

DAY 3						
08:00-08:45	Coffee break and Refreshments					
Keynote 08:45-09:30	Chair: Prof Manolis Gavales, City St George's University London, UK	David Hung, Shanghai Jiao Tong University, China Bridging Experiments and Simulations in the Analysis of In-cylinder Air Flow Fields using Machine Learning Techniques				
		Min Xu, Shangai Jiao Tong University, China 3D reconstruction of combustion flame temporal development				
15:30-16:15		Round Table: Q&A with Industry Panel				
09:30-10:30	Coffee Break, Refreshments					
10:30-11:00	Coffee Break, Refreshments					
Parallel Sessions	3. Optimisation and Design	9. Inference, Sensing, Inverse Modelling	12. Experimental Data	15. Heat Transfer	8. PDE Solvers	
Chair	Prof Kyriakos Giannakoglou, National Technical University of Athens, Greece	Prof Bernd R. Noack, Shenzhen University, China	Prof Simo Makiharju, University of California Berkeley, USA	Dr Michael Vipin, City St George's University London, UK	Prof Jean-Jacques Slotine, MIT, USA	
ROOM	ROOM A	ROOM B	ROOM C	ROOM D	ROOM E	
11:00 - 11:15	S.3-P.6 Vladimir Kraslinikov Vladimir Kraslinikov, Benedetto Di Paolo, Enriko Costa AI-driven optimization of hull-propeller systems using CFD and propeller design codes SINTEF Ocean AS, Department of Ships and Ocean Structures, Norway	S.9-A.1 Sebastian Sachs Sebastian Sachs, Steffen Jung, Margret Keuper, Christian Cierpka Artificial neural networks for event-based particle tracking using STELLA Technische Universität Braunschweig, Germany	S.12-A.1 Yuan Jia Yuan Jia, Qiao Zhang, Hao Ma, Guojun Zhang, Chi Zhang, Chih-Yang Wen Reconciling Numerical Simulations with Wind-Tunnel Experiments in Hypersonic Flows The Hong Kong Polytechnic University, Hong Kong, China	S.15-P.1 Giovanni Ricciardi Giovanni Ricciardi, Wilfried Edebaauer, Manolis Gavales, Bernd van Wachem Integrating Machine Learning in CFD Wall Heat Transfer Models of Impinging Jet in High Prandtl number Reynolds and Prandtl Numbers AVL List GmbH, Austria	S.8-A.7 Leonardo Boledi L. Boledi, R. Sartoro, J. Poonosami Accelerating Reactive Transport Simulations with KAN-based Surrogate Models Forschungszentrum Jülich GmbH, Germany	
11:15 - 11:30	S.3-A.7 Tianhan Zhang Kang Hu, Jiaqiang Gu, Hailan Jiang, Tianhan Zhang Autonomous Aerodynamic Design and Stability Optimization of UAVs via a Skill-Based Multi-Agent LLM Framework Beihang University, China	S.9-A.2 Mahdi Jamshidnia M. Jamshidnia, A. Proust, R. Amaducci, A. Parente, A. Coussennet Bayesian Calibration of Turbulence-Chemistry for OH* Prediction in Hydrogen Combustion Université Libre de Bruxelles, Belgium	S.12-P.2 Qinye Zhu; Yu Xiang*; Jun Zhang; Wenying Wang Qinye Zhu, Yu Xiang, Jun Zhang, Wenying Wang LGfNet: Local-Global Fusion Network for Multi-Source Aerodynamics School of Computer Science and Engineering, University of Electronic Science and Technology of China, Chengdu, China	S.15-P.2 Rémy Souan Rémy Souan, Adèle Poubau, Thibaut Fennel, Lionel Mathelin, Anne Sergent, Christan Angeleberger A Machine Learning wall function for heat transfer prediction in laminar flows at high Prandtl number: IFP Energies nouvelles, 1-4 Av. de Bois Préau, 92852 Roissy-Malmaison, France	S.8-P.8 Francis Padilla Ethan Rochi, Francis Padilla Accelerating Kinetic Fokker-Planck simulations using a GPU-optimized deep neural network surrogate: Application to rarefied internal and hypersonic external flows UMASS Lowell, USA	
