

DAY 1, Tuesday 1st September 2026						
08:00-08:30	Registration and Coffee					
08:30-08:45	Welcome Address, Manolis Gavaises, City St George University, UK					
Keynote 08:45-09:30	Chair: Miguel-Alfonso Mendez	Steve Brunton, University of Washington, USA				
		Machine Learning for Scientific Discovery, with Examples in Fluid Mechanics				
Keynote 09:30-10:15		Zhi Chen, Peking University, China				
		Unified Benchmarking for Neural Surrogates of Realistic Multiphysics Flows				
10:15-11:00	Coffee Break, Refreshments					
Parallel Sessions	4. Physics-informed models	5. Reinforcement learning, Dimensionality Reduction and Reduced Order Models	1. Machine Learning	10. Turbulence	8. PDE Solvers	
Chair	Prof Christopher Bruecker, City St George's University London, UK	Prof Steven Brunton, University of Washington, USA	Prof Miguel-Alfonso Mendez, von Karman Institute for Fluid Dynamics, Belgium	Prof Yue Yang, Peking University, China	Prof Zhi Chen, Peking University, China	
ROOM	ROOM A	ROOM B	ROOM C	ROOM D	ROOM E	
11:00 - 11:15	S.4-P.1 Jiahao Song Jiahao Song, Wentao Cao, Weiwei Zhang FENN: Feature-enhanced neural network for solving partial differential equations involving fluid mechanics Northwestern Polytechnical University, China	S.5-P.1 Kirsten Odendaal Kirsten Odendaal, George Drakoulas ShipNet: A Geometric Deep Learning Surrogate for Real-Time Ship Hydrodynamics Maritime Research Institute Netherlands (MARIN)	S.1-A.1 Jiacheng Sheng Jiacheng Sheng, Jun Liu A Neural Network-Based Method for Bird Strike Risk Assessment of an Aircraft Wing School of Aeronautics, Northwestern Polytechnical University, China	S.10-A.1 Paul Creusy Paul Creusy, Benoît Joseph Gota, Antoine Briard, Téo Granger Leveraging Machine Learning to discriminate parametric and structural errors in RANS models for Rayleigh-Taylor transition CEA, DAM, DIF - F-91221 Arson, France	S.8-P.1 Aleksandar Jemcov Aleksandar Jemcov, Scott C. Morris Conditional Generative Networks for Scalable Unitary Louisville Transport University of Notre Dame, USA	
11:15 - 11:30	S.4-P.2 Michael Mommert Michael Mommert, Marie-Christine Volk, Christian Bauer Benchmarking PINN architectures for temperature-reconstruction by determining viscosity deviations German Aerospace Center (DLR), Germany	S.5-A.2 Kai Fukami Kai Fukami, Yuta Iwami, Soji Maegawa, Hiroyuki Asada, Soshi Kawai Modeling and sensing transonic airfoil buffet flows at high Reynolds numbers on a low-order submanifold Tohoku University, Japan	S.1-A.2 Mingkun Xia Weiwei Zhang, Mingkun Xia Symbolic Regression for Progressive Discovery of Physical Laws in Fluid Mechanics Northwestern Polytechnical University, China	S.10-P.2 Qidi Wu Qidi Wu, Jieping Kou, Shudong Song A Data-Driven Recommendation System for Turbulence-Model Selection School of Aeronautics, Northwestern Polytechnical University, Xian 710072, China	S.8-P.2 Senwei Zheng Jieping Kou, Senwei Zheng, Weiwei Zhang Physics-encoded resolution-generalizable neural network for truncation error correction of solving nonlinear PDEs School of Aeronautics, Northwestern Polytechnical University, China	
