ParCFD 2022

33RD Parallel CFD International Conference

25th-27th May 2022

Alba, Italy

Science and Technology Facilities Council

CoSeC Computational Science Centre for Research Communities

1859 Politecnico di Torino

ALBA

Programme at a Glance

Tuesday, 24 May 2022	
14:30-15:00	Online Session with E4
16:30-19:00	Registration and Tours of Alba Historical City Centre
19:00-21:00	Welcome Drink

Wednesday, 25 May 2022				
8:00-8:30	Registration			
8:30-8:45	In-presence Introduction			
8:45-9:00	On-line Introduction			
9:00-10:00	**Invited Lecture: Prof. R. Verzicco**			
10:00-11:00	**Invited Lecture: Prof. C. Noakes**			
11:00-11:30	Coffee Break			
11:30-12:50	PS1			
	PS1.1	PS1.2	PS1.3	PS1.4
12:50-14:10	Lunch			
14:10-15:10	**Invited Lecture: E. Floros**			
15:10-16:10	PS2			
	PS2.1	PS2.2	PS2.3	PS2.4
16:10-16:40	Coffee Break			
16:40-18:00	PS3			
	PS3.1	PS3.2	PS3.3	PS3.4

Thursday, 26 May 2022				
8:30-9:30	**Invited Lecture: Prof. K. Fukagata**			
9:30-10:30	PS4			
	PS4.1	PS4.2	PS4.3	PS4.4
10:30-11:00	Coffee Break			
11:00-12:40	PS5			
	PS5.1	PS5.2	PS5.3	PS5.4
12:40-14:00	Lunch			
14:00-15:00	**Invited Lecture: Prof A. Morgans**			
15:00-16:20	PS6			
	PS6.1	PS6.2	PS6.3	PS6.4
16:20-17:15	Coffee Break			
17:15-17:30	Departure to Fontanafredda			
18:00-19:00	**Evening Lecture: Dr R. Biswas**			
19:00-20:00	Tour of the Royal Cellars			
20:30	Conference Dinner			

Friday, 27 May 2022				
9:30-10:50	PS7			
	PS7.1	PS7.2	PS7.3	PS7.4
10:50-11:20	Coffee Break			
11-20:12:20	**Invited Lecture: Prof. E. De Angelis**			
12:20:12:30	Closure			
12:30-13:30	Lunch			

Room	Location	Event
Nebbiolo	Lower Ground Level	General Assembly and Parallel Sessions .1
Barbera	First Floor	Parallel Sessions .2
Dolcetto	First Floor	Parallel Sessions .3
Arneis	First Floor	Parallel Sessions .4

