

CURRICULUM VITAE - Dr. RÉMI CARMIGNIANI

Saint-Venant Hydraulics Laboratory, École Nationale des Ponts et Chaussées
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EMPLOYMENT

École Nationale des Ponts et Chaussées , Chatou, France Researcher at SVHL, Teaching Assistant in CFD and Hydrodynamics	Jan. 2018 - Present
École Spéciale des Travaux Publics , Cachan, France Teaching Assistant in Hydrodynamics	November 2017 - Present
École Nationale des Ponts et Chaussées , Chatou, France Graduate Research Assistant at SVHL	September 2014 - Dec. 2017
University of Chicago , IL, USA Undergraduate Research assistant at Sid Nagel's Group	April 2012 - August 2012
Lycée Sainte-Geneviève , Versailles, France Oral exam administrator in Physics in Classe Préparatoire	September 2011 - April 2012

EDUCATION

University Paris-Est Créteil, ENPC , Chatou, France PhD in <i>Science, Engineering and Environment</i> Advisor: Damien Violeau (ENPC) Collaboration with Morteza Gharib (Caltech)	September 2014 - Dec. 2017
École Nationale des Ponts et Chaussées , France Advanced Master in <i>Public policies and actions for sustainability</i>	September 2013 - July 2014
California Institute of Technology , Pasadena, CA, USA MSc in <i>Aeronautics</i> GALCIT	September 2012 - August 2013
École polytechnique , Palaiseau, France MSc in <i>Fluid Mechanics and Engineering</i> , Diploma d'Ingénieur Diploma de l'Ecole polytechnique	August 2009 - August 2013

RESEARCH INTERESTS

Ocean Science and Fluid Dynamics: renewable energy, two-phase flow, wave dynamics, wave propagation, wave dissipation, potential flows, wave breaking, computational fluid dynamics, Smoothed particle hydrodynamics, *physics of sport*, propulsion near free surface, wave resistance and drag forces, drafting of swimmers, tsunami waves, drop coalescence

TECHNICAL SKILLS AND EXPERTISE

Particle Image Velocimetry, High speed video imaging, Language programming (C++, Cuda, Mathematica, Matlab among others), machining, 3D printing.

AWARDS

2013	The Rolf D. Butler Memorial Award in Aeronautics ,	Pasadena, USA
2017	Lybersky Student Prize (3rd), 12th SPHERIC Workshop ,	Ourense, Spain
2018	Prix de la meilleur thèse ENPC ,	Paris, France
2018	Gerhard Jirka Award (3rd), 5th IAHR Europe Conf. ,	Trento, Italy

PUBLICATIONS

Journals:

Optimal sponge layer for water waves numerical models,

R. Carmigniani & D. Violeau *Ocean Engng.* (2018) *under review.*

Resonance wave pumping with surface waves

R. Carmigniani, M. Benoit, D. Violeau & M. Gharib *J. Fluid Mech.* **811** (2017) 1-36.

Influence of a local change of depth on the behavior of walking oil drops

R. Carmigniani, S. Lapointe, S. Symon & B.J. McKeon *Exp. Th. Fluid Sci.* **54** (2014) 237-246.

Coalescence of bubbles and drops in an outer fluid

J.D. Paulsen, R. Carmigniani, A. Kannan, J.C. Burton & S.R. Nagel *Nat. Comm.* **5** (2014) 3182.

Conference Proceedings:

Resonance wave pumping: mean wave mass flux

R. Carmigniani, D. Violeau & M. Gharib *37th IAHR Conf.* (2017).

Submerged plate wave energy converter SPH simulations: wave mass transport

R. Carmigniani, A. Joly, A. Leroy & D. Violeau *Proc. SPHERIC Conf.* (2017) 105-112.

SPH modeling of resonance wave pumping in closed tank: Parametric study

R. Carmigniani, A. Leroy, A. Joly & D. Violeau *Proc. SPHERIC Conf.* (2016) 100-107.

Ski jump flight

R. Carmigniani, X. Cao, S. Savourey, C. Martinier, S. Nuytten & C. Clanet *Sport Physics Ed. Ecole Polytech.* (2013) 286-301.

OUTREACH

[@NakedFluidDynamics](#): Instagram, Twitter and Tumblr accounts outlining the beauty of fluid mechanics.

Fondation des Ponts: Funding Campaign 2017¹

ORAL PRESENTATIONS & CONFERENCES

5th IAHR Europe Conference, June 2018, Trento Italy

12th SPHERIC Workshop, June 2017, Ourense Spain

Seminar Le Havre University, March 2017, Le Havre France

APS DFD Meeting, November 2016, Portland OR USA

11th SPHERIC Workshop, June 2016, Munich Germany

Journée des Doctorants, March 2016, Chatou France

Seminar Saint-Venant Hydraulics Laboratory, February 2016, Chatou France

APS DFD Meeting, November 2015, Boston MA USA

Physics of Sport, June 2012, Palaiseau France

¹ <http://www.fondationdesponts.fr/avec-vous-la-recherche-devient-action/>