11:30 - 11:45	S.4-A.3 Christian Bauer Robin Barta, Christian Bauer, Ghomelhossein Bagheri Robust estimation of pressure and velocity gradients from one time step in turbulent pipe flows via two-stage physics-informed neural networks German Aerospace Center (DLR), Germany	S.5-A.3 Daiki Bepko Daiki Bepko, Vedant Godawarti, Koichiro Yawata, Hiroya Nakao, Kai Fukami Estimating phase-amplitude sensitivity fields of laminar airfoil wakes from sparse sensors with machine learning Department of Aerospace Engineering, Tohoku University, Japan	S.1-P.3 Partha Dutta Partha Dutta, Kiran Raj M. Deep Learning-Enhanced Background Oriented Schlieren for Droplet Evaporation Indian Institute of Technology, Madras, Tamil Nadu, 600036, India	S.10-A.3 Thorben Markmann Hans Harder, Thorben Markmann, Roshan J. Samuel, Jörg Schumacher, Barbara Hammer, Sebastian Peltz Generative Modeling of the Spherical Rayleigh-Bénard Convection Bielefeld University, Germany	S.8-P.3 Paul Horvath Paul Horvath, Marian Stagl, Stefan Posch Fourier Neural Operator for Journal Bearing Modelling CD Laboratory for Physics-driven Machine Learning in Industrial Applications, Graz, Austria	
11:45 - 12:00	S.4-P.4 Zishan M. Mahmood Alireza Roshd, Adrian Kölsner, Carsten Mähling Data-Driven and Physics-Informed Graph Neural Networks for Flow Field Prediction in Two-Dimensional Channel Flows Featuring Bluff Body Obstacles Institute of Mechanical Process Engineering, University of Stuttgart, Germany	S.5-A.4 Francisco-Javier Granados-Ortiz F.-J. Granados-Ortiz, J. García-Mena, A. Pérez-Rodríguez, A. López-Martínez, J. Ortega-Casanova Data-driven Modal Decomposition of the Effect of Fins in Unsteady Channel Flow Dynamics University of Almería, Spain	S.1-A.4 Anja Bartelmei Anja Bartelmei, Stefan Srininger, Jörg Schumacher Closed-loop prediction of thermal plume dynamics in Rayleigh-Bénard convection using delay-embedded optical reservoir computing Technische Universität Braunschweig, Germany	S.10-A.4 Hesam Tofighian Hesam Tofighian, Jordan A. Denew, Nikola Kornev Finite-Volume Convolution for Deep Super-Resolution Reconstruction of Turbulent Flow on Unstructured and Stretched Grids Scientific Computing Center, Karlsruhe Institute of Technology (KIT), Germany	S.8-P.4 Kosov Vladimir Influence of temperature on concentration convection caused by instability of the equilibrium of binary gas mixtures based on data using CFD modeling improved with the help of artificial intelligence Abai Kazakh National Pedagogical University, Almaty, Kazakhstan	
12:00 - 12:15	S.4-A.5 Jincheng Zhang Jincheng Zhang Physics-informed neural networks for RANS simulations with data-driven turbulence modelling University of Warwick, UK	S.5-A.5 Henning Schwarz Henning Schwarz, Pysy Pyro Li, Jens-Peter M. Zenke, Thomas Rung NEURAL FIELD BASED SURROGATE MODEL FOR DITCHING LOAD PREDICTION Hamburg University of Technology, Germany	S.1-A.5 Ryan Santoso Ryan Santoso, Lara Wegner, Yankai Yang, Jemma Poonosami Machine learning-based framework for predicting effective properties of 3D partially saturated porous materials Forschungszentrum Jülich GmbH, Germany	S.10-A.5 Maurizio Carbone M. Carbone, V.Valardo, T. L. L. Moragaglia, L. Biterale, M. Buzzotti Generating turbulence by learning inter-scale cascade dynamics Department of Physics and INFN, University of Rome "Tor Vergata", Rome, Italy	S.8-P.5 Xukun Wang Xukun Wang, Oscar A. Marino, Esteban Ferrer Accelerating high-order discontinuous Galerkin solver using auto-differentiation and neural networks Universidad Politécnica de Madrid, Spain	
