DAY 1	Wednesday 28th May 2025					
07:45-08:25	Registration and Coffee					
08:25-08:45	Welcome Address, Prof. M. Gavaises (City St George University, UK)					
Keynote 08:45 - 09:30	Chair:Prof Manolis Gavaises City St George University of London	Prof Petros Koumoutsakos (Harvard University, USA) Reinforcement learning for flow modeling and control				
Keynote 09:30 - 10:15		Prof Bala Sivaramakrishnan (University of Florida, USA) Scale bridging with machine learning for discovery of otherwise inaccessible multiphase physics				
10:15 - 11:00	Coffee Break (refreshments, fruits, snacks)					
Parallel Sessions	Reinforcement Learning and flow control	Turbulence	Inference, Sensing, Inverse Modeling	PDE Solvers	Combustion	Industrial & Applied ML in Fluid Systems
Chair	Prof Miguel Alonso Mendez von Karman Institute for Fluid Dynamics	Prof Christoph Bruecker City St George University London	Dr. Rundi Qiu Chinese Academy of Sciences	Prof George Karniadakis Brown University	Prof Heinz Pitsch RWTH Aachen University	Dr Konstantinos Kyprianidis EST
11:00 - 11:15	***S.1- A.1 Dimitris Drikakis*** F. Sofos *Deep Learning for Flow Imaging and Spatiotemporal forecasting* University of Nicosia	***S.5-P.1 Zeyu Li*** H. Dou· S, Fang· Wang Han· L. Yang *Efficient simulation and assimilation of turbulent flow using diffusion transformer* Beihang University	***S.2-A.1 Yusuke Yugeta*** Y. Hasegawa *Automatic search for an effective cost function in the suboptimal control of cylinder wake by genetic programming* The University of Tokyo	***S.4-P.1 Davide Dapelo*** John Bridgeman *FluidGPT-1: a proof-of-concept model for attention-based flow pattern generation in CFD* University of Liverpool	***S.16-P.1 Corlùy Grégoire*** K Zdybal, X Wen, L Berger, H Pitsch A Parente *Progress variable optimization of a hydrogen flame for reduced-order modeling using an encoder-decoder* Université Libre de Bruxelles	***S.6-P.1 Mirza Popovac*** D.P. Gupta and T. B. Gohil *Surrogate model for the fluid flow predictions within simplified wall-bounded enclosure based on the 3D flow field reconstruction using ANN* AIT - Austrian Institute of Technology
11:15 - 11:30	***S.1-P.1 Laurent Cordier*** T. Singh R. Fablet *Active flow control using neuroevolution guided deep reinforcement learning* Pprime Institute, Poitiers, France	***S.5-P.2 Luca Saverio*** M A Bucci, C Content and D Sipp *Differentiable learning for turbulence modeling: A gradient-based framework in rans simulation.* Safran Tech	***S.2-A.2 Pan Shaowu*** N. Somasekharan, Y. Cao,F. Kopsaftopoulos, M. Amitay *Deep Koopman Sensing* Rensselaer Polytechnic Institute	***S.4-A.1 Alexios Michailidis*** Martin Kiffne *Tensor Networks in Machine Learning and PDEs* PlanQC GmbH	***S.16-P.2 Maho Kawai*** S. Esaka, N. Sugimura, A. Lakshman Pillai, R. Kurose *Deep learning-based prediction of flashback on swirling hydrogen-air flame* Kyoto University	***S.6-P.2 Alexandra Junk*** J. M. Winter; S. Schmidt; N. A. Adams *Fourier Neural Operator-Based Surrogate Modelling of Periodic Lattice-Boltzmann Simulations* TUM
