

Brice SAINT-MICHEL

Rotterdamsedijk 99, 3112 AB Schiedam, THE NETHERLANDS

Mobile : +31 6 41 65 22 02

Email : bsaintmichel@gmail.com

Web : <https://bsaintmichel.fr>

Born on December 28th, 1987 in Dunkirk (France)



Postdoctoral Researcher at TU Delft

Education

2010 – 2013 PhD Thesis defended at the Condensed State Department (SPEC) of the French Atomic Energy Commission (CEA Saclay, France). Dynamical unsteady regimes and statistical aspects of a von Kármán turbulent swirling flow.

> SPEC: Orme des Merisiers, bât 772, 91 191 Gif-sur-Yvette

> François Daviaud – francois.daviaud@cea.fr

2009 – 2010 2nd MSc year (4th year total) of the ESPCI Paris (The City of Paris Industrial Physics and Chemistry Higher Educational Institution) curriculum. Courses on complex systems from Pierre et Marie Curie and Paris Diderot universities. Awarded with honours.

2006 – 2009 1st – 3rd year of the ESPCI Paris curriculum. Courses in Physics, Chemistry and Biology. Physics major. Awarded with honours.

> ESPCI Paris: 10, rue Vauquelin, 75005 Paris

2004 – 2006 Two years of preparatory school (higher education) at Lycée Faidherbe, Lille.

2004 French Scientific Baccalaureate. Awarded with honours.

Experience

2018 – 2020 Postdoctoral position in Chemical Engineering at Imperial College London then at TU Delft. Bubble dynamics and extensional rheology in complex fluids at a high frequency using ultrasound excitation.

> Chemical Engineering, Imperial College London: London SW7 2AZ, United Kingdom

> Chemical Engineering, TU Delft: van der Maasweg 9, Delft 2629 HZ, the Netherlands

> Valeria Garbin – v.garbin@imperial.ac.uk

2015 – 2018 Postdoctoral position at the *Laboratoire de Physique* of ENS de Lyon (France). Local rheology of non-Brownian suspensions and non-Newtonian fluids using ultrasound echography.

* Deputy board member of the lab council representing Postdocs (1 year)

> Laboratoire de Physique: 46, allée d'Italie, 69007 Lyon

> Sébastien Manneville – sebastien.manneville@ens-lyon.fr

2013 – 2014 Postdoctoral position at the Out-of-Equilibrium Phenomena Research Institute (IRPHÉ, Marseille, France). Directional freezing of colloidal suspensions (part of ERC FreeCo).

> IRPHÉ: 49, rue F. Joliot-Curie, 13013 Marseille

> Alain Pocheau – pocheau@irphe.univ-mrs.fr

2010 MSc internship at Complex Matter and Systems (MSC, Univ. Paris 7, France) laboratory.

General Skills

Languages **French:** Mother tongue
English: Fluent, both oral and written.
German, Japanese, Dutch: Beginner skills.

Computer Proficient in LaTeX, MATLAB. Fair knowledge of C/C++, Python, Java, Wordpress, ImageJ, LabVIEW. Notions of Fortran, Maple, Origin, HTML/CSS, CUDA.

Leisure

Theatre Amateur plays, ESPCI: “Krum” (H. Levin, 2010), “Children of the Sun” (M. Gorky, 2011).

Sports Badminton, swimming, jogging.

Other Photography, Piano, Swing.

References

Peer-Reviewed Articles

2020

22/ [Bubble Dynamics for Broadband Microrheology of Complex Fluids](#),
B. Saint-Michel and Valeria Garbin,
Accepted to *Current Opinion in Colloid and Interface Science*.

21/ [Acoustic Bubble Dynamics in a Yield-Stress Fluid](#),
B. Saint-Michel and Valeria Garbin,
Accepted to *Soft Matter*.

20/ [Effect of Bulk and Interfacial Rheology on the Stability of Bubbles in Oleogels \[...\]](#),
S. Saha, B. Saint-Michel, B. P. Binks and V. Garbin,
Rheologica Acta **59**, 255-266 (2020).

2019

19/ [X Radiography of Viscous Resuspension](#),
B. Saint-Michel, S. Manneville, S. Meeker, G. Ovarlez and H. Bodiguel,
Physics of Fluids **31**(10), 103301 (2019) – Special Edition: Outstanding Early-Career Researchers.

18/ [Oscillations of Small Bubbles and Medium Yielding in Elastoviscoplastic Fluids](#),
M. De Corato *et al.*,
Physical Review Fluids **4**, 073301 (2019).

17/ [Boundary-Induced Inhomogeneity of Particle Layers in the Solidification of Suspensions](#),
B. Saint-Michel, S. Deville, M. Georgelin and A. Pocheau
Physical Review E **99**(5), 052601 (2019).

16/ [Irreversible Hardening in Soft Colloidal Gels: The Smart Response of Natural Rubber Latex Gels](#),
G. De Oliveira Reis *et al.*,
Journal of Colloid and Interface Science **539**, 287-296 (2019).

2018

15/ [Wall Friction and Janssen Effect in the Solidification of Suspensions](#),
B. Saint-Michel, M. Georgelin, S. Deville and A. Pocheau,
Soft Matter **14**(46), 9498-9510 (2018).

