June 29, Monday

8:00- 9:00	Registration/check in
9:00- 9:20	Opening
9:20- 10:10	**INVITED** Hydrodynamic fluctuations – theory, simulations, and applications **Alejandro L. Garcia** | Chair: Alexander Wagner
10:10- 10:40	Coffee break
10:40 - 12:00	**Session I** - Mathematical modelling Chair: Alejandro L. Garcia
10:40 - 11:00	Artificial slip in the bounce-back boundary method: where does it come and can it be eliminated? Junfeng Zhang
11:00 - 11:20	Chapman–Enskog analysis of modified second-order moments in regularized LBM Vinicius Czarnobay and Luiz A. Hegele Jr.
11:20 - 11:40	Lattice Boltzmann model for non-ideal compressible fluid dynamics Seyed A. Hosseini, and Ilya V. Karlin
11:40 - 12:00	Regularized boundary treatment for fluid nodes with missing directions in high-order LB stencils Bruno Y. dos Anjos and Luiz A. Hegele Jr.
12:00 - 14:00	Lunch (on your own)
14:00- 14:50	**INVITED** Modeling combustion and multispecies flows with the lattice Boltzmann method **Seyed Ali Hosseini** | Chair: Mathias Krause
14:50 - 15:50	**Session II** - Numerical analysis I Chair: Mathias Krause.
14:50 - 15:10	Controlled interspecies relaxation via drag-based coupling in LBM Shiladitya Patnaik, Alex Skillen, and Alessandro De Rosis
15:10 - 15:30	High Reynolds number turbulent jet simulation using a regularized LBM with GPU acceleration Leonardo D. Knippenberg, Gustavo Choaire, Vinicius Czarnobay, Huidan (Whitney) Yu, and Luiz A. Hegele Jr.
15:30 - 15:50	A kinetic theory-based lattice Boltzmann model for multicomponent systems with non-unitary molecular mass ratios. Maria R. Lisboa, Ricardo L. M. Bazarin, and Paulo C. Philippi
15:50 - 16:20	Coffee break
16:20 - 17:10	**TUTORIAL** Lattice Boltzmann methods for applications **Mathias J. Krause** | Chair: Seyed Ali Hosseini
17:10 - 17:50	**Session III** - Numerical analysis II Chair: Seyed Ali Hosseini
17:10 - 17:30	A moment-based regularized LBM with triangular sub-cells for inclined and curved boundaries Sakthivel Munikrishnan and Luiz A. Hegele Jr.
17:30 - 17:50	Analytical description of interface dynamics in LBM and its connection to classical evaporation models. Luiz Eduardo Czelusniak and Luben Cabezas Gómez

June 30, Tuesday

9:00- 9:50	**TUTORIAL** Kinetic models for non-ideal mixtures **Paulo C. Philippi** | Chair: Luiz A. Hegele Jr.
9:50- 10:20	Coffee break
10:20 - 12:00	**Session IV** - Multiphase flows I Chair: Rodrigo C. V. Coelho
10:20 - 10:40	A lattice Boltzmann approach to the one-fluid formulation of multiphase flow Snehil Srivastava, Timothy Reis, and Tim Phillips
10:40 - 11:00	Effective stresses analyses in unsaturated granular material via multifluid LBM-DEM coupling Clara M. Toffoli, Sina Sadeghi, Reihaneh Hosseini, and Jürgen Grabe
11:00 - 11:20	Dual roles of microbubbles in modulating slip on lubricated surfaces Sheng Li and Halim Kusumaatmaja
11:20 - 11:40	Bimodal drop motion Aqib Asif, A. Naga, G. McHale, and H. Kusumaatmaja
11:40 - 12:00	Flow-driven hysteresis in the transition boiling regime Alessandro Gabbana, Xander M. de Wit, Linlin Fei, Ziqi Wang, Daniel Livescu, and Federico Toschi
12:00 - 14:00	Lunch (on your own)
14:00- 14:50	**INVITED** Acoustics and electrodynamics by lattice Boltzmann **José D. Muñoz** | Chair: Adriano Tiribocchi
14:50 - 15:50	**Session V** - MHD Chair: Adriano Tiribocchi
14:50 - 15:10	A mesoscopic Lorentz-force formulation for lattice Boltzmann MHD Diogo N. Siebert, Eduardo C. da Silva, Juan P. L. C. Salazar, and Luis O. E. dos Santos
15:10 - 15:30	A low-cost Gauss-Hermite quadrature implementation for mhddugksFoam Diogo N. Siebert, Garbriel M. F. Roberto, Juan P. L. C. Salazar, and Luis O. E. dos Santos
15:30 - 15:50	Relaminarization patterns in magnetohydrodynamic pipe flows using a simplified LB approach Hugo S. Tavares, Rodrigo Pereira, Luca Moriconi, and Juliana B. R. Loureiro
15:50 - 16:20	Coffee break
16:20 - 17:10	**INVITED** Active droplets: motion, confinement and topology **Adriano Tiribocchi** | Chair: José D. Muñoz
17:10 - 17:50	**Session VI** - HMT and machine learning Chair: José D. Muñoz
17:10 - 17:30	Particle dynamics in thermal plasma reactor for the conversion of UF_6 to U_3O_8. Sahadev Pradhan
17:30 - 17:50	Using lattice Boltzmann to inform graph diffusion networks for aerodynamic design exploration Archie Dobson, Alistair Revell, and Alex Skillen

