

GIANLUCA VALENTI

Work Experience	Politecnico di Milano - Milan, Italy	Present
	Associate Professor (formerly Assistant Professor)	07/2015
	<ul style="list-style-type: none"> Numerical research: carbon capture via chemical absorption; biogas and biomethane production and utilization; hydrogen liquefaction; innovative systems for waste heat to electricity 	(07/2015
	<ul style="list-style-type: none"> Experimental research: development and testing of micro-cogeneration systems and of positive-displacement fluid machinery 	12/2008)
	<ul style="list-style-type: none"> Teaching: lecturer of Energy Conversion 	
	<ul style="list-style-type: none"> Advisory and co-advisory: approximately a dozen graduate theses per year 	
	<ul style="list-style-type: none"> Responsibilities: <ul style="list-style-type: none"> Chief of Operations of the Laboratory of Micro-Cogeneration Responsible for the international mobility for students within the degree in Energy Engineering 	
	Valenti Energie S.r.l. - Milan, Italy	Present
	Co-founder	05/2013
	<ul style="list-style-type: none"> Implementation of cross-industry technologies for energy efficiency improvement Realization of an innovative system for waste heat to electricity Realization of a mini-compressor for electronics cooling 	
	Skolkovo Innovation Center – Moscow, Russian Federation	Present
	Member of Technical Committee	01/2013
	<ul style="list-style-type: none"> Technical review of proposals of investments in energy-related projects 	
	Quadrivio SGR - Milan, Italy	Present
Education	Member of Technical Committee	07/2012
	<ul style="list-style-type: none"> Technical review of proposals of investments in renewable energy-related projects 	
	Politecnico di Milano - Milan, Italy	12/2008
	Research fellow	07/2006
	<ul style="list-style-type: none"> Methods for minimizing the emission of greenhouse gases from power plants Development of a system for creating synthetic mixture from gas bottles 	
	Stanford University - Stanford, CA U.S.A.	02/2005
	Research assistant	09/2003
	<ul style="list-style-type: none"> Development of three-phase permeability models for a reservoir simulator 	
	Snamprogetti - Milan, Italy	07/2002
	Intern	11/2001
	<ul style="list-style-type: none"> Stress analysis of the high temperature lines of a natural gas combined cycle 	
	University of Illinois at Chicago - Chicago, IL U.S.A.	08/2001
	Research assistant	09/1999
	<ul style="list-style-type: none"> Techno-economic assessment of medium-size cogeneration systems 	
	Politecnico di Milano	Milan, Italy
Recent Projects	Degree: Ph.D. in Energy Engineering	Grade: <i>cum laude</i>
	Thesis: "Liquid hydrogen from clean coal"	
	Stanford University	Stanford, CA U.S.A.
	Degree: M.Sc. in Petroleum Engineering	
	Thesis: "Streamline-based simulation of three-phase, multicomponent flows in porous media"	
	Politecnico di Milano	Milan, Italy
	Degree: Laurea in Mechanical Engineering	Grade:
	Thesis: "Analisi ed ottimizzazione dei circuiti critici di una centrale a ciclo combinato"	
	University of Illinois at Chicago	Chicago, IL U.S.A.
	Degree: M.Sc. in Mechanical Engineering	Grade:
	Thesis: "An assessment of combined heat and power for medium-sized applications"	
	European Commission-funded projects	
	<ul style="list-style-type: none"> H2Trust: "Development of H₂ Safety Expert Groups and due diligence tools for public awareness [...]" Cachet II: "Carbon Dioxide Capture and Hydrogen Production with Membranes" Caesar: "Carbon-free electricity by SEWGS" 	
	U.S.A. Department of Energy-funded projects:	
	<ul style="list-style-type: none"> "Development of Mixed-Salt Technology for Carbon Dioxide Capture from Coal Power Plants" with SRI International 	
	National and Regional Government-funded projects	
	<ul style="list-style-type: none"> Microgen 30: "Sistema di micro-cogenerazione di taglia medio-piccola (30 kWe) basato su celle a combustibile [...]" Microgen: "Sviluppo e realizzazione di un micro-cogeneratore a ciclo Stirling alimentato a gas naturale" Agrengest: "Analisi degli aspetti operativi e gestionali di impianto agro-energetici in Lombardia" 	

