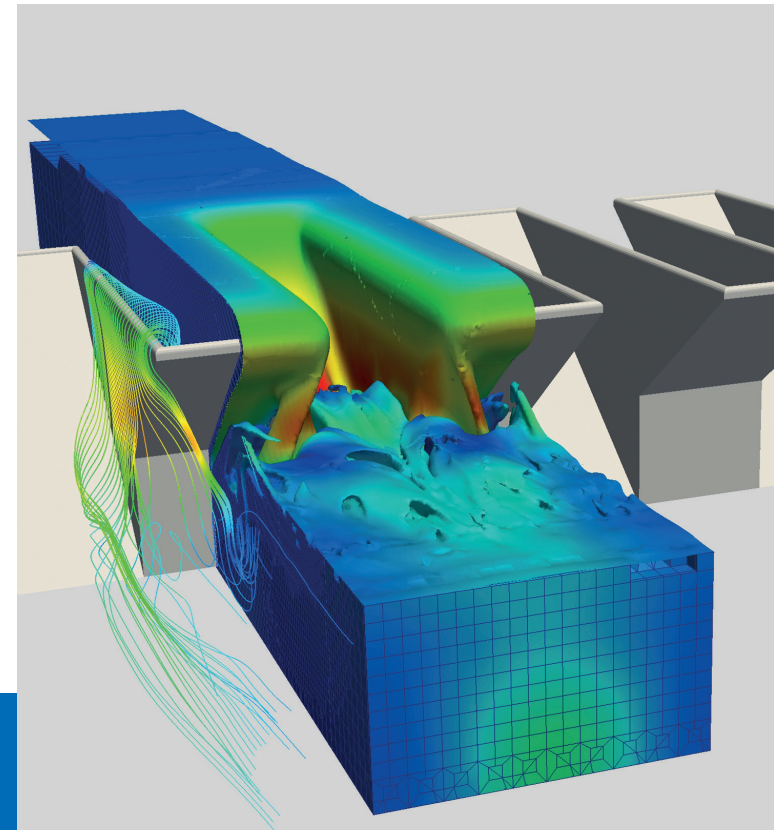
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BAWWorkshop

OpenFOAM® in Hydraulic Engineering

November 21 and 22, 2018
Federal Waterways Engineering and Research
Institute, Karlsruhe



We kindly invite you to take part in our
Workshop

OpenFOAM® in Hydraulic Engineering

November 21, 2018, 12:30 - 19:00

November 22, 2018, 08:30 - 12:30

**Federal Waterways Engineering and Research Institute,
Karlsruhe, Hall IV**

The OpenFOAM® library provides an excellent toolbox for a large variety of CFD applications. In the last years OpenFOAM® gained influence in the field of hydraulic engineering. At the Federal Waterways Engineering and Research Institute (BAW) OpenFOAM® is used for daily project work and in several research projects. The application field is very wide: it ranges from the simulation of complex flows in the near-field of hydraulic structures over the simulation of the fluid-structure interaction at vibrating dams to the investigation of the outflow of ship turbines.

With our workshop OpenFOAM® in Hydraulic Engineering at the BAW in Karlsruhe we want to create a platform for knowledge transfer for users and researches working with OpenFOAM® in the field of hydraulic engineering. The workshop aims to provide an opportunity to present the latest research and/or give insights into daily project work or special application cases with the OpenFOAM® toolbox.

This offering is not approved or endorsed by OpenCFD Limited, producer and distributor of the OpenFOAM software via www.openfoam.com, and owner of the OPENFOAM® and OpenCFD® trade marks.

Programme

Wednesday, November 21, 2018

- 12:30** **Registration and Coffee**
- 13:00** **Welcome Address**
Lydia Schulze (BAW)
- 13:15** **Introduction Round**
- 13:40** **How to benefit from OpenFOAM® capabilities in custom software projects**
David Gisen (BAW)
- 14:05** **The IsoAdvector VoF method: Recent and future development**
Dr. Johan Rønby (Aalborg University)
- 14:30** **Coffee Break**
- 15:00** **Challenges of modelling a large-scale model with hydraulic structure and floodplain**
Jakob Herbst (BAW)
- 15:25** **Immersed Boundary Surface Method foam-extend**
Prof. Dr. Hrvoje Jasak (University of Zagreb)
- 15:50** **Integration of moving objects into the 3D modelling of lockage processes**
Torsten Hartung (BAW)
- 16:15** **Coffee Break**
- 16:45** **Modelling of attraction flow for upstream fish passage**
Markus Zinkhahn (BAW)
- 17:10** **Numerical modelling of air entrainment in stepped spillways**
Silje Kreken Almeland (Norwegian University of Science and Technology)
- 17:35** **3D CFD simulations for the spillway design for the dam Friedrichswalde-Ottendorf**
Max Heß (Technical University Nürnberg)
- 18:05** **Overview of the computing and visualisation infrastructure of the BAW**
Fabian Belzner (BAW)
- 19:00** **Dinner**

Thursday, November 22, 2018

- 08:30** **Welcome Address**
Dr.-Ing. Carsten Thorenz (BAW)
- 08:35** **Aeration of free falling flows – Development of an air entrainment model**
Markus Wagner (BAW, KIT)
- 08:45** **Application of overset mesh for simulating fluid-structure interaction using foam-extend 4.1**
Dr. Željko Tuković (University of Zagreb)
- 09:10** **Simulation of flow-induced vibrations of a radial gate with underflow**
Georg Göbel (BAW)
- 09:35** **Coffee Break**
- 10:05** **Next generation of waves2Foam**
Dr. Niels Jacobsen (Deltares)
- 10:30** **Ship propulsors: accuracy vs. speeds**
Tarek Beck (BAW)
- 10:55** **Coffee Break**
- 11:25** **Modelling density induced ship forces during lockage**
Dr.-Ing. Carsten Thorenz (BAW)
- 11:50** **Examination of critical erosion velocities in spherical sediment with OpenFOAM®**
Arne Daniel (University Emden/Leer)
- 12:15** **Closing**
Lydia Schulze (BAW)
- 12:30** **Optional: Lunch (self-payer)**
- 13:30** **Optional: Tour through BAW labs**