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Position–Qualification

2017–present	CNRS Researcher <i>Laboratoire de Physique des Solides, Paris-Saclay University, France.</i>
2020	Accreditation to direct research (HDR) <i>Université Paris-Saclay, Orsay, France.</i>
2014–2017	Marie Curie International Outgoing Fellowship Individual European Grant (Mark: 91.5%, 268 k€). Complex Fluid Group, Department of Mechanical and Aerospace Engineering (2 years). Advisor: H.A. STONE. Laboratoire Matière et Système Complexe (1 year). Advisor: L. LIMAT. <i>Princeton University, New Jersey, USA</i> <i>Paris Diderot University, Paris, France.</i>
2013–2014	Postdoctoral Researcher Complex Fluid Group, Department of Mechanical and Aerospace Engineering. Advisor: H.A. STONE. <i>Princeton University, New Jersey, USA.</i>
2010–2013	Ph.D., Physics (Soft matter) “Attenuation of morphological aspects induced by the physical chemistry of complex fluids” Supervisors: L. PAUCHARD and F. GIORGIUTTI-DAUPHINÉ. <i>Laboratoire FAST, Paris Sud University, France.</i>

Fundings

Fundings obtained as a project coordinator:

- 2022–2025: Labex PALM *FrozenEdgerton*, project coordinator (85 k€), collaboration with C. Josserand, Ladhyx, Ecole Polytechnique, France.
- 2020–2024: JCJC ANR grant *asperfoam*, project coordinator (234 k€)
- 2019–2022: PhD thesis funding (cifre), Saint-Gobain Research (260 k€)
- 2013–2016: Marie Curie International Outgoing Fellowship, individual European grant (268 k€)

Fundings in which I am involved:

- 2023–2027: ANR grant *ABC2FOAM*, project coordinator: Anniina Salonen, participants: M. Le Merrer, S. Meille (515 k€).
- 2019–2022: Labex PALM *InterFreeze*, project coordinator: Anniina Salonen, participants: F. Cousin, A. Kharlamova, P. Fontaine, S. Rouzière (120 k€).
- 2022–2024: Labex PALM *FT2AC*, project coordinator: Giuseppe Foffi, participants: A. Plati, F. Restagno, F. Smallenburg, E. Trizac (110 k€).

Teaching and student advising

Since 2017, I give every year a 2-days lecture on image processing in Python with scikit-image for scientists (Lectures dedicated to PhD students).

In 2018, I introduced Python programming to L3 student in Robotics (12h lecture) and in 2019, I am the lecturer of a scientific programming lecture at Polytech Paris-Saclay (12h lecture + 24h project).

I co-advise the PhD thesis of:

- M. Berry (2022-2025) (at 70%, with A. Salonen) –
A. Commereuc (2020-2023) (at 70%, with E. Rio) – Dissertation
- M. Corpart (2019-2022) (at 70%, with F. Restagno) – Dissertation
- M. Marchand (2017-2020) (at 60%, with E. Rio and F. Restagno) – Dissertation
PhD thesis price from the graduate school of Physics, Paris-Saclay.

I co-advise the postdoc of:

- A. Plati (2022-2024) (at 25%, with G. Foffi and F. Smallenburg)
- A. Kharlamova (2019-2021) (at 30%, with A. Salonen and P. Fontaine)

I advised or co-advised these research projects:

- C. Arana (Final year in Chemical Engineering, Univ. Metropolitana, Venezuela) Gelified foams with silica nanoparticles (2023, 4 months)
- F. Keil (L3, Paris-Saclay Univ.) Particle transport in evaporating drops on fibers (2022, 3 months)
- M. Hejoaka (L3, Paris-Saclay Univ.) Drop freezing: control the tip angle with silica suspensions (2021, 2 months)
- L. Jouan (M1, Paris-Saclay Univ.) Coating of fibers pulled out parallel to the interface (2021, 3 months)
- M. Berry (L3, Paris-Saclay Univ.) Drop freezing: effect of surfactant physical-chemistry (2020, 2 months)
- A. Commereuc (M2, Paris-Saclay Univ.) Bubble and foam rise in capillaries (2020, 6 months)
- M. Dupuy (L3, Paris-Saclay Univ.) Foam rise in capillaries (2019, 2 months)
- C. Veillon (L3, Paris-Saclay Univ.) Freezing of complex fluid drops (2019, 2 months)
- L. Tian (PhD Student, Northwestern University, China) Interfacial freezing of salt-surfactant mixtures **Funded by a CRC fellowship** (2019, 6 months)
- N. Beserman (L3, Paris-Saclay Univ.) Foam coating with parallel plates (2018, 2 months)
- H. Lama (PhD student, IIT Madras, India) Particle deposition on thin hydrogels. **Funded by a Raman-Chrapak fellowship.** (2018, 4 months)
- M. Marchand (M2, Paris-Saclay Univ.) Rheology of foams by withdrawing a plate (2017, 3 months)
- T. V. Do (M2, Paris-Saclay Univ.) Entrainment of liquid foams (2017, 6 months)

During my postdoc:

- Y. L. Kong (PhD student) Deposition of colloidal particles (2014-2015)
- K. Somszor (summer project) Wetting on flexible crossed fibers (2015, 1.5 months)
- A. Bick (final year BSc project) Tunable transport of drops on a vibrating fiber (2014-2015)
- J. Cappello (M1, ENS Cachan) Damping of free-surface oscillations by a liquid foam (2014, 3 months)
- D. Geyer (M1, ENS Lyon) Elastocapillarity: embracing fibers around cylinders (2014, 6 months)
- B. Soh (final year BSc project) Wetting, evaporation & condensation on fibers (2013-2014)

In Refereed Journals

- [1] M. Pasquet, **F. Boulogne**, F. Restagno, and E. Rio. Lifetime of vertical giant soap films: role of the relative humidity and film dimensions. *Soft Matter*. doi:10.1039/D3SM01629C.
- [2] A. Plati, R. Maire, E. Fayen, **F. Boulogne**, F. Restagno, F. Smallenburg, and G. Foffi. Quasi-crystalline order in vibrated granular matter. *Nature Physics*, 2024. doi:10.1038/s41567-023-02364-1.
- [3] M. Corpart, F. Restagno, and **F. Boulogne**. Measuring relative humidity from evaporation with a wet-bulb thermometer: The psychrometer. 92(1):36–42, 01 2024. doi:10.1119/5.0154559.
- [4] A. Karlamova, **F. Boulogne**, P. Fontaine, S. Rouzière, A. Hemmerle, M. Goldmann, and A. Salonen. *Langmuir*, 40:84–90, 2024.
- [5] **F. Boulogne**, E. Rio, and F. Restagno. Evaporation-induced temperature gradient in a foam column. *Langmuir*, 39(40):14256–14262, 2023.
- [6] M. Corpart, F. Restagno, and **F. Boulogne**. Analytical prediction of the temperature and the lifetime of an evaporating spherical droplet. 2023. doi:10.1016/j.colsurfa.2023.132059.
- [7] A. Commereuc, M. Marchand, E. Rio, and **F. Boulogne**. Dynamics of bubbles spontaneously entering in a tube. *Soft Matter*, 19:5758–5762, 2023. doi:10.1039/D3SM00677H.
- [8] M. Corpart, F. Restagno, and **F. Boulogne**. Coffee stain effect on a fibre from axisymmetric droplets. *Journal of Fluid Mechanics*, 957:A24, 2023. doi:10.1017/jfm.2023.59.
- [9] **F. Boulogne**, F. Restagno, and E. Rio. Measurement of the temperature decrease in evaporating soap films. *Phys. Rev. Lett.*, 129:268001, 2022. doi:10.1103/PhysRevLett.129.268001.
- [10] M. Corpart, J. Dervaux, C. Poulard, F. Restagno, and **F. Boulogne**. Evaporation of a liquid coated on a fiber. *Europhysics Letters*, 139(4):43001, 2022. doi:10.1209/0295-5075/ac6a06.
- [11] M. Pasquet, **F. Boulogne**, J. Saint-Anna, F. Restagno, and E. Rio. Impact of physical-chemistry on the film thinning in surface bubbles. *Soft Matter*, 18:4536–4542, 2022. doi:10.1039/D2SM00157H.
- [12] **F. Boulogne** and A. Salonen. Drop freezing: fine detection of contaminants by measuring the tip angle. *Applied Physics Letters*, 116(10):103701, 2020. doi:10.1063/1.5144071.
- [13] M. Marchand, F. Restagno, E. Rio, and **F. Boulogne**. Roughness-induced friction in liquid foams. *Physical Review Letters*, 124:118003, 2020. doi:10.1103/PhysRevLett.124.118003.
- [14] **F. Boulogne**. Cheap and versatile humidity regulator for environmentally controlled experiments. *The European Physical Journal E*, 42(4):51, 2019. doi:10.1140/epje/i2019-11813-0.
- [15] L. Champougny, J. Miguët, R. Henaff, F. Restagno, **F. Boulogne**, and E. Rio. Influence of evaporation on soap film rupture. *Langmuir*, 34(10):3221–3227, 2018. doi:10.1021/acs.langmuir.7b04235.
- [16] **F. Boulogne** and B. Dollet. Convective evaporation of vertical films. *Soft Matter*, 14:1665–1671, 2018. doi:10.1039/C7SM01902E.
- [17] S. Khodaparast, **F. Boulogne**, C. Poulard, , and H. A. Stone. Water-based peeling of thin hydrophobic films. *Physical Review Letters*, 119:154502, Oct 2017. doi:10.1103/PhysRevLett.119.154502.
- [18] **F. Boulogne**, S. Shin, J. Dervaux, L. Limat, and H. A. Stone. Diffusiophoretic manipulation of particles in a drop deposited on a hydrogel. *Soft Matter*, 13:5122–5129, 2017. doi:10.1039/C7SM00915A.
- [19] **F. Boulogne**, S. Khodaparast, C. Poulard, , and H. A. Stone. Protocol to perform pressurized blister tests on thin elastic films. *The European Physical Journal E*, 40(6):64, 2017. doi:10.1140/epje/i2017-11553-1.
- [20] B. Dollet and **F. Boulogne**. Natural convection above circular disks of evaporating liquids. *Phys. Rev. Fluids*, 2:053501, 2017. doi:10.1103/PhysRevFluids.2.053501.

