

Giuseppe Carlo Alp Caridi

Contacts

✉ giuseppe.caridi@polito.it

in [linkedin.com/in/giuseppe-ca-caridi-a7178046](https://www.linkedin.com/in/giuseppe-ca-caridi-a7178046)

About Me

Nuclear Engineer with passion for research and innovation. I'm currently working in the field of water treatment studying new technologies based on cavitation. I've acquired expertise in Applied Fluid Mechanics working in laboratories of hydraulics and aerodynamics. Here, I honed my skills and knowledge in flow measurements, in particular, in optical techniques to evaluate flow paths and turbulent analysis. During my career, I've also gained a set of technical and hands-on skills in several aspects of applied engineering achieving analytical mind-set, problem solving, ability to work independently and creativity.

Experience

2018-Present Postdoctoral Fellow
DIATI, Politecnico di Torino, Italy.
Project: Analysis and Characterization of Hydrodynamic Cavitation.

Education

2013-2018 PhD
Faculty of Aerospace Engineering, TU Delft (The Netherland).
Development & Application of Helium-Filled Soap Bubbles for PIV Experiments in Aerodynamics.

2012-2013 Research Master
Applied Fluid Dynamics Department, von Karman Institute, (Belgium).
Characterization of Cavitating Flow in Safety ValvsThrough Optical Techniques.

2009-2012 Master (110/110 with honors)
Energy and Nuclear Engineering Faculty, Politecnico di Torino, (Italy).
Experimental & Numerical characterization of Natural convection in an Enclosure.

Skills

Experimental Fluid Mechanics: ⇒ Design Experimental Set-Up, Flow Measurements, Optical Techniques, Seeding, Particle Image Velocimetry, Particle Tracking, Flow Visualization, Data/Image Processing, POD, Optics, Laser alignment, Laser safety.

CFD: ⇒ RANS ($k-\epsilon$, $k-\omega$, Reynolds Stresses).

Softwares: ⇒ Matlab, Simulink, Catia, Tecplot, Solidworks, LabVIEW, ANSYS Fluent, gambit.

Transferable Skills: ⇒ Presenting Scientific Research, Writing Scientific Articles And Reports, Conversation Skills, Teamwork And Group Dynamics, Coaching And Teaching, Time Management, Analytical Skills, Numeracy Skills.

Languages: ITALIAN (native speaker); highly proficient in spoken and written ENGLISH; Basic knowledge of FRENCH.

Publications

Peer-reviewed scientific journals:

- Caridi GCA, Vesipa R, Ridolfi L, Manes C (2020), Effects of hydrodynamic cavitation in confined jet downstream a thick orifice, *Work in Progress*.
- Caridi GCA, Ragni D, Sciacchitano A, Scarano F (2016), HFSB-seeding for large-scale tomographic PIV in wind tunnels, *Exp. in Fluids* 57: 190.
- Caridi GCA, Sciacchitano A, Scarano F (2017), Helium-filled soap bubbles for vortex velocimetry, *Exp. in Fluids* 58: 130.
- Burzio E, Bersani F, Caridi GCA, Vesipa R, Ridolfi L, Manes C (2020), Water disinfection by orifice-induced hydrodynamic cavitation, *Ultrasonics Sonochem.*, 60, 104740.
- Schneiders JF, Caridi GCA, Sciacchitano A, Scarano F. (2016), Large-scale volumetric pressure from tomographic PTV with HFSB tracers, *Exp. in Fluids* 57: 164.
- Scarano F, Ghaemi S, Caridi GCA, Bosbach J, Dierksheide U, Sciacchitano A (2015), On the use of helium-filled soap bubbles (HFSB) for large-scale tomographic PIV in wind tunnel experiments, *Exp. in Fluids* 56: 42.

Peer-reviewed conference proceedings:

- Caridi GCA, Sciacchitano A (2017), Optical Characterization of HFSB, 12th Int. Symp. on Particle Image Velocimetry, Busan, South Korea.
- Caridi GCA, Ragni D, Sciacchitano A, Scarano F (2015), A seeding system for large-scale Tomographic PIV in aerodynamics, 11th Int. Symp. Particle Image Velocimetry, Santa Barbara, USA.
- Pinho J, Rambaud P, Chabane S, Buchlin JM, Caridi GCA (2014), Flow visualization and f-PIV of a two-phase cavitating flow through a safety relief valve at initial subcooling conditions, 17th Int. Symp. on App. of Laser Techn., Lisbon, Portugal.
- Morias KLL, Caridi GCA, Sciacchitano A, Scarano F (2016), Statistical Characterization of Helium-Filled Soap Bubbles Tracing Fidelity for PIV, 18th Int. Symp. Applications of Laser Techniques to Fluid Mechanics, Lisbon, Portugal

Awards

- 2019** Seal of Excellence Certificate of European Commission for the HORIZON 2020 Proposal: Hydro SWoRD.
- 2015** Best Poster Presentation International Symposium of Particle Image Velocimetry, Santa Barba, CA, USA.
- 2013** Excellence in Experimental Research for the final dissertation of the Research Master at the von Karman Institute.

Teaching, Supervising and Seminars

In my postdoc, I worked (30 hours) as teaching assistant in the bachelor course of Fluid Mechanics. During my PhD, I have conducted the practicals (60 hours) of Gas Dynamics. I have also supervised 7 MSc students during their experiments for the final dissertation.

In 2015, I gave a lecture on the use of Helium Filled Soap Bubbles for large-scale Measurements in industrial wind-tunnels at the seminar Journée Thématique (JT37) de l'AFVL: Ensemencement des écoulements liquides et gazeux, CNRS Bellevue Meudon (Paris), France.