## 9th OpenFOAM Conference

*Agenda October 19, 2021*

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|---|---|---|
| 10:00 AM | *Platform Opening* | |
| 10:15 AM | **Welcome and Introduction from ESI Group** | |
| 10.45 AM | **Keynote: 50 Years of CFD in Engineering Sciences, Akshai Runchal, ACRI** | |
| 11.30 AM | **Keynote: OpenFOAM governance and community participation, Fred Mendonça, ESI** | |
| 12 | Lunch Break | |
| | **TRANSPORTATION AND OPTIMISATION** | **MULTIPHASE** |
| 1.00 PM | **Computational Fluid Dynamics Applications in Turkish Aerospace using OpenFOAM**<br>Baris Bicer, Turkish Aerospace Industries | **Development of a high-fidelity numerical wave tank**<br>Gabriel Barajas, IH Cantabria |
| 1.20 PM | **Improvement of Arbitrary Mesh Interface (AMI) Algorithm for External Aerodynamic Simulation with Rotating Wheels**<br>Sebastien Vilfayeau, ESI | **CFD-FSI analysis of two-dimensional Thermo-Elasto-Hydrodynamic Lubrication contacts**<br>Peyman Havaej, Ghent University |
| 1.40 PM | **From scanned CAD to an optimized car: aerodynamic shape optimization of an electric vehicle based on adjointOptimisationFoam,**<br>Vaggelis Paputsis, National Technical University of Athens | **Development of a Dynamic Eulerian-Lagrangian Particle OpenFOAM Solver for the Simulation of Powder Coating Processes**<br>Bercan Siyahhan, ZHAW Zurich University of Applied Sciences |
| 2.00 PM | **Direct Simulation of flow-acoustics feed-back phenomena for Ducted Diaphragm tandem using OpenFOAM**<br>Silouane de Reboul, ESI | **Modelling interfacial mass transfer on arbitrary meshes**<br>Giovanni Giustini, Imperial College |
| 2.20 PM | **Cabin Thermal Comfort Analysis Using a Transient 1D-3D Coupled Analysis with TAITherm, OpenFOAM, and a 1D System Tool FMU**<br>Vishnuvardhan Ranganathan, Thermoanalytics | **Implementation of turbulence damping in order to improve the slug and plug flow pattern simulation in horizontal pipeline**<br>Jiri Polansky, ESI |
| 2.40 PM | **Reducing turnaround time of high-fidelity automotive aerodynamics simulations using cloud HPC resources**<br>Hendrik Hetmann, Upstream CFD | **A multi-scale approach for particle-laden viscoelastic flows using a discrete particle method,**<br>Celio Fernandez, University of Minho |
| 3.00 PM | Coffee Break | |
| | **ARTIFICIAL INTELLIGENCE** | |
| 3.30 PM | **Aerodynamics of hovering wings with the overset method and surrogate models**<br>Romain Poletti, von Karman Institute | |
| 3.50 PM | **Simulation of the distribution of aerosols in public transport to determine the infection risk using Model Order Reduction**<br>Sebastien Vilfayeau, ESI | |
| 4.10 PM | **Real-time assessment of ventilation efficiency in mines**<br>Asier Juan, ITAINNOVA | |
| 4.30 PM | **Mesh Morphing with Neural Networks for Design Process Acceleration**<br>Matthias Bauer, NAVASTO | |
| 4.50 PM | **Machine learning models for the prediction of the drag force exerted by a shear-thinning viscoelastic fluid in a sphere**<br>Ana Isabel Roriz, University of Minho | |
| 5.10 PM | **Active control of the flow past a cylinder using deep reinforcement learning**<br>André Weiner, Technical University Braunschweig | |
| 5.30 PM | **SPECIAL SESSION: MEET THE EXPERTS** | |
| 6.30 PM | **END OF DAY 1** | |