11:30 - 11:45	***S.1-A.2 Yihao Chen*** Y.Yang *Deep reinforcement learning for tracking a moving target in jellyfish-like swimming* Peking University, Beijing	***S.5-P.3 Kazuto Ando*** R. Bale, A. Kuroda, M. Tsubokura *Robustness Evaluation of Neural-network-based Reduced Order Model for Turbulent Flow Around Vehicle Body Against Shape Changes* RIKEN	***S.2-P.1 Bingteng Sun*** S. Cai, Q. Du, L. Lu.R. Wang.S.Wang.L.Xie, R.Xiao, X. Liu,J. Zhu *Reconstruction of Fields with Physics-Informed Neural Networks Based on Optimal Sensor Placement* Chinese Academy of Sciences	***S.4-P2 Oluwaseun Coker*** P K Jimack, A Khan, H Wang *Dynamic Loss Weighting: A stable strategy for training Neural PDE Solvers* University of Leeds	***S.16-P.3 RIxin Yu*** Erdzan Hodzic *Koopman Inspired Operator Learning for Intrinsic Flame Instabilities* Lund University	***S.6-P.3 Erdem Dikbaş*** *Local Spectrum Analysis of Hybrid RANS LES Data Using Dynamic Mode Decomposition for a Body-Wing-Tail Airframe* Roketsan Inc
11:45 - 12:00	***S.1-P.2 Mehran Masdari*** S. Mousavi, M. Jebelli *Accelerating Deep Reinforcement Learning-based Active Flow Control on Analogous Geometries through Transfer Learning* City University Of London	***S.5-A.1 Samuel Molina Casino*** A. Cremades; S. Hoyas; J. Cardesa; F. Chedevergne; R. Vinuesa *On the accurate identification of wall-bounded coherent structures via SHAP methodologies for 2D turbulent fields* ONERA	***S.2-P.2 Ning Chenjia*** Weiwei Zhang *Multi-source Heterogeneous Aerodynamic Data Fusion Neural Network Embedding Reduced-dimension Features* Northwestern Polytechnical University	***S.4-A.2 Bruno Dias*** Jeremie Meurisse *AI-Enhanced Computational Tools for Entry Systems Modeling* AMA, Inc. at NASA Ames Research Center	***S.16-PO.1 Felipe Escudero*** C. López, B. Herrmann, R. Demarco *Sparse Sensor Placement and Physics-Informed Neural Networks for Temperature and Velocity Fields Reconstruction in Axisymmetric Flames* Universidad Técnica Federico Santa María	***S.6-P.4 Matteo Russo*** D. Petronio,D Lengani, D Simoni, F.Bertini *A POD-based Autoencoder for Detailed Loss Characterization of Low Pressure Turbine Blades* University of Genoa
12:00 - 12:15	***S.1-P.3 Ricard Montalà Sales*** B. Font, P. Su´arez, J. Rabault, O. Lehmkuhl, R. Vinuesa and I. Rodriguez *Deep Reinforcement Learning for Active Flow Control Around a Flow-Separated Wing* Universitat Politècnica de Catalunya	***S.5-A.2 Zisong Zhou*** Xiaojue Zhu *Deep Reinforcement Learning for enhancing heat transfer in turbulent convection* Max Planck Institute	***S.2-P.3 Marian Staggl*** S. Posch, W. Sanz *Solving Inverse Fluid Flow Problems with Differentiable Reduced Basis Models* Graz University of Technology	***S.4-A.3 Tobias M. Schneider*** Pierre Beck *Guessing and converging periodic orbits in fluid flows with machine learning* EPFL	***S.16-P.4 Bruno Delhom*** Chaouki Habchi, Olivier Colin,Julien Bohbot *Development of a multi-species real fluid modelling approach using a machine learning method, application to combustion* IFPEN	***S.6-A.1 Henning Schwarz*** Pyei Phyo Lin, Jens-Peter M. Zemke; T. Rung *Convolutional Autoencoder based Prediction of Ditching Loads with Disentangled Latent Space* Hamburg University of Technology
