

MONDAY - 13th July

14:00 - 14:10

Opening speech - Stefano Ubertini

14:10 - 14:30

The DSFD series: a 34-year long ride across the globe - Sauro Succi

14:30 - 15:30

Keynote speech - Giovanni Gallavotti - Viscosity, Reversibility, Statistical Ensembles in a Navier-Stokes fluid

15:30 - 15:50

Coffee Break

15:50 - 16:30

Plenary talk - Luca Biferale - Equation informed and data-driven tools for data-assimilation and data-classification of turbulent flows

Technical Session 1 - Advanced Methods 1 - virtual room Leone

16:30 - 16:50 X. Shan, Li Xuhui

A generic Galilean invariant multiple-relaxation-time collision model for lattice Boltzmann method

16:50 - 17:10 E. Reyhanian, B. Dorschner, I.V. Karlin

Essentially local kinetic model for nonideal fluids

17:10 - 17:30 A. Wagner, R. Parsa, A. Pachalieva

Molecular Dynamics Lattice Gas results for Lattice Boltzmann

17:30 - 17:50 J.P. Dellar

Relativistic properties and invariants of the Du Fort-Frankel scheme for the Schrödinger equation

Technical Session 2 - Soft Matter 1 - virtual room Palma

Q. Xie, J. Harting

Controllable Capillary Assembly of Magnetic Ellipsoidal Janus Particles into Tunable Rings, Chains and Hexagonal Lattices

A. Gubbiotti, M. Chinappi, C.M. Casciola

EH-DPD: Dissipative Particle Dynamics with ion transport to study ElectroHydrodynamic phenomena

R.C.V. Coelho, N.A.M. Araújo, M.M. Telo da Gama

Propagation of interfaces in active nematics

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TUESDAY - 14th July

<i>Technical Session 3 - Advanced Methods 2 - virtual room Leone</i>		<i>Technical Session 4 - Biofluidics - virtual room Palma</i>	
10:20 - 10:40	<u>D. Simeoni</u> , A. Gabbana, L. Rezzolla, S. Succi, R. Tripiccone, L.R. Weih	Lattice Boltzmann approach to radiative transport in numerical astrophysics	<u>R. Conradin</u> , C. Coreixas, J. Lätt, B. Chopard
10:40 - 11:00	<u>J. Harting</u> , M. Wouters, O. Aouane, T. Krüger	Mesoscale simulation of soft particles with tunable contact angle in multi-component fluids	<u>F. Guglietta</u> , M. Behr, L. Biferale, G. Falcucci, M. Sbragaglia
11:00 - 11:20 <i>Coffee Break</i>			
11:20 - 11:40	<u>S. Simonis</u> , M. Frank, M.J. Krause	Perturbation formalism of relaxation systems and the link to discrete velocity Boltzmann models	<u>J.M. Buick</u> , A.C. Stamou, J. Radulovic
11:40 - 12:00	<u>D. Dapelo</u> , J. Bridgeman	Lattice Boltzmann coupled models for high-Péclet number advection-diffusion flow	<u>B. Chopard</u> , C. Kotsalos, J. Lätt, R. Dutta, K.Z. Boudjeltia
12:00 - 12:20	<u>F. Oktasendra</u>	Studying hemiwicking propagation coefficient using Lattice Boltzmann Method	Effect of stenosis growth on blood flow at the bifurcation of the carotid artery Anomalous platelet transport and fat-tailed distributions
12:20 - 13:00 <i>Plenary talk - Alessandro Gabbana - Relativistic Lattice Boltzmann Methods: Theory and Applications</i>			
13:00 - 14:20 <i>Lunch Break</i>			
14:20 - 15:00 <i>Plenary talk - Luciano Rezzolla - Binary neutron stars: how to model Einstein's richest laboratory</i>			
<i>Technical Session 5 - Compressible Flows - virtual room Leone</i>		<i>Technical Session 6 - Complex Flows 1 - virtual room Palma</i>	
15:00 - 15:20	<u>E. Zipunova</u> , A. Perepelkina, A. Zakirov	Regularization and the Particles-on-Demand Method for the Solution of the Discrete Boltzmann Equation	<u>D. Belardinelli</u> , M. Sbragaglia, R. Benzi, S. Ciliberto
15:20 - 15:40	<u>N. Kallikounis</u> , B. Dorschener, I.V. Karlin	Multi-scale semi-lagrangian lattice Boltzmann	<u>A.F.V. Matias</u> , R.C.V. Coelho, N.A.M. Araújo
15:40 - 16:00 <i>Coffee Break</i>			
16:00 - 16:20	<u>D. Wilde</u> , A. Krämer, M. Bedrunka, D. Reith, H. Foysi	Semi-lagrangian lattice Boltzmann method for compressible flows	<u>N. Hafen</u> , A. Dittler, M.J. Krause
16:20 - 16:40	<u>M.H. Saadat</u> , B. Dorschener, I.V. Karlin	Compressible lattice Boltzmann model for moving boundary problems	<u>S. Zitz</u> , A. Scagliarini, J. Harting
16:40 - 17:00	<u>N. Sawant</u> , I.V. Karlin	Multicomponent mixtures with the lattice Boltzmann model	<u>T. Krüger</u> , R. Vernekar, D. Inglis, C.P. Mallorie
		Investigation of particle detachments in wall-flow filters employing resolved particle simulations Stochastic thin film simulations with a dimensional reduced lattice Boltzmann model Inertial effects in deterministic lateral displacement arrays reduce particle separation size	