***All timings are in Central European (CET)**
**This is a tentative agenda, subject to change.**

## 9th OpenFOAM Conference

*Agenda October 20, 2021*

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| 10:00 AM | **The OpenFOAM® Journal: from and for the community, Miguel Nobrega, University of Minho** | |
| 10:25 AM | **Getting started with OpenFOAM using the tutorial collection at wiki.openfoam.com, Jozsef Nagy, Eulerian Solutions** | |
| 10:50 AM | **Overview of OpenFOAM Technical Committees, Gavin Tabor, University of Exeter** | |
| 11:00 AM | Coffee Break | |
| | **HIGH PERFORMANCE COMPUTING** | **ENVIRONMENT AND HEALTH** |
| 11:20 PM | **OpenFOAM with GPU Solver Support**<br>Matt Martineau, NVIDIA | **Analysis of the behaviour of intracranial aneurysms with OpenFOAM**<br>Jozsef Nagy, Eulerian Solutions |
| 11:40 PM | **Extremely large CFD simulations with OpenFOAM® benefit from standardized processes in the cloud - Experience report on the integration of automated workflows in highly complex IT environments**<br>Christopher Woll, GNS Systems | **Fast automatic simulation pipeline for aneurysms**<br>René Thümmler, CFD Consultants |
| 12:00 PM | **The effect of HDR infiniband and in-network computing on OpenFOAM simulations**<br>Ophir Maor, HPC Advisory Council | **Numerical simulation of hydrogen deflagration using CFD**<br>Pratap Sathiah, Shell |
| 12:20 PM | **Accelerating OpenFOAM Simulations with GPUs using Ginkgo**<br>Gregor Olenik, Karlsruhe Institute of Technology | **Multi-scale numerical modeling of saliva droplets airborne transport in relation to SARS-CoV-2 transmission**<br>Valerio D'Alessandro, Università Politecnica delle Marche |
| 12:40 PM | **A Massive Simultaneous Cloud Computing Platform for OpenFOAM**<br>Gernot Boiger, ZHAW Zurich University of Applied Sciences | **Modelling the surface of large scale pool fire**<br>Roman Ivashchuk, JSC "Zheldorproject" |
| 1:00 PM | Lunch Break | |
| | **HEAT TRANSFER AND ENERGY** | **ENVIRONMENT AND HEALTH** |
| 2:00 PM | **CFD Simulation of a Jet-Pump for Conformable Compressed Hydrogen Tanks**<br>Rajat Jindal | **CFD Analysis using OpenFOAM in the Design of Air-Conditioning System for a Large, Modern International Airport**<br>Dr. Munirajulu. M, Larsen & Toubro |
| 2:20 PM | **A Methodology For The Aero-thermal Optimization Of Hybrid And Electric Propulsion Systems**<br>Emanuele Gallorini, Politecnico di Milano | **Turbulent flow pressure loss due to a design obstruction within small-scale channel**<br>Mirza Popovac, Austrian Institute of Technology |
| 2:40 PM | **Experimental and numerical modelling of pressure piling with homogeneous methane/air mixtures**<br>Bish McCarthy-Singh, University of Bristol | **Modelling tidal power plants (Deep Green) with large eddy simulations and actuator line model in a narrow domain**<br>Nimal Sudhan S, University of Gothenburg |
| 3:00 PM | **Numerical study on lift and drag characteristics of reversible S-shaped Airfoils with different turbulence models**<br>Markus Filippi, Technical University Ostwestfalen Lippe | |
| 3:20 PM | Break | |
| 3:30 PM | **Technical Committees Panel Discussion chaired by Prof. Gavin Tabor including representation from Technical Committee Chairs Ivan Spisso, Joszef Nagy, Fred Mendonca, Kevin Maki, Hrvoje Jasak and Charlie Mockett** | |
| 4:30 PM | **Keynote: Turbulence Research in this Half-Century, Philippe Spalart, Retired Boeing Senior Technical Fellow** | |
| 5:15 PM | **CLOSING PLENARY** | |
| 5:20 PM | **END OF DAY 2** | |

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