EUROPEAN DRAG REDUCTION AND FLOW CONTROL MEETING 2026

September 8 - 11
Universidad Carlos III de Madrid
Madrid - Puerta de Toledo Campus

ERCOFTAC
European Research Community On Flow, Turbulence And Combustion

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Conference Programme

Day 1 — Tuesday 8 September 2026

09:00–09:10 *Welcome and Introduction*

Session 1.1 — Porous and Rough Surfaces — 9:10–10:50

09:10	**Julio Soria** Monash University	Structure of a Strong Adverse-Pressure-Gradient Turbulent Boundary Layer at the Verge of Separation Developing over d-type Roughness
09:30	**Joy Chen** University of Cambridge	Scale-dependent surface models for turbulence over textures
09:50	**Noe Faure** University of Cambridge	Assessment of drag-degrading mechanisms over anisotropic permeable substrates
10:10	**Davide Modesti** Gran Sasso Science Institute	Predicting Friction and Heat Transfer over Porous Surfaces
10:30	**Woutijn Baars** Delft University of Technology	Enhancing heat transfer using heterogeneous roughness

10:50–11:20 *Coffee break*

Session 1.2 — Travelling Waves and Moving Surfaces — 11:20–13:00

11:20	**Taiki Miyanohara** Tokyo University of Agriculture and Technology	Experimental Evaluation of Wall-Deformation Characteristics and Drag Reduction in Turbulent Pipe Flow with Wavy Wall Oscillations
11:40	**Xiao Shao** RWTH Aachen University	Drag reduction for airfoil flow by streamwise traveling surface waves
12:00	**Morie Koseki** Okinawa Institute of Science and Technology	Turbulent channel flows over a compliant wall with two-dimensional sinusoidal roughness

12:20	**Ningyuan Fu** Imperial College London	Turbulent drag reduction using metamaterial surfaces
12:40	**Max Knoop** Delft University of Technology	Experiments on passively rotating discs in turbulent boundary layers

13:00–14:00 *Lunch*

Session 1.3 Passive Surfaces and Texturing

14:00–15:40

14:00	**Amy Lang** University of Alabama	Flow Analysis of a Controlled Turbulent Separation Bubble Using Flexible Mako Shark Skin Scales
14:20	**Muhammad Hafiz Nurwahyu Aliffrananda** University of Melbourne	Generating passive spanwise flow without drag penalty
14:40	**Yi Zhang** Politecnico di Torino	Wall-Shear Stress of a Turbulent Boundary Layer Affected by Micro Vortex Generators
15:00	**Wafae Lahmili** International University of Rabat	Taguchi-Optimized Micro-Cavities for Drag Reduction on a NACA 0012 Airfoil
15:20	**María Garrido Martín** Universidad de Málaga	Advanced Surface Texturing for Drag Reduction in Wing Models

15:40–16:10 *Coffee break*

Session 1.1 Riblets and high-Re experiments

16:10–18:10

16:10	**Paolo Luchini** Università di Salerno	Higher-order riblet boundary conditions and the missing third-order nonlinearities
16:30	**Zhenxu Sun** Chinese Academy of Sciences	An Improved Modeling Approach for Riblet Effects Based on Reynolds-Averaged Navier–Stokes Turbulence Model
16:50	**Edoardo Fracchia** Politecnico di Torino	Towards drag reduction with sinusoidal riblets in adverse pressure gradient
17:10	**Gabriele Bellani** University of Bologna	High-Reynolds-Number Riblet Measurements in the CICLoPE Long Pipe: Near-Wall Diagnostics and Drag-Reduction Assessment
17:30	**Sergey Leonov** University of Notre Dame	Reconsider High-Speed Wind Tunnel Design: Task-Dependent Approach
17:50	**Bettina Frohnapfel** Karlsruhe Institute of Technology	Fully rough behaviour of riblets and ridges with different cross-sectional shapes

20:00–22:30 *Welcome Reception*

Day 2 — Wednesday 9 September 2026

Session 2.1 — Transition and Laminar Flow Control — 09:00–10:20

09:00	**Kwing-So Choi** University of Nottingham	Control of Young Turbulent Spots Using a Wall-Normal Jet
09:20	**Marco Radaelli** Delft University of Technology	Effect of a Surface Hump on Crossflow Instabilities for Varying Perturbation Wavelength and Hump Heights
09:40	**Gabriele Salomone** University of Naples Federico II	Experimental PSO-Driven Real-Time Control of Tollmien-Schlichting Waves on a Flat Plate
10:00	**Jacopo Serpieri** Politecnico di Torino	Efficient laminar flow control

Posters — Poster Flash Session — 10:20–11:20

Posters remain on display throughout the conference.