Room Nebbiolo

Welcome address (May 25th 8:30-8:45 CEST, UTC+2): Stefano Rolfo and Daniele Marchisio					
Welcome address online (May 25th 8:45-8:50 CEST, UTC+2): Stefano Rolfo and Daniele Marchisio					
Invited Lecture 1 (May 25th 9:00-10:00 CEST, UTC+2, Room Nebbiolo): Prof R. Verzicco "A MULTI-PHYSICS COMPUTATIONAL MODEL FOR THE HUMAN HEART" (Chair David R. Emerson)					
Invited Lecture 2 (May 25th 10:00-11:00 CEST, UTC+2, Room Nebbiolo): Prof C. Noakes "THE COMPLEXITY OF MODELLING AIRBONE INFECTION RISKS" (Chair Daniele Marchisio)					
Coffee Break (May 25th 11:00-11:30 CEST, UTC+2)					
Parallel Session 1: May 25th 11:30-12:50 (Time zone: CEST, UTC+2)					
PS1.1	Chair: F. Xavier Trias			MS2 Part 1: HPC Algorithms for Exascale CFD	
Paper	Speaker			Title	Time
16	Herbert	Owen	In-Person	WIND ENERGY SIMULATIONS WITH ALYA TOWARDS EXASCALE	11:30
59	Stefano	Zaghi	Virtual	EFFICIENT GPU PARALLELIZATION OF ADAPTIVE MESH REFINEMENT TECHNIQUE FOR HIGH-ORDER COMPRESSIBLE SOLVER WITH IMMERSED BOUNDARY	11:50
81	Sangeeth	Simon	In-Person	A TASK-BASED PARALLELIZATION OF A FINITE VOLUME CODE FOR HYPERBOLIC CONSERVATION LAWS	12:10
103	Adel	Alsalti-Balde	In-Person	STRATEGIES TO INCREASE THE ARITHMETIC INTENSITY OF THE LINEAR SOLVERS	12:30
Lunch (May 25th 12:50-14:10 CEST, UTC+2)					
Invited Lecture 3 (May 25th 14:10-15:10 CEST, UTC+2): E. Floros "EUROHPC AND THE FUTURE OF EXASCALE COMPUTING IN THE EU" (Chair Giorgio Amati)					
Parallel Session 2: May 25th 15:10-16:10 (Time zone: CEST, UTC+2)					
PS2.1	Chair: David Emerson			HPC and Aerodynamics 1	
Paper	Speaker			Title	Time
2	Ramesh	Agarwal	Virtual	EVALUATION OF VARIOUS TURBULENCE MODELS FOR RANS SIMULATION OF SEPARATED FLOW IN WING-BODY JUNCTURE	15:10
78	Maria Vittoria	Salvetti	In-Person	THE IMPORTANCE OF UPSTREAM-CORNER SHARPNESS IN LES OF THE FLOW AROUND RECTANGULAR CYLINDERS OF DIFFERENT ASPECT RATIOS	15:30
82	Neil	Ashton	In-Person	DEMONSTRATION OF CLOUD-BASED HPC FOR HYBRID RANS-LES SIMULATIONS OF THE DRIVAER AUTOMOTIVE MODEL AND THE NASA HIGH-LIFT COMMON RESEARCH MODEL	15:50
Coffee Break (May 25th 16:10-16:40 CEST, UTC+2)					
Parallel Session 3: May 25th 16:40-18:00 (Time zone: CEST, UTC+2)					
PS3.1	Chair: Marco Vanni			Multiphase Flows	
Paper	Speaker			Title	Time
6	Darsh	Nathawani	Virtual	DROPLET FORMATION SIMULATIONS USING A MIXED FINITE ELEMENT METHOD	16:40
14	Simon	Santoso	In-Person	A PARALLEL PARTICLE-GRID METHOD FOR THE STUDY OF DIFFERENTIAL DIFFUSION IN TURBULENT FLOWS	17:00
18	Manjil	Ray	In-Person	CFD SIMULATION OF BUBBLE COALESCENCE AND ITS EFFECT ON CURRENT DENSITY AND GAS PRODCUTION IN ELECTROLYSERS	17:20
115	Shahbozbek	Abdunabiev	In-Person	MICROPHYSICAL TIME SCALES AT A WARM CLOUD TOP BOUNDARY	17:40
Invited Lecture 4 (May 26th 8:30-9:30 CEST, UTC+2): Prof K. Fukagata "APPLICATIONS OF CONVOLUTIONAL NEURAL NETWORK AUTOENCODER FOR FLUID FLOW ANALYSIS" (Chair Maria Vittoria Salvetti)					
Parallel Session 4: May 26th 9:30-10:30 (Time zone: CEST, UTC+2)					
PS4.1	Chair: Jianping Meng			MS4 Part 2: LBM for HPC	
Paper	Speaker			Title	Time
42	Hijiri	Adachi	Virtual	A COMPARATIVE STUDY OF VIRTUAL FLUX METHOD AND IMMERSED BOUNDARY METHOD FOR INTTERFACE EVALUATION BY LATTICE BOLTZMANN METHOD	09:30
49	Tomohiro	Fukui	Virtual	PARTICLE SUSPENSION FLOW SIMULATIONS IN A NARROW CHANNEL BY PARALLEL COMPUTING	09:50
50	Mikael	Grondeau	In-Person	AN ADAPTIVE PARALLEL LBM SOLVER FOR HIGH-RESOLUTION AERODYNAMICS AND AEROACOUSTIC	10:10
Coffee Break (May 26th 10:30-11:00 CEST, UTC+2)					
Parallel Session 5: May 26th 11:00-12:40 (Time zone: CEST, UTC+2)					
PS5.1	Chair: Mario Di Renzo			MS5 Part 3: Hypersonic flows	
Paper	Speaker			Title	Time
25	Giacomo	Della Posta	In-Person	HIGH-FIDELITY SIMULATION OF THE AEROACOUSTICS AT LIFT-OFF OF A SPACE LAUNCHER	11:00
31	Michele	Cogo	In-Person	DNS OF SUPERSONIC AND HYPERSONIC TURBULENT BOUNDARY LAYERS AT MODERATE-HIGH REYNOLDS NUMBERS WITH HEAT TRANSFER	11:20
45	Davide	Modesti	In-Person	DIRECT NUMERICAL SIMULATION OF SUPERSONIC TURBULENT FLOWS OVER DISTRIBUTED STRUCTURED ROUGHNESS	11:40