11:30 - 11:45	S.3-P.8 Yousheng Yu Yousheng Yu, Jiaqing Kou, Weiwei Zhang Generative Framework for Aerodynamic Configuration Conceptual Design Northwestern Polytechnical University, China	S.9-P.4 Alexander Stroh Jelch Marcel Hoffmann, Yosuke Hasegawa, Alexander Stroh Predicting d4 Mitral Regurgitation Hemodynamics from Sparse Data using Hybrid Deep Operator Networks Institute of Fluid Mechanics, Karlsruhe Institute of Technology, Germany	S.12-A.3 Semanur Kucuk Semanur Kucuk, Cosimo Della Santina, Angelika Lakel Automated Image-Based Classification of Air Lubrication Flow Regimes Using Deep Learning Delft University of Technology, The Netherlands	S.15-A.3 Oliver Scorsom Oliver Scorsom, Jean-Luc Bonan CFD-based Reduced Order Model for Steel Cooling Application ArcelorMittal Macors R&D, France	S.8-P.9 Ruihan Zhang Ruihan Zhang, Jingru Xing, Shoubo Dai, Yuanyu Yu, Shengpan Ge, Junli Xu, Yuan Yu Super-Resolution Predictive Initialization Using Neural Operators for Accelerating CFD Simulations Tsinghua University, China	
11:45 - 12:00	S.3-P.9 Alfredo Lopez A. Lopez, F. Sobczyk, C. Ladner, M. Hochstetler, B. Scheicht, H. Sobczyk, C. Feichtinger A physics informed reinforcement learning framework for efficient airflow diffuser design Software Competence Center Hagenberg, Austria	S.9-P.5 John Ayagpong Boamah John A. Boamah, Ronald M. Barron, Ran Balachandrar Reconstruction of Missing Velocity Fields Using Linear Model Decomposition and Non-linear Deep Learning Approaches University of Windsor, Canada	S.12-P.4 Zhiyu Duan Wenwei Zhu, Zhiyu Duan, Wenshu Li Multi-Fidelity Data Fusion Method for the Aerodynamic Distribution of Flight Vehicles Zhejiang University, China	S.15-P.4 Matthew Hughes Matthew T. Hughes, Christos Markides, Matteo Bucci Reconstructing Boiling Heat Transfer and Inferring Near-Wall Hydrodynamics from High-Resolution Optical Diagnostics and Optical Flow of Nucleate Boiling University of Michigan, USA	S.8-A.10 Xiaowen Jin Xiaowen Jin, Shengqia Xu, Hui Li Operator learning with adaptive activation function for high-speed shock tube problems and airfoil flows Harbin Institute of Technology, China	
12:00 - 12:15	S.3-P.10 Larissa Jeindl Larissa Jeindl, Marian Stagli, Stefan Posch Optimization with Differentiable Flow Solvers: A Comparative Study of Bayesian and Gradient-Based Methods CD Laboratory for Physics-driven Machine Learning in Industrial Applications, Graz, Austria	S.9-A.6 Karol Bukowski Tommaso De Maria, Samuel Anziz, Miguel Alfonso Mendez Data-driven modelling and state estimation of sloshing dynamics from sparse measurements: an experimental and numerical study von Karman Institute for Fluid Dynamics, Belgium	S.12-A.5 Philipp Gødberesen Philipp Gødberesen, Daniel Schanz, Andreas Schröder PeakCNN for particle image localization: Examples, variations, and improvements DLR, Germany	S.15-A.5 Jettis Avdjij Prabha Baswal, Jettis Avdjij, Alessandro Parente, Axel Coussennet Physics-Informed Reduced-Order Modeling for Temperature Prediction in Industrial Reheating Furnaces Université libre de Bruxelles, Belgium	S.8-A.11 Mohammad Sheikholeslami Mohammad Sheikholeslami, Saeed Salehi, Wenguo Mao, Hakan Nilsson, Arabi Eslamdoost From Discretization to Neural Solvers: A Spectrum of Methods for the Lid-Driven Cavity Problem Chalmers University of Technology, Sweden	
12:15 - 12:30	S.3-P.12 Albert Pool Michael Schelling, Birger Hornsman Optimisation strategies for variational quantum simulation of a battery cell model German Aerospace Center (DLR), Germany	S.9-A.7 Jiawei Wu Jiawei Wu, Wang Han, Lijun Yan Geometry-Generalizable Flow Reconstruction via Implicit Neural Representations School of Aeronautics, Beihang University, China	S.12-A.1 Ruicong Wu Ruicong Wu, Jiabin Liu, Jialei Yan, Anxin Gu Considering the growth and flow field characteristics of wind-driven waves in current environments Harbin Institute of Technology, China	S.11-A.7 Clemens Naumann Clemens Naumann, Christian Ceper Energy loss prediction in stratified thermal energy storage systems using ANNs Technische Universität Braunschweig, Germany	S.8-A.13 Tina Vartzolis Patrick Vaudrevange, Tobias Rössler, Tina Vartzolis, Michael Kockelaken AI-Accelerated Multi-Fidelity Fire Simulation and Hybrid Mesh Generation for Industrial CFD TWT, Germany	