- [21] E. Rio and F. **Boulogne**. Withdrawing a solid of a bath: how much liquid is coated? *Advances in Colloid and Interface Science*, 247:100–114, 2017. doi:10.1016/j.cis.2017.01.006.
- [22] F. **Boulogne**, F. Ingremeau, and H. A. Stone. Coffee-stain growth dynamics on dry and wet surfaces. *Journal of Physics: Condensed Matter*, 29(7):074001, 2017. doi:10.1088/1361-648X/aa5160.
- [23] A. Sauret, F. **Boulogne**, K. Somszor, E. Dressaire, and H. A. Stone. Drop morphologies on flexible fibers: influence of elastocapillary effects. *Soft Matter*, 13:134–140, 2017. doi:10.1039/C6SM00921B.
- [24] F. **Boulogne**, Y. L. Kong, J. K. Nunes, and H. A. Stone. Effect of the polydispersity of a colloidal drop on the drying induced stress as measured by the buckling of a floating sheet. *Physical Review Letters*, 116:238001, 2016. doi:10.1103/PhysRevLett.116.238001.
- [25] F. **Boulogne**, F. Ingremeau, L. Limat, and H. A. Stone. Tuning the receding contact angle on hydrogels by addition of particles. *Langmuir*, 32(22):5573–5579, 2016. doi:10.1021/acs.langmuir.6b01209.
- [26] H. Kim, F. **Boulogne**, E. Um, I. Jacobi, E. Button, and H. A. Stone. Controlled uniform coating from the interplay of Marangoni flows and surface-adsorbed macromolecules. *Physical Review Letters*, 116:124501, 2016. doi:10.1103/PhysRevLett.116.124501.
- [27] B. Andreotti, O. Baumchen, F. **Boulogne**, K. E. Daniels, E. R. Dufresne, H. Perrin, T. Salez, J. H. Snoeijer, and R. W. Style. Solid capillarity: When and how does surface tension deform soft solids? *Soft Matter*, 12:2993–2996, 2016. doi:10.1039/C5SM03140K.
- [28] E. Dressaire, A. Sauret, F. **Boulogne**, and H. A. Stone. Drop impact on a flexible fiber. *Soft Matter*, 12:200–208, 2016. doi:10.1039/C5SM02246K.
- [29] F. **Boulogne**, F. Ingremeau, J. Dervaux, L. Limat, and H. A. Stone. Homogeneous deposition of particles by absorption on hydrogels. *EPL*, 112(4):48004, 2015. doi:10.1209/0295-5075/112/48004.
- [30] A. Bick, F. **Boulogne**, A. Sauret, and H. A. Stone. Tunable transport of drop on a vibrating fiber. *Applied Physics Letters*, 107(18), 2015. doi:10.1063/1.4935251.
- [31] Y. L. Kong, F. **Boulogne**, H. Kim, J. Nunes, J. Feng, and H. A. Stone. Deposition of quantum dots in a capillary tube. *Langmuir*, 31(45):12560–12566, 2015. doi:10.1021/acs.langmuir.5b03443.
- [32] A. Sauret, F. **Boulogne**, B. Soh, E. Dressaire, and H. A. Stone. Wetting morphologies on randomly oriented fibers. *The European Physical Journal E*, 38(6):62, 2015. doi:10.1140/epje/i2015-15062-y.
- [33] A. Sauret, F. **Boulogne**, D. Cébron, E. Dressaire, and H. A. Stone. Wetting morphologies on an array of fibers of different radii. *Soft Matter*, 11:4034–4040, 2015. doi:10.1039/C5SM00401B.
- [34] F. **Boulogne**, A. Sauret, B. Soh, E. Dressaire, and H. A. Stone. Mechanical tuning of the evaporation rate of liquid on crossed fibers. *Langmuir*, 31(10):3094–3100, 2015. doi:10.1021/la505036t.
- [35] A. Sauret, F. **Boulogne**, J. Cappello, E. Dressaire, and H. A. Stone. Damping of liquid sloshing by foams. *Physics of Fluids*, 27(2), 2015. doi:10.1063/1.4907048.
- [36] J. Cappello, A. Sauret, F. **Boulogne**, E. Dressaire, and H. A. Stone. Damping of liquid sloshing by foams: from everyday observations to liquid transport. *Journal of Visualization*, 18(2):269–271, 2015. doi:10.1007/s12650-014-0250-1.
- [37] F. **Boulogne** and H. A. Stone. Self-crumpling elastomers: bending induced by the drying stimulus of a nanoparticle suspension. *EPL*, 108:19001, 2014. doi:10.1209/0295-5075/108/19001.
- [38] S. van der Walt, J. L. Schönberger, J. Nunez-Iglesias, F. **Boulogne**, J. D. Warner, N. Yager, E. Gouillart, and T. Yu. scikit-image: Image processing in python. *PeerJ*, 2:e453, 6 2014. doi:10.7717/peerj.453.
- [39] F. **Boulogne**, F. Giorgiutti-Dauphiné, and L. Pauchard. Surface patterns in drying films of silica colloidal dispersions. *Soft Matter*, 11:102–108, 2015. doi:10.1039/c4sm02106a.
- [40] F. **Boulogne**, L. Pauchard, F. Giorgiutti-Dauphiné, R. Botet, R. Schweins, M. Sztucki, J. Li, B. Cabane, and L. Goehring. Structural anisotropy of directionally dried colloids. *EPL*, 105:38005, 2014. doi:10.1209/0295-5075/105/38005.

