

Short Biography

Prof. Dr.-Ing. Martin Sommerfeld

- ⇒ Prof. Martin Sommerfeld studied Aeronautical Engineering (Diploma 1981) and completed his Doctoral degree (1984) at the Technical University Aachen (RWTH)
- ⇒ 1984-1985: Research fellowship at Kyoto University Japan (JSPS and AvH)
- ⇒ 1986-1994: Head of the Two-Phase Flow research group at the Institute of Fluid Mechanics, LSTM (Prof. Durst, University Erlangen)
- ⇒ October 1994: Appointment as full Professor of Mechanical Process Engineering (University (MLU) Halle, Germany)
- ⇒ Since January 2017: Professor at the Otto-von-Guericke University Magdeburg (OvGU) Faculty Process and Systems Technology, Working group Multiphase Flow Systems
- ⇒ DECHEMA Award 1996 for contributions to multiphase flow measurements, modelling, and numerical prediction
- ⇒ Organiser of the workshop series: Workshop on Two-Phase Flow Predictions
- ⇒ Organization of numerous short courses and summer-schools in the field of experimental and numerical analysis of dispersed multi-phase flows
- ⇒ Chairman of the 6th International Conference on Multiphase Flow, ICMF²⁰⁰⁷ in Leipzig, Germany.
- ⇒ Coordinator of the ERCOFTAC special interest groups “Dispersed Turbulent Two-Phase Flows” and the Pilot Centre Germany North
- ⇒ Chair of the ProcessNet special topic group “Computational Fluid Dynamics”
- ⇒ 190 reviewed journal papers, 200 conference papers on dispersed multiphase flows and more than 360 presentations on conferences and lecture courses
- ⇒ Book: Multiphase Flows with Droplets and Particles. (Eds. Crowe, C.T., Schwarzkopf, J.D., Sommerfeld, M. and Tsuji), Y.2nd Edition, CRC Press, Boca Raton, U.S.A. (2012)
- ⇒ Best Practice Guidelines for Computational Fluid Dynamics of Dispersed Multiphase Flows. (Eds. Sommerfeld, M., van Wachem, B. and Oliemans, R.) ERCOFTAC (European Research Community on Flow, Turbulence and Combustion, ISBN 978-91-633-3564-8 (2008)
- ⇒ The research activities are mainly concentrated on fundamentals of dispersed multi-phase flows with the aim of developing physical models for describing relevant transport phenomena. For the analysis of multi-phase flow transport phenomena detailed experiments using modern optical instrumentation as well as direct numerical simulations (e.g. by the Lattice-Boltzmann-Method) are performed. The developed advanced models are used in the frame of the Euler/Lagrange computational approach (implementation in OpenFOAM) for allowing the prediction of industrial scale processes involving dispersed multi-phase flows.