12:15 - 12:30	S.4-A.6 Wanshu Li Wanshu Li, Zhiyu Duan, Wenwen Zhao, Welling Chen PGP-GNN: A Physics-Guided Prior Graph Neural Network for Efficient Prediction of Hypersonic Chemical Nonequilibrium Aerodynamic Heating Zhejiang University, China	S.7-A.1 Yiqi Fang Yiqi Fang, Steffen Schmidt, Nikolettus A. Adams Reinforcement Learning for Airfoil Shape Optimization at a Target Lift Condition Technische Universität München, Germany	S.1-A.6 Monica Lacatus Monica Lacatus, Mathias Möller Surrogate Quantum Circuit Design for the Lattice Boltzmann Collision Operator Delft University of Technology (Delft Institute of Applied Mathematics), The Netherlands	S.10-A.6 Fangbo Li Fangbo Li, Weiwei Zhang Discovery of self-similar scaling law for velocity variance in transcritical turbulent channels with symbolic regression Northwestern Polytechnical University, China	S.8-A.6 Miranda J S Horne Miranda J S Horne, Peter K. Jmaak, Amal Khan, He Wang Hard Constraint Projection in a Fourier Neural Operator University of Leeds, UK	
12:30 - 12:45		S.13-P.11 Xuan-Qi Liu Xuan-Qi Liu, Kai-Qi Li, 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.1-P.7 Ron Barron Vatsal Shah, Lovi Fadia, Ronali Barron, Mohammad Hassanzadeh Hard Boundary Condition Enforcement for Learning-Based Boundary Value Problem Solvers University of Windsor, Canada	S.3-P.1 Kherlen Jigjid Kherlen Jigjid, Altan Asif Siddiqui, Nguyen Anh Khoa Doan Adjoint-Based Training of Kolmogorov-Arnold Networks for Interpretable Turbulence Modelling Faculty of Aerospace Engineering, TU Delft, The Netherlands	S.8-A.14 Kie Okabayashi Kie Okabayashi, Yuna 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: Bernd R. Noack, Shenzhen University, PR China	Jean-Jacques Slotine, MIT, USA				
Keynote 14:45-15:30		Stable Adaptation and Learning				
		Alessandro Parente, Université Libre de Bruxelles, Belgium				
15:30-16:15	16:15-17:00	Digital twins as enablers of renewable synthetic fuels in hard-to-abate industries				
Sponsor Presentations						
Parallel Sessions	5. Dimensionality Reduction and Reduced Order Models	1. Machine Learning	10. Turbulence	13. Multi-phase	14. Turbomachinery and Airfoils	
Chair	Prof Jiaqing Kou, Northwestern Polytechnical University, China	Prof Alessandro Parente, Université Libre de Bruxelles, Belgium	Prof Yue Yang, Peking University, China	Dr Steffen Schmidt, Technical University of Munich, Germany	Prof Nicolas R. Gauger, RPTU Kaiserslautern-Landau, Germany	
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17:00 - 17:15	S.5-A.7 Marek Belda Marek Belda, Lorenzo Schena, Romain Poletti, Miguel Alfonso Mendez A New Approach for Fast Multiscale POD Computation Department of Fluid Dynamics and Thermodynamics, Faculty of Mechanical Engineering, Czech Technical University in Prague	S.1-P.8 Tobias Rentschler Tobias Rentschler, Alexander Trauer, Stefan Radebauch Transformer-Based Quadrilateral Block-Structured Mesh Generation University Stuttgart, Institute of Fluid Mechanics and Hydraulic Machinery (IHS), Germany	S.10-P.7 Alejandro Montoya Alejandro Montoya, Paola Cinnella Archetype-based mixture of experts for interpretable and generalisable data-driven turbulence modelling Institut Jean Le Rond d'Alembert, Sorbonne Université, France	S.13-P.1 Vinicio G. Poletto Marina Elizabeth Macuroski, Thiago Machado Neubauer, Vinícius Gustavo Poletto, Fernando Cesar De La, Bruno Barbosa Castro, André Leobadin Martins, Silvio Luiz de Melo Junior CFD-DEM modeling of particle clustering and deposition combining growth and adhesion Federal University of Technology - Paraná (UTFPR) & Petrópolis, Brazil	S.14-A.1 Charly Witmeur Witmeur Charly, Decouper Jan, Schoukens Maarten, Runaens Mark Optimal Input Design for Dynamic Stall Modelling of a Pitching Aerofoil Using Reinforcement Learning Vrije Universiteit Brussel (VUB), Belgium	
