

# Curriculum Vitae of MAURO SBRAGAGLIA

(Updated on December 2018)

**Present Position:** Associate Professor Theoretical Physics, Mathematical Models and Methods (Italian code FIS/02) for the scientific sector 02/A2 (High Energy Theoretical Physics)

**Affiliation:** Department of Physics, University of Rome Tor Vergata, Via della Ricerca Scientifica 1, 00133, Rome (Italy)

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## **EDUCATION:**

- 1997-2001: Undergraduate Studies in Physics, **Department of Physics, University of Rome Tor Vergata (110/110 Magna Cum Laude)**. Subject: Turbulence and Dynamical Systems.
- 2002-2005: PhD in Theoretical Physics, **Department of Physics, University of Rome Tor Vergata**. Subject: Modelling Fluid Dynamics at High and Low Reynolds Numbers (PhD defended on 17th March 2006).

## **PROFESSIONAL EXPERIENCE:**

- 2016: National Habilitation for Full Professor, scientific sectors 02/A2 (High Energy Theoretical Physics) & 02/B2 (Theoretical Condensed Matter)
- Apr 2014-present Associate Professor, Department of Physics, **University of Rome Tor Vergata**
- 2013: Special nomination (“chiamata diretta”) to Associate Professor of Theoretical Physics, Mathematical Models and Methods proposed by the **University of Rome Tor Vergata**
- 2012: National Habilitation for Associate Professor, scientific sectors 02/A2 (High Energy Theoretical Physics) & 02/B2 (Theoretical Condensed Matter)
- 2007-2014: Researcher, Department of Physics, **University of Rome Tor Vergata**
- 2007-present: **Member of CNISM** (Consorzio Nazionale Interuniversitario di Struttura della Materia)
- Oct.2010, Feb.2012, Aug.2013: Visiting Scientist at the Department of Physics, **Eindhoven University**, The Netherlands (Host: Prof. F. Toschi)
- Sept.2009-Oct.2009: Visiting Scientist at the Department of Mechanical Engineering, **University of Tokyo**, Japan (Host: Prof. Y. Matsumoto)
- July 2008: Visiting Scientist at **EXA Corporation**, USA (Host: Prof. H. Chen)
- 2005-2007: **Post-Doc** at the **University of Twente** (The Netherlands)
- 2002-present: **Member of INFN** (Istituto Nazionale Fisica Nucleare, Italy)

## KEY NUMBERS:

- **Total Number of Citations:** Around **3000** (Google Scholar)
- **Number of Citations from 2011:** Around **2000** (Google Scholar)
- **Numbers of Published Works:** **1 Book** and more than **70 Papers** including Physical Review Letters, Physical Review X, Journal of Fluid Mechanics, Soft Matter.
- **Hirsch-Index:** **31** (Google Scholar)
- **i10-Index (#Publ. with more than 10 Citations):** **57** (Google Scholar)
- **Advising:** 7 Post-Doctoral Fellows, 8 PhD Students, 15 Master/Bachelor Thesis.

## RESEARCH INTERESTS (Key Words):

Complex Systems and Multiphase Fluid Dynamics, Lattice Boltzmann Models, Microchannel Flows. Non Linear Instabilities and Convection. Turbulence and Dynamical Systems, Intermittency and Anomalous Scaling. Shell Models for Turbulence, Turbulent Transport.

