

Marco Crialesi Esposito

Curriculum Vitae

Engineering Mechanic, KTH
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Nationality: Italian

Education

- 9/2015–11/2019 **Ph.D. in Fluid Mechanics (cum Laude)**, *Universitat Politècnica de València*, Valencia, ES,
Advisor: F.J. Salvador
Ph.D. Dissertation title: Analysis of the spray dense region using Direct Numerical Simulations.
- 9/2011–3/2014 **M.S. Mechanical Engineering**, *University of Parma*, Parma, IT
Advisors: Prof. Agostino Gambarotta, Prof. Marcello Canova (the Ohio State University), Prof. Giorgio Rizzoni (the Ohio State University)
M.S. Dissertation Title: ORC Dynamic Modeling for Automotive Waste Heat Recovery Applications
- 9/2008–9/2011 **B.S., Mechanical Engineering**, *University of Parma*, Parma, IT
Advisor: Prof. Agostino Gambarotta
B.S. Dissertation Title: Development of a model for the simulation of dynamic compressor surge for internal combustion engines supercharging.

Research Experience

- 2/2023–present **Researcher (RTDa)**, *Dipartimento di Ingegneria Enzo Ferrari*, Università degli Studi di Modena e Reggio Emilia, Modena, Mo
- 3/2022–2/2023 **Postdoctoral researcher**, *Istituto Nazionale di Fisica Nucleare*, INFN sezione di Torino, Torino, IT, Supervisor: Prof. Guido Boffetta
- 1/2020–1/2022 **Postdoctoral researcher**, *Engineering Mechanics*, Royal Institute of Technology (KTH), Stockholm, SE, Supervisor: Prof. Luca Brand
- 10/2019–1/2020 **Postdoctoral researcher**, *Institut Jean Le Rond d'Alembert*, Sorbonne Université, Paris, FR, Supervisor: Prof. Stephane Zaleski
- 5/2018–8/2018 **Visiting Scholar**, *Institut Jean Le Rond d'Alembert*, Sorbonne Université, Paris, FR
- 9/2015–11/2019 **Graduate Research Assistant**, *CMT-Motores Térmicos*, Universitat Politècnica de València, main topics included:
- 3/2014–8/2015 **Graduate Research Assistant**, *University of Parma*, Parma, IT
- 3/2013–12/2013 **Visiting Scholar**, *Center for Automotive Research*, the Ohio State University, Columbus, OH (USA)

Working experience

7/2014–9/2015 **Innovation Discipline Specialist**, *Centro Ricerche Fiat*, Turin, IT

Work description: designing GDI engine concepts, turbocharger control and optimization, control strategies design, light-off strategies design

Awards

- 2020 Fellowship for Summer Program at Center for Turbulence Research, Stanford (CA, USA). Suspended due to COVID-19 pandemic
- 2020 Fellowship for International High Performance Computing Summer School (IHPCSS), Toronto, CA. Suspended due to COVID-19 pandemic
- 2018 ILASS Paul Eisenklam Travel and Research Awards for Young Researchers (PETRA)
- 2018 Travel Fellowship from Universitat Politècnica de València

Computer Skills

Programming languages: C, C++, Python, Fortran, Matlab, Latex.

Programming libraries: MPI, openMP, CUDA, HDF5, HYPRE, SILO, VTK.

Other programs: OpenFOAM, VisIt, Paraview, Inventor, Solidworks.

Known Languages

Italian (Native Language), Spanish (Advanced), English (Advanced), French (Basic), German(Basic).

Certificates TOEFL