DSFD-2014-Paris **Program** **28 July – 01 August 2014**

	Monday 28	Tuesday 29	Wednesday 30	Thursday 31	Friday 01
0900	**Invited – 1**	**Invited – 2**	**Invited – 3**	**Invited – 4**	**Invited – 5**
	chair Karlin	Succi	Lallemand	Ripoll	Wagner
9h00	Yves Pomeau	Laure Saint-Raymond	Alexander Bobylev	Yves Couder	Paulo Philippi
9h45	Miller Mendoza	Dave Levermore	Li-Shi Luo	Irina Ginzburg	Jonas Tölke
10h30	pause	pause	pause	pause	pause
11h00	**Tutorial – 1**	**Tutorial – 2**	**Tutorial – 3**	**Tutorial – 4**	**Tutorial – 5**
	chair Pomeau	Saint-Raymond	Bobylev	Couder	Philippi
11h00	Paul Dellar	Roberto Benzi	Marisol Ripoll	Jean-Pierre Boon	Julia Yeomans
11h45	**Granular**	**Rarefied gases**	**Industrial applications**	**multidisciplinary**	**Droplets – 1**
12h45	lunch	lunch	lunch	lunch	lunch
14h15	**Algorithms – 1**	**Simulation – 1**	**14h – 17h :**	**Materials, interfaces**	**Droplets – 2**
	chair Mendoza	Levermore	**Social program**	Boon	Tölke
			« Bateaux mouches »		
14h15	**Particles in Flows**	**Compressible, turbulence**		**Rheology**	
	chair Dellar	Benzi		Harting	
16h15	pause	pause		pause	pause
16h45	**Algorithms – 2**	**Simulation – 2**		**Porous media**	**Droplets – 3**
	chair Ansumali	d'Humières		Ginzburg	Yeomans
16h45	**Combustion, particles**	**Quantum fluids, heat transfer**		**Biophysics**	
	chair Boghosian	Gatignol		Luo	
18h45	end	end		end of sessions	End of the conference (18h).
20h00				**Banquet at « La Coupole »**	
22h30				**end of banquet**	

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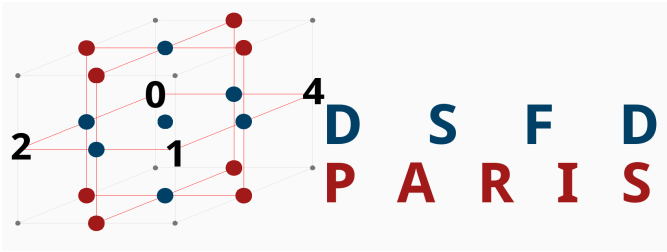
	Monday 28	Tuesday 29	Wednesday 30	Thursday 31	Friday 01
11h45	**Granular** Maynar, Garcia, Trizac Almazan, Serero, et al. Garcıa, Maynar, Brey	**Rarefied gases** Aoki, Taguchi Taguchi Xu	**Industrial applications** Tannoury, Ricot, et al. Zhang, Sun Bondino, Yang, Adler	**multidisciplinary** Boghosian Succi, Chotibut, Nelson Chikatamarla, Karlin	**Droplets – 1** Ashoke Raman et al. Hessling, Harting Baglin, Barber, Rosengarten
14h15	**Algorithms – 1** Graille Heubes, Bartel, et al. Zeiser, Wittmann, et al. Dellacherie Hegele, Mattila, et al. Zheng	**Simulation – 1** Khromov, Shan, et al Vedula, Aliat Feng, Sagaut, Tao Yang, Tsai, Chang Mattila Ambrus et al.	Dussane	**Materials, interfaces** Younsi, Cartalade Ammer, Rüde, et al. Ju, Lin, Lin Velasco Sabogal, et al. Favier Morrison et al.	**Droplets – 2** Medvedev, et al. Qin Lycett-Brown, Luo Ping, Xiaodong, Hui, Xingwei Jian, Michon, et al. Bogner, Rüde, Harting
14h15	**Particles in Flows** Seil, Pirker Jung, Yoo, Leo Yu, Vinkovic, Buffat Fu, Yuen, Chao Mountrakis,et al. Prohm, Stark	**Compressible, turbulence** Jung et al. Lévêque, Touil, et al. Herault, Pétrélis, Fauve Toth, Hazi Delbosc et al. Pradhan, Kumaran	des Actes	**Rheology** Scagliarini et al. Mishra, Shor, et al. Stratford, Gray Frijters, Günther, et al. Krueger, Harting	
16h45	**Algorithms – 2** Frapolli, Karlin et al. Roux, Ginzburg Patel, Perko Fevrier, Graille, et al. Boesch, Karlin et al Pavan, Jobic, Occelli	**Simulation – 2** Kumar Verma et al. Laksh. Reddy et al Tekitek et al. Shrestha et al. Shi, Chai, Guo Ju, Xiang, Sun	Dussane	**Porous media** Talon, Chevalier, Bauer Zhang, Shi Schmieschek, Harting, et al. Gray, Welch, Boek et al Straka Silva-Ginzburg	**Droplets – 3** Wagner Biciusca, et al. Montessori, La Rocca, et al.
16h45	**Combustion, particles** Looije, Akker, et al. de Graaf, Rempfer, et al. Xu, Zhang, Lin Luo, Qian A. E. Fard, Thévenin Hui, Xiaodong et al.	**Quantum fluids, heat transfe** Mohseni, Mendoza, et al. Doria, Coelho, et al. Bertolaccini, et al. Schiller, Fleury et al. Yehya, Naji, Zalewski Maquignon et al.	des Actes	**Biophysics** Pickl, Köstler, Rüde Randles, Kaxiras Nazir, Low Dong, Chen Krithivasan, et al. Wang-Shi	