## GRANTS & FUNDING:

- 2018-2022: **Student Supervisor** in project 'STIMULATE: SimulaTION in MULTiscale physicAl and biological sysTEms' (**H2020 - Program for European Joint Doctorates**)
- 2015-2020: **Student Supervisor** in project 'HPC-LEAP: High Performance Computing in Life sciences, Engineering and Physics' (**H2020 - Program for European Joint Doctorates**)
- 2011-2016: **Principal Investigator** of the project 'DROEMU: Droplets and Emulsions, Dynamics and Rheology' (**FP7 ERC-IDEAS Starting Grant** Selection 2011, contract number 279004) funded for  $\approx 1.2$  MEuro.
- 2013-2015: Staff member in the EU project "EuHIT: European High-performance Infrastructures in Turbulence" (PI: Prof. L. Biferale).
- 2013-2015: Member of a network of 5 groups granted from Italian Minister of Research for "Projects of Relevant National Interest" on "Complex Systems, in statistical mechanics and field theory" (PI: Prof. G. Parisi).
- 2010-2011: Member of a network of 5 groups granted from Italian Minister of Research for "Projects of Relevant National Interest" on "Complex Systems, in statistical mechanics and field theory" (PI: Prof. G. Parisi).
- 2007-present: Member of a network of 5 Italian groups, funded by INFN for a project on "Particles and Fields in Complex Fluids".
- 2007-2008: Grant from CNISM (Consorzio Nazionale Interuniversitario di Struttura della Materia) for a "Progetto di Innesco" on "Complex Fluids at at Micro- and Macro-scales" (PI: Prof. L. Biferale).
- 2007-2008: Member of a network of 5 groups granted from Italian Minister of Research for "Projects of Relevant National Interest" on "Complex Systems, Turbulence and phase segregation in microfluidic" (PI: Prof. G. Parisi).

### **AWARDS/ HONORS/ DISTINCTIONS:**

- 2012: **'Steven Orszag Award'** to recognize outstanding work in the DSFD area (Discrete Simulation of Fluid Dynamics) by a young investigator (age below 40).
- 2011: Letter of Commendation of the Rector of the University of Rome Tor Vergata
- 2009: **Invitation to contribute an article to Scholarpedia** on the Lattice Boltzmann Method.
- 2003-2005: **INFN award** for 1 PhD Fellowship out of 10 on a National basis.

### **HIGH PERFORMANCE COMPUTING GRANTS:**

- 2013: **PRACE-7th-Call Grant** for the project 'MULTIPORE' (9.000.000 hours on the Tier-1 supercomputing infrastructure, PI).
- 2012: **PRACE-DECI-8 Grant** for the project 'LBglaSS' (350.000 hours on the Tier-1 supercomputing infrastructure, Participant).
- 2012: Standard Caspur HPC Grant for the project 'Droplets in Confined Microfluidics Devices' (100.000 hours on SP6, PI).
- 2011: ISCRA-CINECA Class A Grant for the project 'TURBCONV' (614.000 hours on SP6, PI).

### **PEER REVIEW:**

Physical Review Letters, Nature, Physical Review E, Journal of Fluid Mechanics, Physics of Fluids, Europhysics Letters, Journal of Computational Physics, International Journal of Modern Physics C, International Journal of Multiphase Flows, European Physical Journal B, European Physical Journal E.

### **ORGANIZATION OF CONFERENCES/WORKSHOPS:**

- 'Lattice Boltzmann 2016', June 9-10 2016, Rome, Italy.
- 'Flowing Matter Across The Scales', May 24-27 2015, Rome, Italy.
- 'Multiphase Physics at the micro- and nanoscales', May 16-17 2013, Rome, Italy.
- 'Discrete Simulation of Fluid Dynamics DSFD2010', July 5-9 2010, Rome, Italy.

### **BOOKS:**

- Cini M., Fucito F. & **Sbragaglia M.**: Solved Problems in Quantum and Statistical Mechanics, *Springer*, ISBN 978-88-470-2314-7 (2012)

### **MEDIA COVERAGE/DIVULGATIVE ARTICLES:**

- Focus sulla Turbolenza, on Platinum Aziende & Protagonisti, Quadrimestrale anno 10 numero 28 - luglio 2017. Focus on my Research in Rome Tor Vergata.
- Fondi Europei per la Ricerca in Italia, Focus Abruzzo-Molise-Lazio, Lunedì' 27 Ottobre 2014. Focus on the European Grants in Rome Tor Vergata.
- A Caccia di un modello Fisico per la turbolenza, Sole 24 Ore (National Italian Newspaper), Lunedì' 22 Dicembre 2014. Focus on ongoing EU grants in Rome Tor Vergata.

