



Schedule of sessions – 5th Turbulence and Interactions TI2018

Day 1 – Monday 25/06/2018

8h-9h	Registration Introduction Session – M. Deville (EPFL)
9h-9h40	Session 1 – Fundamental turbulence and advanced modeling Keynote lecture 1 – R. Verstappen (Groningen Univ.) Minimum-dissipation models for wall-modeled large-eddy simulations
9h40-10h	W. Elsner Scale interaction in decelerating turbulent boundary layer
10h-10h20	A. Tossa Bayesian estimation of Turbulent Flow Intermittency
10h20-10h40	F. Zonta Scale interaction in decelerating turbulent boundary layer
10h40-11h	Coffee break – Poster Session
11h10-11h50	Session 2 – Multiphase flows / Particulate motions Keynote lecture 2 – P. Fède (IMFT, Toulouse III Univ.) Monte-Carlo prediction of particle statistics in homogeneous isotropic turbulent flows and in fully-developed turbulent channel flow
11h50-12h10	S. Schneiderbauer Sub-grid Deconvolution Approach for Filtered Two-Fluid Models and the Application to Fluidized Gas-Particle Suspensions
12h10-12h30	C. Marchioli Large-Eddy Simulation of Turbulent Dispersed Flow: Modelling subgrid effects on particle dispersion
12h30-14h	Lunch at Carayou Hotel
14h-14h40	Session 3 – Advanced numerical methods / HPC Keynote lecture 3 – P. Angot (Marseille Univ.) A unified model for fluid-solid interaction and related numerical methods with Discrete Mechanics
14h40-15h	C. Calgaro A combined Finite Volumes - Finite Elements method for a low-Mach model
15h-15h20	M. Hamouda Analysis of the Primitive Equations - The Barotropic mode.
15h20-15h40	P. Pouillet A high order Residual Distribution Scheme for sediment transport
15h40-16h10	Coffee break – Poster Session
16h10-16h30	G. Halim Atallah LES simulation of pollutant transport in ventilation-based mitigation devices
16h30-16h50	S. Vincent New developments of penalty methods for simulating turbulence flows interacting with obstacles
19h	Welcome cocktail at Carayou Hotel



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Day 2 – Tuesday 26/06/2018

9h-9h40	Session 4 – Multiphase flows / Interfacial flows Keynote lecture 4 – O. Desjardins (Cornell Univ.) Multiscale Modeling of Thin Films with Application to Turbulent Atomization
9h40-10h	F. Zonta Wall-bounded stably stratified turbulence
10h-10h20	M. Tavares A conservative front-tracking method for multi-scale multiphase flows
10h20-10h40	T. Ménard Numerical investigation on the influences of inlet turbulent characteristics on round liquid jet atomization
10h40-11h	Coffee break – Poster Session
11h10-11h30	J.-L. Estivalezes A VOF-Based consistent mass-momentum transport for two-phase flow simulations
11h10-11h30	D.A. Koffi Bi A review of geometrical interface properties for 3D Front-Tracking methods
11h50-12h10	S. Vincent Assessment of fluid flow and turbulence near a stratified liquid-liquid Interface / I Implications on mass transfer coefficients
12h30-14h	Lunch at Carayou Hotel
14h-14h40	Session 2 (cont.) – Multiphase flows / Particulate motions Keynote lecture 5 – C. Marchioli (Udine Univ.) Elongated, flexible and motile particles in turbulence
14h40-15h	S. Ikardouchene Lagrangian particle tracking in a large-eddy simulation of a turbulent air jet impacting a wall
15h-15h20	D. Radenkovic Transverse particle dispersion induced by three-dimensional rebound from isotropic or anisotropic rough wall
15h20-15h40	A. Nigmatova Soft-sphere DEM simulation of coarse particles transported by a fully developed turbulent gas vertical channel flow
15h40-16h10	Coffee break – Poster Session
16h10-16h30	E. Masi Mesoscopic and macroscopic analysis of the reactive multiphase flow in a CLC pilot
16h30-16h50	A. Chadil Accurate calculation of heat transfer coefficients for motions around particles a with finite-size particle approach
16h30-16h50	J.C. Brändle de Motta Particle laden turbulent flow: comparison of full resolved approaches



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Day 3 – Wednesday 27/06/2018

9h-9h40	Session 5 – Environment Keynote lecture 6 – G. Bryan (UCAR Boulder Univ.) Maximum Wind Gusts in Hurricanes According to Observations and Large-Eddy Simulations
9h40-10h	Y. Labeau Simulation of complex flows in fractured and faulted media in the geothermal context of the Lamentin (Martinique) using the ComPASS Platform
10h-10h20	P.Y. Passaggia Experimental measurements of irreversible mixing in stratified turbulence
10h20-10h40	A. Bel Madani Impact of Mesoscale Ocean Vortices on Transport and Mixing of Marine Debris in the Eastern South Pacific
10h40-11h	Coffee break – Poster Session
11h10-11h30	E. Guilmineau The flow around a surface combatant at 10° static drift: Assessment of turbulence models
11h30-12h30	Lunch at Carayou Hotel
14h-18h	Visit of Clément Rhumerie Visit of François Islands and white sand lagoon
19h	Return to Carayou Hotel by bus