10:20	**Guannan Zheng** Chinese Academy of Sciences	Effect of Surface Microstructures on Crosswind Stability of High-Speed Trains
10:25	**Mohammed Chawki El Adassi** Ecole Militaire Polytechnique	Aerodynamic Performance Enhancement of a UAV Wing Using Co-Flow Jet Active Flow Control on a Roncz Airfoil
10:30	**Gökhan Akar** Roketsan Missile Industries Inc.	A Boundary Condition Modeling Approach for Porous Bleed Flow Simulations
10:35	**Adelaida García-Magariño** Instituto Nacional de Técnica Aeroespacial	On the first Stokes Problem: A new facility to study microbubble drag reduction
10:40	**Tani Angiero** Universidad Carlos III de Madrid	Development of a scaled operating-room facility for reduced-order modelling and real-time flow estimation
10:45	**Zhiyuan Wang** Universidad Carlos III de Madrid	A Unified Framework for Sensor Placement and Flow Estimation toward Feedback Control of Unsteady Flows
10:50	**Alicia Rodríguez Asensio** Universidad Carlos III de Madrid	Experiments, modeling and predictions of an actuated wake flow
10:55	**Qihong Lorena Li Hu** Universidad Carlos III de Madrid	Local reduced-order modelling of controlled flows via dynamically coherent domain decomposition
11:00	**Martín Navarro González** Universidad Carlos III de Madrid	Overcoming Advective Delays in Flow Control: A Study on Takens' Embedding for Reinforcement Learning
11:05	**Lucas Schneeberger** Universidad Carlos III de Madrid	Rediscovering the dynamic stall regimes from pressure data

11:10	**Guy Y. Cornejo Maceda** Universidad Carlos III de Madrid	Actuation manifold of a flapping wing for closed-loop control
11:15	**Iacopo Tirelli** Universidad Carlos III de Madrid	Neuromorphic Spiking Latent Dynamics for Flow Prediction Using Liquid State Machines

11:20–12:10 *Coffee break and poster discussion*

Session 2.2 Superhydrophobic Surfaces and Bubble Drag Reduction — 12:10–13:10

12:10	**Paolo Luzzatto-Fegiz** University of California, Santa Barbara	Designing superhydrophobic surfaces for real-world applications and environments
12:30	**Enzo Santoromito** Laboratoire PRISME	Influence of super-hydrophobic air filling ratio on the transition of cylinder wake properties
12:50	**Adelaida García-Magariño** Instituto Nacional de Técnica Aeroespacial	On the Microbubble Drag Reduction Applied to Propellers

13:10–14:10 *Lunch*

Session 2.3 Polymers and Viscoelastic Flows — 14:10–15:50

14:10	**Parisa Mirbod** University of Illinois	A New Instability Mechanism in Viscoelastic Flows Induced by Porous Interfaces
14:30	**Sana Yasmin** Indian Institute of Technology, Dhanbad	Early transition and elasticity-driven instability in dilute polymer flow through rectangular microchannels
14:50	**Pelin Ilker** İzmir Katip Çelebi University	Experimental Investigation of Concentration Effects on Drag Reduction of XG and CMC Solutions in Rough Pipes
15:10	**Ishita Jain** Okinawa Institute of Science and Technology	Influence of Surface Roughness on Polymer-Induced Drag Reduction in Channel Flows
15:30	**Giulio Foggi Rota** Okinawa Institute of Science and Technology	Simulating viscoelastic canopy flow

