Introductory Course in OpenFOAM CFD Toolbox, 4-5 July 2019

Instructor

About the speaker: Dr Anastasios Georgoulas, is a Principal Lecturer of Mechanical Engineering at the School of Computing Engineering and Mathematics (CEM) in University of Brighton (UoB). He has a long-term expertise and experience in the numerical simulation of multiphase flows with heat and mass transfer. He was appointed as a Senior Lecturer of Mechanical Engineering in the School of CEM at the UoB in September 2015, joining also the Advanced Engineering Centre (AEC). In February 2017, he was promoted to Principal Lecturer. He is currently teaching Computational Fluid Dynamics (CFD) in final year and MSc students in university of Brighton as well as Design and Applications in first year students. From September 2019 he will be the Course Leader of Aeronautical Engineering in UoB. He has published more than 50 publications in peer reviewed international journals and conference proceedings in the general field of numerical modelling of multiphase flows with heat and mass transfer. However, since 2013, his main research activity lies in the development and application of open-source CFD tools for fundamental and applied research directly or indirectly related to phase-change heat transfer (boiling/condensation). He is currently the Co-investigator, leading the numerical simulation activities in the Standard EPSRC Grant (EP/P013112/1) and the recently awarded ESA MAP CORA Grant TOPDESS and the Principal Investigator in a DTA3/COFUND Fellowship (Multi-scale numerical modelling of phase- change heat transfer for the design and optimisation of energy efficient thermal management systems in datacentres) co-funded by H2020 through MCSA, the recently awarded ESA MAP CORA grant ENCOM4 (Enhanced Condensers in Micro-Gravity) and a Rising Stars 2019-20 Award project in UoB on the development, optimisation and application of advanced simulation tools for boiling heat transfer in micro-passages. In the past, he has been a Co-Investigator in two ESA MAP projects and an INNOVATE UK project (INWIP, ENCOM3 and LOOPER). He is a reviewer for the EPSRC and leading international journals. He is also a member of the Special Interests Group (SIG) in Sprays, supported by the EPSRC. Since 2018, Dr Anastasios Georgoulas also delivers short-courses / workshops on the usage of OpenFOAM CFD Toolbox through Erasmus Plus.

Programme

Day 1:
- Introduction to CFD
- Introduction to OpenFOAM
- Applications/utilities in OpenFOAM
- Directory structure of an OpenFOAM Case
  - Hands-on Exercises

Day 2:
- CFD Workflow
- Geometry Modelling options using commercial and open-source, third party applications
- OpenFOAM Meshing (mesh creation, mesh manipulation)
  -Hands-on Exercises in meshing

- Post-processing CFD results with Paraview
  -Hands-on Exercises with Paraview

A virtual machine with all necessary software pre-installed, will be provided to the participants to install in institutional work stations or personal laptops.

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