

CURRICULUM VITAE - Dr. RÉMI CARMIGNIANI

Saint-Venant Laboratory for Hydraulics, École Nationale des Ponts et Chaussées
6 quai Watier, Room I-128, Chatou, France, 78401
remi.carmigniani@enpc.fr, +33 (0)1 30 87 87 46

EMPLOYMENT

École Nationale des Ponts et Chaussées , Chatou, France Researcher at SVLH, Teaching courses in CFD, Hydraulics, Physics of Sport	Jan. 2018 - Present
École Spéciale des Travaux Publics , Cachan, France Teaching Assistant in Hydrodynamics	November 2017 - Janvier 2019
École Nationale des Ponts et Chaussées , Chatou, France Graduate Research Assistant at SVLH	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'École polytechnique	August 2009 - August 2013

RESEARCH INTERESTS

Fluid Dynamics & physics of sport: renewable energy, two-phase flow, wave dynamics, wave propagation, wave dissipation, potential flows, computational fluid dynamics, swimming coordination, wave resistance and drag forces, drafting of swimmers, fish migration, paddle sports, water quality

TECHNICAL SKILLS AND EXPERTISE

Machine learning, Computer Vision, Particle Image Velocimetry, High speed video imaging, Language programming (C++, Cuda, Mathematica, Python among others),...

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 meilleure thèse ENPC ,	Paris, France
2018	Gerhard Jirka Award (3rd), 5th IAHR Europe Conf. ,	Trento, Italy

RECENT PUBLICATIONS

Journals:

On the physics of kayaking,

C. Prétot *et al.*, *Applied Sciences* (2022).

Wave drag during an unsteady motion

A. Dode *et al.*, *J. Fluid Mech.*, (2022).

Coupling 3D hydraulic simulation and fish telemetry data to characterize the behaviour of migrating smolts approaching a bypass,

N. Ben Jebria *et al.* *J. Ecohydraulics* (2021).

Coordination and stroking parameters in the four swimming techniques: a narrative review,

L. Seifert & R. Carmigniani, *Sports Biomechanics* (2021).

Coordination changes in front-crawl swimming,

R. Carmigniani, L. Seifert, D. Chollet & C. Clanet *RSPA* **476** (2020).

Conference Proceedings:

Open water swimming in urban areas E. coli distribution with TELEMAC-3D

N. Angelotti *et al.*, 28th TUC, (2022).

Hydrodynamic modelling for early warning of sanitary risks in open swimming waters,

N. Angelotti *et al.*, 27th TUC (2021).

Ski jump flight

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

OUTREACH

Fondation des Ponts: Funding Campaign 2017¹

Pont Alumni Magasin : Presentation of the project SCIENCES²⁰²⁴

FUNDINGS

PPR Sport de très haute performance : **ANR NePTUNE**, co-coordinator (2020-2024)

Fondation EDF : Swimming coordination project (2020-2022), Open Water project (2022)

ORAL PRESENTATIONS & CONFERENCES

Physics of Sport, December 2021, Lyon France

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/>