64	Raynold	Tan	Virtual	DNS OF COMPRESSIBLE FLOW OVER ROUGH SURFACES WITH AN ADAPTIVE WENO/CD SCHEME	12:00
Lunch (May 26th 12:40-14:00 CEST, UTC+2)					

Invited Lecture 5 (May 26th 14:00-15:00 CEST, UTC+2): Prof A. S. Morgans "DANCING FLAMES AND THERMOACOUSTIC INSTABILITY" (Chair Hasan U Akay)					
Parallel Session 6: May 26th 15:00-16:20 (Time zone: CEST, UTC+2)					
Room Nebbiolo					
PS6.1	Chair: Sylvain Laizet			Numerical Methods for HPC	
Paper	Speaker			Title	Time
30	Liu	Yang	Virtual	A PYTHON-BASED UNSTRUCTURED FINITE VOLUME FRAMEWORK FOR TURBULENT FLOW SIMULATIONS WITH GENERATED GPU KERNELS	15:00
84	Pedro	Costa	In-Person	A FAST MULTI-BLOCK NAVIER-STOKES SOLVER	15:40
91	Ali	Karakus	Virtual	A GPU ACCELERATED NODAL DISCONTINUOUS GALERKIN SOLVER FOR THE SOLUTION OF LATTICE-BOLTZMANN EQUATIONS ON UNSTRUCTURED MESHES	15:40
120	Ram	Cherukuri	Virtual	ACCELERATING CFD SIMULATIONS WITH PHYSICS-ML MODELS USING MODULUS	16:00
Coffee Break (May 26th 16:20-17:15 CEST, UTC+2)					

Parallel Session 7: May 27th 9:30-10:50 (Time zone: CEST, UTC+2)					
PS7.1	Chair: Andreas Lintermann			MS1 Part 4: AI and HPC for CFD	
Paper	Speaker			Title	Time
9	Kazuto	Ando	Virtual	IMPROVEMENT OF REDUCTION PERFORMANCE OF MODE DECOMPOSITION FOR 3-DIMENSIONAL FLOW FILED USING FUGAKU	09:30
32	Anass	Serhani	In-Person	HIGH-PERFORMANCE HYBRID COUPLING OF A CFD SOLVER TO DEEP NEURAL NETWORKS	09:50
47	Laurent	Andre	Virtual	GENERATIVE ADVERSARIAL NETWORKS WITH LATTICE-BOLTZMANN LOSSES FOR THE PREDICTION OF UNSTEADY FLOWS	10:10
85	Lianfa	Wang	In-Person	IMPROVING CONFIDENCE ON CFD BY DEEP LEARNING	10:30
Coffee Break (May 27th 10:50-11:20 CEST, UTC+2)					
Invited Lecture 7 (May 27th 11:20-12:20 CEST, UTC+2): Prof. E. De Angelis "SIMULATION OF NON-NEWTONIAN TURBULENCE" (Chairs Massimo Germano and Stefano Rolfo)					
CLOSURE (May 27th 12:20-12:30 CEST, UTC+2					
Lunch (May 27th 12:20-13:30 CEST, UTC+2)					

