

DAY 2					
08:00-08:45	Coffee and Refreshments				
Keynote 08:45-09:30	Chair: Oliver Schmidt, UC San Diego, USA	Bernrd R. Noack, Shenzhen University, China			
		Aerodynamic technologies and machine learning for the aerial society —Making drones and air taxis energy efficient and gust-safe			
Keynote 09:30-10:15		Jiaqing Kou, Northwestern Polytechnical University, China			
		Explainable Generative Machine Learning for Aircraft Aerodynamic Configuration Design			
10:15-11:00	Coffee Break, Refreshments				
Parallel Sessions	4. Physics-informed models	5. Reinforcement learning, Dimensionality Reduction and Reduced Order Models	11. Industrial & Applied ML in Fluid Systems	13. Multi-phase	6. Combustion, Flames, Sprays
Chair	Dr Jenna Poonosamy, Forschungszentrum Jülich, Germany	Prof George Papadakis, Imperial College London, UK	Prof Min Xu, Shanghai Jiao Tong University, China	Prof David Hung, Shanghai Jiao Tong University, China	Prof Arne Scholtissek, Technical University of Darmstadt, Germany
ROOM	ROOM A	ROOM B	ROOM C	ROOM D	ROOM E
11:00 - 11:15	S.4-A.7 Simon Wassing Simon Wassing, Tobias Leicht, Philipp Bekemeyer CFD-informed Neural Networks (CHNNs) – Integrating an industrial-grade CFD solver into Physics-informed Neural Networks German Aerospace Center (DLR), Germany	S.5-A.8 Oliver Schmidt Oliver Schmidt, Aaron Towne The AJAA Data-Driven Modeling of Fluid Flows Community Challenge UC San Diego, USA	S.11-P.1 Ron Barron Love Fadai, Vassil Shah, Ronald Barron, Mohammad Hassanzadeh Improving PINN Stability for Convection-Dominated Boundary Value Problems via Artificial Damping Regularization University of Windsor, Canada	S.13-A.4 Hendrik Hessenkemper Hendrik Hessenkemper, Guangxuan Huang, Lantian Wang, Tian Ma Deep Learning Models for 3D Lagrangian tracking in disperse 3-phase flows Helmholtz-Center Dresden-Rossendorf, Germany	S.6-P.1 Baptiste Romain Baptiste Romain, Adrien Langenis, Joël Dupays, Laurent Catoire Chemistry reduction and acceleration based on neural network surrogate ONERA, France
11:15 - 11:30	S.4-P.8 Ian Hubbard Ian Hubbard, Evert-Jan Foeth Fidelity-Scaling via Physics-Informed Graph Learning on Marine Propeller Blades Wartals Population Netherlands	S.5-A.10 Miguel Pérez Cuadrado Miguel Pérez Cuadrado, Giorgio Maria Cavallazzi, Alfredo Piná Latent-Space SINDY-Discovered ODEs for Reconstructed Turbulent Dynamics with Causal Analysis of Attractor Transitions City St Georges, University of London, UK	S.11-A.2 Jialei Yan Jialei Yan, Ruizong Wu, Chenyu Lu Deep learning for the dynamic characteristics and stability of floating structures under complex marine environments Harbin Institute of Technology, China	S.13-A.5 Jiayang Xu Jiayang Xu, Josef Winter, Steffen Schmidt, Nikolaus A. Adams Multi-Fidelity Heteroscedastic Gaussian Processes for Cavitation Wall Load Prediction Chair of Aerodynamics and Fluid Mechanics, Technical University of Munich, Germany	S.6-A.2 Cédric Mehli C. Mehli Acceleration of chemical kinetics integration in combustion CFD using artificial neural networks IFPEN, France
11:30 - 11:45	S.4-A.9 Gulliver Van Easche Gulliver Van Easche, Gongga Granja Cruz, Tim De Troyer, Mark Runnen, Jan Decuyper Physics-informed learning of unsteady fluid systems via dynamical invariants VUB, Belgium	S.5-P.11 Gianluigi Rozza Gianluigi Rozza Accelerating Numerical Simulation in CFD by Reduced Order Surrogate Modelling and Scientific Machine Learning SISSA Trieste, Italy	S.11-A.3 Xiao Xue Xiao Xue, Tianyue Yang, Mingyang Gao, Maide Wang, Kewei Zhu, Peter V. Coveney Uni-Flow: A Unified Autoregressive-Diffusion Framework for Stable Long-Horizon and High-Resolution Multiscale Flow Modeling University College London, UK	S.13-P.6 Connor Nolan Connor Nolan, Lee Mortimer, Peter Jmacck, Michael Fairweather Machine Learning-Based Prediction of Non-Spherical Particle Agglomeration University of Leeds, UK	S.6-A.3 Hongchao Chu Hongchao Chu, Honggang Bai, Mingren Gao, Alberto Procacci, Shiham Bosa, Hesheng Bao, Alessandro Parente, Heinz Pitsch Uncertainty-guided active Co-Kriging for cost-efficient determination of hot-spot surface ignition of hydrogen-air mixtures Institute for Combustion Technology, RWTH Aachen University, Germany
