

Lionel VINCENT

PhD, post-doctoral scholar in Fluid Mechanics

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RESEARCH

- 2014 -** **Post-doc in Fluid Mechanics** at University of Southern California, USA.
Dynamics of flexible wings
Water entry and splash problems
*Rheotaxis of *V. fischeri**
Advisor: Eva Kanso
- 2010 - 2013** **PhD in Mech. and Physics of Fluids** at IRPHE, Aix-Marseille Univ, FR
Dynamics and breakup of stretched liquid bridges
Advisors: Laurent Duchemin & Stéphane Le Dizès
- 2010** 6-months internship at IRPHE, Marseilles, FR
Experimental study of a highly-accelerated viscous fluid layer around a cylinder, with application to a stone wool manufacturing process
Advisors: Mickaël Le Bars & Laurent Duchemin
- 2009** 8-weeks internship at Warwick University (Fluid Dynamics Group), UK
Theoretical and experimental study of a free-falling water curtain
Advisor: Petr Denissenko

EDUCATION

- 2007 - 2010** Institut Nat. Polytechnique & Université Joseph Fourier, Grenoble, FR
→ M. Sc. in Mechanics, Energy and Engineering, specialty: Fluid Mechanics
→ M. Eng. in Hydraulics and Mechanics, specialty: Mechanics and Energy
- 2005 - 2007** Preparatory classes in Physics and Chemistry (PCSI, PC*)
→ Two-years undergraduate intensive courses in mathematics, physics, engineering science, and chemistry
- 2005** Baccalauréat S (Science) with major in Maths

JOURNAL PUBLICATIONS

- 2017**
→ *Enhanced flight characteristics by flexible auto-rotating wings*
L. Vincent, M. Zheng, E. Kanso
in preparation
- *Fluttering in stratified flows*
T. Lam, L. Vincent, E. Kanso
to be submitted

- *Seeing through porous media: interstitial flow unveiled*
S. Rubol, D. Tonina, L. Vincent, W. Basham, E. Kanso, D. G. Capone, K. H. Nealson
Submitted to Limnology and Oceanography: Methods
- *Crossing the boundary: experimental investigation of water entry conditions*
T. Xiao, L. Vincent, D. Yohann, , S. Jung, E. Kanso
en préparation
- *Under the microscope cover slip: spontaneous flows and bacterial behavior*
L. Vincent, E. Kanso
Chaos, Complexity and Transport: Proceedings of the CCT'15 Conference on
Chaos, Complexity and Transport 2015

2016

- *Hole stabilize freely falling coins*
L. Vincent, W. S. Shambaugh, et E. Kanso
J. Fluid Mech. **801**, pp. 250-252 (2016)

2015

- *Self-similar impulsive capillary waves on a ligament*
L. Duchemin, S. Le Dizès, L. Vincent and E. Villermaux
Phys. Fluids 26, 031701 (2014)

2014

- *Remnants from fast liquid withdrawal*
L. Vincent, L. Duchemin and E. Villermaux
Phys. Fluids 26, 031701 (2014)
- *Forced Dynamics of a short viscous liquid bridge*
L. Vincent, L. Duchemin and S. Le Dizès
J. Fluid Mech. 761, pp 220-2240 (2014)

REFEREED PROCEEDINGS

2013

- *Dynamique de ligaments fortement étirés*
Congrès Français de Mécanique 2013 (CFM 2013)
L. Vincent, L. Duchemin, S. Le Dizès and E. Villermaux
- *Dynamics of a slowly elongated viscous liquid bridge*
9th European Fluid Mechanics Conference (EFMC 9)
L. Vincent, L. Duchemin and S. Le Dizès

COMMUNICATIONS

2016

- *Aerodynamic shapes of two-dimensional splashes*
69th annual DFD meeting, November 20-22, Portland, OR, USA
talk

2015

- *Bacteria Response to External Flows*
LadHyX, June 10, Palaiseau, France
talk/seminar
- *Bacteria Response to External Flows*
SoCal Fluids IX symposium, April 18, San Diego, CA, USA
talk
- *Bacteria in structured flows*
Aux rencontres de Peyresq 2014, June 2-6, Peyresq, France
poster

2014

- *Make a wish: Falling coins in water*
67th annual DFD meeting, November 23-25, San Francisco, CA, USA
talk
- *Falling coins in water*
Aux rencontres de Peyresq 2014, June 2-6, Peyresq, France
talk
- *Bacterial suspensions: a brief overview of recent experiments*
SoCal Fluids VIII symposium at UCLA, April 12, Los Angeles, CA, USA
talk

2013

- *Ligament breakup without surface tension*
66th annual DFD meeting, November 24-26, Pittsburgh, PA, USA
talk
- *Dynamique de ligament fortement étirés*
Congrès Français de Mécanique 2013, August 26-30, Bordeaux, France
talk
- *Dynamics of strongly stretched ligaments*
GDR Ruissellement et films cisailés, March 27-29, Aussois, France
talk

2012

- *Ponts liquides : étirement et rupture*
GDR Ruissellement et films cisailés, September 26-28, Fréjus, France
talk
- *Dynamics of a slowly elongated viscous liquid bridge*
9th European Fluid Mechanics Conference, September 9-13, Roma, Italia
talk
- *Dynamique d'un pont liquide lentement étiré*
Aux Rencontres de Peyresq "Dynamique, non-linéarités et complexité dans les phénomènes naturels terrestres", June 3-8th, Peyresq, France
talk

- *Dynamique d'un pont liquide lentement étiré*
IRPHE, March 20th
internal seminary
- *Dynamique de jets visqueux accélérés*
GDR Ruissellement et films cisailés, March 8-9, Paris, France
talk

2011

- *Dynamique de ligaments visqueux accélérés*
GDR Ruissellement et films cisailés, January 11-12, Paris, France
talk

TEACHING

2011-2013 Practicals for 1st year undergraduate students at the Institut Universitaire de Technologie d'Aix-Marseille :

- Thermodynamics (thermometry, heat transfer, phase change) : 48+32h
- Programming (basics notions of algorithmics using VBA language) : 48h

LANGUAGE and OTHERS

French : Mother tongue

English : Fluent (C1/C2 Level)

Spanish : Scholar level

Programming skills : Matlab, C/C++ (and Allegro graphic library), HTML, Maple, VBA

CENTERS OF INTEREST

Sports : Mountain-biking, hiking, trekking, climbing, gliding (glider pilot license)

Others : Photography, reading