12:30-14:00	Lunch (Maich restaurant)					
Keynote 14:00-14:45	Chair: Prof Wagdi Habashi	Charbel Farhat, Stanford University, USA Physics-Based AI for Digital Twins of Fluid Flows				
		Vladimir Vanovsky, Skolkovo Institute of Science and Technology, Russia Hybrid Modelling and Computational Graph Coarsening for Accelerated Fluid Simulation				
Keynote 14:45-15:30		Min Xu, Shangai Jiao Tong University, China 3D reconstruction of combustion flame temporal development				
15:30-16:15	Coffee break and Refreshments					
16:15-17:00	Coffee break and Refreshments					
Parallel Sessions	10. Turbulence	4. Physics-informed models	7. Reinforcement Learning and Flow Control	2. Digital Twins	11. Industrial & Applied ML in Fluid Systems	
Chair	Prof Andreas Schröder, DLR (German Aerospace Center), Germany	Prof Chaouki Habchi, IFP Energies nouvelles (IFPEN), France	Prof Charbel Farhat, Stanford University, USA	Prof Michele Battisti, University of Perugia, Italy	Prof Wagdi Habashi, McGill University, Canada	
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17:00 - 17:15	S.10-A.11 Chiara Calciandetta (Tiany Li) Tiany Li, Michele Buzzotti, Fabio Bonaccorso and Luca Bilello Generative Diffusion Models for Turbulent Passive Scalar Fields Centre Inria Université Côte d'Azur, France	S.4-A.18 Hyungmin Shin Hyungmin Shin, Andreas Schröder A Two-Stage Physics-Informed Neural Network for Temperature Reconstruction from Lagrangian Particle Tracking Data DLR, Germany	S.7-A.3 Bernd R. Noack Bernd R. Noack Air taxis and drones, beware of the wind! Aerodynamic technologies and AI for a gust-safe and energy efficient low-altitude economy Shenzhen University, P.R. China	S.2-A.1 Sajad Salavattidefouli Sajad Salavattidefouli, Christoffer Hansen, Henrik Karstoft, Alexandros Iosifidis, Mahdi Akbar Data-driven generative digital twins for wind-farm flows from highly sparse measurements Aarhus University, Department of Mechanical and Production Engineering, Denmark	S.11-A.8 Mirza Popović M. Popovic, T. Bami, D. Šimic Numerical Strategies for Improving the Accuracy of ANN-based Surrogate Model for Airflow Predictions within Rectangular Wall-Bounded Enclosures KIT - Austrian Institute of Technology	
17:15 - 17:30	S.5-A.19 Letian Jiang Letian Jiang, Steffen J. Schmidt, Nikolaus A. Adams Physics-guided Temporal Classification of Unsteady Cavitation Stages Using Supervised Learning TUM School of Engineering and Design, Technical University of Munich, Germany	S.4-A.2 Sebastiano Randino Sebastiano Randino, Lorenzo Schena, Emanuele Garone, Miguel Alfonso Mendez A Self-Calibrating Digital Twin for Rotor-Effective Wind-Speed Estimation and Aerodynamic-Map Identification von Karman Institute for Fluid Dynamics, Belgium	S.7-A.4 Isabel Scherf Isabel Scherf, Benja Berow, Alex J. Linot Towards Developing Reduced-Order Models for Active Flow Control from Experimental Data University of Massachusetts Amherst, USA	S.2-A.3 Yves-Marie Lefebvre (Philipp Bekemeier) Alexander Barltag, Philipp Bekemeier, Yves-Marie Lefebvre, John Goetz Bridging the Gap between Numerical and Experimental Analysis through Machine Learning Techniques Employed in Real-Time German Aerospace Center, Germany	S.11-A.9 Justo Matheus Justo Matheus, Francisco Javier Grandoso-Ortiz Identifying Anrhythmic Conditions Through Shock Signatures in Rotary Steerable Drilling Systems SLB, Norway and University of Almeria, Spain	