23rd International Conference on Discrete Simulation of Fluid Dynamics

Ecole Normale Supérieure, Paris, France

28 July – 01 August 2014

Program

Monday 28 July 2014

08h00 – 08h50 Registration

08h50 – 09h00 Opening (salle Dussane)
session chair : François Dubois

Welcome
Stéphan Fauve

09h00 – 10h30 Invited – 1 (salle Dussane)
session chair : Ilya Karlin

An example of granular material: solid beads in an neohookean matrix
Yves Pomeau

Kinetic formulation of the Kohn-Sham equations for *ab initio* electronic structure calculations
Miller Mendoza

10h30 – 11h00 Coffee break (Restaurant)

11h00 – 11h45 Tutorial – 1 (salle Dussane)
session chair : Yves Pomeau

Discrete velocity models: a tutorial
Paul Dellar

11h45 – 12h45 Granulars (salle Dussane)
session chair : Yves Pomeau

Hydrodynamics of a granular gas close to a stationary state
Pablo Maynar

Hydrodynamic simulation of granular sedimentation
Lidia Almazan

Fluctuating hydrodynamics for granular gases
Maria Isabel Garcia de Soria

12h45 – 14h15 Lunch (Restaurant)

14h15 – 16h15 Algorithms – 1 (salle Dussane)
session chair : Miller Mendoza

Approximation of hyperbolic systems: a lattice Boltzmann scheme as a relaxation method
Benjamin Graille

Discrete artificial boundary conditions for the lattice Boltzmann method
Daniel Heubes

Predicting performance: on performance engineering applied to LBM
Thomas Zeiser

Construction and analysis of lattice Boltzmann methods applied to a 1D convection-diffusion equation
Stéphane Dellacherie

Regularized boundary conditions for high-order lattice-Boltzmann equations
Luis A. Hegele Jr.

Invariance and entropy in the lattice Boltzmann methods
Zheng Ran

14h15 – 16h15 Particles in Flow (salle des Actes)
session chair : Paul Dellar

Modelling of lateral migration of particles in channel flow in two and three dimensions: the Segré-Silberberg effect revisited
Philippe Seil

A coarse-grained lattice model for instability deposit patterns in an evaporating droplet
Narina Jung

Finite size particle transport in turbulent channel flow
Wenchao Yu

Finite difference lattice Boltzmann simulation on acoustics induced particle deposition
Sauchung Fu

Revisiting the use of the immersed-boundary method for simulations of suspended particles
Lampros Mountrakis

Control of inertial microfluidics
Christopher Prohm

16h15 – 16h45 Coffee break (Restaurant)