Room Barbera

Parallel Session 1: May 25th 11:30-12:50 (Time zone: CEST, UTC+2)					
PS1.2	Chair: Guillaume Houzeaux			MS1 Part 1: AI and HPC for CFD	
Paper	Speaker			Title	Time
20	Ali Girayhan	Ozbay	In-Person	DEEP LEARNING FLOW RECONSTRUCTION AROUND ARBITRARY 2D OBJECTS FROM SPARSE SENSORS.	11:30
24	Weishuo	Liu	Virtual	A APPLICATION PROGRAMMING INTERFACE FOR MACHINE-LEARNING ASSISTED FLUIDS SIMULATION	11:50
36	Mathis	Bode	Virtual	ACCELERATION OF COMPLEX HIGH-PERFORMANCE COMPUTING ENSEMBLE SIMULATIONS WITH SUPER-RESOLUTION-BASED SUBFILTER MODELS	12:10
54	Sarath	Radhakrishnan	In-Person	DATA-DRIVEN WALL MODELING FOR LARGE EDDY SIMULATION OF NON-EQUILIBRIUM FLOWS: PRELIMINARY STUDIES	12:30

Parallel Session 2: May 25th 15:10-16:10 (Time zone: CEST, UTC+2)					
PS2.2	Chair: Davide Modesti			MS5 Part 1: Hypersonic flows	
Paper	Speaker			Title	Time
21	Jian	Fang	In-Person	DIRECT NUMERICAL SIMULATION OF HYPERSONIC SHOCK-WAVE/TURBULENT BOUNDARY LAYER INTERACTION AT MACH 5	15:10
46	Luca	Placco	In-Person	AERODYNAMIC INVESTIGATION OF THE UNSTEADY SUPERSONIC FLOW OF A MARS ENTRY CAPSULE USING LARGE EDDY SIMULATION	15:30
56	Pushpender	Sharma	In-Person	TRANSPIRATION COOLING OF HYPERSONIC FLOW PAST A FLAT PLATE WITH POROUS INJECTION	15:50

Parallel Session 3: May 25th 16:40-18:00 (Time zone: CEST, UTC+2)					
PS3.2	Chair: Rupak Biswas			HPC and Multiphysics 1	
Paper	Speaker			Title	Session
4	Juan Carlos	Cajas Garcia	In-Person	ASPECT RATIO INFLUENCE ON THE VORTEX INDUCED VIBRATIONS OF A PIVOTED FINITE HEIGHT CYLINDER AT LOW REYNOLDS NUMBER.	16:40
76	Stephen	Longshaw	In-Person	GENERAL CODE COUPLING FOR FLUID DYNAMICS AT THE EXASCALE: A COMPARATIVE OVERVIEW	17:00
107	Mohsen	Shiea	In-Person	CFD-PBM SIMULATION OF NICKEL-MANGANESE-COBALT HYDROXIDE CO-PRECIPITATION in CSTR	17:20
118	Gabriele	Ottino	In-Person	COUPLING 0D/1D-3D NUMERICAL APPROACHES: A FMI STANDARD-BASED CO-SIMULATION STRATEGY FOR MONITORING INDOOR AIR QUALITY	17:40

Parallel Session 4: May 26th 9:30-10:30 (Time zone: CEST, UTC+2)					
PS4.2	Chair: Maria Vittoria Salvetti			UQ and CFD	
Paper	Speaker			Title	Time
60	Deniz	Acar	Virtual	SPEEDUP OF CFD SOLVERS USING DEEP LEARNING BASED INITIAL CONDITIONING	09:30
63	Alessandro	Mariotti	In-Person	NUMERICAL SIMULATIONS AND UNCERTAINTY QUANTIFICATION TO INVESTIGATE AORTA COARTACTIONS	09:50
65	Jun	Chen	Virtual	DEVELOPING A 2d PARALLEL SOLVER FOR FLEXIBLE COMBINATIONS OF MANY REMESHING METHODS	10:10