- Mauro Sbragaglia vince il Grant ERC, on IL MESSAGGERO (National Italian Newspaper), Martedì 27 Settembre 2011. Focus on my 2011-ERC Starting Grant.
- Cinque “Grants”: Tor Vergata al Top, on CORRIERE DELLA SERA (National Italian Newspaper), Giovedì 15 Settembre 2011. Focus on the 2011-ERC Starting Grant winners in Rome.
- Succi S., **Sbragaglia M.** and Ubertini S.: The Lattice Boltzmann Method, Scholarpedia 5(5), 9507 (2010).
- Druppel op een Spijkerbed, on NRC HANDELSBLAD (National Dutch Newspaper), Saturday 27-Sunday 28 October 2007. Focus on research published in *Phys. Rev. Lett.* **99**, 156001 (2007).

#### **INVITED PRESENTATIONS (Conferences & Visits):**

- ‘PoF Days’, October 2018, Twente, Netherlands (Conference).
- ‘International School on LBM’, August 2017, Xian, China (School).
- ‘HPC applications to Turbulence and complex flows’, October 2016, Rome, Italy (School).
- ‘ICTAAM 2016 - International Congress of Theoretical and Applied Mechanics’, August 2016, Montreal, Canada (Conference).
- ‘Droplets & Emulsions: Dynamics & Rheology’, October 29 2013. Kolloquium at University of Strathclyde, UK (visit).
- ‘EMN Droplets 2016’, May 2016, San Sebastian, Spain (Conference).
- ‘Discrete Simulation of Fluid Dynamics DSFD2015’, July 2015, Edinburgh, UK (Conference).
- ‘Droplets & Emulsions: Dynamics & Rheology’, October 29 2013. Kolloquium at University of Bayreuth, Germany (visit).
- ‘Lattice Boltzmann Modelling of Complex Fluid Dynamics Problems’, October 28 2013. University of Bayreuth, Germany (visit).
- ‘Lattice Boltzmann Models for Complex Fluid Dynamics’, June 18 2013. Vienna, Austria (visit)
- ‘Fluid-Structure Interactions in Soft-Matter Systems: From the Mesoscale to the Macroscale’, November 28-30 2012. Prato, Italy (workshop).
- ‘Multiscale Fluid Dynamics With The Lattice Boltzmann Method’, February 14-18 2011, Leiden, The Netherlands (conference).
- ‘Weekly Physics Seminar’, September 25 2009, Department of Mechanical Engineering, University of Tokyo, Japan (visit).
- ‘Discrete Simulation of Fluid Dynamics DSFD2009’, July 6-10 2009, Beijing, China (conference).
- ‘Weekly Physics Seminar’, June 17 2009, Department of Physics, University of Genova, Italy (visit).
- ‘Monthly Physics Seminar’, July 22 2008, EXA Corporation, Boston, USA (visit).

- 'Mesoscopic Transport Phenomena Seminar', June 25 2008, Eindhoven, The Netherlands (visit).
- 'Physics of Micro and Nanofluids', June 9-20 2008, Leiden, The Netherlands (conference).
- 'Theoretical Physics Seminar', January 25 2008, Oxford, England (visit).
- 'MESA+ Colloquium', January 15 2008, Enschede, The Netherlands (visit).
- 'Microfluidic: Experiments and Numerics (ESF Exploratory Workshop)', September 28-30 2007, Rome, Italy (conference).
- 'Dynamics of Patterns Symposium', April 26-27 2007, Twente, The Netherlands (conference).
- 'FOM-days 2007', January 22-23 2007, Veldhoven, The Netherlands (conference).
- 'Italian-French Conference', November 27-29 2006, Bagno Vignoni, Italy (conference).
- 'Discrete Simulation of Fluid Dynamics DSFD2005 ', August 22-26 2005, Kyoto, Japan (conference).