16h45 – 18h45 Algorithms – 2 (salle Dussane)
session chair : Santosh Ansumali

Consistent two-population lattice Boltzmann model for thermal flows
Nicolo Frapolli

Accurate and stable LBE modeling of the Taylor dispersion
Laetitia Roux

General boundary conditions for advection-diffusion equation in lattice Boltzmann methods
Ravi A. Patel

On stability of lattice Boltzmann schemes with relative velocities
Tony Février

Knotted vortices: entropic lattice Boltzmann method for simulation of vortex dynamics
Fabian Bösch

Vector BGK models for fluid flows: incompressible Navier-Stokes and convection diffusion equations
Vincent Pavan

16h45 – 18h45 Combustion and Particles (salle des Actes)
session chair : Bruce Boghosian

Simulating surface reactions with a multi-speed lattice Boltzmann method
Niels Looije

Catalytically driven anisotropic self-propelled colloids
Joost de Graaf

Nonequilibrium behaviors in the combustion system: lattice Boltzmann modeling
Aiguo Xu

Study of the sintering behaviour of many TiO2 nanoparticles via molecular dynamics simulation
Kai H. Luo

Immersed boundary-lattice Boltzmann modeling of particulate flows using different discrete delta functions and force schemes
Amir Eshghinejad Fard

Bubble motion and interaction under buoyancy by lattice Boltzmann method
Meng Hui

Tuesday 29 July 2014

09h00 – 10h30 Invited – 2 (salle Dussane)
session chair : Sauro Succi

From molecular dynamics to kinetic theory and hydrodynamics
Laure Saint-Raymond

Coarsening of particle systems: from many to fewer particles
C. David Levermore

10h30 – 11h00 Coffee break (Restaurant)

11h00 – 11h45 Tutorial – 2 (salle Dussane)
session chair : Laure Saint-Raymond

Fully developed turbulence: a tutorial introduction
Roberto Benzi

11h45 – 12h45 Rarefied Gases (salle Dussane)
session chair : Laure Saint-Raymond

Motion of an array of plates in a rarefied gas caused by radiometric force
Kazuo Aoki

Higher order correction to the drag exerted on the sphere immersed in a slow uniform flow of a rarefied gas
Satoshi Taguchi

Unified gas-kinetic scheme for continuum and rarefied flows
Kun Xu

12h45 – 14h15 Lunch (Restaurant)

14h15 – 16h15 Simulation – 1 (salle Dussane)
session chair : C. David Levermore

Weak coupling for hybrid molecular dynamics – lattice Boltzmann simulations
Oleg Khromov

Collisional lattice Boltzmann method using arbitrary lattices in 2D and 3D velocity spaces
Prakash Vedula

A three dimensional DDF lattice model for thermal compressible flow on standard lattices
Yongliang Feng

Generalized hydrodynamic flows based on semiclassical lattice Boltzmann-BGK ellipsoidal statistical model
Jaw-Yen Yang

A finite-difference lattice-Boltzmann scheme for hydrodynamic simulations
Keijo Mattila

Lattice Boltzmann models based on half-space quadratures and the corner transport upwind method
Victor E. Ambrus

14h15 – 16h15 Compressible, Turbulence (salle des Actes)
session chair : Roberto Benzi

A low Mach correction for the Godunov scheme applied to the linear wave equation with void fraction
Jonathan Jung

Turbulence modeling in the framework of the lattice Boltzmann method
Emmanuel Lévêque

1/f spectrum in two-dimensional turbulence
Johann Herault

Spin-up effect of roughness on turbulence in square and circle container
Gabor Toth

Real-time simulation and visualisation of air flow in datacenters and hospitals
Nicolas Delbosc

Analytical and numerical modeling of strongly rotating rarefied gas flows
Sahadev Pradhan

16h15 – 16h45 Coffee break (Restaurant)

16h45 – 18h45 Simulation – 2 (salle Dussane)
session chair : Dominique d'Humières

Multiparticle collision dynamics simulation of microflows
Vicky Kumar Verma

Weak shock waves in dilute granular gases
M.H. Lakshminarayana Reddy

Boundary conditions revisited
Mohamed Mahdi Tekitek

Can finite-volume lattice Boltzmann outperform streaming-based algorithm in fluid-dynamics simulations? A one-to-one accuracy and performance study
Kalyan Shrestha