Parallel Session 5: May 26th 11:00-12:40 (Time zone: CEST, UTC+2)					
PS5.2	Chair: Xavier Álvarez-Farré			MS2 Part 2: HPC Algorithms for Exascale CFD	
Paper	Speaker			Title	Time
52	Wendi	Liu	Virtual	A FLUID-STRUCTURE INTERACTION PARTITIONED FRAMEWORK TARGETTING PRE-EXASCALE	11:00
90	Guillaume	Houzeaux	In-Person	SURFACE AND VOLUME COUPLINGS FOR CONJUGATE HEAT TRANSFER PROBLEMS	11:20
95	Harshavardhana	Uranakara	In-Person	MATRIX-BASED FORMULATION OF CHEMICAL KINETICS FOR ACCELERATING REACTING FLOW SIMULATIONS ON MANY-CORE GPU HARDWARE	11:40
100	Xavier	Allvarez-Farre	In-Person	ON THE BENEFITS AND APPLICATIONS OF SPARSE MATRIX-MATRIX PRODUCT ON VARIOUS PARALLEL ARCHITECTURES	12:00
105	F.Xavier	Trias	In-Person	DNS/LES USING A MINIMAL SET OF ALGEBRAIC KERNELS: CHALLENGES AND OPPORTUNITIES	12:20

Parallel Session 6: May 26th 15:00-16:20 (Time zone: CEST, UTC+2)					
PS6.2	Chair: Guillaume Houzeaux			MS1 Part 3: AI and HPC for CFD	
Paper	Speaker			Title	Time
8	Rakesh	Sarma	In-Person	PARALLEL AND SCALABLE DEEP LEARNING TO RECONSTRUCT ACTUATED TURBULENT BOUNDARY LAYER FLOWS. PART I: INVESTIGATION OF AUTOENCODER-BASED TRAININGS	15:00
10	Eray	Inanc	Virtual	PARALLEL AND SCALABLE DEEP LEARNING TO RECONSTRUCT ACTUATED TURBULENT BOUNDARY LAYER FLOWS. PART II: AUTOENCODER TRAINING ON HPC SYSTEMS	15:20
48	Davide	Oberto	In-Person	A DATA-DRIVEN APPROACH TO CLOSE AND INCREASE ACCURACY OF RANS EQUATIONS BY MODELLING THE DIVERGENCE OF THE REYNOLDS STRESS TENSOR	15:40
104	Reza	Hassanian	Virtual	LAGRANGIAN PARTICLE TRACKING DATA OF A STRAINING TURBULENT FLOW ASSESSED USING MACHINE LEARNING AND PARALLEL COMPUTING	16:00

Parallel Session 7: May 27th 9:30-10:50 (Time zone: CEST, UTC+2)					
PS7.2	Chair: Antonio Buffo			Heat Transfer 2	
Paper	Speaker			Title	Time
86	Shiu-Wu	Chau	Virtual	UNSTEADY MODELING OF THREE-DIMENSIONAL FLOW OF DIRECT CURRENT PLASMA TORCH OPERATING WITH AIR	09:30
88	Gregory	Cartland-Glover	In-Person	MODELLING MASS AND CONJUGATE HEAT TRANSFER IN TARGET STATION 2 OF THE ISIS MUON AND NEUTRON SOURCE	09:50
89	Wei	Wang	In-Person	NUMERICAL SIMULATION OF THERMAL MIXING OF LIQUID SODIUM IN A Y-JUNCTION	10:10
114	Enrico	Agostini	In-Person	MODELING SOLID FOAMS: GEOMETRY GENERATION AND MOMENTUM AND MASS TRANSPORT CFD SIMULATIONS	10:30

Room Dolcetto

Parallel Session 1: May 25th 11:30-12:50 (Time zone: CEST, UTC+2)					
PS1.3	Chair: Amirul Khan			MS4 Part 1: LBM for HPC	
Paper	Speaker			Title	Time
13	Anna	Wellmann	In-Person	COMMUNICATION HIDING FOR MULTIGPU-LBM ON REFINED GRIDS	11:30
87	Ouadie	El Farouki	Virtual	PERFORMANCE PORTABILITY THROUGH SYCL: Application LBM Solvers for aerodynamics	11:50
108	Michael	Rennick	Virtual	SIMULATING A BIOINSPIRED LIQUID DIODE USING A MULTICOMPONENT LATTICE BOLTZMANN MODEL	12:10
113	Minh-Tuan	ho	Virtual	A HIGH PERFORMANCE SOLVER FOR RAREFIED GAS FLOWS IN POROUS MEDIA	12:30

