

DAY 3					
08:00-08:45	Coffee break and Refreshments				
Keynote 08:45-09:30	Chair: Prof Manolis Gavaises, City St George's University London, UK	David Hung, Shanghai Jiao Tong University, China			
09:30-10:30	Bridging Experiments and Simulations in the Analysis of In-cylinder Air Flow Fields using Machine Learning Techniques				
10:30-11:00	Round Table: Q&A with Industry Panel				
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 Krasnikov Vladimir Krasnikov, Benedetto Di Paolo, Emiliano 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 Ilmenau, Germany	S.12-A.1 Yuan Jia Yuan Jia, Qiao Zhang, Hao Ma, Guoqin Zhao, Chi Zhang, Chih-Yung 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 Edelbauer, Mandis Gavaises, Bernd von Wachem Integrating Machine Learning in CFD Wall Heat Transfer Models of Impinging Jet Flows with Variable Reynolds and Prandtl Numbers AVL List GmbH, Austria	S.8-A.7 Leonardo Boledi L Boledi, R Santos, J Ponomarev 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, Jiangyong Ge, Haotian 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. Proccaci, R. Amaduzzi, 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; Wenyong Wang Qinye Zhu, Yu Xiang, Jun Zhang, Wenyong 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 Poubeau, Thibaut Farney, Lennel Mathelin, Anne Seregent, Christian Angeleberger A Machine Learning wall function for heat transfer prediction in laminar flows at high Prandtl number IFP Energies nouvelles, 1-4 Av. du Bois Préau, 92852 Rusl-Malmaison, France	S.8-P.8 Francis Padilla Ehsan Rooki, Francis Padilla Accelerating Kinetic Fokker-Planck simulations using a GPU-optimized deep neural network surrogate Application to rarefied internal and hypersonic external flows UMASS Amherst, USA
11:30 - 11:45	S.3-P.8 Youzheng Yu Youzheng Yu, Jiaqing Kou, Weiwei Zhang Generative Framework for Aerodynamic Configuration Conceptual Design Northwestern Polytechnical University, China	S.9-P.4 Alexander Stroh Jakob Marcel Hoffmann, Yosuke Hasegawa, Alexander Stroh Predicting 4D 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, Angeliki Laskari Automated Image-Based Classification of Air Lubrication Flow Regimes Using Deep Learning Delft University of Technology, The Netherlands	S.15-A.3 Oliver Scorsim Oliver Scorsim, Jean-Luc Bonan CFD-based Reduced Order Model for Steel Cooling Application ArcelorMittal Maccorres R&D, France	S.8-P.9 Ruihan Zhang Ruihan Zhang, Jingyu Xing, Shoubo Dai, Yuanqi Wu, Shangwen Gao, Junli Luo, Yuhui Wu 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. Hochsteiger, B. Scheichl, 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 Agyagyan Boamah John A. Boamah, Ronald M. Barron, Ram Balachandrar Reconstruction of Missing Velocity Fields Using Linear Modal Decomposition and Non-linear Deep Learning Approaches University of Windsor, Canada	S.12-P.4 Zhiyu Duan Wenwen Zhao, Zhiyu Duan, Wanshu 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 Bucco 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 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.3-P.10 Larissa Jeindl Larissa Jeindl, Marian Steggl, Stefan Prosch 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 Tomasz Maciej De Maria, Samuel Alizai, 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 Gødbensen Philipp Gødbensen, Daniel Schanz, Andreas Schröder PeakCNN for particle image localization: Examples, variations, and improvements DLR, Germany	S.15-A.5 Jettis Avdijaj Pratibha Baweel, Jettis Avdijaj, 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, Wengang Mao, Håkan Nilsson, Arash 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.8-P.12 Albert Pool Michael Schelling, Birger Horstman Optimization 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, Jiahui Liu, Jiale 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 Cierpka Exergy loss prediction in stratified thermal energy storage systems using ANNs Technische Universität Ilmenau, Germany	S.8-A.14 Kie Okabayashi Kie Okabayashi, Yuina Motozono, Kazuyuki Tanaka Time-stepping Model of Cavitation Flow around a Clark-Y11.7% Hydrofoil Trained by CFD Data The University of Osaka, Japan
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			
Keynote 14:45-15:30		Vladimir Vanovsky, Skolkovo Institute of Science and Technology, Russia			
		Hybrid Modelling and Computational Graph Coarsening for Accelerated Fluid Simulation			
15:30-16:15		Min Xu, Shanghai Jiao Tong University, China			
		3D reconstruction of combustion flame temporal development			
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 Battistoni, University of Perugia, Italy	Prof Wagdi Habashi, McGill University, Canada
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17:00 - 17:15	S.10-A.11 Chiara Caloscietta (Tianyi Li) Tianyi Li, Michele Buzzicotti, Fabio Bonaccorso and Luca Biferale Generative Diffusion Models for Turbulent Passive Scalar Fields Centre Inria d'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.4 Isabel Scherl Isabel Scherl, James Berawac, Alec J. Linot Towards Developing Reduced-Order Models for Active Flow Control from Experimental Data University of Massachusetts Amherst, USA	S.2-A.1 Sajad Salavatiadizfouli Sajad Salavatiadizfouli, Christoffer Hansen, Henrik Karstoft, Alexandros Iosifidis, Mahdi Abkar 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 Popovac M. Popovac, T. Blum, D. Simić Numerical Strategies for Improving the Accuracy of ANN-Based Surrogate Model for Airflow Predictions within Rectangular Wall-Bounded Enclosures AIT - Austrian Institute of Technology
17:15 - 17:30	S.5-A.19 Letian Jiang Letian Jiang, Shaifan 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.2-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-P.5 Priyam Chakraborty Priyam Chakraborty, Prashant Kumar Mishra, Suman Chakraborty Learning to Swim Upstream: Koopman-Physics AI for Smart Microswimmer Navigation Assistant Professor, Indian Institute of Technology Kharagpur, India	S.2-A.3 Yves-Marie Lefebvre (Philipp Bekemeyer) Alexander Barklage, Philipp Bekemeyer, 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 Granados-Ortiz Identifying Arrhythmic 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 Portugien, Marius Holmeister, Tim Kotke, 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 (ifs), Germany	S.7-A.6 Wenzhe Cao Wenzhe Cao, Huancheng Bai, Chao Xia, Qing Jia, Zhigang 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-P.4 Vincent Seyfried Vincent Seyfried, Andreas Radler, Johannes Brandstätter, 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 Turbophoretic 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.2-A.5 Yannick Lecomte Yannick Lecomte, Alessandro Grava, 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, Rem-Sophia Mouradi Anchored-Branches 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.4-P.21 Stefan Posch Miles Babic, Franz Rohdeder, Clemens Götzlitzner, Ricardo Novella, José María 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.7-A.7 Miguel Alfonso Mendez Miguel Alfonso Mendez, Lorenzo Schena, Romain Pohlé 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, Erme Özçay, Long Chen, Nicolas R. Gauger Bayesian Neural Network Surrogates for Aerodynamic Shape Design RPTU Kaiserslautern-Landau, Germany
18:15-18:30	Closing Remarks, Manolis Gavaises				
18:30-23:00	Farewell drinks, Gala Dinner, Cretan night & Dance (Maich)				