Rectangular lattice BGK model for Navier-Stokes equation
Baochang Shi

Study on the stability of high speed sailing for amphibious vehicle based on SPH method
Dongmei Ju

16h45 – 18h45 Quantum fluids, Heat transfer (salle des Actes)
session chair : Renée Gatignol

Relativistic effects on the Richtmyer-Meshkov instability
Farhang Mohseni

A lattice Boltzmann method for quantum fluids
Mauro M. Doria

Lattice Boltzmann scheme for superfluid 4He dynamics
Jonathan Bertolaccini

Coupled excitations of phonon modes in microfluidic crystals
Ulf D. Schiller

Numerical analysis of entropy generation within a convective heat transfer enclosure using a lattice Boltzmann thermal model
Alissar Yehya

Dynamic mesh refinement for lattice Boltzmann models using criterion of non equilibrium stress tensor
Nicolas Maquignon

Wednesday 30 July 2014

09h00 – 10h30 Invited – 3 (salle Dussane)
session chair : Pierre Lallemand

Discrete simulation Monte Carlo (DSMC) methods for Coulomb collisions in plasma and some open mathematical problems for Landau kinetic equation
Alexander Bobylev

Modeling and simulation of gaseous microflows
Li-Shi Luo

10h30 – 11h00 Coffee break (Restaurant)

11h00 – 11h45 Tutorial – 3 (salle Dussane)
session chair : Alexander Bobylev

Colloids with multiparticle collision dynamics: from point particles to Janus particles
Marisol Ripoll

11h45 – 12h45 Industrial applications (salle Dussane)
session chair : Alexander Bobylev

Validation of a new CFD solver based on the lattice Boltzmann method
Elias Tannoury

Lattice Boltzmann method for complex three dimensional transonic flows
Raoyang Zhang

Lattice-Boltzmann for digital petrophysics: considerations from an industry perspective
Igor Bondino

12h45 – 14h00 Lunch (Restaurant)

14h00 – 17h00 Social Program

14h00	Departure from Ecole Normale Supérieure
14h45 - 15h00	Boarding at « Escale Notre-Dame Saint Michel » (Pont Saint Michel)
15h00 - 16h30	Seine tour with the « Bateaux Parisiens »
16h30	End of the Seine tour at « Tour Eiffel »
16h30 – 17h00	Free program or Return at Ecole Normale Supérieure.

Thursday 31 July 2014

09h00 – 10h30 Invited – 4 (salle Dussane)
session chair : Marisol Ripoll

A physical system with an information exchange between a particle and a wave
Yves Couder

Analysis of the LBE schemes: bulk, boundaries, interfaces
Irina Ginzburg

10h30 – 11h00 Coffee break (Restaurant)

11h00 – 11h45 Tutorial – 4 (salle Dussane)
session chair : Yves Couder

Anomalous diffusion
Jean Pierre Boon

11h45 – 12h45 Multidisciplinary (salle Dussane)
session chair : Yves Couder

Discrete kinetic models of the economy
Bruce Boghosian

Flow-driven delocalization of populations with heterogeneous growth rates
Sauro Succi

Entropic lattice Boltzmann method for fluid dynamics: thermal, multi-phase and turbulent flows
Shyam S. Chikatamarla

12h45 – 14h15 Lunch (Restaurant)

14h15 – 16h15 Materials, Interfaces (salle Dussane)
session chair : Jean-Pierre Boon

Lattice Boltzmann simulations of hydrodynamic effects on crystal growth of binary mixture
Amina Younsi

Modeling of thermodynamic phenomena with lattice Boltzmann method for additive manufacturing processes
Regina Ammer

Lattice Boltzmann simulations of droplet resting on partial wetting Micro-structured surfaces
Yu-Tang Ju

Study of hydrodynamic instabilities with a multiphase lattice Boltzmann model
Ali Mauricio Velasco Sabogal

Coupling lattice Boltzmann and immersed boundary methods for fluid-structure interactions involving flexible slender geometries
Julien Favier

Using lattice-Boltzmann to determine the burial and scour of cylinder shaped objects at the bottom of the ocean
Helen Morrison

