

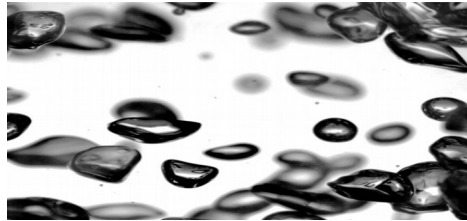
18th Multiphase Flow Conference & Short Course

November 08 - 12, 2021 **Online**

HZDR

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The OpenFOAM Foundation



18th Multiphase Flow Conference & Short Course

Multiphase Flows – Simulation, Experiment and Application

08 - 12 November 2021, Online

Organisation & Information

Languages The conference language will be English.

Location Online

Contact multiphase@hzdr.de

WWW www.hzdr.de/multiphase

Online Event

The conferencing tools will provide appropriate meeting rooms for meetings between participants, as well as personal, group and public chats.

Short Course

Our Short Course, two days from Monday noon until Wednesday noon, is designed to provide knowledge on the application of numerical and experimental methods for multiphase flows.

The first one and a half days of the Short Course will focus on general topics – see Lecture Topics below. In the morning of the third day information on specific multiphase capabilities and new developments for the CFD codes CFX/FLUENT, STAR-CCM+ and OpenFOAM will be given. This includes demonstrations on case setups for STAR-CCM+ and OpenFOAM and a discussion with the experts from ANSYS in parallel sessions for each code.

As registered participant of the Short Course you are offered free access to the ANSYS Learning Hub to learn more about the ANSYS simulation solutions. In addition to the standard offering, you are also invited to a private room with guidance to relevant training content and additional expert content on the multiphase flow topic.

The Short Course will address the interests of engineers, chemists, physicists and technicians active in research and design, who want to be informed about modern design methods and tools for multiphase flows.

Lecture Topics

- Mathematical Models for Multiphase Flows:
Overview & Basic Equations
- Measurement Techniques and Experimental Investigations
of Multiphase Flows
- Lagrangian Two-Phase Flow Modelling
- Euler-Euler Modelling
- Modelling of free-surface flows with focus on the VOF Method
- Interfacial Heat and Mass Transfer Models
- Poly-Disperse Bubbly Flows & Chemical Reaction
- Multiscale Multiphase Flow Modelling - AIAD & GENTOP
- Optical measurement techniques in bubbly flows:
From pattern recognition with neuronal networks to 3D liquid
flow fields with Tomographic PIV
- Flexible development framework for the Euler-Euler approach

Lecturers

- Georg Scheuerer, ISimQ GmbH
- Uwe Hampel, HZDR
- Milovan Peric, Siemens Industry
Software GmbH
- Roland Rzehak, HZDR
- Thomas Höhne, HZDR
- Anna-Elisabeth Sommer, HZDR
- Chris Greenshields, The OpenFOAM
Foundation
- Fabian Schlegel, HZDR
- Amine Ben Hadj Ali, ANSYS Germany
- Henning Eickenbusch, ANSYS Germany
- Claudio Santarelli, Siemens PLM
Germany
- Felix Klippel, Siemens PLM Germany

Conference

The conference will take place after the Short Course from Wednesday noon until Friday noon.

Multiphase flows occur in a large variety of industrial applications, for instance in the chemical and process industry, in power generation, and in the automotive industry. In order to improve the quality of these products, to accelerate their development, and to increase their safety, it is important to better understand, model, and simulate multiphase flows.

The goals of the conference are to discuss the state of the art in multiphase flow research and applications, and to foster discussion and exchange of knowledge. Experts from the experimental side, from modelling and simulation, as well as experts from the application field are invited to present their research and results to a worldwide audience.

General topics of interest include

- Simulation technology for multiphase flows
 - Phase interaction models
 - Turbulence models
 - Solution algorithms
 - Multi-scale modelling techniques
- Application of simulation methods to multiphase flow problems
- Experimental investigations of multiphase and magnetohydrodynamic flows
- Measurement methods for multiphase and magnetohydrodynamic flows

Call for Abstracts

Oral and poster presentations are welcome. The submission of a single-sided abstract is required before **Sep 17, 2021**.

Please use the Abstract Submission and Management System to upload the documents.

Poster awards will be granted to the best 3 posters.

Keynote Lectures

- **Three-dimensional dynamics of rising bubble pairs released in line**

Jacques Magnaudet, IMFT – Institut de Mécanique des Fluides de Toulouse, France

- **Sensitized-RANS modelling of turbulence: physical rationale and application to bubbly flows**

Suad Jakirlic, Technische Universität Darmstadt, Germany

Registration & Fees

Important Dates

Registration opens	6 Sep, 2021
Deadline for abstracts	17 Sep, 2021
Deadline for registration	3 Oct, 2021

Registration

Please register using the link at our website:

www.hzdr.de/multiphase

Contact



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The registration fees include

- Short Course and/or Conference materials
- Participation on the event by a professional online conference tool

You will receive further information on the Short Course and Conference with your confirmation letter. Possible forms of payment: credit card, invoice or bank transfer.

Short Course, 8 - 10 November, 2021

Industrial attendees	€ 470
Academic attendees	€ 275

Conference, 10 - 12 November, 2021

Industrial attendees	€ 225
Academic attendees	€ 125

Package price for Short Course and Conference

Industrial attendees	€ 535
Academic attendees	€ 305

(registrations after Oct 3: + € 100)