Parallel Session 2: May 25th 15:10-16:10 (Time zone: CEST, UTC+2)					
PS2.3	Chair: Gianluca Boccardo			Particle Methods for HPC 1	
Paper	Speaker			Title	Time
38	Graziano	Frungieri	Virtual	FRAGMENTATION AND STRESS STATISTICS OF INERTIAL PARTICLES IN HOMOGENEOUS ISOTROPIC TURBULENCE	15:10
68	Chrysovalantis	Tsigginos	In-Person	LUAMMAPS: A CONCURRENT COUPLING FRAMEWORK FOR DIRECT MODELING OF FLUID-PARTICLE SYSTEMS	15:30
69	Vahid	Jafari	In-Person	A STEP TOWARD PARALLEL COMPUTING FOR SUPER/HYPERSONIC FLOW USING A COUPLED DSMC/CFD	15:50

Parallel Session 3: May 25th 16:40-18:00 (Time zone: CEST, UTC+2)					
PS3.3	Chair: Andreas Linterman			MS1 Part 2: AI and HPC for CFD	
Paper	Speaker			Title	Session
5	Michele	Buzzicotti	In-Person	INFERRING TURBULENT PARAMETERS VIA MACHINE LEARNING	16:40
35	Agnese	Marcato	In-Person	STRUCTURE INTERPRETATION VIA NEURAL NETWORKS: AN APPLICATION TO FLOW AND TRANSPORT IN POROUS MEDIA	17:00
67	Daniel	Hilger	Virtual	PARAMETERIZED PHYSICS-INFORMED NEURAL NETWORKS AS SURROGATE MODEL IN SHAPE	17:20
70	Xinfeng	Gao	Virtual	INTEGRATION OF CFD AND DATA ASSIMILATION WITH DEEP LEARNING FOR IMPROVING MODEL-PARAMETER ESTIMATION	17:40

Parallel Session 4: May 26th 9:30-10:30 (Time zone: CEST, UTC+2)					
PS4.3	Chair: Aimee Morgans			Flow Controls	
Paper	Speaker			Title	Time
1	Haroon	Ahmad	Virtual	TURBULENT DRAG REDUCTION USING TRAVELLING WAVES OF WALL-NORMAL VELOCITY	09:30
74	Nick	Janssens	In-Person	A PARALLEL-IN-TIME MULTIPLE SHOOTING ALGORITHM FOR OPTIMAL CONTROL PROBLEMS GOVERNED BY THE 3D NAVIER-STOKES EQUATIONS	09:50
117	Dania	Ahmed	In-Person	FEEDBACK CONTROL OF THE BI-MODAL FLOW BEHIND A BLUNT BLUFF BODY	10:10

Parallel Session 5: May 26th 11:00-12:40 (Time zone: CEST, UTC+2)					
PS5.3	Chair: Giorgio Amati			MS3: HPC Solutions	
Paper	Speaker			Title	Time
7	Fabrizio	Magugliani	In-Person	HETEROGENEOUS WORKFLOWS FOR EXASCALE-CLASS CFD	11:00
62	Mathieu	Gontier	In-Person	AMDS JOURNEY TO EXASCALE FOR CFD APPLICATIONS	11:20
93	Simone	Bna	Virtual	IN-SITU VISUALIZATION FOR HIGH-FIDELITY CFD - CASE STUDIES	11:40
98	Jakub	Sistek	In-Person	GPU ACCELERATION OF A PARALLEL DOMAIN DECOMPOSITION SOLVER	12:00
99	Alex	Grant	In-Person	DEVELOPING A C++ BLOCK-STRUCTURED AMR MULTIPHYSICS CFD FRAMEWORK USING AMREX	12:20