- [41] **F. Boulogne**, M.-A. Fardin, S. Lerouge, F. Giorgiutti-Dauphiné, and L. Pauchard. Suppression of the Rayleigh-Plateau instability on a vertical fibre coated with wormlike micelle solutions. *Soft Matter*, 9:7787–7796, 2013. doi:10.1039/C3SM27940E.
- [42] **F. Boulogne**, L. Pauchard, and F. Giorgiutti-Dauphiné. Annular cracks of thin films of colloidal silica particles coating a fiber. *EPL*, 102(3):39002, 2013. doi:10.1209/0295-5075/102/39002.
- [43] **F. Boulogne**, F. Giorgiutti-Dauphiné, and L. Pauchard. The buckling and invagination process during consolidation of colloidal droplets. *Soft Matter*, 9:750–757, 2013. doi:10.1039/C2SM26530C.
- [44] **F. Boulogne**, L. Pauchard, and F. Giorgiutti-Dauphiné. Effect of a non-volatile cosolvent on crack patterns induced by desiccation of a colloidal gel. *Soft Matter*, 8(32):8505–8510, 2012. doi:10.1039/C2SM25663K.
- [45] **F. Boulogne**, L. Pauchard, and F. Giorgiutti-Dauphiné. Instability and morphology of polymer solutions coating a fibre. *Journal of Fluid Mechanics*, 704:232–250, 7 2012. doi:10.1017/jfm.2012.234.
- [46] **F. Boulogne** and S. J. Cox. Elastoplastic flow of a foam around an obstacle. *Phys. Rev. E*, 83:041404, Apr 2011. doi:10.1103/PhysRevE.83.041404.