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Day 4 – Thursday 28/06/2018

8h40-9h20	<p>Session 6 – Heat transfer / Combustion</p> <p>Keynote lecture 7 – A. Sergent (UPMC Univ.)</p> <p>Large-scale reversal in turbulent Rayleigh-Bénard convection</p>
9h20-9h40	<p>N. Foroozani</p> <p>Influence of 2D and 3D Rough Boundaries in Reorientation of the Flow Structure in Confined Thermal Convection</p>
9h40-10h	<p>A. Westhoff</p> <p>Experimental study of Sherwood-Nusselt relation in turbulent convective moist airflow with droplet condensation as a function of the surface properties</p>
10h-10h20	<p>D. Schiepel</p> <p>Time-resolved high-density particle tracking velocimetry of turbulent Time-Rayleigh-Bénard convection in a cubic sample</p>
10h20-10h40	<p>A. Tyliczszak</p> <p>Passive control of a diffusion flame by polygonal orifices</p>
10h40-11h	Coffee break – Poster Session
11h10-11h50	<p>Session 1 (cont.) – Fundamental turbulence and advanced modeling</p> <p>Keynote lecture 8 – M. De la Llave Plata / V. Couailler (ONERA)</p> <p>Towards high-order hp-adaptive methods for the simulation of turbulent flows in aeronautics</p>
11h50-12h10	<p>C. Bauer</p> <p>Effect of very-large-scale motions on one- and two-point statistics in turbulent pipe flow investigated by direct numerical simulations</p>
12h10-12h30	<p>P.S. Gnanbode</p> <p>Turbulent heat transfer in pipe flow of thermally-dependent power-law fluids</p>
12h30-14h	Lunch at Carayou Hotel
14h-14h40	<p>Session 7 – Nuclear reactors</p> <p>Keynote lecture 9 – C. Calvin (CEA)</p> <p>Exascale, BigData, AI, OpenData ... from the application point of view</p>
14h40-15h	<p>A. Du Cluzeau</p> <p>Innovative R_{ij}-ε model for Bubble Induced Turbulence from DNS simulations</p>
15h-15h20	<p>S. Mimouni</p> <p>Turbulence modeling in the NEPTUNE_CFD code</p>
15h20-15h40	<p>R. Pr�ea</p> <p>Rod bundle thermalhydraulics mixing phenomena: 3D analysis with CATHARE-3 of ROSA-2/LSFT experiment</p>
15h40-16h10	Coffee break – Poster Session
16h10-16h30	<p>F. Muller</p> <p>CFD simulations of large-scale reorganizations in PWR rod bundle flows</p>
16h30-16h50	<p>J.-F. Wald</p> <p>An overview of advanced turbulence modeling strategy at EDT R&D</p>
16h30-16h50	<p>F. Fran�ois</p> <p>Experimental characterization of turbulence under PWR's conditions</p>
19h	Gala diner at Cap Est and Resort Hotel



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Day 5 – Friday 29/06/2018

9h-9h40	Session 4 (cont.) – Multiphase flows / Interfacial flows Keynote lecture 10 – M. Herrmann (Arizona State Univ.) A Volume-of-Fluid Dual-Scale Approach for Large Eddy Simulation of Turbulent Liquid/Gas Interfaces
9h40-10h	M. Saeedipour Sensitivity of Approximate Deconvolution Model parameters in a posteriori LES of interfacial turbulence
10h-10h20	Y. Xu Contact Time of Bouncing Molten Ceramic Droplet on Nonwetting Surfaces
10h20-10h40	T. Sayadi A Convergence Study of the One-Fluid Formulation in a Phase Inversion Application at Moderate Reynolds and Weber Numbers
10h40-11h	Coffee break – Poster Session
11h10-11h50	Session 3 (cont.) – Advanced numerical methods / HPC Keynote lecture 11 – V. Le Chenadec (Paris-Est Marne-la-Vallée Univ.) A Performance Analysis and Case Study of the <code>julia</code> Programming Language in the Context of CFD Applications
11h50-12h10	V. Moureau Parallel dynamic mesh adaptation of unstructured grids: application to premixed flame and primary atomization modeling
12h10-12h30	L. Batteux Modeling a particulate flow in a 3-dimensional domain
12h30-14h	Lunch at Carayou Hotel
14h-14h40	Closing Session M. Deville / S. Vincent
14h40-15h40	Coffee break – Poster Session
15h50	Round table of organizers for TI2021

Posters

- A. Chadil. [Drag, lift and Nusselt coefficients for ellipsoidal particles using Particle-Resolved Direct Numerical Simulations](#)
- X. Nicolas. [Bibliographical review and characterization of URANS models for turbulent forced convection around a heated square cylinder](#)
- B. Trouette. [Lagrangian scheme for scalar advection](#)
- A. Tyliczszak. [Mixing enhancement and flow control inside granular layers](#)