#### **CONTRIBUTED PRESENTATIONS, POSTERS & SCHOOLS:**

- '68th Annual Division of Fluid Dynamics', November 22-24 2015, Boston (Talk).
- 'Microfluidics 2014', December 10-14 2014, Limerink, Irland (Talk)
- '67th Annual Division of Fluid Dynamics', November 23-25 2014, San Francisco (Talk).
- 'Soft Matter Conference ISMC2013' September 15-19 2013, Rome, Italy (Poster, Planned)
- 'Italian National Conference on Condensed Matter Physics' September 9-13 2013, Milan, Italy (Talk, Planned)
- 'Physics of Complex Colloids' September 14-18 2013, Ljubljana, Poland (Poster)
- '9th Euromech Fluid Mechanics Conference EFMC9', September 9-13 2012, Rome, Italy (Talk)
- 'Discrete Simulation of Fluid Dynamics DSFD2012 ', July 23-27 2012, Bangalore, India (Talk)
- 'Microfluidics 2010', December 10-12 2010, Toulouse, Italy (Talk)
- 'Discrete Simulation of Fluid Dynamics DSFD2010 ', July 5-9 2010, Rome, Italy (Talk).
- 'Microfluidics 2008', December 10-12 2008, Bologna, Italy (Talk)
- 'Annual MESA+ Meeting 2007', September 11 2007, Enschede, The Netherlands (Poster)
- 'Nanoned Flagship Meeting 2007-I', April 12-13 2007, Utrecht, The Netherlands (Poster).
- '59th Annual Division of Fluid Dynamics', November 19-21 2006, Tampa, Florida (Talk).
- 'NanoNed /MicroNed Symposium II', November 16-17 2006, Eindhoven, The Netherlands (Poster).

- 'Nanoned Flagship Meeting 2006-II', October 31 2006, Utrecht, The Netherlands (Poster).
- 'Annual MESA+ Meeting', September 28 2006, Enschede, The Netherlands (Poster).
- 'Solid-Fluid Interfaces, Complex Fluid Interfaces and Nanofluidics' September 9-14 2006, Obergurgl, Austria (Poster).
- 'Euromech Fluid Mechanics Conference 6', June 22-30 2006, Stockholm, Sweden (Talk).
- 'Nanoned Flagship Meeting 2006-I', April 20-21 2006, Utrecht, The Netherlands (Poster).
- 'FOM-days 2006', November 7-8 2005, Veldhoven, The Netherlands (Poster).
- 'X Convegno Internazionale di Meccanica Statistica e dei Sistemi Complessi', 29 June-1 July 2005, Parma, Italy (Talk).
- 'MMD Meeting', 22-25 June 2005, Genova, Italy (Poster).
- 'Turbulence Meeting', 11-15 October 2004, Nice, France (Talk).
- 'Grand Combin Summer School on Transport in Geophysical Flows: Ten Years After', 14-23 June 2004, Aosta, Italy.
- 'Statistical Mechanics, Chaos and Disordered Systems', Rome University 22-24, September 2004.
- 'ICTP-INFN Summer School on Transport, Reaction and Propagation in Fluids', 8-13 September 2003, Trieste, Italy.
- 'Large Systems: Some Mathematical Problems and Perspectives', Accademia Nazionale dei Lincei, 26-29 May 2003, Rome, Italy.
- 'Kolmogorov's Legacy in Physics: One Century of Chaos, Turbulence and Complexity', 15-17 September 2003, Trieste, Italy (Poster).
- 'Kolmogorov's Heritage in Physics', Rome University, 9 May 2003.
- 'Workshop on Lagrangian Problems in Turbulence', Rome University, 27-28 June 2003.
- 'Aspects of Complexity and its Applications', Rome University, 23-25 September 2002.