Honors	Industry-funded projects <ul style="list-style-type: none"> Saipem: "By-pass di recuper energetico per un impianto di rigassificazione LNG" AsjaGen: "Prove di caratterizzazione energetica e ambientale di un micro-cogeneratore da 20 kWel [...]" Snam Rete Gas: "Attività di assistenza tecnica nel campo della misura di qualità del gas, della simulazione di reti [...]" Eni: "Energy Management in Up – Mid Stream of Oil and Gas Industry" Enel: "Valutazione del processo Chilled Ammonia per la cattura della CO₂"
	<ul style="list-style-type: none"> Five awards (four national and one international) for advised graduate thesis Finalist Intensa San Paolo StartUpInitiative 2011 competition Finalist Politecnico di Milano Idea2Product 2011 prize 3-year scholarship by the Italian Government during the Ph.D. 15-month scholarship by Stanford University during the M.Sc. 2-year scholarship by University of Illinois at Chicago during the M.Sc. 2-year scholarship by Nuovo Pignone S.p.a. during Laurea
	International journals <ul style="list-style-type: none"> G. Guandalini, S. Campanari, G. Valenti. Comparative assessment and safety issues in state-of-the-art hydrogen production technologies. <i>Int. J. Hydrogen Energy</i>, 41(42), pages 18901–18920, 2016 G. Valenti, A. Arcidiacono, J. Nieto. Assessment of membrane plants for biogas upgrading to biomethane at zero methane emission. <i>Biomass and Bioenergy</i>, 2016 G. Valenti, P. Silva, N. Fergnani, S. Campanari, <i>et al.</i> "Experimental and numerical study of a micro-cogeneration Stirling unit under diverse conditions of the working fluid". <i>Applied Energy</i>, 2015 G. Valenti, S. Murgia, G. Contaldi, A. Valenti. "Experimental evidence of the thermal effect of lubricating oil sprayed in sliding-vane air compressors". <i>Case Studies in Thermal Engineering</i>, 4, 2014 R. Cipollone, G. Valenti, G. Bianchi, S. Murgia, G. Contaldi, T. Calvi. "Energy saving in sliding vane rotary compressors using pressure swirl oil atomizers". <i>J. Process Mech. Eng.</i>, 2014 S. Campanari, G. Valenti, E. Macchi, G. Lozza, N. Ravidà, N. Lazzari. "Development of a microcogeneration laboratory and testing of a natural gas chp unit based on PEM fuel cells". <i>Applied Thermal Energy</i>, 71(2), 2014 G. Valenti, L. Colombo, S. Murgia, A. Lucchini, A. Sampietro, A. Capoferri, L. Araneo. "Thermal effect of lubricating oil in positive-displacement air compressors". <i>Applied Thermal Engineering</i>, 51(1-2), 2013
Recent Publications & Patents	International and national conferences <ul style="list-style-type: none"> G. Valenti, S. Murgia, I. Costanzo, G. Contaldi, A. Valenti. Modeling and testing the thermal effect of lubricating oil spraying in sliding-vane air compressors using pressure-swirl nozzles. 23rd Int. Compressor Eng. Conference, 2016. L. Mastropasqua, S. Campanari, G. Valenti, A. Guariniello, S. Modena, F. Ghigliazza. Testing and preliminary modelling of a 2.5 kW micro-CHP SOFC unit. <i>PowerEnergy 2016-59327</i>. 2016. D. Bonalumi, G. Valenti, S. Lillia, P. L. Fosbol, K. Thomsen. A layout for the carbon capture with aqueous ammonia without salt precipitation. <i>Energy Procedia</i>, 86, pages 134-143, 2016. D. Bonalumi, G. Valenti, S. Lillia, P. L. Fosbol, K. Thomsen. A layout for the carbon capture with aqueous ammonia without salt precipitation. <i>Energy Procedia</i>, 2016
	Contribution to books <ul style="list-style-type: none"> G. Valenti. "Hydrogen liquefaction and liquid hydrogen storage" in <i>Compendium to Hydrogen Energy - Volume 2: Hydrogen storage, transmission, transportation and infrastructure</i>. Woodhead publishing. To be published in 2015
	Patents <ul style="list-style-type: none"> G. Valenti, A. Valenti, C. Valenti. Sistema di produzione aria compressa. Italian patent application, 2016. A. Valenti, C. Valenti, G. Valenti. Sistema igienico di apertura delle lattine. Italian patent application, 2015. G. Valenti, A. Valenti, C. Valenti, Method and system for converting thermal power, delivered from a variable temperature heat source, into mechanical power. PCT application, 2010.
Full list available at http://www.gecos.polimi.it/staff/scheda_persona.php?id=151	
Other Information	Reviewer <ul style="list-style-type: none"> Journals: <i>Int. J. Hydrogen Energy</i> and <i>Int. J. Greenhouse Gas Control</i>
	Languages <ul style="list-style-type: none"> Italian: mother language English: proficient
	IT skills <ul style="list-style-type: none"> General and process software: Office suite, Aspen Process Engineering suite, Refprop Programming languages: Matlab and Fortran
	Family <ul style="list-style-type: none"> Happily married with one small son and one big dog
	Interests <ul style="list-style-type: none"> open-water swimming, on- and off-road cycling, running (formerly triathlon athlete)

Milan, Italy, 15/01/2017