Seminars, conferences, workshops, prizes, juries

Seminars and conferences listed are solely the ones I presented over the last 10 years. Presentations made by students and co-workers are not mentioned.

Invited conferences

1. “Some dynamics of vanishing droplets”
GDR Liquids at Interfaces, Grenoble, 2017
2. “Quand café, thé, whisky inspirent le physicien”
Café de l’Europe, Paris Diderot, 2017.
3. “Goutte et flaque s’évaporent-elles à la même vitesse”
25th Allain Bouyssy Symposium, 2017

Conferences

1. European Coating Symposium. Paris, France, 2023
Oral presentation.
2. French Physical Society conference. Paris, France, 2023
Oral presentation.
3. Eufoam
Poland, 2022
Oral presentation.
4. Workshop on complex systems
Paris-Saclay, 2021
Oral presentation.
5. Droplet conference: drop freezing
Online event, 2021
Oral presentation.
6. Journées de la matière condensée: coffee stain effect on fibers
Online event, 2021
Oral presentation.
7. GDR SLAMM: Foam friction at interfaces
Online event, 2021
Oral presentation.
8. RNL: Estimate the drying stress with the buckling of a membrane
Paris, France, 2017
Oral presentation.
9. Droplet 2015: Homogeneous deposition of particles on hydrogels by absorption
Twente, The Netherlands, 2015
Oral presentation.
10. 29th ECIS conference: Homogeneous deposition of particles on hydrogels by absorption
Bordeaux, France, 2015
Oral presentation.
11. Congrès Français de Mécanique: Pelage de feuilles d’élastomère: stimulus induit par le séchage de nanoparticules
Lyon, France, 2015
Oral presentation.
12. Fluid and Elasticity: Homogeneous deposition of particles by absorption on hydrogels
Biarritz, France, 2015
Oral presentation.

13. APS-DFD: Self-crumpling elastomers: bending motion induced by a drying stimulus
San Francisco, USA, 2014
Oral presentation and Gallery of Fluid Motion.
14. Society of Rheology
Philadelphia, USA, 2014
Poster: Damping of sloshing liquids by a foam layer.
15. Conference micro & nanofluidics: Capture of droplets on fibers: role of the fiber flexibility
Twente, The Netherlands, 2014
Oral presentation.

