

PERSONAL INFORMATION

Jacopo Zembi



Sex Male | Date of birth | Nationality Italian

EDUCATION AND TRAINING

From 1/11/2017 – in progress

PhD student in “CFD modeling of innovative gasoline combustion strategies”

University of Perugia, Perugia (Italia)

Master's degree in Mechanical Engineering

University of Perugia, Perugia (Italia)

Graduation date: 26/10/2017, graduation grade: 110/110

Bachelor's degree in Mechanical Engineering

University of Perugia, Perugia (Italia)

Graduation date: 23/04/2015, graduation grade: 88/110

Scientific high school Diploma

Liceo Scientifico G. Galilei, Perugia (Italia)

Graduation date: July 2010, graduation grade: 93/100

Organ and Music Composition high school Diploma

Conservatorio di Musica F. Morlacchi, Perugia (Italia)

Graduation date: September 2014, graduation grade: 9/10

PERSONAL SKILLS

Mother tongue Italian

Other language

English

UNDERSTANDING		SPEAKING		WRITING
Listening	Reading	Spoken interaction	Spoken production	
B2	B2	B2	B2	B2
English exam, B2 level, date: 13/09/2019, CLA unipg				

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user
[Common European Framework of Reference for Languages](#)

Organisational / managerial skills

- Excellent attitude for planning and logistic organization of works and projects
- Excellent predisposition to face and solve problems
- Ability to work under stress, respecting the set deadlines
- Strong aptitude for group work
- Ability to work independently

Digital skills

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
Proficient user	Proficient user	Proficient user	Proficient user	Proficient user

Levels: Basic user - Independent user - Proficient user

[Digital competences - Self-assessment grid](#)

- Excellent skills in Matlab, Converge CFD, Star CCM+, Soliworks, AutoCad, Paraview, Tecplot, GT_Power, OpenFOAM, Ansys

ADDITIONAL INFORMATION

Publications

- "CFD Simulations of Port Water Injection Benefits in a GDI Engine under Knock-Limited Conditions" - J. Zembi, M. Battistoni, F. Ranuzzi, N. Cavina and M. De Cesare - THIESEL 2018 Conference on Thermo- and Fluid Dynamic Processes in Direct Injection Engines | conference-paper
- "Experimental assessment of spark and corona igniters energy release" - G. Discepoli, V. Cruccolini, M. Dal Re, J. Zembi et al - Energy Procedia 2018, 148, pp. 1262-1269
DOI: 10.1016/j.egypro.2018.08.001
- "Experimental assessment of a Pressure Wave Charger for Motorcycle Engines" - V. Cruccolini, G. Discepoli, J. Zembi, M. Battistoni - Energy Procedia 2018, 148, pp. 1254-1261
DOI: 10.1016/j.egypro.2018.08.002
- "Large Eddy Simulation of Ignition and Combustion Stability in a Lean SI Optical Access Engine" - J. Zembi, F. Mariani, M. Battistoni - SAE Technical Paper 2019-09-09
DOI: 10.4271/2019-24-0087
- "Experimental and Numerical Investigations of the Early Flame Development Produced by a Corona Igniter" - F. Ricci, J. Zembi, M. Battistoni et al. - SAE Technical Paper 2019-10-07
DOI: 10.4271/2019-24-0231
- "CFD Analysis of Port Water Injection in a GDI Engine under Incipient Knock Conditions" - J. Zembi, M. Battistoni, F. Ranuzzi, N. Cavina and M. De Cesare - Energies 12(18),3409
DOI: 10.3390/en12183409
- "Large Eddy Simulations of Supercritical and Transcritical Jet Flows Using Real Fluid Thermophysical Properties" - B.M. Ningegowda, F. Rahantamialisoa, J. Zembi, A. Pandal et al - SAE Technical Paper 2020-01-1153
DOI: 10.4271/2020-01-1153
- "Numerical Investigation of Water Injection Effects on Flame Wrinkling and Combustion Development in a GDI Spark Ignition Optical Engine" - J. Zembi, M. Battistoni, F. Mariani, A. Irimescu, S.S. Merola - SAE Technical Paper 2021-01-0465 (in press)
- "LES Investigation of Cycle-to-Cycle Variation in a SI Optical Access Engine using TFM-AMR Combustion Model" - J. Zembi, M. Battistoni, S.K. Nambully, A. Pandal, C. Mehl, O. Colin - International Journal of Engine Research (in press)
- "Modeling of Engine Combustion Initiated by Corona Discharge in Lean Conditions Accounting for Non-Equilibrium Plasma" - J. Zembi, V. Cruccolini, F. Mariani, R. Scarcelli, M. Battistoni - Applied Thermal Engineering (under review)

- Summer School**
 - Numap-Foam “Numerical Modelling of Coupled Problems in Applied Physics with OpenFOAM” – University of Zagreb – August 2018
- Erasmus**
 - Erasmus+ Traineeship at Convergent Science GMBH (Linz, Austria), from 19/10/2019 to 25/04/2020
- Courses and Activities**
 - Fundamentals of Turbulent Combustion – Cerfacs (Toulouse, Francia), from 01/04/2019 to 17/05/2019
 - Introductory Converge CFD training – Convergent Science GMBH (Linz, Austria), from 21/10/2019 to 22/10/2019
 - Advanced Converge CFD training – Convergent Science GMBH (Linz, Austria), 24/10/2019

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15/02/2021

Signature