15:50–16:20 *Coffee break*

Session 2.4 Plasma and Electromagnetic Control — 16:20–18:00

16:20	**Xuanshi Meng** Northwestern Polytechnical University	Plasma Actuation for Aerodynamic Flow Control and Ice Accretion Mitigation
16:40	**Jianlei Wang** Northwestern Polytechnical University	Vortex Swaying, Intermixing, and Stabilization Mechanisms for Plasma-Based Drag Reduction of Circular Cylinder Wakes
17:00	**Abbas Daliri** Delft University of Technology	Surface-Pressure Maps for Detecting Plasma-Induced Suppression of Dynamic-Stall Vortices

17:20	**Yoshitsugu Naka** Meiji University	Transient Separation State Classification Using Wall Pressure POD Subspaces in Plasma Actuated Wing Flow
17:40	**Noboru Maeda** SOKEN, INC.	Stabilization of Vortex Shedding with Electric Force: Analysis with Dynamic Mode Decomposition

20:30–23:30 *Conference Dinner*

Day 3 — Thursday 10 September 2026

Session 3.1 — Data-Driven Modelling and Sensing — 09:00–10:40

09:00	**Andrea Ianiro** Universidad Carlos III de Madrid	Event-Based Flow Sensing for Closed-Loop Turbulence Control: Acquiring Relevant Data, Not Less Data
09:20	**Antonio Mazzara** University of Naples Federico II	Airfoil Shape Optimization for Enhanced Downforce in Ground Effect
09:40	**Víctor Duro de la Merced** Universidad Carlos III de Madrid / INTA	Data-Driven Low Dimensional interpretation of pulsed impinging-jet heat-transfer control
10:00	**Arindam Sengupta** Universidad Politecnica de Madrid	Low-Cost Modal Decomposition for Urban Flow and Pollutant Reconstruction from Sparse Measurements
10:20	**Rention Pasolari** Centre for Research & Technology Hellas	Self-Consistent and Reduced Order Modeling of Plasma Actuators towards Ammonia Combustion Control

10:40–11:10 *Coffee break*

Session 3.2 — Flow Sensing and Estimation — 11:10–12:30

11:10	**Stefano Discetti** Universidad Carlos III de Madrid	Closed-Loop Reinforcement-Learning Control of a Turbulent Jet with Real-Time Imaging-Velocimetry Feedback
11:30	**Marco Raiola** Universidad Carlos III de Madrid	A Dual-Time SPOD implementation for identifying spatio-temporal patterns in experiments
11:50	**Antonio Cuéllar** Universidad Rey Juan Carlos	Synchronized IR-PIV Measurements for Wall-Based Velocity Field Reconstruction in a Turbulent Channel Flow
12:10	**Carlos Sanmiguel Vila** Instituto Nacional de Técnica Aeroespacial	Forecastable and Observable Reduced-Order States for Extreme Vortex-Gust Airfoil Interactions

12:30–13:40 *Lunch*

Session 3.3 — Reinforcement Learning for Flow Control — 13:40–15:20

13:40	**Takumi Sato** Tokyo University of Agriculture and Technology	Drag Reduction Control in Turbulent Channel Flow using Deep Reinforcement Learning Focused on Near-wall Turbulent-Kinetic-Energy Production
14:00	**Giorgio Maria Cavallazzi** City St. George's, University of London	Smooth deep reinforcement learning control for power-efficient drag reduction
14:20	**Miguel Perez Cuadrado** City St George's, University of London	A data-built laten dynamics surrogate for opposition control under sparse and lagged wall measurements

14:40	**Hussam Alhussein** New York University Abu Dhabi	Experimental Deep Reinforcement Learning Control of Flow-Induced Vibrations in Tandem Cylinders
15:00	**Piergiorgio Scavella** University Of Naples Federico II	Deep Reinforcement Learning-Based Optimization of Shock Control Bumps

15:20–15:50 *Coffee break*

Session 3.4 Optimisation and Model-Based Control

15:50–17:30

15:50	**Iraj Mortazavi** M2N CNAM Paris	Reduced-Order Model Predictive Control of Fluid Systems with Parametric Actuation
16:10	**Daniel Morón Montesdeoca** Universidad Carlos III de Madrid	Robust Optimal Control of Big Ensembles of Chaotic Trajectories in Kolmogorov Flow
16:30	**Yusuke Yugeta** The University of Tokyo	Suboptimal control of flow around NACA0012
16:50	**Luigi Marra** Universidad Carlos III de Madrid	Safe control learning by combining Model Predictive Control and Reinforcement Learning
17:10	**Juan Alfaro Moreno** Instituto Nacional de Técnica Aeroespacial	Low-Reynolds-number separation control on an airfoil using multi-objective Bayesian optimization of pulsed jet actuation

