Curriculum vitae

PERSONAL INFORMATION	Luca Mantelli

EDUCATION AND TRAINING

11/2017–Present	**PhD in Machine and Systems Engineering for Energy, the Environment and Transport - Curriculum Mathematical Engineering and Simulation**	EQF level 8
	Università degli Studi di Genova, Genova (Italy)	

07/2017	**Engineering Licence (Industrial Sector)**	
	Università degli Studi di Genova - Ordine degli Ingegneri di Genova, Genova (Italia)	
	Engineer professional practice examination	

09/2014–03/2017	**Master's Degree in Mechanical Engineering Energy and Aeronautics**	EQF level 7
	Università degli Studi di Genova, Genova (Italy)	
	Final Degree Mark: 110/110 cum laude	
	Thesis Title: Two-phase flow modeling by using level set methods coupled with Navier-Stokes equations	

09/2011–12/2014	**Bachelor's Degree in Mechanical Engineering**	EQF level 6
	Università degli Studi di Genova, Genova (Italy)	
	Final Degree Mark: 110/110 cum laude	
	Thesis Title: Feasibility study of hydrokinetic turbine application in canals	

09/2006–07/2011	**Scientific High School Diploma - PNI (Piano Nazionale Informatica)**	EQF level 4
	Liceo Scientifico e Classico Statale Martin Luther King, Genova (Italy)	
	Final Exam Mark: 100/100	

WORK EXPERIENCE

09/2019–12/2019	**Visiting Researcher**
	Mälardalen University, Västerås (Sweden)
	Research activity regarding the application of Bayesian networks for the diagnosis of fuel cell – gas turbine hybrid systems (development and test of diagnostic systems in a simulated environment, integration with the control system).

06/2019–09/2019	**Freelancer**
	Università degli Studi di Genova - DIME, Genova (Italy)
	Freelancer activity aimed to design and implement a new simulation and control system for a turbocharger-fuel cell hybrid system emulator.

09/2018–07/2019	**Tutor**
	Università degli Studi di Genova - DICCA, Genova (Italy)
	Tutor for University geometry course students

09/2018–06/2019	**University teaching assistant**
	Università degli Studi di Genova, Genova (Italy)
	Teaching support for University geometry class

10/2018–12/2018	**Visiting Researcher**
	National Energy Technology Laboratory (NETL), United States Department of Energy (DOE), Morgantown (West Virginia, USA)
	Hybrid Performance (Hyper) project research activities regarding surge mitigation and recovery in fuel cell hybrid systems

06/2018–Present	**Reviewer**
	Peer reviews for scientific journals and international conferences

05/2017–10/2017	**Postgraduate Researcher**
	Università degli Studi di Genova - DIME, Genova (Italy)
	Research about the topic "Coupling of Navier-Stokes Equation and Magnetic Fields for Level Set Front Evolution", within the project "New Approach to the Optimal Control of Level Sets Generated by Partial Equations to Bridge the Gap Between Computational Mathematics and Control of Complex Systems"

2012–2017	**Private Lessons**
	Private lessons of mathematics, physics and chemistry for high school students

11/2016	**Development of a building energy model in Microsoft Excel**
	SAIC Ingegneri Associati, Genova (Italy)

PERSONAL SKILLS

Mother tongue(s) Italian

Foreign language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	C1	B2	B2	B2

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user
Common European Framework of Reference for Languages - Self-assessment grid

Communication skills
- Good comunicative skills, developed working as teaching assistant and students tutor at my University, and previously giving private lessons to highschool students.
- Teamworking attitude, acquired collaborating at university group projects.

Job-related skills
- Proficient in: MATLAB, Simulink, Microsoft Office, Latex.
- Exposure to: Python, HUGIN Expert (Bayesian networks development), STAR-CCM+ (CFD), Creo Parametric (3D CAD parametric feature solid modeling), SketchUp (3D modeling), Adobe Photoshop, GIMP (digital images editing software), C++, Microstation (CAD).

Digital skills

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

Proficient user	Proficient user	Independent user	Proficient user	Proficient user

Digital skills - Self-assessment grid

Certificato ECDL (European computer driving licence)

- Excellent knowledge of Microsoft Windows
- Ability to build a computer desktop

Driving licence   B

ADDITIONAL INFORMATION

Publications
- A. Cuneo, A. Giugno, L. Mantelli, A. Traverso, 2020, *"Uncertainty Quantification Analysis of a Pressurised Fuel Cell Hybrid System"*, Journal of Engineering for Gas Turbines and Power (ASME), Vol. 142.1.
- J. Guerrero, L. Mantelli, S. B. Naqvi, 2020, "*Cloud-Based CAD Parametrization for Design Space Exploration and Design optimization in Numerical Simulations*", Fluids, Vol. 5.1.
- A. Giugno, L. Mantelli, A. Cuneo, A. Traverso, 2019, *"Robust Design of a Hybrid Energy System"*, SUstainable PolyEnergy generation and HaRvesting Conference (SUPEHR) 2019, Savona, Italy.
- L. Mantelli, D. Tucker, M. L. Ferrari, 2019, *"Dynamic Effect of Cold-Air Bypass Valve for Compressor Surge Recovery and Prevention in Fuel Cell Gas Turbine Hybrid"*, SUstainable PolyEnergy generation and HaRvesting Conference (SUPEHR) 2019, Savona, Italy.
- L. Mantelli, M. De Campo, M.L. Ferrari, L. Magistri, February 2019, "*Fuel flexibility for a turbocharged SOFC system*", Energy Procedia, Vol. 158.
- A. Alessandri, P. Bagnerini, M. Gaggero, L. Mantelli, V. Santamaria, A. Traverso, 2018, "*Black-box Modeling and Optimal Control of a Two-Phase Flow by Using Navier-Stokes Equations and Level Set Methods*", American Control Conference 2018, Milwaukee, Wisconsin, USA.

Memberships
- ASME (American Society of Mechanical Engineers) Regular Student Membership

Workshops
- "Power plant and process control – Current industrial practice, future challenges and opportunities", 2019, Mälardalen University, Västerås, Sweden.
- "The 4th Low Emission Advanced Power (LEAP) Workshop on Flexibility in Power Systems", 2018, NETL, Morgantown, West Virginia, USA.

Courses
- "Machine Learning Crash Course (MLCC) 2019", Università degli Studi di Genova, Genova, Italy.

Honours and awards
- Winner of the ASME (The American Society of Mechanical Engineers) 2020 Young Engineer Turbo Expo Participant Award.
- Participation to the final phase of Olimpiadi Nazionali della Matematica (National Mathematical Olympiad) Cesenatico, Italy, 5-8 May 2011.
- Participation to the final phase of Olimpiadi Italiane di Informatica (Italian Computer Technology Olympiad) Verona, 22-24 October 2009.
- 3rd place at Regional Natural Science Olympiad (April 2008).