11:45 - 12:00	S.4-P.10 Amelie Lam Amelie Lam, Heloise Mahuet, André Ferrari, Sara El Bouch Solver-In-The-Loop Training with Multistep Inputs for Capturing Fine-Scale Turbulence Laboratoire Lagrange, France	S.5-A.13 Haitao Lin Haitao Lin, Xu Wang, Wewei Zhang Transferable Scaling Function Learning Method for Cross Shape Aerodynamic Database Construction Northwestern Polytechnical University, China	S.11-P.4 Jing Li Jing Li, Changtong Luo Sparse Rational Learning for Aerodynamic Prediction Institute of Mechanics, Chinese Academy of Sciences, China	S.13-P.7 Zikai Zhang Zikai Zhang, David L. S. Hung Full-Field Reconstruction of Droplet Impact via Multi-Fidelity Physics-Informed Neural Networks Shanghai Jiao Tong University, China	S.6-A.10 Xiaowei Jin Xiaowei Jin, Shengkai Xu, Hui Li Operator learning method with adaptive activation function for high-speed shock tube problems and airfoil flows Harbin Institute of Technology, China
12:00 - 12:15	S.4-A.11 Matthias Möller Matthias Möller iGANets: Blending isogeometric analysis with operator learning Delft University of Technology, The Netherlands	S.5-A.14 Guillermo Suarez Guillermo Suarez, Enre Öckaya, Nico R. Gauger Active Flow Control via Model-Based Reinforcement Learning RPTU University Kaiserslautern-Landau, Germany	S.14-A.5 Donghyuk Kang Donghyuk Kang Data-Driven Sparse Reconstruction of Three-Dimensional Steady and Unsteady Flow Fields in a Centrifugal Impeller under Nominal and Disturbed Operating Conditions Department of Mechanical Engineering, Saitama University, Japan	S.13-A.8 Bruno Delhom Bruno Delhom, Chaouki Habchi, Olivier Colin, Julien Bobbot Development of a multi-species real fluid modeling approach using an innovative machine learning method, application to MASCOF IFPEN, France	S.6-A.5 Nicolas Eckel N. Eckel, T.J.P. Karpowski, D. Misa, F. Ferraro, C. Hesse, A. Scholtissek ANN-based Chemistry Surrogate Modeling for Premixed Hydrogen Flames Technical University Darmstadt, Simulation of reactive Thermo-Fluid Systems, Germany
12:15 - 12:30	S.4-P.12 Roberto Dal Monte Roberto Dal Monte, Michele Cogo, Francesco Picano Probabilistic Near-Wall Turbulence Modeling via Physics-Guided Diffusion Model Università degli Studi di Padova, Italy	S.5-A.20 George Papadakis G. Papadakis, S. Lu Learning from the past to predict the future: a general, data-driven and physically interpretable algorithm, applied to turbulent flow forecasting Dept. of Aeronautics, Imperial College London, UK	S.14-A.6 Mohammadnabdi Nouri Manolis Gavaises, Gaber Janja End-to-End Trainable Hybrid Model for PT-Phase-Split Neural -Value Correction with an Implicit Rachford-Rice Layer Otto-von-Guericke-University Magdeburg, Germany	S.13-A.9 Roque Martins Duarte Junior Roque Martins Duarte Junior, Vinicius Gustavo Poletto, Cesar Otaviano Ribeiro Negriolo Modeling and simulation of hydrogen bubble transport in alkaline electrolyser Research Center for Rheology and Non-Newtonian Fluids, Federal University of Technology, Brazil	S.6-A.6 Cyril Freyling Freyling Cyril, Coussennet Axel Symbolic Regression-Based Prediction of Mass Fraction Burned in Hydrogen-Fueled Internal Combustion Engines Université Libre de Bruxelles, Belgium
12:30 - 12:45	S.1-P.13 Michael Vipin Bharath Ravikumar, Ioannis Karathanassis, Mehdi Seddiq, Manolis Gavaises Learning viscoelastic constitutive models from mesoscopic simulations using scientific machine learning City St George's University London, UK				
12:30-14:00	Lunch (Maich restaurant)				
Keynote 14:00-14:45	Chair: Steffen Schmidt, TUM, Germany	Nils Thuerey, TU Munich, Germany			
		AI techniques for differentiable and non-differentiable solvers			
Keynote 14:45-15:30		Adrian Lozano Duran, MIT, California Institute of Technology, USA			
15:30-16:15		General-Purpose ML-Based Closure Models for Computational Fluid Dynamics			
	Coffee Break and Refreshments				
Parallel Sessions	4. Physics-informed models	5. Dimensionality Reduction and Reduced Order Models	1. Machine Learning	3. Optimisation and Design	14. Turbomachinery and Airfoils