**TEACHING:**

- Fall '14-Now Statistical Mechanics I, University of Rome Tor Vergata (Professor)
- Fall '08-Fall '13: Statistical Mechanics I, University of Rome Tor Vergata (Assistant Professor)
- Fall '12: Turbulence, University of Rome Tor Vergata (Assistant Professor)
- Fall '09-Fall '10: Turbulence, University of Rome Tor Vergata (Professor)
- Fall '03: Statistical Physics, University of Rome Tor Vergata (Assistant Professor)

**ADVISING:**

POST-DOCTORAL FELLOWS:

- Matteo Lulli, Post-Doctoral fellow from 1 January 2016 till January 2018 at the department of Physics of Rome University (Project: Droplets and Emulsions: Dynamics and Rheology (DROEMU)).
- Daniele Belardinelli, Post-Doctoral fellow from 1 November 2014 till December 2018 at the department of Physics of Rome University (Project: Droplets and Emulsions: Dynamics and Rheology (DROEMU)).
- Andrea Scagliarini, Post-Doctoral fellow from 1 September 2013 till 30 October 2015 at the department of Physics of Rome University (Project: Droplets and Emulsions: Dynamics and Rheology (DROEMU)).
- Anupam Gupta, Post-Doctoral fellow from 1 August 2013 at the department of Physics of Rome University (Project: Droplets and Emulsions: Dynamics and Rheology (DROEMU)).
- Eric Foard, Post-Doctoral fellow from 1 October 2012 till 1 October 2013 at the department of Physics of Rome University (Project: Bubble dynamics and Boiling in Lattice Boltzmann models).
- Giorgio Amati, Post-Doctoral fellow from 15 February 2012 till 30 June 2013 at the department of Physics of Rome University (Project: Droplets and Emulsions: Dynamics and Rheology (DROEMU)).
- Marcello Sega, Post-Doctoral fellow from 1 April 2012 till 1 April 2013 at the department of Physics of Rome University (Project: Droplets and Emulsions: Dynamics and Rheology (DROEMU)).

#### PhD STUDENTS:

- Fabio Guglietta, PhD Thesis 2018-2021, Rome University, Aachen University & Cyprus institute, Department of Physics.
- Francesca Pelusi, PhD Thesis 2017-2020, Rome University, Department of Physics.
- Xiao Xue, PhD Thesis 2015-2018, Rome University & Eindhoven University, Department of Physics.
- Felix Milan, PhD Thesis 2015-2018, Rome University & Eindhoven University, Department of Physics.
- Daniele Belardinelli, PhD Thesis 2011-2014, Rome University, Department of Physics.
- Riccardo Scatamacchia, PhD Thesis 2011-2014, Rome University, Department of Physics.
- Patrizio Ripesi, PhD Thesis 2010-2013, Rome University, Department of Physics.
- Andrea Scagliarini, PhD Thesis 2008-2010, Rome University, Department of Physics.

#### BACHELOR & MASTER STUDENTS:

- Giulia di Palma, Spatial cooperativity in the flow of concentrated emulsions in microchannels: theory and simulations, academic year 2017/2018, Rome University, Department of Physics (Bachelor Thesis).
- Diego Taglienti, From the lattice Boltzmann equation to the transport phenomena in hydrodynamics. theory and simulations, academic year 2017/2018, Rome University, Department of Physics (Bachelor Thesis).

