

VIRGILE THIÉVENAZ

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RESEARCH INTERESTS: Physics of Fluids, Multiphase Flows, Drop Impact, Solidification, Suspensions

EDUCATION

PhD in Fluid Mechanics – Institut d’Alembert, Sorbonne Université, Paris, France – 2016-2019

Drop impact on supercooled surfaces: spreading, splashing, retraction and freezing.

During my PhD, I participated in several international conferences, learned to master high speed imaging techniques, and supervised a Master student.

Supervisors: Christophe Josserand, Thomas Séon

MSc International Center for Fundamental Physics – Université Pierre et Marie Curie, Paris, France – 2015-2016

I majored in **Physics of Liquids**, with classes of Hydrodynamics, Soft Matter Physics, Statistical Physics and Biophysics.

Advanced Master in Science and Technology – ESPCI, Paris, France – 2012-2016

At ESPCI I received a two-years core education in physics, chemistry and biology and then majored in **Physics**.

Preparatory Classes of Physics and Chemistry – Lycée Janson-de-Sailly, Paris, France – 2010-2012

Preparing for the competitive entrance exam of the French higher education schools.

Scientific Baccalauréat High School degree – Lycée Notre Dame de la Compassion, Pontoise, France – 2010

EMPLOYMENT

Post-doctoral researcher – University of California, Santa Barbara – since September 14th 2020

Capillary flows of suspensions

Supervisor: Alban Sauret

Post-doctoral researcher – École Polytechnique, Paris, France – 01/10 to 13/12/2019

Describing freezing drop impacts through an effective viscosity model

Supervisor: Christophe Josserand

Research Internship (3 months) – Max-Planck Institute for Dynamic and Self-Organisation, Göttingen, Germany – 2015

Plateau-Rayleigh instability on a soft fiber

Fabrication of microfibers, work with PDMS.

Supervisor: Oliver Bäimchen

R&D Engineer Internship (6 months) – Schlumberger DBR Research Center, Edmonton, AB, Canada – 2014

Oil flow in microfluidic channels

Flow in microfluidic channels, chromatography, data processing with Matlab .

Tutoring in mathematics, physics and chemistry – 2012-2018

High school and BSc students.

PEER-REVIEWED PUBLICATIONS

S. Rajesh, **V. Thiévenaz** & A. Sauret

Soft Matter 18, pp3147-3156 (2022)

Transition to the viscoelastic regime in the thinning of polymer solutions

V. Thiévenaz & A. Sauret

Proceedings of the National Academy of Sciences of the USA 119, 13, e2120893119 (2022)

The onset of heterogeneity in the pinch-off of suspension drops

D-H. Jeong, M. Ka Ho Lee, **V. Thiévenaz**, M. Z. Bazant and A. Sauret

Journal of Fluid Mechanics 36, A36 (2022)

Dip-coating of bidisperse particulate suspensions

V. Thiévenaz, S. Rajesh & A. Sauret

Soft Matter 17, pp6202-6211 (2021)

Droplet detachment and pinch-off of bidisperse particulate suspensions

V. Thiévenaz & A. Sauret

Physical Review Fluids 6, L062301 (2021)

Pinch-off of viscoelastic particulate suspensions

V. Thiévenaz, T. Séon & C. Josserand

Europhysics Letters 132, p24002 (2020)

Freezing-damped impact of a water drop

V. Thiévenaz, T. Séon & C. Josserand

Physical Review Fluids (accepted March 2020)

Retraction and freezing of a water film on ice

V. Thiévenaz, T. Séon & C. Josserand

Journal of Fluid Mechanics 874, pp756-773 (2019)

Solidification dynamic of an impacted drop

TALKS AT CONFERENCES AND SEMINARS

SoCal Fluids Conference XV – UCLA, Los Angeles, USA – April 23th 2022

Fast stretching and breakup and filaments of suspensions

APS DFD Meeting, Phoenix, USA – 2021

Dislocation of suspensions: a model for the accelerated pinch-off of suspension drops

Invited seminar – Saint-Gobain Recherche, Aubervilliers, France – 30 Septembre 2021

Dense suspensions and equivalent granular packings

Invited seminar – Institut Charles Coulomb, Montpellier, France – 12 Septembre 2021

Dense suspensions and equivalent granular packings

Invited seminar – Laboratoire de Physique des Solides, Orsay, France – 10 Septembre 2021

Dense suspensions and equivalent granular packings

Invited seminar – Institut ∂ 'Alembert, Paris, France – 7 Septembre 2021

Dense suspensions and equivalent granular packings

SoCal Fluids Conference XIV – April 10th 2021

Rencontres du Non Linéaire 2021 – Social Fluids XIV – March 25th 2021

Invited seminar – Institut Lumière Matière, Lyon, France – November 17th 2020

Impact and freezing of water drops

APS DFD Meeting, Seattle, USA – 2019

Freezing-damped drop impact

APS DFD Meeting, Atlanta, USA – 2018

Drop impact and Solidification: Contact angle dynamics

Invited seminar at IMES, Pr. Kochmann group, ETHZ, Zürich – 2018

Drop impact and Solidification

EFMC, Vienna, Austria – 2018

Drop impact and Solidification: Contact angle dynamics

APS DFD Meeting, Denver, USA – 2017

Breakfast patterns of frozen impacted drops

AWARDS

Milton Van Dyke Award – Gallery of Fluid Motion 2021

for the video *Fragmentation of viscous compound liquid ligaments*, which was ranked first of 98.

TEACHING AND SUPERVISION

Supervision of two PhD students (D-H. Jeong and S. Rajesh) and of several undergraduate and graduate interns at UC Santa Barbara (2020-2022).

BSc teaching 64 hours/year in 2017 and 2018

- Acoustics (1st year)

- Experimental Methods (2nd year)

- Fluid Mechanics (tutorials and experimental classes 3rd year)

- Numerical Methods (3rd year)

Supervision of a MSc student intern (6 months) in 2018.

MISCELLANEOUS

Languages : **French** (native), English (fluent), German (conversational), basics of Italian, Spanish, Russian and Japanese.

Reviewer for the Journal of Fluid Mechanics, Langmuir and the European Journal of Mechanics / A Solids.

Summer Schools:

- **International Advanced Course on Liquid Interfaces, Drops, and Sprays**, 2018 – Vienna, Austria
- **Aux Rencontres de Peyresq** (Non-linear physics), 2017 – Peyresq, France

Realisation of two posters (2016 and 2017) and two videos (2018, 2021) for the **APS Gallery of Fluid Motion**, the latter of which was awarded the **Milton Van Dyke Award**.

Art photography, in collaboration with **Art in Research** (artinresearch.com).

Science popularization:

- **Fête de la Science** at Sorbonne Université in 2018.
- **EPICS**: I was treasurer of a seven days exhibition in Paris science museum **Cité des Sciences et de l'Industrie**, organized in 2014 by ESPCI students.

Computer skills : Python, Matlab, C, ImageJ, Illustrator, L^AT_EX

Experimental skills : Photography, High speed imaging, Cold setup handling, Thorlabs setup

Hobbies: Photography, Cycling, Trumpet, Long travels (two months across Japan on a bicycle in 2016; two months across Eastern Europe, Russia, and Japan by train in 2020; two weeks across the USA in 2022)

REFERENCES

Christophe Josserand

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Alban Sauret

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Thomas Séon

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