Parallel Session 6: May 26th 15:00-16:20 (Time zone: CEST, UTC+2)					
PS6.3	Chair: Neil Ashton			HPC and Aerodynamics 2	
Paper	Speaker			Title	Time
23	Ruggero	Poletto	Virtual	OPTIMISATION OF A FAN IMPELLER THROUGH A DESIGN OF EXPERIMENT	15:00
28	Zhao	Qiuying	Virtual	HYBRID RANS/LES SIMULATIONS OF VISCOUS FLOWS INSIDE TURBINE VANES	15:20
61	Nikolaos	Bempedelis	In-Person	UNMANNED AERIAL VEHICLE FLOW DYNAMICS USING A HIGH-FIDELITY LES-ALM-IBM FRAMEWORK	15:40
119	Harriet	Jones	In-Person	MODELLING AIRFLOW AND CARBON DIOXIDE DISPERSION IN DOMESTIC AND OFFICE SETTINGS USING CODE_SATURNE	16:00

Parallel Session 7: May 27th 9:30-10:50 (Time zone: CEST, UTC+2)					
PS7.3	Chair: Pedro Costa			Aerodynamics and Optimisation	
Paper	Speaker			Title	Time
53	Andrea	Zappatore	In-Person	VALIDATION OF RANS, DES, AND LES MODELS OF AN ISOTHERMAL SINGLE JET USING STAR-CCM+	09:30
73	Kaan	Yutuk	Virtual	ADJOINT-BASED AERODYNAMIC OPTIMIZATION OF A STRAKE-DELTA WING CONFIGURATION	09:50
77	Etienne	Muller	In-Person	A MASSIVELY-PARALLEL IMPLEMENTATION OF THE ACTUATOR LINE METHOD FOR HIGH-FIDELITY LARGE	10:10
101	Andrea	Perrone	In-Person	MACHINE LEARNING ALGORITHMS FOR ROTOR37 AERODYNAMIC OPTIMIZATION	10:30

Room Arneis

Parallel Session 1: May 25th 11:30-12:50 (Time zone: CEST, UTC+2)					
PS1.4	Chair: Francesco Larocca			Combustion 1	
Paper	Speaker			Title	Time
26	Daniel	Costero	Virtual	NOVEL DEVELOPMENTS FOR RAPID REACTIVE CFD SIMULATIONS OF DUAL-FUEL IC ENGINES	11:30
27	Federico	Ghioldi	In-Person	GPU-ACCELERATED SIMULATION OF SUPERSONIC COMBUSTION IN SCRAMJET ENGINES BY OPENFOAM	11:50
34	Han	Peng	In-Person	A THREE-DIMENSIONAL SOLVER FOR SIMULATING REACTIVE FLOW ON CURVILINEAR PARALLEL ADAPTIVE MESHES	12:10
96	Muhammad	Omair	Virtual	ENHANCED THERMOPHYSICAL MODELS FOR SIMULATING COMBUSTION AT SUPERCRITICAL PRESSURES USING OPENFOAM	12:30

Parallel Session 2: May 25th 15:10-16:10 (Time zone: CEST, UTC+2)					
PS2.4	Chair: Roberto Verzicco			Heat Transfer 1	
Paper	Speaker			Title	Time
11	Luca	Banetta	In-Person	IMPACT OF TURBULENCE MODELING ON FLUID/SOLID HEAT TRANSFER INSIDE INDUSTRIAL AUTOCLAVES.	15:10
12	Emanuele	Gallorini	In-Person	A CONTINUOUS ADJOINT METHOD FOR THE MULTI-OBJECTIVE OPTIMIZATION OF COUPLED FLUID-THERMAL PROBLEMS IN OPENFOAM	15:30
106	Niyazi	Senol	Virtual	A MORE ROBUST SCHEME FOR TOPOLOGY OPTIMIZATION OF THERMAL-FLUID PROBLEMS IN OPENFOAM	15:50

Parallel Session 3: May 25th 16:40-18:00 (Time zone: CEST, UTC+2)					
PS3.4	Chair: Elisabetta De Angelis			Particle Methods for HPC 1	
Paper	Speaker			Title	Session
22	Radouan	Boukharfan	Virtual	AN EFFICIENT PARALLEL SOLVER FOR LES-DEM SIMULATION OF FLUIDIZED BED	16:40
29	Antoine	Stock	In-Person	DIFFUSION BASED LOAD-BALANCING METHOD FOR MASSIVELY PARALLEL EULER-LAGRANGE SIMULATIONS ON UNSTRUCTURED MESHES (DOB-EL)	17:00
80	Miguel	Uh Zapata	In-Person	TWO-PHASE FLOW PARALLEL SIMULATIONS FOR SEDIMENT RELEASES INTO HOMOGENEOUS WATER	17:20
					17:40