- 14/ [Uncovering Instabilities in the Spatiotemporal Dynamics of a Shear-Thickening \[...\] Suspension](#),
B. Saint-Michel, T. Gibaud and S. Manneville,
Physical Review X **8**(3), 031006 (2018).
- 2017 -----
- 13/ [Interaction of multiple particles with a solidification front \[...\]](#)
B. Saint-Michel, S. Deville, M. Geogelin and A. Pocheau,
Langmuir, **33**(23), 5617-5627 (2017).
- 12/ [Simultaneous Concentration Maps in non-Brownian Particulate Suspensions](#),
B. Saint-Michel, H. Bodiguel, S. Meeker and S. Manneville,
Physical Review Applied **8**(1), 014023 (2017).
- 11/ [Stochastic Chaos in a Turbulent Flow](#),
D. Faranda, Y. Sato, B. Saint-Michel C. Wiertel-Gasquet, V. Padilla, B. Dubrulle and F. Daviaud,
Physical Review Letters, **119**(1), 014502 (2017).
- 10/ [Predicting and Assessing the Yielding Transition in Protein Gels under Stress](#),
B. Saint-Michel, T. Gibaud, M. Leocmach and S. Manneville,
Soft Matter **13** (14), 2643-2653 (2017).
- 2016 -----
- 9/ [Shear-Banding in Wormlike Micelles: Beware of Elastic Instabilities](#),
M.A Fardin, L. Casanellas, B. Saint-Michel, S. Manneville and S. Lerouge,
Journal of Rheology **60** (5), 917 (2016).
- 8/ [Local Oscillatory Rheology from Echography](#),
B. Saint-Michel, T. Gibaud, M. Leocmach and S. Manneville,
Physical Review Applied **5**, 034014 (2016).
- 2015 -----
- 7/ [A Statistical Mechanics Framework for the Large-Scale Structure of Turbulent von Kármán Flows](#),
S. Thalabard, B. Saint-Michel, E. Herbert, F. Daviaud and B. Dubrulle,
New Journal of Physics **17**, 0630006 (2015).
- 2014 -----
- 6/ [Modelling and Analysis of Turbulent Datasets Using ARMA Processes](#),
D. Faranda, F. M. E. Pons, B. Dubrulle, F. Daviaud, B. Saint-Michel, E. Herbert and P.-P. Cortet,
Physics of Fluids **26**, 1050101 (2014).
- 5/ [Influence of Reynolds Number and Forcing Type in a von Kármán Flow](#),
B. Saint-Michel, B. Dubrulle, L. Marié, F. Ravelet and F. Daviaud,
New Journal of Physics **16**, 0630037 (2014).
- 4/ [Probing Quantum and Classical Turbulence Analogy in von Kármán \[...\] experiments](#),
B. Saint-Michel *et al*,
Physics of Fluids **26**, 125109 (2014).
- 3/ [Superfluid High Reynolds von Kármán Experiment \(SHREK\)](#),
B. Rousset *et al*,
Review of Scientific Instruments **85**, 1030908 (2014).
- 2/ [A Zero-Mode Mechanism for Spontaneous Symmetry Breaking in a Turbulent von Kármán Flow](#),
B. Saint-Michel, F. Daviaud and B. Dubrulle,
New Journal of Physics **16**, 0130055 (2014).
- 2013 -----
- 1/ [Evidence for Forcing-Dependent Steady States in a Turbulent Swirling Flow](#),
B. Saint-Michel, B. Dubrulle, L. Marié, F. Ravelet and F. Daviaud,
Physical Review Letters **111** (23), 234502 (2013).

Participation to Conferences

- Physics at Veldhoven (oral presentation) (Netherlands) 2020
- Congrès du Groupe Français de Rhéologie (oral presentation), Montpellier (France) 2019
- Annual European Rheology Conference (oral presentation), Portorož (Slovenia), 2019
- Liquids at Interfaces (poster presentation), Bordeaux (France), 2018
- Annual European Rheology Conference (/), Sorrento (Italy), 2018
- Rencontres du Non-Linéaire 2017 (oral presentation), Paris (France), 2017
- International Soft Matter Conference, (poster presentation) Grenoble (France), 2016
- STATPHYS 26 (poster presentation), Lyon (France), 2016
- APS Division of Fluid Dynamics (oral presentation), Boston (USA), 2015
- Congrès Français de Mécanique (oral presentation), Lyon (France), 2015
- XVIII Rencontres du Peyresq (short oral presentation), Peyresq (France), 2014
- Journées de la Physique Statistique (short oral presentation), Paris (France), 2012 & 2013
- Rencontres du Non-Linéaire (poster presentation), Paris (France), 2012 & 2013
- APS Division of Fluid Dynamics (oral presentation), San Diego (USA), 2012

Other

- B. Saint-Michel, [L'écoulement de von Kármán comme paradigme de la physique statistique hors de l'équilibre](#), *thèse de l'Université Pierre et Marie Curie (2013)*.
- B. Saint-Michel, B. Dubrulle, C. Wiertel, V. Padilla and F. Daviaud, [Inéquivalence d'ensemble d'états stationnaires dans un écoulement de von Kármán](#), *Comptes-rendus des RNL (2013)*.
- E. Herbert, B. Saint-Michel, F. Daviaud, B. Dubrulle and V. Padilla, [Spectres spatio-temporels d'un écoulement turbulent de von Kármán](#), *Comptes-rendus des Rencontres du Non-linéaire (2012)*.