Chair	Dr Nikolaos Prasianakis, Paul Scherrer Institute, Switzerland	Prof Nils Thuerey, Technical University of Munich, Germany	Prof Miguel-Alfonso Mendez, von Karman Institute for Fluid Dynamics, Belgium	Prof Kyriakos Giannakoglou, National Technical University of Athens, Greece	Prof Weiwei Zhang, Northwestern Polytechnical University, China
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16:15 - 16:30	S.4-P.13 Yuling Han Yuling Han, Zhiyu L. Zhiyu Yu Physics-informed latent neural operator for three-dimensional compressor cascade flow prediction University of Liverpool, UK	S.5-A.15 Antonio Colanera Antonio Colanera, Luca Magri Fuzzy quantized local reduced models for chaotic flows. SISSA mathLab, Italy	S.1-A.14 Wilfried Genest / Savin Eric Wilfried Genest, Eric Savin, Filippo Gatti, Didier Cloutaud Predictive modeling of incompressible fluid flows using conditional score-based diffusion models ONERA and CentraleSupélec, France	S.3-A.3 Francesco Di Fiore Francesco Di Fiore, Hayrye Pehlivan Solak, Andrea Serani, Matteo Dico, Laura Mancini Active Learning for Fluid Dynamics Driven Design Imperial College London, UK	S.14-P.7 Alessandro Pela (Michele Marconcin) Alessandro Pela, Michele Marconcin, Andrea Amone RMA: Impeller Representation Model for Aerodynamics University of Florence, Italy
16:30 - 16:45	S.4-A.14 Qiang Liu (Giacomo Baldan) Giacomo Baldan, Qiang Liu, Nils Thuerey Pareto-Optimal Generative Modeling with Physical Constraints via Physics-Based Flow Matching Technical University of Munich, Germany	S.5-A.16 Alec Linot Alec J. Linot, El Runner Data-driven Manifold Chording using Persistent Homology for Chaotic Dynamics University of Massachusetts Amherst, USA	S.1-P.15 Chris R. Jung Chris R. Jung, Markus Dör, Adam T. Müller, Natalie Jüngling, Jennifer Niesner, Nicola C. Stache Generative Indoor Flow Prediction: Drifting Models for Surrogate Flow Modeling Heilbronn University of Applied Sciences, Germany	S.3-A.4 Izuru Kambayashi Izuru Kambayashi, Masaki Ikara, Szu Yung Chen, Byungjin An LBM-based Deep Learning Surrogate Modeling for Shape Optimization of Fans Ebara Corporation, Japan	S.14-A.8 Szu Yung Chen Szu Yung Chen, Izuru Kambayashi, Ning Yang, Motokiho Nohmi, Ryoa Yoshihara Data-Driven Analysis of Cavitation Erosion Geometry Ebara Corporation, Japan
16:45 - 17:00	S.4-A.15 Tamara Gammaidoni Tamara Gammaidoni, Jacopo Zenbi, Michele Bettistoni Physics-Informed ML for CFD Applications: Forward Modeling of Microchannel Heat Transfer and Inverse Identification in Hydrogen Injection University of Perugia, Italy	S.5-A.18 Lucas Schneeberger Lucas Schneeberger, Guy Y. Cornejo Macada, Zhiyuan Wang, Jacopo Tini, Stefano Discetti, Andrea Iorio Manifold learning of pitching airfoil dynamics from pressure measurements Universidad Carlos III de Madrid, Spain	S.1-A.16 Dev Hathi Dev S. Hathi, Josef M. Winter, Steffen J. Schmidt, Nikolaus A. Adams Learning Lattice Boltzmann collision operator using Graph Neural Networks Technical University of Munich, Germany	S.11-A.6 Louis Fliessbach Louis Fliessbach, Marian Fuchs, Hendrik Helmann, Charles Modest, Nikanthra Sahoo An automated CFD workflow for the generation of high-fidelity AI training data Upstream CFD GmbH, Germany	S.14-P.9 Florian Sobieczky Florian Sobieczky AI Driven Prediction of Pressure Loss assisting Draft Tube Design in Hydraulic Turbines Andritz Hydro GmbH, Austria
17:00 - 17:15			S.1-A.17 Bharath Ravikumar Bharath Ravikumar, Ioannis K. Karathanassis, Manolis Gavaises, Timothy Smith, Gareth Brown Scope of machine learning in the development of many-body dissipative particle dynamics simulations of complex fluids City St Georges, University of London, UK	S.3-A.5 Long Ma Long Ma, Xiaojing Wu, Weiwei Zhang A Consistency-Identifiable Conditional Variational Autoencoder for Reliable Generative Shape Design School of Aeronautics, Northwestern Polytechnical University, China	S.14-A.10 Xiaojing Wu Xiaojing Wu, Zhen Zuo, Weiwei Zhang Multi-fidelity Aerodynamic Transfer Modeling Considering Heterogeneous Shapes Based on Point Cloud Variational Autoencoder for Efficient Propeller Shape Design Institute of AI for Industries,Chinese Academy of Sciences, China
			End of Day 2		