

9th OpenFOAM Conference

Agenda October 19, 2021

9.45 AM	<i>Platform Opening</i>	
10:00 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 Baris Bicer, Turkish Aerospace Industries	Development of a high-fidelity numerical wave tank Gabriel Barajas, IH Cantabria
1.20 PM	Improvement of Arbitrary Mesh Interface (AMI) Algorithm for External Aerodynamic Simulation with Rotating Wheels Sebastien Vilfayeau, ESI	CFD-FSI analysis of two-dimensional Thermo-Elasto-Hydrodynamic Lubrication contacts Peyman Havaej, Ghent University
1.40 PM	From scanned CAD to an optimized car: aerodynamic shape optimization of an electric vehicle based on adjointOptimisationFoam, Vaggelis Paputsis, National Technical University of Athens	Development of a Dynamic Eulerian-Lagrangian Particle OpenFOAM Solver for the Simulation of Powder Coating Processes 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 Nicolas Zerbib, ESI	Modelling interfacial mass transfer on arbitrary meshes 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 Vishnuvardhan Ranganathan, Thermoanalytics	Implementation of turbulence damping in order to improve the slug and plug flow pattern simulation in horizontal pipeline Jiri Polansky, ESI
2.40 PM	Reducing turnaround time of high-fidelity automotive aerodynamics simulations using cloud HPC resources Hendrik Hetmann, Upstream CFD	A multi-scale approach for particle-laden viscoelastic flows using a discrete particle method, 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 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 Sebastien Vilfayeau, ESI	
4.10 PM	Real-time assessment of ventilation efficiency in mines Asier Juan, ITAINNOVA	
4.30 PM	Mesh Morphing with Neural Networks for Design Process Acceleration 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 Ana Isabel Roriz, University of Minho	
5.10 PM	Active control of the flow past a cylinder using deep reinforcement learning 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)
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Agenda October 20, 2021

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 Matt Martineau, NVIDIA	Analysis of the behaviour of intracranial aneurysms with OpenFOAM 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 Christopher Woll, GNS Systems	Fast automatic simulation pipeline for aneurysms René Thümmler, CFD Consultants
12:00 PM	The effect of HDR infiniband and in-network computing on OpenFOAM simulations Ophir Maor, HPC Advisory Council	tba
12:20 PM	Accelerating OpenFOAM Simulations with GPUs using Ginkgo Gregor Olenik, Karlsruhe Institute of Technology	Multi-scale numerical modeling of saliva droplets airborne transport in relation to SARS-CoV-2 transmission Valerio D'Alessandro, Università Politecnica delle Marche
12:40 PM	A Massive Simultaneous Cloud Computing Platform for OpenFOAM Gernot Boiger, ZHAW Zurich University of Applied Sciences	Modelling the surface of large scale pool fire Roman Ivashchuk, JSC "Zheldorproject"
1:00 PM	Lunch Break in Exhibition Area	
	HEAT TRANSFER AND ENERGY	ENVIRONMENT AND HEALTH
2:00 PM	CFD Simulation of a Jet-Pump for Conformable Compressed Hydrogen Tanks Rajat Jindal	CFD Analysis using OpenFOAM in the Design of Air-Conditioning System for a Large, Modern International Airport Dr. Munirajulu. M, Larsen & Toubro
2:20 PM	A Methodology For The Aero-thermal Optimization Of Hybrid And Electric Propulsion Systems Emanuele Gallorini, Politecnico di Milano	Turbulent flow pressure loss due to a design obstruction within small-scale channel Mirza Popovac, Austrian Institute of Technology
2:40 PM	Experimental and numerical modelling of pressure piling with homogeneous methane/air mixtures Bish McCarthy-Singh, University of Bristol	Modelling tidal power plants (Deep Green) with large eddy simulations and actuator line model in a narrow domain 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 Markus Filippi, Technical University Ostwestfalen Lippe	
3:20 PM	Technical Committees Panel Discussion	
4:25 PM	Keynote: Turbulence Research in this Half-Century, Philippe Spalart, Retired Boeing Senior Technical Fellow	
5:05 PM	CLOSING PLENARY	
5:10 PM	END OF DAY 2	

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