- Ilaria Castaldi, From Stochastic Hydrodynamics to Capillary Fluctuations, academic year 2016/2017, Rome University, Department of Physics (Bachelor Thesis).
- Francesca Pelusi, Mesoscopic dynamics of concentrated emulsions in microchannels, academic year 2016/2017, Rome University, Department of Physics (Master Thesis).
- Daniele Simeoni, Drop Deformation in presence of bacterial dynamics and steady elongational flows, academic year 2016/2017, Rome University, Department of Physics (Master Thesis).
- Riccardo Voso, Flow of concentrated emulsions in microfluidics, academic year 2016/2017, Rome University, Department of Physics (Bachelor Thesis).
- Gianmarco Venditti, Evaporation Dynamics of Thin Films, academic year 2015/2016, Rome University, Department of Physics (Master Thesis).
- Giulio De Magistris, Viscous effects in multicomponent lattice Boltzmann models, academic year 2012/2013, Rome University, Department of Physics (Master Thesis).
- Matteo Madonia, Cavity Dynamics and impact of solid objects on free surfaces, academic year 2011/2012, Rome University, Department of Physics (Bachelor Thesis).
- Gianmarco Venditti, Slip and Superhydrophobic surfaces, academic year 2011/2012, Rome University, Department of Physics (Bachelor Thesis).
- Giulio De Magistris, Spatial cooperativity in soft-glassy flows, academic year 2010/2011, Rome University, Department of Physics (Bachelor Thesis).
- Francesca Mancini, Numerical studies on statistical properties of red blood cell-like particles, academic year 2009/2010, Rome University, Department of Physics (Master Thesis).
- Massimo De Pietro, Instabilities in stratified fluids and the problem of double diffusion convection, academic year 2009/2010, Rome University, Department of Physics (Bachelor Thesis).
- Marco Zigliotti, A lattice Boltzmann model for the description of non ideal fluids, academic year 2008/2009, Rome University, Department of Physics (Bachelor Thesis).
- Daniele Belardinelli, Thin Films Hydrodynamics (Applications to the Landau-Levich-Dejaguin problem), academic year 2008/2009, Rome University, Department of Physics (Bachelor Thesis).



## PUBLICATIONS:

(h-index = 31 with  $\sim$  3150 Citations)  
(Source: Google Scholar, December 2018)

### 2018:

75. Hegele L. A., Scagliarini A., **Sbragaglia M.**, Mattila K. K., Philippi P. C., Puleri D. F., Gounley J. and Randles A., High Reynolds number turbulent cavity flow using the lattice boltzmann method, *Phys. Rev. E* **98**, 043302 (2018)
74. Milan F., **Sbragaglia M.**, Biferale L. and Toschi F., Lattice Boltzmann Simulations of Droplet Dynamics in time-dependent flows, *Eur. Phys. J. E* **41**, 6 (2018)
73. Xue X., **Sbragaglia M.**, Biferale L. and Toschi F., Effects of Thermal Fluctuations in the fragmentation of a nanoligament, *Phys. Rev. E* **98**, 012802 (2018)
72. Lulli M., Benzi R. and **Sbragaglia M.**, Metastability at the Yield Stress Transition in Soft Glasses, *Phys. Rev. X* **3**, 021031 (2018)
71. Perrin H., Belardinelli D., **Sbragaglia M.** and Andreotti B., Response Function of a Moving Contact Line, *Phys. Rev. Fluids* **3**, 044001 (2018)
70. Derszi L., Filippi D., Lulli M., Mistura G., Bernaschi M., Garstecki P., **Sbragaglia M.**, Pierno M., Wall Fluidization in two acts: from stiff to soft roughness, *Soft Matter* **14**, 1088 (2018)

### 2017:

69. Varagnolo S., Filippi D., Mistura G., Pierno M. and **Sbragaglia M.**, Stretching of Viscoelastic drops in steady sliding, *Soft Matter* **13**, 3116 (2017)
68. Chiarello E., Pierno M., Mistura G., Gupta A. and **Sbragaglia M.**, Droplet Break-up driven by shear-thinning solutions in a microfluidic T-junction, *Phys. Rev. Fluids* **2**, 123602 (2017)
67. Derszi L., Filippi D., Pierno M., Lulli M., **Sbragaglia M.**, Bernaschi M. and Garstecki P., Fluidization and wall slip of soft-glassy by controlled surface roughness, *Phys. Rev. E* **95**, 052602 (2017)
66. Lulli M., Bernaschi M. and **Sbragaglia M.**, GPU-based detection of topological changes in Voronoi Diagrams, *Comp. Phys. Comm.* **213**, 19 (2017)

### 2016:

65. Belardinelli D., **Sbragaglia M.**, Gross M. and Andreotti B., Thermal FLuctuations of an Interface near a contact line, *Physical Review E* **94**, 052803 (2016)
64. Gupta A., **Sbragaglia M.**, Belardinelli D. and Sugiyama K., Lattice Boltzmann simulations of droplet formation in confined channels with thermocapillary flows, *Physical Review E* **94**, 063302 (2016)
63. Scagliarini A., Lulli M., **Sbragaglia M.** and Bernaschi M., A lattice Boltzmann study of the effects of viscoelasticity on droplet formation in microfluidic cross-junctions, *Europhys. Lett* **114**, 64003 (2016)

