ERCOFTAC
European Drag Reduction and Flow Control Meeting – EDRFCM 2024 **(Revised and updated on 01-9-2024)**

Tuesday 10th September

Coffee	**10:10-10:40**		
Welcome	**10:40-10:50**		
Session 1.2	**10:50-12:30**	**Riblets**	
Daniel	Chung	APPLICATION OF THE VISCOUS VORTEX MODEL TO RIBLETS, SLIP/TRANSPIRATION SURFACES AND OPPOSITION CONTROL	1
Alessandro	Mazzara	EFFECT OF THE RIBLETS ON THE CONVECTIVE HEAT TRANSFER COEFFICIENT OF A TURBULENT BOUNDARY LAYER ON A FLAT PLATE	2
Stefano	Cipelli	SINUSOIDAL RIBLETS FOR TURBULENT DRAG REDUCTION	3
Gioacchino	Cafiero	UNIFORM MOMENTUM ZONES IN TURBULENT BOUNDARY LAYERS OVER SINUSOIDAL RIBLETS	4
Felipe	Alves Portela	ON THE FLOW STRUCTURE IN THE VICINITY OF SINUSOIDAL RIBLETS IN A TURBULENT CHANNEL FLOW	5
Lunch	**12:30-14:00**		
Session 1.3	**14:00-15:40**	**Boundary-layer Control**	
Giulio	Foggi Rota	TURBULENCE AND STRUCTURAL DYNAMICS IN FLEXIBLE CANOPY FLOWS	6
Daniel	Burnet	BOUNDARY LAYER CONTROL OF HEAT TRANSFER BY AN EFFUSION FILM	7
Francesco	Scarano	EFFECT OF FREESTREAM TURBULENCE ON A SPATIALLY DEVELOPING TURBULENT BOUNDARY LAYER SUBJECTED TO MODERATE ADVERSE PRESSURE GRADIENT	8
Min Jae	Kang	DRAG REDUCTION OF A DOWNSTREAM CYLINDER WITH A FLEXIBLE FIN IN THE WAKE GENERATED BY AN UPSTREAM CYLINDER	59
Abdelrahman	Hassanein	LARGE-SCALE ENERGY ATTENUATION OF WALL-BOUNDED TURBULENCE WITH AN INNER-SCALED HELMHOLTZ RESONATOR	10
Tea break	**15:40-16:10**		
Session 1.4	**16:10-17:50**	**Spanwise-wall Forcing**	
Davide	Gatti	NUMERICAL STUDY OF TURUBLENT SKIN-FRICTION DRAG REDUCTION VIA SPANWISE FORCING AT LARGE VALUES OF REYNOLDS NUMBER	11
Max	Knoop	SPATIAL MODIFICATION OF TURBULENCE BY STEADY SQUARE-WAVE SPANWISE WALL FORCING	12
Niccolò	Berizzi	DIRECT NUMERICAL SIMULATIONS OF A TRANSONIC AIRFOIL WITH SPANWISE FORCING FOR DRAG REDUCTION	13
Marco	Castelletti	SPANWISE WALL OSCILLATION IN A DAMPED CHANNEL FLOW FOR TURBULENT DRAG REDUCTION	14
Federica	Gattere	ON THE OPTIMAL PERIOD OF SPANWISE FORCING FOR TURBULENT DRAG REDUCTION	15

