

CV summary

Alberto Traverso, PhD
Università degli Studi di Genova, Scuola Politecnica
Dipartimento di Ingegneria Meccanica (DIME)
via Montallegro 1, 16145 Genova - Italia
tel.: +39 010 335 2442
e-mail: alberto.traverso@unige.it
web: www.tpg.unige.eu



Alberto Traverso, Full Professor of Energy Systems at University of Genoa, Italy, since 2019. He started the academic career as Assistant Professor in 2005 at the Rolls-Royce University Technology Centre in Genoa.

Main roles: Adjunct Professor at West Virginia University (USA) since 2010, Research scholar at National Energy Technology Laboratory – NETL (USA) since 2009; Board member of Energy Turbomachinery Network (ETN) since 2024;; Chair of Tutorial of Basics for Turbo Expo’ 2020 conference; Chair of SUPEHR conference in 2019 and Co-Chair in 2023; Chair, Vice-Chair and Point of Contact for Cycle Innovations Committee of the American Society of Mechanical Engineers (ASME) in 2009-2015; ASME Turbo Expo’ 2017 and 2021 conference vice Review Chair; ASME Turbo Expo’ 2026 member of Local Liason Committee; member of ASME Turbo Expo’ Peer Review & Publications Committee since 2024; Member of the Energy Turbomachinery Network Board since 2024; Member of the International Advisory Committee (IAC) for Gas Turbine Society of Japan (GTSJ) since 2013.

Past Appointments: “Experienced researcher” under Marie Curie “EnSOFC” (2007 – 2010), at Rolls-Royce FCS laboratories, UK, and under Marie Curie “Bio-SOFC” (2007 – 2010), at AGH laboratories, Poland. PhD external examiner for various Italian Universities, for Cambridge University in 2008, Royal Institute of Technology (KTH), Sweden, in 2016-2018, City University of London, UK, in 2017, Instituto Tecnológico de Aeronautica, Brasil, in 2020, Seville University, Spain, in 2023.

Research interests: Alberto Traverso carries out scientific and applied research in the field of Innovative Energy Systems. His background encompasses thermoeconomic analysis and optimisation, dynamic simulation and controls, uncertainty quantification and robust design, intelligent diagnostics of rotating machinery. Alberto Traverso leads experimental research activities on: combined cycle flexibility, bladeless turbomachinery, fuel cells and hydrogen, microturbine cycles and smart polygeneration grids, compressor instabilities, high temperature heat pumps.

Research results: more than 200 scientific papers, most of them published at International conferences and Journals, 22 invited lecturers, 18 patents (Italy, US and World), 13 awards: 2022, 2019, 2017, 2014, 2008, 2003 ASME Best Paper Awards, 2018 GPPS Best Paper Award, 2015 ICAE Best paper award, 2010 nomination as International Engineer, 2009 Ansaldo Energia Innovation Award, 2006 10 most cited articles for the years 2002 to 2005 of the Journal “Applied Thermal Engineering”, 2001 The European Talent Award for Innovative Energy Systems in Pow_Gen Europe Expo’. Transfer of knowledge to National companies (ENEL, Fincantieri, Ansaldo Energia, Baker Hughes) and International companies (Rolls-Royce, Carrier, LG Fuel Cell Systems, VAST Power Systems). Founder of two startup companies, H2Boat and SIT Technologies.

Leadership and funding: Alberto Traverso has been Scientific Responsible for the University of Genoa of more than 9 Meuro research projects, including EU funded projects (Horizon Europe: EEETHOS. SOLINDARITY, SHARPSCO2. H2020: PUMP-HEAT (coordinator), LOLABAT, SOLARSCO2OL, Bio-HyPP), International projects (Air Force Office of Scientific Research – USA, National Energy Technology Laboratory – USA), National projects (Regional Council, Ministry of National Defence, Ministry of Research and Education), private company research (Ansaldo Energia, RINA, Carrier, Fincantieri, Baker Hughes, etc.).