Parallel Session 4: May 26th 9:30-10:30 (Time zone: CEST, UTC+2)					
PS4.4	Chair: Jian Fang			MS5 Part 2: Hypersonic flows	
Paper	Speaker			Title	Time
19	Mario	Di Renzo	In-Person	WALL-PRESSURE SPECTRA IN SHOCK WAVE/TURBULENT BOUNDARY LAYER INTERACTIONS WITH A CROSSFLOW	09:30
55	Chay	Atkins	Virtual	A TWO-DIMENSIONAL PARALLEL STRAND/CAMR SOLVER FOR HYPERSONIC FLOW SIMULATIONS	09:50
102	Luis	Laguarda	In-Person	REYNOLDS NUMBER EFFECTS IN SHOCK-WAVE/TURBULENT BOUNDARY-LAYER INTERACTIONS	10:10

Parallel Session 5: May 26th 11:00-12:40 (Time zone: CEST, UTC+2)					
PS5.4	Chair: Sylvain Laizet			MS6: Finite Difference for HPC	
Paper	Speaker			Title	Time
37	Jian	Fang	In-Person	A COMPACT LOW-DISSIPATION MONOTONICITY-PRESERVING SCHEME FOR SIMULATIONS OF COMPRESSIBLE FLOW	11:00
39	Andrew	Wheeler	In-Person	HIGH FIDELITY SIMULATION OF DENSE VAPOUR FLOWS	11:20
40	Tian	Liang	Virtual	A FIFTH-ORDER VERY-LOW-DISSIPATION TENO SCHEME FOR HYPERBOLIC CONSERVATION LAWS	11:40
83	Peter	Brearley	In-Person	TURBULENT STRATIFIED MIXTURE COMBUSTION WITH NUMERICALLY FORCED BIMODAL MIXTURE INHOMOGENEITY	12:00

Parallel Session 6: May 26th 15:00-16:20 (Time zone: CEST, UTC+2)					
PS6.4	Chair: David Emerson			Combustion 2	
Paper	Speaker			Title	Time
51	Umair	Ahmed	Virtual	PERFORMANCE OF WALL FUNCTIONS IN PREMIXED FLAME- WALL INTERACTION WITHIN TURBULENT BOUNDARY LAYERS	15:00
57	Chiara	Galletti	In-Person	NUMERICAL SIMULATIONS OF INTERACTING FLAMES ISSUING FROM A CYLINDRICAL PERFORATED	15:20
79	Rachele	Lamioni	In-Person	MODELING FLASHBACK OF H2-ENRICHED FLAMES IN PERFORATED BURNERS	15:40
116	Nicholas	Abel	In-Person	DISTRIBUTED TABULATION OF FLAMELET LOOKUP TABLES	16:00

Parallel Session 7: May 27th 9:30-10:50 (Time zone: CEST, UTC+2)					
PS7.4	Chair: Gianluca Boccardo			Multiphysics 2	
Paper	Speaker			Title	Time
3	Massimo	Germano	In-Person	MIXED AVERAGING PROCEDURES	09:30
33	Omar	Mahfoze	In-Person	SCALABILITY STUDY OF THE PARALLEL PARTITIONED MULTI-PHYSICS SIMULATION FRAMEWORK	09:50
44	Misa	Kawaguchi	Virtual	COMPUTATIONAL AIRFLOW SIMULATION TO ASSESS AIRWAY RESISTANCE BY CONSIDERING BIFURCATION GEOMETRY	10:10
58	Issei	Fukamizu	Virtual	PREDICTION OF TURBINE BLADE CONDITION USING SUPERVISED MACHINE LEARNING TRAINED BY DIGITAL-TWIN SIMULATION	10:30

(Your Notes)