Welcome Reception	**17:50-19:30**	Castello del Valentino Sala delle Colonne

Wednesday 11th September

Session 2.1	**9:00-10:20**	**Aerodynamic Flow Control**	
Ari	Glezer	CIRCULATION CONTROL OF A 2-D WING	16
Si-Yuan	Feng	EFFECT OF A PERIODIC GUST ON THE AERODYNAMIC CHARACTERISTICS OF NACA0012 AIRFOIL	17
Yaxing	Wang	LEADING-EDGE BUMP ON IMPROVEMENTS OF AERODYNAMIC LOADS OF A VERTICAL TAIL	18
Xianyang	Jiang	DRAG REDUCTION FOR HEAVY ROAD VEHICLES WITH REAR FLAPS	19
Coffee break	**10:20-10:50**		
Session 2.2	**10:50-12:30**	**Active Flow Control**	
Pierre	Ricco	TURBULENT DRAG REDUCTION BY PASSIVELY ROTATING DISCS	20
Mathieu	Tocquer	MASS ENTRAINMENT ANALYSIS OF THE CONTROLLED TURBULENT SEPARATION USING SWEEPING JET ACTUATORS	21
Deepak	Ramswamy	SEPARATION CONTROL WITH SPANWISE-INCLINED MICRO JETS	22
Pierre Louis	Spychala	DEVELOPMENT AND VALIDATION OF AN HYBRID JET FLOW CONTROL ACTUATOR	23
Isabella	Fumarola	INFLUENCE OF TRAVELLING SURFACE WAVES TO A TURBULENT BOUNDARY LAYER AT HIGH REYNOLDS NUMBER	24
Lunch	**12:30-14:00**		
Session 2.3	**14:00-15:40**	**Data-driven Flow Control 1**	
Yusuke	Yugeta	AUTOMATIC EXPLORATION OF COST FUNCTION FOR SUBOPTIMAL CONTROL OF TURBULENT FLOW BY MACHINE LEARNING	25
Chengwei	Xia	ACTIVE FLOW CONTROL OF DRAG REDUCTION USING DATA-ENABLED PREDICTIVE CONTROL	26
Pol	Suarez Morales	MULTI-AGENT REINFORCEMENT-LEARNING CONTROL FOR A 3D CYLINDER AT ReD = 3900	27
Carlos	Villa Sanmiguel	LSTM-BASED PREDICTIVE MODELLING FOR ACTIVE FLOW CONTROL OF A WAKE	28
Stefano	Discetti	DRAG REDUCTION WITH SELF-TUNING MODEL PREDICTIVE CONTROL	29
Tea break	**15:40-16:10**		
Session 2.4	**16:10-17:50**	**Plasma Flow Control**	
Sergey	Leonov	SUPERSONIC FLOW CONTROL IN DUCTS AND OVER COMPRESSION RAMPS BY Q-DC DISCHARGE	30

Jacopo	Serpieri	CROSSWISE AND WALL-NORMAL PLASMA JETS IN A TURBULENT CHANNEL FLOW	31
Olga	Azarova	SOME APPROACHES TO CONTROLLING HIGH-SPEED FLOWS USING REMOTE AND SURFACE PLASMA ENERGY DEPOSITION	32
Lucas	Schneeberger	PLASMA ACTUATORS FOR DRAG REDUCTION ON HEAVY GROUND VEHICLES	33
Gabriele	Salomone	AI-DRIVEN REAL-TIME CONTROL OF TOLLMIEN-SCHLICHTING WAVES ON A FLAT PLATE	34

Visits CdV **18:00-19:00**

Thursday 12th September

Session 3.1 **9:00-10:20** **Wall Turbulence Control**

Julio	Soria	2C-2D PIV/PTV MEASUREMENTS OF HIGH REYNOLDS NUMBER TURBULENT CHANNEL FLOW WITH WALL-NORMAL RESOLUTION OF 0.6 VISCOUS LENGTH	35
Giulio	Dacome	TOWARDS ADAPTIVE CONTROL OF WALL-BOUNDED TURBULENCE	36
Antonio	Cuellar	EFFECT OF THE WALL-SENSOR AVAILABILITY ON THE FLOW FIELD ESTIMATION WITH 3D-GANS IN TURBULENT WALL-BOUNDED FLOWS	37
Jochen	Kriegseis	TURBULENT CHANNEL FLOW – A MEASUREMENT TECHNIQUE COMPARISON	38

Coffee break **10:20-10:50**

Session 3.2 **10:50-12:30** **Passive Flow Control**

Gennadi	Voropaiev	INTERACTION OF TURBULENT BOUNDARY LAYER WITH VISCOELASTIC COATING	39
Marie	Koseki	THE ROLE OF ROUGHNESS IN TURBULENT CHANNEL FLOWS OVER ELASTIC WALLS	40
Ricardo	Garcia-Mayoral	TURBULENT DRAG REDUCTION BY FIBROUS PERMEABLE SUBSTRATES	41
Luca	Boscagli	TRANSITION CONTROL OF HYPERSONIC BOUNDARY LAYER VIA NON-UNIFORM WALL TEMPERATURE	47
Carola	Schmidt	GLOBAL FRICTION OF HETEROGENEOUS ROUGH SURFACES	43