National and International advisor positions: Expert reviewer for the European Innovation Council (EIC) since 2023, Expert reviewer for Horizon Europe and H2020 since 2014, reviewer for Swiss National Science Foundation (SNSF) since 2021, Inspector for GSE, Rome, since 2011, for Cogeneration and Biogas Power Plants. Evaluator of research projects for Italian MISE Ministry since 2023, Regione Piemonte since 2010, for Regione Puglia since 2021. Scientific advisor for VAST Power Systems Inc. (USA) in 2002 and 2003.

Top ten most cited publications

Article	Citation
Ferrari, M.L., Traverso, A. , Magistri, L., Massardo, A.F., Influence of the anodic recirculation transient behaviour on the SOFC hybrid system performance, (2005) <i>Journal of Power Sources</i> , 149 (1-2), pp. 22-32.	101
Strazza, C., Del Borghi, A., Costamagna, P., Traverso, A. , Santin, M., Comparative LCA of methanol-fuelled SOFCs as auxiliary power systems on-board ships, (2010) <i>Applied Energy</i> , 87 (5), pp. 1670-1678.	91
Traverso, A. , Massardo, A.F., Scarpellini, R., Externally Fired micro-Gas Turbine: Modelling and experimental performance, (2006) <i>Applied Thermal Engineering</i> , 26 (16), pp. 1935-1941.	86
Santin, M., Traverso, A. , Magistri, L., Massardo, A., Thermo-economic analysis of SOFC-GT hybrid systems fed by liquid fuels, (2010) <i>Energy</i> , 35 (2), pp. 1077-1083.	87
Traverso, A. , Massardo, A.F., Optimal design of compact recuperators for microturbine application <i>Applied Thermal Engineering</i> , 2005, 25(14-15), pp. 2054–2071	83
Franzoni, A., Magistri, L., Traverso, A. , Massardo, A.F., Thermo-economic analysis of pressurized hybrid SOFC systems with CO ₂ separation, (2008) <i>Energy</i> , 33 (2), pp. 311-320.	80
Traverso, A. , Massardo, A.F., Thermo-economic analysis of mixed gas-steam cycles, (2002) <i>Applied Thermal Engineering</i> , 22 (1), pp. 1-21.	76
Parente, J.O.S., Traverso, A. , Massardo, A.F., Saturator analysis for an evaporative gas turbine cycle, (2003) <i>Applied Thermal Engineering</i> , 23 (10), pp. 1275-1293.	65
Pezzini, P., Tucker, D., Traverso, A. , Avoiding compressor surge during emergency shutdown hybrid turbine systems (2013) <i>Journal of Engineering for Gas Turbines and Power</i> , 135 (10), art. no. 102602.	51
Zaccaria, V., Tucker, D., Traverso, A. , Transfer function development for SOFC/GT hybrid systems control using cold air bypass, (2016) <i>Applied Energy</i> , 165, pp. 695-706.	44

Alberto Traverso has the following bibliometric indexes (source: Scopus):

Documents 219; Citations = 2728 ; H-index = 31

Recent Patents

	World patent application WO2018127445 A1
Year	2018
Title	Reverse cycle machine provided with a turbine
Inventors	Alberto Traverso, Raffaele Spezia, Stefano Barberis, Luca Larosa, Paolo Silvestri
Propriety	SIT Technologies Srl
	US patent application US2019148752 A1
Year	2019
Title	Fuel cell stack temperature control
Inventors	Michele Bozzolo, Francesco Caratozzolo, Silveira Erel David, Alberto Traverso
Propriety	LG Fuel Cell Systems Inc.

Latest award

2023 BEST PAPER AWARD. Award to the best scientific paper of the technical committee “Cycle Innovations” of the American Society of Mechanical Engineers, ASME, presented to the International conference TURBO EXPO’ 2022, Rotterdam (The Netherlands). Winner article: “Gas Turbine Combined Cycle Range Enhancer – Part 2: Performance Demonstrator”, ASME Paper GT2022-82516.

March 2023