12:15 - 12:30	***S.1-A.7 Bo YIN*** S. Huang, Q. Cao,D. Guo, G. Yang *Research on intermittent swimming based on deep reinforcement learning* Chinese Academy of Sciences	***S.5-A.3 Bingzheng Han*** Wei-Xi Huang; Chun-Xiao Xu *Restricted nonlinear model for reinforcement-learning-based control of turbulent channel flow* Tsinghua University	***S.2-A.3 Masato Masuda*** Yoshiaki Tamura *Prediction of pressure field of incompressible flow using CNN* Toyo University	***S.4-A.4 Masahiro Furuya*** M. Kobayashi, F. b. N. Sarbaland, D.Tanaka, R. Fujita *Explainable AI to Explore Physics Behind Fluid Mechanics* Waseda University	***S.16-PO.2 Takahiro Seshime*** T. Haga, H. Gotoda,Y. Nabae,R. Kurose *Complex-network analysis of high-frequency combustion instability in a single element combustor for liquid rocket engines* Tokyo University of Science	***S.6-A.2 Kevin Liu*** C. Atkinson, S. Badia, J. Soria *Data-driven reduced order modelling of a bushfire analogy using variational autoencoders* Monash University
12:30 - 12:45	***S.1-A.3 Dimitris Drikakis*** Nicholas Christakis *Integrating Unsupervised Learning with Computational Fluid Dynamics* University of Nicosia	***S.5-P.4 Hesam Tofighian*** *J. Denev, N. Kornev* *A conditional deep learning model for super-resolution reconstruction of small-scale turbulent structures in particle-laden flows* Karlsruhe University			***S.16-PO.3 Jiahao Wu*** Jiayue Liu, Su Zhang, Yuxin Wu, Xin Li *Physics-informed neural networks to solve 1D laminar flames* Tsinghua University	
12:30-14:00	Lunch (Maich restaurant)					
Keynote 14:00 - 14:45	Chair: Prof Wagdi Habashi McGill University	Prof Weiwei Zhang (Northwestern Polytechnical University, China) Data-driven knowledge discovery for fluid mechanics and its applications to AI4E				
Keynote 14:45 - 15:30		Prof Andrea Beck (University of Stuttgart, Germany) Data-driven high order schemes for compressible flows				
15:30 - 16:15	*Chair:Prof Manolis Gavaises City St George University of London*	Sponsor Presentations Bernhard Einberger (AVL), Alex Charogiannis (LaVision), Miguel Alfonso Mendez (VKI), Panagiota Kagioglou (ALTAIR)				
16:15 - 17:00	Coffee Break, Refreshments					
Parallel Sessions	Uncertainty quantification	Dimensionality Reduction and Reduced Order Models	Reinforcement Learning and Control	PDE Solvers	Inference, Sensing, Inverse Modeling	Industrial & Applied ML in Fluid Systems
Chair	Dr Foivos Koukouvinis Cyprus University of Technology	Prof Luc Pastur ENSTA - Paris	Prof Miguel Alonso Mendez von Karman Institute for Fluid Dynamics	Prof Bruno Dias ORAU at NASA Ames Research Center	Dr. Rundi Qiu Chinese Academy of Sciences	Prof Dmitry Ponkratov Siemens Digital Industries
17:00 - 17:15	***S.7-P.1 Joel Sena Sales Junior*** R A Barreira, P T T Esperança *Bayesian Network Model for FPSO Offset Prediction Using LLM Under Mooring Line Failure* Federal University of Rio de Janeiro	***S.8-A.1 Soju Maejima*** Soshi Kawai *Interpretation of the machine learning attention matrix for flow analysis* Tohoku University	***S.1-P.5 Kálmán Klapcsik*** *Acoustic Cavitation Bubble Control by Reinforcement Learning Using GPU-Accelerated Environment Simulations* Budapest University of Technology and Economics	***S.4-P.3 Xukun Wang*** C. Ning, Z. Liu, Weiwei Zhang *A Brief Survey on Data-driven Convergence Acceleration Methods in Computational Fluid Dynamics* Universidad Politécnica de Madrid	***S.2-P.4 Sokratis Anagnostopoulos*** G. Rovas, L. Aslanidou, G.E. Karniadakis, N. Stergiopulos *Fast personalized arterial flow inference with physics-informed neural networks and minimal non-invasive data* EPFL	***S.6-A.3 Vijayamanikandan Vijayarangan*** Hong G. Im *Understanding the latent manifolds of autoencoders using information geometry for the stiff dynamical systems* King Abdullah University of Science and Technology