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WEDNESDAY - 15th July

9:40 - 10:20	<i>Plenary talk</i> - Marco Lauricella - Models for electrospinning computational experiments		
	Technical Session 7 - Thermal Flows - virtual room Leone		Technical Session 8 - Bubbles and Droplets - virtual room Palma
10:20 - 10:40	<u>R. Vernekar</u> , T. Krüger	Lattice Boltzmann modelling of particle solidification under flow	<u>L. Yang</u> , M. Sega, J. Harting Comparison of capillary bridge models and lattice Boltzmann simulations
10:40 - 11:00	<u>F. Pelusi</u> , R. Benzi, M. Bernaschi, M. Sbragaglia, A. Scagliarini	Heat transfer mediated by droplets dispersions	<u>D. Medvedev</u> , A. Kupershtokh, A. Nemykina Bubbles and droplets in electric field: mesoscopic simulation
11:00 - 11:20	<i>Coffee Break</i>		
11:20 - 11:40	<u>G. Falcucci</u> , V.K. Krastev, G. Di Ilio, G. Bella, V. Villani	Mesoscale Modeling of PCM-based Energy Systems	<u>A. Giacomello</u> Superhydrophobicity, nanobubbles, and drying of porous materials: phase transitions in extreme confinement via rare-event molecular dynamics
11:40 - 12:00	<u>G. Falcucci</u> , M. Lauricella	LBM Melting and Solidification with Fluctuating Thermal Boundary Conditions	<u>H. Kusumaatmaja</u> , C. Semprebon, M.S. Sadullah Modelling Drops on Liquid Infused Surfaces using Ternary Free Energy Lattice Boltzmann Method
12:00 - 12:20	<u>M. Gaedtke</u> , S. Abishek, R. Mead-Hunter, A.J.C. King, B.J. Mullins, H. Nirschl, M.J. Krause	Total Enthalpy-Based Lattice Boltzmann Simulations of Melting in Paraffin/Metal Foam Composite Phase Change Materials	<u>A. Tiribocchi</u> , A. Montessori, M. Lauricella, F. Bonaccorso, S. Succi The vortex-driven dance of droplets within droplets
12:20 - 13:00	<i>Plenary talk</i> - Kai Luo - Multiphase Lattice Boltzmann Methods: Towards a Unified Formulation		
13:00 - 14:20	<i>Lunch Break</i>		
14:20 - 15:00	<i>Plenary talk</i> - Harry Van Den Akker - Optimizing LB models for investigating emulsions and tubular chemical reactors		
	Technical Session 9 - Advances Methods 3 - virtual room Leone		Technical Session 10 - Soft Matter 2 - virtual room Palma
15:00 - 15:20	<u>K. Suzuki</u> , T. Inamuro, M. Yoshino	Asymptotic equivalence of forcing schemes in lattice Boltzmann method within second-order accuracy	<u>M. Maciej</u> , M. Dzikowski Memory-efficient Lattice Boltzmann Method for low Reynolds number flows
15:20 - 15:40	<u>G. Falcucci</u> , V.K. Krastev, G. Amati, S. Succi	HPC simulation of Euplectella aspergillum underwater hydrodynamics	<u>A. Montessori</u> , A. Tiribocchi, M. Lauricella, F. Bonaccorso, S. Succi Wet to dry self-transitions in soft owing crystals
15:40 - 16:00			<u>D. Silva</u> , R.C.V. Coelho, M.M. Telo Da Gama, N.A.M. Araújo Collective motion of soft particles in a channel
16:00 - 16:20	<i>Coffee Break</i>		
16:20 - 16:40			<u>A. Truszkowska</u> , M. Porfiri Molecular dynamics simulations of ionic polymer membranes under an electric field
16:40 - 17:00			<u>A. Pachalieva</u> , A. Wagner Deriving LBM collision operator using the Coarse-Graining MDLG Approach
18:00	<i>Dinner talk</i> - Luciano Rezzolla - La prima immagine di un buco nero		