Lunch **12:30-14:00**

Session 3.3 **14:00-15:40** **Laminar Flow Control**

Antonios-Lykourgos	Synodinos	ON THE INTERACTION OF STATIONARY CROSSFLOW INSTABILITIES WITH A WALL-MOUNTED PHONONIC CRYSTAL	44
Gaspare	Li Causi	OPTIMAL LAMINAR FLOW CONTROL	45
Haodong	Zhu	EXPERIMENTAL INVESTIGATION OF EARLY STAGE OF TURBULENT SPOTS	46
Angelo	Paduano	AN AERODYNAMIC DESCRIPTION OF THE FLOW FIELD OVER A LINER WITH GRAZING FLOW	42
Juan	Franco	INFLUENCE OF SHALLOW GAPS ON COMPRESSIBLE BOUNDARY-LAYER TRANSITION	48

Tea break **15:40-16:10**

Session 3.4 **16:10-17:30** **Blowing and Suction**

Georg	Fahland	PIV MEASUREMENTS ON A WING WITH UNIFORM BLOWING	49
Annika	Frede	PARAMETRIC STUDY OF HOMOGENEOUS BLOWING AND SUCTION ON THE TRANSONIC AIRFOIL RAE2822	50
Xiaonan	Chen	A BAYESIAN OPTIMIZATION FRAMEWORK FOR OPTIMIZING GLOBAL SKIN-FRICTION DRAG REDUCTION VIA WALL BLOWING	51
Qi-Ming	Wang	EFFECT OF SYNTHETIC JET ON MULTI-ELEMENT AIRFOIL LIFT ENHANCEMENT	64

Banquet **19:30** Restaurant "Capodoglio_Murazzi"

Friday 13th September

Session 4.1 **9:00-10:20** **Flow Separation Control**

Ahmed	Abed-Meraim	CHARACTERIZATION OF THE WAKE OF A ROAD VEHICLE TO IMPROVE AERODYNAMIC PERFORMANCES	52
Jia-xin	Liu	WAKE ASYMMETRY BEHIND A WALL-MOUNTED HEMISPHERE	53
Yekaterina	Goodwin	CONTROL OF FLOW SEPARATION VIA CORIOLIS ACCELERATION IN FLAPPING FLIGHT	54
Yongxiang	Wu	TURBULENT BOUNDARY LAYER SEPARATION CONTROL USING MICRO ROTATING CYLINDRICAL VORTEX GENERATORS	55

Coffee break **10:20-10:50**

Session 4.2 **10:50-12:30** **Turbulent Drag Reduction**

Emanuele	Gallorini	THE STATE OF TURBULENCE IN A PIPE FLOW WITH DRAG REDUCTION	56
Lukas	Brandfellner	ONSET OF POLYMERIC DRAG REDUCTION AT DIFFERENT REYNOLDS AND WEISENBERG NUMBERS	57
Jonathan	Tay Chien Ming	STUDY OF DRAG REDUCTION CAPABILITY OF MACROSCALE CORRUGATED SURFACE IN TURBULENT CHANNEL FLOW	58
Zahir	Hussain	THEORETICAL AND EXPERIMENTAL STUDIES OF BOUNDARY LAYER FLOW OVER BROAD ROTATING CONES IN AXIAL FLOW	9
Shaiful Hakim	Bin Mohamed Noor	A PARTICLE IMAGE VELOCIMETRY STUDY OF AERODYNAMICALLY-SHAPED VORTEX GENERATOR IN ZERO PRESSURE GRADIENT BOUNDARY LAYER	60

Lunch **12:30-14:00**

Session 4.3 **14:00-15:00** **Data-driven Flow Control 2**

Giorgio	Cavallazzi	DEEP REINFORCEMENT LEARNING FOR LOW-SPEED STREAKS CONTROL IN TURBULENT FLOWS	61
Enrico	Saccaggi	BAYESIAN OPTIMIZATION OF AN OPPOSITION CONTROL STRATEGY IN A FULLY TURBULENT CHANNEL FLOW	62
Enrico	Amico	BLUFF BODY WAKE CONTROLLED WITH DEEP REINFORCEMENT LEARNING	63

Farewell **15:00**

Tea break **15:00-15:30**

Visit PoliTO labs **16:00 PM** Those interested, please write to Jacopo.Serpieri@Polito.it