Workshops and summer schools

1. Workshop: bubble and foams organized by I. Cantat
Rennes, France, 2023
2. Summer School "PHASME" (two weeks).
Cargèse, France, 2016
3. Workshop: Capillarity of Soft Interfaces
Lorentz Center, Leiden, The Netherlands, 2015.
4. Summer School "Soft Fire" (two weeks).
Cargèse, France, 2014
5. Workshop: The Northeast Complex Fluids and Soft Matter Workshop (NCS2)
City College of New York, USA, 2014.
Oral presentation: Structural anisotropy of directionally dried colloids

Invited seminars

1. Measuring the air humidity by psychrometry – Historical aspects and physical origins
Laboratoire Navier, Marne-la-Vallée, France, 2022
2. Recent developments on evaporation
Laboratoire Ondes et Matière d'Aquitaine, Bordeaux, 2019
3. Some dynamics of vanishing droplets
Saint-Gobain Recherche, Aubervilliers, France, 2017
4. Manipulation of colloids on hydrogels
Institut Jean le Rond d'Alembert, Paris, France, 2016
5. Manipulation of colloids on hydrogels
Laboratoire Matière et Système Complexe, Paris, France, 2016
6. Particle deposition by absorption and evaporation
Gulliver, Paris, France, 2015
7. Investigation of absorption and evaporation phenomena on particle deposition
Laboratory of the Future, Bordeaux, France, 2015
8. Investigation of absorption and evaporation phenomena on particle deposition
Institut Lumière Matière, Lyon, France, 2015
9. Control of interfacial properties of soft materials with colloidal suspensions
Laboratoire Navier, Marne-la-Vallée, France, 2015
10. Interface crumpling or flattening
Laboratoire Physique de la matière condensée, Nice, France, 2014
11. Interface crumpling or flattening
Laboratoire de Physique des Solides, Orsay, France, 2014
12. Interface crumpling or flattening
Laboratoire Matière et Système Complexe, Paris, France, 2014
13. De la suppression de l'instabilité de Rayleigh-Plateau à l'anisotropie structurale de nanoparticules sous séchage directionnel
Laboratoire Interdisciplinaire de Physique, Grenoble, France, 2014
14. De la suppression de l'instabilité de Rayleigh-Plateau à l'anisotropie structurale de nanoparticules sous séchage directionnel
Institut de Physique de Rennes, Rennes, France, 2014

Prizes

1. 2022: "Coup de coeur du jury" prize of the CNRS photography contest "la preuve par l'image": "Forêt de bambous"
2. 2022: Laureate of the CNRS photography contest "la preuve par l'image": "Mousse céleste"
3. 2020: Laureate of the CNRS photography contest "la preuve par l'image": "Gouttes pointues"
4. 2015: Enzo Ferroni Award for the best oral presentation at ECIS conference
5. 2011: French Physical Society award for the best poster at A. Bouyssy colloquium

Jury member in PhD defense

1. Reviewer: Elisa Julien. Université Gustave Eiffel, 2023.
2. Examiner: Jean-Baptiste Charpentier. Université le Havre Normandie, 2017.

Member of PhD committees

1. Luoyi Yan. Université Gustave-Eiffel, 2022-2024
2. Fateh Rabehi. Université Paris-Diderot, 2022-2024
3. Elisa Julien. Université Gustave-Eiffel, 2020-2022
4. Mathieu Oléron. Université Paris-Diderot, 2019-2021
5. Alexandre Bernard. Université Paris-Saclay, 2019-2021

Other juries

1. 2023: Jury member for the CNRS photography contest “la preuve par l’image”
2. 2022: Comitee member for an assistant-professor position at IEMN-LMFL, Université de Lille
3. 2019: International Physicists’ Tournament in Paris.

Responsibilities and professional service

Commission member Member in the Paris-Saclay commission (CCUPS) (2022–2026).

Council member Member for Laboratoire de Physique des Solides council since 2020.

Expert evaluator for European proposals H2020-MSCA-IF in the Physics panel (2016-2021).

Communication manager In the period 2020-2021, I was in charge of the external communication of the Laboratoire de Physique des Solides.

Peer review: PNAS, Physical Review Letter, Physical Review Fluids, Journal of Fluid Mechanics, Soft Matter.

Seminars: I was the organizer of the Soft Matter seminars at LPS in the period 2016–2020.

First Aider: French diploma Sauveteur-Secouriste du travail.

Updated on February 12, 2024.