July 1, Wednesday

8:30- 9:20	**INVITED** A lattice Boltzmann formulation for thermo-hydrodynamic slip-flow theory **Goncalo Silva** | Chair: Xuhui Li
9:20 - 10:00	**Session VII** - Multiphase flows II Chair: Xuhui Li
9:20 - 9:40	Spontaneous rotation and propulsion of suspended capsules in active nematics Rodrigo C. V. Coelho
9:40 - 10:00	A Digital Twin of Subsea Mechanical Dispersion Experiment Swayam Lotake, Pedro Granados, Aníbal A. C. Bonilla, Luiz A. Hegele Jr., and Huidan (Whitney) Yu
10:00- 10:30	Coffee break
10:30 - 11:20	**INVITED** Spectral element lattice Boltzmann methods (NekLBM) for complex and multiphase flows at the exascale. **Taehun Lee** | Chair: Huidan (Whitney) Yu
11:20- 12:00	**Session VIII** - Multiphase flows III Chair: Huidan (Whitney) Yu
11:20 - 11:40	Mapping an Ising model onto lattice Boltzmann Alexander J. Wagner, Vinicius Akyo Matsuda, and Luben Cabezas-Gómez
11:40 - 12:00	A low-memory phase-field moment representation LBM for multiphase flows with large density and viscosity contrasts. Breno V. Gemelgo and Luiz A. Hegele Jr.
12:00 - 14:00	Lunch (on your own)
14:00- 14:50	**INVITED** Morphological and statistical-physics signatures of stationary two-phase flow regimes in disordered porous media. **José S. Andrade Jr.** | Chair: Jens Harting
14:50 - 15:50	**Session IX** - Interfacial phenomena and porous media I Chair: Jens Harting
14:50 - 15:10	Lattice Boltzmann simulations of capillary invasion Luís O. E. dos Santos, Diogo N. Siebert, and Ricardo L. M. Bazarin
15:10 - 15:30	A Brinkman penalization LBM simulation of the flow over a porous backward-facing step Léo Roussel, Chloé Mimeau, and Simon Marié
15:30 - 15:50	Influence of voxelization on hydraulic properties in DEM-LBM modeling of tropical granular soil Lucas V. Dias, Ana C. Caetano, Bruno F. Porto, Felipe B. de Souza
15:50 - 16:20	Coffee break
16:20 - 17:10	**INVITED** Multiple-relaxation-time regularized LB model and some hydrodynamic applications **Xuhui Li** | Chair: José S. Andrade Jr.
17:10 - 17:50	**Session X** - Interfacial phenomena and porous media II Chair: José S. Andrade Jr.
17:10 - 17:30	Predicting relative permeability curves using single-phase lattice Boltzmann method Luís O. E. dos Santos, Bernardo Gehlen, Ricardo L. M. Bazarin, and Diogo N. Siebert
17:30 - 17:50	Lattice Boltzmann model for free-fluid/heterogeneous-porous-media coupled systems using a mesoscopic-scale one-domain approach. Nikita O. Gusev, and Ilya V. Karlin
19:00	Conference banquet | **Paris 6 Bistrô** (on the ground floor of the hotel)