17:15 - 17:30	***S.7-P.2 Ali Eidi*** T Buchanan, L Jiang and R P Dwight *Physics-Guided Bayesian Neural Networks for Zonal Corrections and Uncertainty Quantification in Separated Flows* TU Delft	***S.8-A.2 Hafeez Muhammad Azam*** Alberto Procacci, Axel Coussement, Alessandro Parente *Constrained reduced-order modelling of reacting flows* Universite libre de Bruxelles	***S.1-A.4 Farzad Mashayek*** P. Thoguluva Rajendran, F. Mashayek *Deep Reinforcement Learning of Active Flow Control Policies for Pitching Moment Control* University of Arizona	***S.4-P.4 Vratislav Šálený*** Adam Mikeš, Tomáš Pavlùsek, Martin Kubíček *David Among HPC Goliaths: Redefining Cost-Performance-Energy Balance* Brno University of Technology	***S.2-P.5 Juan Mairal*** J. Orera, J. Murillo, Pilar Garcia-Navarro *Solving the inverse problem of arterial stiffness through Physics-Informed Neural Networks* University of Zaragoza	***S.6-P.5 Elisa de Paola*** Camussi; Di Marco; Stoica; Capobianchi; Marongiu; Beretta; Paglia; *Application of Machine and Deep Learning Techniques for Acoustic Load Predictions on the VEGA-E Launcher* Roma Tre University
17:30 - 17:45	***S.7-P.3 Chiwoong CHOI*** Jaeseok Heo, Seungwook Lee *Preliminary Inverse Uncertainty Quantification of Post-CHF Phenomena Using SPACE Code* Korea Atomic Energy Research Institute	***S.8-A.3 Nishant Kumar*** F. Kerhervé, L. Agostini and L. Cordier *Deep learning of SPOD time-domain coefficient dynamics for reduced-order modeling of street canyon flow* Institut Pprime	***S.1-A.5 Pol Suárez Morales*** F. Alcántara-Ávila, A. Miró, J. Rabault, B. Font, O. Lehmkuhl, R. Vinuesa *Active flow control for drag reduction through multi-agent reinforcement learning on a turbulent cylinder at ReD=3900* KTH Royal Institute of Technology	***S.4-P.5 Peter Jimack*** Z Zhang H Wang *A Graph Neural Network for Guiding Adaptive Finite Element Mesh Refinement in Transient Flow Simulation* University of Leeds	***S.2-P.6 Stefan Posch*** M. Staggl, W. Sanz *Differentiable Simulation for Inverse-like Fluid Flow Problems* LEC GmbH	***S.6-A.4 Samuel Ahizi*** M. A. Mendez *Meshless POD for Sloshing Modes identification in Non-Canonical Tank Geometries* Von Karmar Institute for Fluid Dynamics
17:45 - 18:00	***S.7-P.4 Xinchen Zhang*** Z Zhang, Z Sun, J Q Shi, G J Nathan and R C Chin *Sensitivity and uncertainty analyses in deep-learning-augmented unsteady Reynolds-averaged Navier–Stokes turbulence modelling for particle-laden jet flows* The University of Adelaide	***S.8-A.4 Farhan Ahsan Khan*** Navrose *Shallow Decoder for low latency flow reconstruction using limited measurements* IIT Kanpur	***S.1-A.6 Giorgio Maria Cavallazzi*** L. Guastoni, R. Vinuesa, A. Pinelli *Manipulation of the turbulent wall cycle via multi-agent deep reinforcement learning* City St George's, University