17:30 - 17:45	S.18-P.7 Yanfei Li Simulation of multi-component flash boiling sprays with data-driven vapor liquid equilibrium calculations Tsinghua University, China	S.4-P.19 Faras Brumand-Poor Faras Brumand-Poor, Georg Michael Furlong, Marius Hofmeister, Tim Kott, Katharina Schmitz Physics-Informed Neural Networks for Thermohydrodynamic Modeling of Fuel Injection Pumps with Fuel-Dependent Properties RWTH Aachen University, Institute for Fluid Power Drives and Systems (fap), Germany	S.7-P.5 Priyam Chakraborty Priyam Chakraborty, Prabhakar Kumar Mishra, Suman Chakraborty Learning to Swim Upstream: Koopman-Physics AI for Drag Reduction of a Square-Back Ahmed Body Assistant Professor, Indian Institute of Technology Khargpur, India	S.2-P.4 Vincent Seyfried Vincent Seyfried, Andreas Kneer, Johannes Brandstetter, Thomas Lichtenegger From Neural Surrogates to Neural Twins Department of Particulate Flow Modeling / Johannes Kepler University Linz, Austria	S.11-A.10 Haochen Chen Haochen Chen, Hao Ma, Xiaojing Wu, Weiwei Zhang Multi-Agent Collaborative CAE Industrial Software Platform for Fluid Mechanics Northwestern Polytechnical University, China	
17:45 - 18:00	S.13-P.10 Lee Mortimer Lee Mortimer, Michael Farweather Prediction of Turbophonic Particle Transport in Wall-Bounded Turbulent Flows Using Long Short-Term Memory Neural Networks University of Leeds, UK	S.4-A.20 Yunde Su Yunde Su, Zhenyu Zhang SIM-PINN: Segregated, Iterative, and Multi-Stage Physics-Informed Neural Network for Incompressible Flow Simulations Sichuan University, China	S.7-A.6 Wenzhe Cao Wenzhe Cao, Huanchang Bai, Chao Xia, Qing Jia, Zhiyang Yang Deep Reinforcement Learning-Based Active Flow Control for Drag Reduction of a Square-Back Ahmed Body College of Automotive and Energy Engineering, Tongji University, Shanghai, 201804, China	S.2-A.5 Yannick Lecomte Yannick Lecomte, Alessandro Greco, Emanuele Garone, Miguel A. Mendez Bayesian Reinforcement Twinning: A Multi-Fidelity Framework for Reciprocal Learning between Digital Twins and Control von Karman Institute for Fluid Dynamics, Belgium	S.11-A.11 Armand de Villeroché Armand de Villeroché, Emma Özgeç, Long Chen, Nicolas R. Guen Anchored-Branched Steady-state Wind Flow Transformer (AB-SWIFT): a metamodel for 3D atmospheric flow in urban environments CEREA, ENPC, EDF R&D, Institut Polytechnique de Paris, Ile-de-France, France	
18:00 - 18:15	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.4-P.21 Stefan Posch Milos Babic, Franz Rohrlheider, Diemans Gölszberger, Riccardo Novelli, José Maria García-Oliver, Stefan Posch Physics-Informed Neural Networks and Differentiable Chemistry for Solving the Unsteady Flamelet Equation Christian Doppler Laboratory for Physics-driven Machine Learning in Industrial Applications, Austria	S.13-P.11 Xuan-Qi Liu Xuan-Qi Liu, Ka-Qi Lu, Zhen-Yu Yin Resilient groundwater flow modeling in heterogeneous porous media using mixed-form PINNs and transfer learning The Hong Kong Polytechnic University, Hong Kong, China	S.7-A.7 Miguel Alfonso Mendez Miguel Alfonso Mendez, Lorenzo Schena, Romain Polletti Reinforcement Twinning for Control of Transport-Dominated Systems with Partial Observations von Karman Institute for Fluid Dynamics, Belgium	S.1-A.18 Jan Rottmayer Jan Rottmayer, Emma Özgeç, Long Chen, Nicolas R. Guen Bayesian Neural Network Surrogates for Aerodynamic Shape Design RPTU Kaiserslautern-Landau, Germany	
18:15-18:30	Closing Remarks, Manolis Gavales					
18:30-23:00	Farewell drinks, Gala Dinner, Cretan night & Dance (Maich)					