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Announcement for 27th series of Short Courses on

Modelling and Computation of Multiphase Flows

Part I: Bases

Part IIA: New Reactor Systems and Methods

or

Part IIB: Computational Multi-Fluid Dynamics (CMFD)

Part III: CMFD with Commercial Codes

Zurich, Switzerland, 15-19 February 2010

Hosted by the Swiss Federal Institute of Technology (ETH) in Zurich, Switzerland

Multiphase flows and heat transfer with phase change are of interest to researchers and engineers working in power, nuclear, chemical-process, oil-and-gas, cryogenic, space, food, bio-medical, micro-technology, and other industries. Courses similar to this one have been offered at ETH-Zurich continuously since 1984. Over the years, the courses have continuously evolved, reflecting on-going progress and developments.

The courses are organized in a modular form as an intensive introduction for persons having basic knowledge of fluid mechanics, heat transfer, and numerical techniques (an introductory tutorial text is e-mailed to the participants before the course), but also serve as advanced courses for specialists wishing to obtain the latest information.

Part I, Bases, covers the common background material and emphasises the latest modelling and computational aspects of multiphase flows.

Part IIA, New Reactor Systems and Methods, covers the topics of particular interest to nuclear engineers. This module reviews some of the most recently proposed advanced reactor designs (including those for near-term implementation and in Generation IV) and some of the multiphase phenomena of importance in these designs. This module also introduces the state-of-the-art and beyond in modelling and simulation methods for core design and accident analysis.

Part IIB, Computational Multi-Fluid Dynamics (CMFD), reflects the growing interest in the application of CFD techniques to *multi*-phase flows; it is continuously updated to cover the most common new computational techniques. The introductory chapters from a book authored by course lecturers will be emailed to the participants in Part IIB to prepare them for the lectures.

Part III, CMFD with Commercial Codes, is attached to both Parts IIA and IIB. The participants will have the possibility to meet commercial code developers and discuss their products for both nuclear and other applications.

Course language: English

Lecturers: S. Banerjee, D. Bestion, M.L. Corradini, T. Frank, G. Hetsroni, G.F. Hewitt, D. Lakehal, Simon Lo, H.-M. Prasser, G. Tryggvason, G. Yadigaroglu and S. Zaleski.

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