July 2, Thursday

9:00- 9:50	**INVITED** The challenges to move research CFD software into production **Moritz Lehmann** | Chair: Diogo N. Siebert
9:50- 10:20	Coffee break
10:20 - 12:00	**Session XI** - High-performance computing Chair: Moritz Lehmann
10:20 - 10:40	Moment-based GPU implementation for lattice Boltzmann simulation of non-newtonian fluids Marco A. Ferrari, Rodrigo S. Romanus, Ricardo de Souza, Alan Lugarini, Luiz A. Hegele, and Admilson T. Franco
10:40 - 11:00	Just-in-time computational fluid dynamics with lattice Boltzmann methods and OpenLB Mathias J. Krause, Adrian Kummerländer
11:00 - 11:20	Multi-GPU streaming with the moment representation lattice Boltzmann method Nathan Duggins and Luiz A. Hegele Jr.
11:20 - 11:40	Efficient single-precision simulations of nematohydrodynamics Rodrigo C. V. Coelho
11:40 - 12:00	Multiscale finite-volume kinetic modeling of compressible flows with arbitrary Prandtl number and specific heat ratio. Ruben M. Strässle, Seyed A. Hosseini, and Ilya V. Karlin
12:00 - 14:00	Lunch (on your own)
14:00	Excursion **Parque Unipraias** Av. Atlântica, 6006 - Centro, Balneário Camboriú Suggested restaurant after the excursion: Casa da Lagosta (Avenida Atlântica, 5600). Dinner on your own.

July 3, Friday

9:00- 9:50	**INVITED** *Ab initio* modelling of rarefied gas flows **Felix Sharipov** | Chair: Goncalo Silva
9:50- 10:20	Coffee break
10:20 - 12:00	**Session XII** - Turbulence, FSI and others Chair: Juan P. L. C. Salazar
10:20 - 10:40	Turbulent kinetic energy budget in lid-driven cavity flow using the lattice Boltzmann method Gustavo Choaire, Andrea Scagliarini, Huidan (Whitney) Yu, Marco Ferrari, Admilson T. Franco, and Luiz A. Hegele Jr
10:40 - 11:00	Direct numerical simulations of viscoplastic turbulent flow Alan Lugarini, Marco A. Ferrari, Rodrigo S. Romanus, Felipe O. Basso, and Admilson T. Franco
11:00 - 11:20	A comparative study of lattice Boltzmann methods for structural mechanics Florian Kaiser, Fedor Bukreev, Adrian Kummerländer, and Mathias J. Krause
11:20 - 11:40	LBM-IBM simulation of passive wake control for flow-induced vibrations in tandem cylinder configurations. A. Trotta, R. Giansante, C. Albanese, S. Meloni, S. Ubertini, and A. L. Facci
11:40 - 12:00	Conservative volumetric regularized boundary conditions for LBM modelling of internal compressible aerodynamic flow. Wilfred Bessem, I. Tsetoglou, H. Merley, S. Zhao, E. Serre, and P. Boivin
12:00 - 12:20	Adjoint-based LBM for the optimization of wettability distributions in droplet transport. Mahmoud Assaf, Graham Koyeerath, Christophe Josset, and Yann Favennec
12:20 - 14:00	Lunch (on your own)
14:00- 14:50	**TUTORIAL** Particle-laden (multi-)phase flows: from hard to soft **Jens Harting** | Chair: Luiz A. Hegele Jr.
14:50 - 15:50	**Session XIII** - Numerical analysis III Chair: Taehun Lee
14:50 - 15:10	Constant-flux boundary condition in periodic domains for the lattice Boltzmann method Ricardo L. M. Bazarin, Maria R. Lisboa, and Diogo N. Siebert
15:10 - 15:30	Multicomponent turbulent jet simulations using the color-gradient lattice Boltzmann method Juan F. Aristizabal Aldana and Luiz A. Hegele Jr.
15:30 - 15:50	Finite-difference structure of TRT lattice Boltzmann schemes for steady advection–diffusion–reaction problems. Goncalo Silva
15:50 - 16:20	Coffee break
16:20 - 17:10	**TUTORIAL** Derivation of lattice Boltzmann from first principles: procedure for mapping microscopic models to mesosccopic lattice Boltzmann methods. **Alexander Wagner** | Chair: Taehun Lee
17:10	Ending