18:30–21:30 *Flamenco Show*

Day 4 — Friday 11 September 2026

Session 4.1 Spanwise Wall Forcing — 09:00–10:40

09:00	**Lionel Agostini** CNRS - Pprime	Spanwise wall oscillation as a duty-cycle modulator of near-wall turbulence
09:20	**Jizhong Zhang** Beijing Institute of Technology	Spanwise wall forcing for skin-friction drag reduction in turbulent boundary layers
09:40	**Jorge Sandoval** University of Dundee	Drag reduction and edge states in the asymptotic suction boundary layer under spanwise wall oscillation
10:00	**Blessing Mojisola Akinpelu** CNRS - Pprime	Prandtl Number Modulation of Heat Transfer Enhancement over Drag using Spanwise Wall Oscillation
10:20	**Davide Gatti** Karlsruhe Institute of Technology	Spanwise wall oscillations for drag reduction, without walls

10:40–11:10 *Coffee break*

Session 4.2 Blowing, Suction and Wall Turbulence Control — 11:10–12:50

11:10	**Yosuke Hasegawa** The University of Tokyo	Dissimilar Heat Transfer Enhancement in Turbulent Channel Flow via Traveling-Wave Wall Blowing and Suction: Insights from Non-local Eddy Diffusivity
11:30	**Gazi Hasanuzzaman** Brandenburg University of Technology	Experimental investigation of a turbulent boundary layer with spatially applied uniform blowing
11:50	**Abdelrahman Hisham Ahmed Sabri Hassanein** Delft University of Technology	Altering near-Wall Turbulence via geometrically modified Helmholtz Resonators in Wall-Bounded Flows
12:10	**Marco Castelletti** Politecnico di Milano	Linear feedback control in a turbulent channel flow
12:30	**Jorge Saavedra** Universidad Rey Juan Carlos	Lift Enhancement with Reduced Drag Penalty via Active Fluid Gurney Flap Control on a NACA 0018 airfoil

12:50–14:10 *Lunch*

Session 4.3 High-Speed and Vehicle Applications — 14:10–15:30

14:10	**Niccolò Berizzi** Politecnico di Milano	How Does Spanwise Forcing Affect the Shock Wave-Turbulent Boundary Layer Interaction?
14:30	**Manuel Garrido-Martin** University of Málaga	Study on synthetic jets parameters as active control strategies for wingtip vortices
14:50	**Martín Camus Amorós** Delft University of Technology	Experimental Study of a Rotating Cylinder With a Flap: Towards Improving Rotor-Sail Performance

15:10	**Safa Ekinci** Roketsan and Istanbul Technical University	Numerical Assessment of Artificial Supercavitation as an Active Drag Reduction Strategy for Underwater Vehicles

15:30–16:00 *Coffee break*

Session 4.4 Bluff Bodies and Ground Vehicles — 16:00–17:40

16:00	**Manuel Lorite Diez** Universidad de Granada	Drag reduction on 3D bluff bodies using self-adaptive bending–twisting flaps
16:20	**Cameron Wallace** Loughborough University	The Use of Underbody Passive Flow Control Devices on a Simplified Automotive Body
16:40	**Ernesto Emmanuel Leyva Herrera** University Polytechnic Hauts-de-France	Drag Reduction of an Axisymmetric Bluff Body Using Extending Splitter Bar
17:00	**Louise Ronglan** Massachusetts Institute of Technology	Phase control of coherent and incoherent Reynolds stresses in a forced circular-cylinder wake
17:20	**Yu Wang** Central South University	Research on drag reduction of train vortex generators

17:40–17:50 *Farewell and Closing*

Day 5 — Saturday 12 September 2026

09:00–17:30 *Networking Excursion — Royal Site of San Lorenzo de El Escorial*