14h15 – 16h15 Rheology (salle des Actes)
session chair : Jens Harting

Numerical investigations of the soft-glassy rheology of concentrated emulsions
Andrea Scagliarini

Atomistic theory and simulation of shear localization in three-dimensional amorphous solid
Pankaj Mishra

Large colloids in cholesteric liquid crystals
Kevin Stratford

Induced phase transitions of nanoparticle-stabilized emulsions
Stefan Frijters

Stabilising emulsions with deformable particles: an immersed boundary-lattice Boltzmann study
Timm Krueger

16h15 – 16h45 Coffee break (Restaurant)

16h45 – 18h45 Porous media (salle Dussane)
session chair : Irina Ginzburg

On the determination of a generalized Darcy equation for yield stress fluid in porous media using a LB TRT scheme
Laurent Talon

Pore-scale study of miscible viscous fingering phenomenon in porous media
Ting Zhang

Evaluation of a ternary lattice Boltzmann model for flow in porous media
Sebastian Schmieschek

Reactive flow and dissolution of solid mineral particles with application to CO2 sequestration operations
Farrel Gray

LBM simulation of gas flow and load heating in shaft furnace
Robert Straka

Numerical evaluation of the TRT scheme for Stokes-Brinkman-Darcy flows through a square array of cylindrical porous obstacles
Goncalo Silva

16h45 – 18h45 Biophysics (salle des Actes)
session chair : Li-Shi Luo

Simulating the swimming of microorganisms towards swarming
Kristina Pickl

A parallel-in-time method applied to lattice Boltzmann simulations of cardiovascular flow
Amanda Randles

A study of insect flapping wing aerodynamics based on immersed boundary - lattice Boltzmann method
Tayyab Nazir

Numerical simulation of self-propulsion jelly fish at low Reynolds number
Dibo Dong

Flapping flight simulations using lattice Boltzmann method
Siddharth Krithivasan

A study on the effect of stent strut shape on the hemodynamics of stented aneurysms using lattice Boltzmann method with non-uniform mesh
Lei Wang

20h00 – 22h00 Conference Banquet
Location : restaurant « La Coupole »,
102 boulevard du Montparnasse, tel. +33 1 43 20 14 20.

Friday 01 August 2014

09h00 – 10h30 Invited – 5 (salle Dussane)
session chair : Alexander Wagner

High order lattice-Boltzmann equations for multiphase/multicomponent flow
Paulo C. Philippi

Lattice Boltzmann methods for digital rock physics
Jonas Toelke

10h30 – 11h00 Coffee break (Restaurant)

11h00 – 11h45 Tutorial – 4 (salle Dussane)
session chair : Paulo C. Philippi

Modelling drops on micropatterned surfaces.
Julia M. Yeomans

11h45 – 12h45 Droplets – 1 (salle Dussane)
session chair : Paulo C. Philippi

Simultaneous impact of two droplets on stationary and moving films
K. Ashoke Raman

Self similarity of coalescing droplets on substrates
Dennis Hessling

Investigation of turbulent flow over superhydrophobic surfaces using the lattice Boltzmann method.
Andrew Baglin

12h45 – 14h15 Lunch (Restaurant)

14h15 – 16h15 Droplets – 2 (salle Dussane)
session chair : Jonas Toelke

Thermal lattice Boltzmann method for multiphase flows
Dmitry Medvedev

Phase equilibrium property of phase separation in shear flow
Rongshan Qin

Forcing terms in the lattice Boltzmann method
Daniel Lycett-Brown

Dynamic characteristics of three particles aligned movement in an inclined channel
Hu Ping

Numerical and experimental investigation of droplet impact on a highly viscous liquid basin
Zhen Jian

Simulation of surface tension and wetting in the free surface lattice Boltzmann method
Simon Bogner

16h15 – 16h45 Coffee break (Restaurant)

16h45 – 17h45 Droplets – 3 (salle Dussane)
session chair : Julia M. Yeomans

Towards a computational modeling of structure formation in colloidal drying
Alexander J. Wagner

Simulation of liquid-vapour phase separation on GPUs using Lattice Boltzmann models with off-lattice velocity sets
Tonino Biciusca

Multi-range pseudo-potential method on higher-order three-dimensional lattices
Andrea Montessori

17h45 – 18h00 End of « DSFD 2014 Paris ».