THURSDAY - 16th July

9:40 - 10:20	<i>Plenary talk</i> - Giorgio Amati - HPC LBM for the Simulation of Living Organisms	
	Technical Session 11 - Advanced Methods 4 - virtual room Leone	Technical Session 12 - Boundary Conditions - virtual room Palma
10:20 - 10:40	<u>O. Aouane</u> , A. Scagliarini and J. Harting Structure and rheology of suspensions of spherical strain-hardening capsules	<u>F. Marson</u> , Y. Thorimbert, J. Lätt, B. Chopard Enhanced single-node boundary condition for the lattice Boltzmann method
10:40 - 11:00	<u>M. Lulli</u> , X. Shan, L. Biferale, M. Sbragaglia, G. Falcucci Shan-Chen pressure tensor anisotropies: another dimension for reducing spurious currents	<u>F. Kieß</u> , A. Gabbana, A. Bartel Comparison of boundary conditions for thermal LBM
11:00 - 11:20	<i>Coffee Break</i>	
11:20 - 11:40	<u>S. Melchionna</u> , F. Di Palma, S. Succi, B. Buisson, O. Toury, F. Perot Functional response of a neuroreceptor by a multiscale Lattice Boltzmann and Particle Dynamics framework.	<u>Z. Bu Sinnah</u> , D.I. Graham, T. Reis Lattice Boltzmann modelling of three-dimensional micro-fluid flows using moment-based boundary conditions
11:40 - 12:00	<u>R. Christiano</u> , J.P. Badyal, H. Kusumaatmaja Modelling Droplet Dynamics on Mesh Structures	<u>S. Venturi</u> , S. Di Francesco, M. Geier Boundary conditions for cascaded and cumulant CO based lattice Boltzmann shallow water models
12:00 - 12:20		
12:20 - 13:20	<i>Tutorial</i> - Bruce Boghosian - New developments in the kinetic theory of wealth distribution	
13:20 - 14:40	<i>Lunch Break</i>	
14:40 - 15:20	<i>Plenary talk</i> - Maurizio Porfiri - Inference of causal relationships from raw time-series in fluid-structure interaction problems	
	Technical Session 13 - Advanced Methods 5 - virtual room Leone	Technical Session 14 - Fluid-Structure Interaction - virtual room Palma
15:20 - 15:40	<u>L.N. Agasthya</u> , L. Biferale, P.C. Di Leoni Continuous data assimilation and flow control using particles in Rayleigh-Benard convection	
15:40 - 16:00	<u>H.S. Tavares</u> , M. Sbragaglia, L. Biferale, A. Mailybaev Immiscible vs. miscible Rayleigh-Taylor turbulence: testing phenomenology with lattice Boltzmann simulations	<u>D. Chiappini</u> , S. Di Francesco Overview on a coupled kinetic-free surface approach for fluid-structure interaction problems
16:00 - 16:20		<u>S. Mey</u> An Eulerian Lattice Boltzmann approach for Fluid Structure Interaction with small and large deformations
16:20 - 16:40	<i>Coffee Break</i>	
16:40 - 17:00		<u>A. Agresta</u> , S. Di Francesco, C. Biscarini On the use of particle meshless methods for the hydrodynamic thrust evaluation in free surface flows
17:00 - 17:20		<u>N. Jumaa</u> Breaking dam simulation with multiphase lattice Boltzmann

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FRIDAY - 17th July

9:20 - 10:00

Plenary talk - Shaltiel Eloul - Rocket propulsion' of Janus micro-swimmers

Technical Session 15 - Complex Flows 2 - virtual room Leone

10:00 - 10:20	<u>Haijing Li</u> , H. Clercx, F. Toschi	LBM investigation of a reactive electro-kinetic flow in porous media: towards a phenomenological model
10:20 - 10:40	<u>R. Fan</u> , G. Zachariah, P. Habibi, R. Hartkamp, J. Padding	Mesoscopic simulations of transport phenomena in reactive systems

10:40 - 11:00

Coffee Break

11:00 - 11:20	<u>K.R.C. Murthy</u> , D. Nabapure	DSMC investigation of rarefied gas flow in open cavity for all rarefaction regimes
11:20 - 11:40	<u>J.E. Vesper</u> , C.R. Kleijn	Simulation of Rarefied Jet Interaction using Direct Simulation Monte Carlo and BGK Kinetic Models
11:40 - 12:00	<u>R. Trunk</u> , C. Bretl, M.J. Krause	Study of the Effect of Various Particle Shape Parameter on the Settling Behaviour

12:00 - 12:20

Closing Speech - Giacomo Falcucci

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