62. Benzi R., **Sbragaglia M.**, Succi S., Bernaschi M. and Toschi F., A lattice Boltzmann study of the effects of viscoelasticity on droplet formation in microfluidic cross-junctions, *Soft Matter* **12**, 514-530 (2016)
61. Gupta A. and **Sbragaglia M.**, A lattice Boltzmann study of the effects of viscoelasticity on droplet formation in microfluidic cross-junctions, *Eur. Phys. J. E.* **39**, 2 (2016)
60. Gupta A. and **Sbragaglia M.**, Effects of viscoelasticity in droplet dynamics and break-up in microfluidic T-Junctions: a Lattice Boltzmann Study, *Eur. Phys. J. E.* **39**, 6 (2016)

**2015:**

59. Scagliarini A., **Sbragaglia M.**, Bernaschi M., Mesoscopic simulation study of wall roughness effects in microchannel flows of dense emulsions *Jour. Stat. Phys.* **10**, 1-14 (2015).
58. D. Belardinelli,<sup>1</sup> **M. Sbragaglia**, L. Biferale, M. Gross & F. Varnik, Fluctuating Multicomponent Lattice Boltzmann Model, *Phys. Rev. E* **91**, 023313 (2015).
57. Scagliarini A., Dollet B. & **Sbragaglia M.**, Non-locality and viscous drag effects on the shear localisation in soft-glassy materials, *Coll. Surf. A* **473**, 133-140 (2015).
56. Dollet B., Scagliarini A. & **Sbragaglia M.**, Plastic flow of foams and emulsions in a channel: experiments and simulations, *Jour. Fluid Mech.* **766**, 556-589 (2015).
55. Gupta A., **Sbragaglia M.** & Scagliarini A., Hybrid Lattice Boltzmann/Finite Difference simulations of viscoelastic multicomponent flows in confined geometries, *Jour. Comp. Phys.* **291**, 177-197 (2015).
54. Varagnolo S., Pierno M., Mistura G. and **Sbragaglia M.**, Sliding droplets of Xanthan Solutions: a Joint experimental and numerical study, *Eur. Phys. J. E.* **38**, 126 (2015)
53. Sega M., Sbragaglia M., Biferale L., Succi S., The importance of Chemical Potential in the determination of water slip in nanochannels, *Eur. Phys. J. E.* **38**, 127 (2015)
52. Benzi R., **Sbragaglia M.**, Perlekar P., Bernaschi M., Succi S., Toschi F., Internal dynamics and activated processes in Soft-Glassy materials, *Soft Matter* **11**, 1271-1280 (2015).

**2014:**

51. Gupta A. & **Sbragaglia M.**, Deformation and break-up of viscoelastic droplets in confined shear flow, *Phys. Rev. E* **90**, 023305 (2014).
50. Benzi R., **Sbragaglia M.**, Perlekar P., Bernaschi M., Succi S., Toschi F., Direct evidence of plastic events and dynamic heterogeneities in soft-glasses, *Soft Matter* **10**, 4615-4624 (2014).
49. Varagnolo S., Schiocchet V., Ferraro D., Pierno M., Mistura G., **Sbragaglia M.**, Gupta A., Amati G.: Tuning drop motion by chemical patterning of surfaces, *Langmuir* **30**, 2401-2409 (2014).
48. **Sbragaglia M.**, Amati G., Biferale L., Varagnolo S., Ferraro D., Fantinel P., Pierno M., Mistura G.: Sliding Drops on Chemically heterogeneous Patterns, *Phys. Rev. E* **89**, 012406 (2014)