17:15 - 17:30	S.3-A.2 Farzad Mashayek P. Thogulraj Rajendran, D.T. Larsson, L. Tronstad, B. Kinsey, S.A. Craig F. Mashayek Optimal Pressure Sensor Placement for Reward Computation in Reinforcement-Learning-Based Active Flow Control of Airfoils University of Arizona, USA	S.1-A.9 Ioannis Kyritopoulos Ioannis Kyritopoulos, Michael Mays, Saleh Rezaeiavesh, Alistair Revell An Improved Data-driven RANS Modelling Approach for Separated Flows The University of Manchester, UK	S.10-P.8 Simon Dalpke Moritz Link, Simon Dalpke, Ryo Koshikawa, Kai Fukami, Alexander Stroh Autoregressor-Based Analysis of Roughness Effects on Heat-Momentum Dissimilarity Institute of Fluid Mechanics, Karlsruhe Institute of Technology, Germany and Department of Aerospace Engineering, Tohoku University, Sendai, Japan	S.13-A.2 Hugo D. Bernardino Amaro Hugo D. Bernardino Amaro, Manuel A. Taborda, Berend van Wachem Effect of hydrodynamic drag on uniformly coated spherical carrier particles Otto-von-Guericke-Universität Magdeburg, Germany	S.14-P.2 Xinyue Lan Xinyue Lan, Sun Gang Physics-Guided Operator Learning for Integrated Aerodynamic Optimization of Transonic Fan Blades Department of Aeronautics & Astronautics, Fudan University, Shanghai 200433, China	
17:30 - 17:45	S.1-A.10 Liu Jun Tianhui Li, Jun, Yuesheng Rapid Prediction of Total Pressure Field at the Exit of a 3D S-Shaped Expansion Duct Using an Improved U-Net Nanjing University of Aeronautics and Astronautics, China	S.1-P.11 Ni Shuzhi Shuzhi Ni, Zi-Xiang Tong, Yimin Zhang, Jieqin Zhu Physics-Guided Graph Neural Networks for Joint Optimization of Sensor Placement and Sparse Flow Reconstruction Beihang University, China	S.10-A.9 Mourad Oughelou Mourad Oughelou, Taddi Truscot, Sandip Laxman Dighe, Henrich Wilczek Surrogate-UCB Calibration of RANS Closure Using Sparse Reef Current-Meter Observations King Abdullah University of Science and Technology, Saudi Arabia	S.13-A.3 Hani Elmestikawy Hani Elmestikawy, Aishay Chandran, Bruno Blas, Max Hasemann, Berend van Wachem 2nd International Symposium on AI and Fluid Mechanics Data-driven hydrodynamic force correlations for Euler-Lagrange simulations of particle-laden flows Otto-von-Guericke University Magdeburg, Germany	S.14-A.3 Evgenia Kontoleontos Data Driven Anomaly Detection Methods for Improving Plausibility Checks in Hydraulic Turbine Model Test Data Andritz Hydro GmbH, Austria	
17:45 - 18:00	S.7-P.2 Valerio Di Domenico V. Di Domenico, M. A. Mendez, L. Koloszar, Y.Barbosiewicz, M. Fiore Development of Reduced Order Models for the Thermal Hydraulics of Nuclear Reactors von Karman Institute for Fluid Dynamics, Belgium	S.1-P.12 Yimin Zhang Yimin Zhang, Zi-Xiang Tong, Shuzhi Ni, Jieqin Zhu Explicit Embedding of Flow Directionality and Advection Operators in Neural Architectures for High-Fidelity Fluid Dynamics Prediction Beihang University, China	S.10-P.10 Kyriakos Giannakoglou C. Tsoukias, A.A. Petrotouli, K. Batsi, Y.G. Asouli, K.C. Giannakoglou Data Driven Turbulence Modelling through Eddy Viscosity Adaptation and Symbolic Regression National Technical University of Athens, Greece	S.4-P.17 Paolo Guida Paolo Guida Real-time control of multiphase processes with learned operators King Abdullah University of Science and Technology, Saudi Arabia	S.14-A.4 Goncalo Granjal Cruz Goncalo Granjal Cruz, Mark Runaens, Jan Decouper Modelling NACA 0018 Unsteady Aerodynamics using State-Space Kolmogorov-Arnold Networks Vrije Universiteit Brussel, Belgium	
End of Day 1						