of London	***S.4-P.6 Vladimir Vanovskiy*** A.Ryabov, S. Shumilin, V. Naumov , N.Yavich, S. Ranu, N. M. Anoop Krishnan, E. Burnaev *Self-Supervised Computational Graph Coarsening for Accelerating Two-Dimensional Subsurface Flow Simulations* Skolkovo Institute of Science and Technology	***S.2-P.7 Harshinee Goordoyal*** A. Barnes, A. Cookson, K. Fraser *Improving the accuracy of data-driven multi-fidelity neural networks applied to computational fluid dynamics using adaptive sampling* University of Bath	***S.6-P.6 Mehrdad Mesgapour*** S. Sadrizadeh, K. G. Kyprianidis, R. Bel Fdhila *Numerical and SVM-Enhanced Analysis of COand CO2 Production in the Slag Fuming furnace: Influence of Operational Conditions* Mälardalens University
18:00 - 18:15	***S.7-A.1 Francisco-Javier Granados-Ortiz*** C. Airiau, J. Ortega-Casanova *Spatial Propagation of Uncertainty in the Stability Analysis of Supersonic Jets with Stochastic Base-flows as Reduce-Order Models* University of Almeria	***S.8-A.5 Guy Y. Cornejo Maceda*** Qihong L. Li-Hu,Andrea Ianiro,Stefano Discetti *Manifold of clusters for complex flows* Universidad Carlos III de Madrid	***S.1-P.6 Guilherme Torres Marques Vidal*** Rubem Mário Figueiró Vargas,Karina Ruschel *A Data-driven Approach to Simulate Particle-laden Gravity Currents Time Evolution with Convolutional Neural Networks and Long Short-term Memory* Pontifícia Universidade Católica do Rio Grande do Sul	***S.4-A.5 Ron Barron*** V. Shah, L. Fadia, M. Hassanzadeh *Accelerating PDE Simulations by Integrating Machine Learning and Finite Difference Technologies* University of Windsor	***S.2-P.8 Huang Haifeng*** He B.,Cai G., Zhang B., Weng H., Wang W. *Exploring the potential applicability of deep learning methods in computing wall distributed aerodynamics and thermal effects in rarefied flows* Beihang University	***S.6-A.5 Guillermo Barragán*** A. Sengupta; R. Abadía-Heredia; A. Hetherington; J. Garicano-Mena; S. Le Clainche *Hybrid machine learning reduced order models for efficient forecasting and data generation in fluid dynamics databases.* Universidad Politécnica de Madrid
18:15 - 18:30	***S.7-P.5 Hamza Jami*** Fabian Brännström *Machine Learning approaches for uncertainty quantification of a CFD Pyrolysis Model* University of Wuppertal	***S.8-A.6 Alicia Rodríguez-Asensio*** Guy Y. Cornejo Maceda; Luigi Marra; Andrea Meilán-Vila; Bernd R. Noack; Andrea Ianiro; Stefano Discetti *Feature-based manifold model for fast actuated transients* Universidad Carlos III de Madrid	***S.1-A.8 Filippos Sofos*** Apostolos Palasis and Antonios Liakopoulos *Data- and physics-driven analysis of turbulent channel flows: Insights from DNS and Deep Learning* University of Thessaly	***S.4-A.6 Je Hyeong Hong*** S. Y. Hong, J. Kim, D.G. An and S. Song *PINGS-X: Physics-Informed Normalized Gaussian Splatting with Axes Alignment for Fast and Accurate Super-Resolution of Phase-Contrast MRI* Hanyang University	***S.2-A.4 Zhenxu Sun*** S F Xu, D L Guo, G W Yang *On the preprocessing of physics-informed neural networks: How to better utilize data in fluid mechanics* Chinese Academy of Sciences	***S.6-P.7 Habashi Wagdi*** *Reduced Order Modeling Opens the Road to In-Flight Icing Certification by Analysis* McGill University