47. Ripesi P., Biferale L., **Sbragaglia M.** & Wirth A.: Natural convection with mixed insulating and conducting boundary conditions: Low and High Rayleigh Regimes, *Jour. Fluid. Mech.* **742**, 636-663 (2014)

**2013:**

46. Benzi R., Bernaschi M., **Sbragaglia M.** & Succi S.: Kinetic characterization of non-linear soft-glassy rheology, *Europhys. Lett.* **104**, 48006 (2013).
45. Sega M., Sbragaglia M., Kantorovich S.S., Ivanov A.O.: Mesoscale Structures at Complex Fluid-Fluid Interfaces: a Novel Lattice Boltzmann / Molecular Dynamics Coupling, *Soft Matter* **9**, 10092 (2013)
44. Varagnolo S., Ferraro D., Fantinel P., Pierno M., Mistura G., Amati G., Biferale L. & **Sbragaglia M.**: Stick-Slip Sliding of Water Drops on Chemically Heterogeneous Surfaces, *Phys. Rev. Lett.* **111**, 066101 (2013).
43. **Sbragaglia M.** & Belardinelli D.: Interaction Pressure Tensor for a class of Multicomponent Lattice Boltzmann models, *Phys. Rev. E* **88**, 013306 (2013).
42. Sega M., **Sbragaglia M.**, Biferale L. & Succi S.: Water slip-length divergence in nanochannels and its regularization by inhomogeneities at the Angstrom scale, *Soft Matter* **9**, 8526-8531 (2013)
41. Scarbolo L., Molin D., **Sbragaglia M.**, Perlekar P., Soldati A. & Toschi F.: Unified framework for a side-by-side comparison of different multicomponent algorithms: Lattice Boltzmann vs. phase field model, *Jour. Comp. Phys.* **234**, 263-279 (2013).

**2012:**

40. **Sbragaglia M.**, Benzi R., Bernaschi M. & Succi S.: The emergence of supramolecular forces from lattice kinetic models of non ideal fluids: applications to the rheology of soft glassy materials, *Soft Matter* **8**, 10773-10782 (2012).
39. Perlekar P., Biferale L., **Sbragaglia M.**, Srivastava S. & Toschi F. & Biferale L.: Droplet size distribution in homogeneous isotropic turbulence, *Phys. Fluids* **24**, 065101 (2012).
38. Biferale L., Perlekar P., **Sbragaglia M.** & Toschi F.: Convection in multiphase flows using Lattice Boltzmann methods, *Phys. Rev. Lett.* **108**, 104502 (2012).

**2011:**

37. Benzi R., Bernaschi M., **Sbragaglia M.** & Succi S.: Heterogeneous diffuse interfaces: A new mechanism for arrested coarsening in binary mixtures, *Eur. Phys. J. E* **34**, 93 (2011).
36. **Sbragaglia M.** & Shan X.: Consistent pseudo-potential interactions in Lattice Boltzmann models, *Phys. Rev. E* **84**, 036703 (2011).
35. Biferale L., Mantovani F., **Sbragaglia M.**, Scagliarini A., Toschi F. & Tripicciono R.: Second-order closure in stratified turbulence: Simulations and modeling of bulk and entrainment regions, *Phys. Rev. E* **84**, 016305 (2011).
34. Scagliarini A., Biferale L., Mantovani F., **Sbragaglia M.**, Toschi F. & Tripicciono R.: Reactive Rayleigh-Taylor systems: flame propagation and non-stationarity, *Europhys. Lett.* **94**, 54004 (2011).

33. Benzi R., **Sbragaglia M.**, Bernaschi M. & Succi S.: Phase-Field Model of Long-Time Glasslike Relaxation in Binary Fluid Mixtures, *Phys. Rev. Lett.* **106**, 164501 (2011).

**2010:**

32. Biferale L., Mantovani F., Scagliarini A., **Sbragaglia M.**, Toschi F. & Tripiccion R.: High Resolution numerical study of Rayleigh-Taylor turbulence using a thermal lattice Boltzmann scheme, *Phys. Fluids*. **22**, 115112 (2010).
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