

Short Curriculum

Aristide Fausto Massardo;

1. Present Appointment:

- **Full Professor of Energy Systems**, Polytechnic School, University of Genoa, Genoa, Italy.

2. Main duties at present appointment:

- **UNESCO Chair on Innovative Sustainable Clean Energy Research and Education Roadmap Engaged 4 Equity (CLEAN-E&R4EQ)**, Università degli Studi di Genova, Italy, since 2020.
- **Director Rolls-Royce Fuel Cell Systems University Technology Centre** (RRFCS-UTC), since 2004. (http://www.rolls-royce.com/about/technology/research/research_university_technology_centres/index.jsp).
- **Director Fincantieri-University of Genoa Joint lab. "Genoa-HISI" (Hydrogen Innovative Solution Initiative)**, since 2016.
- **Member Scientific Committee Joint Undertaking FCH2 H2020**, Bruxelles, 2018-2020, <http://www.fch.europa.eu/page/scientific-committee>.
- **Member Governing Board European Turbine Network ETN**, 2018-2020, <https://etn.global/about-etn/organisation-structure/etn-board/>.
- **Member Scientific Advisory Board CEA** Commissariat à l'énergie atomique et aux énergies alternatives–Energy Division, Saclay – Paris, France, 2020-2023.
- **President IREN Genoa Territory Committee** since 2015.
- **Member Liguria Academy of Arts and Sciences**, since 2016.
- **Member Management Board Research and Entrepreneurship Foundation**, since 2014.

3. Past Appointment:

- Chair Panel Consolidator Grant "PE08 Process and Industrial Engineering" of the **European Research Council - ERC**, H2020, European Union, 2014-2018, (https://erc.europa.eu/sites/default/files/document/file/erc_2016_cog_panel_chairs.pdf).
- Dean **Polytechnic School** (formerly Faculty of Engineering and Faculty of Architecture) 2012-2018 (<http://www.politecnica.unige.it/>).
- Chair **Closed Cycle Technical Committee International Gas Turbine Institute (IGTI) American Society of Mechanical Engineers (ASME)** 1992-1995,
- Chair **Cycle Innovations Technical Committee International Gas Turbine Institute (IGTI) American Society of Mechanical Engineers (ASME)** 2002-2005.
- Visiting Professor at several international Universities: **Cranfield (UK), Washington St. Louis (US), Tokyo and Osaka (Japan), ETH Zurich (CH), California at Irvine and California at Davis (US), Instituto Tecnológico de Aeronautica S. José dos Campos (Brasil), Shibaura Institute of Technology Tokyo (Japan)**.
- Visiting scientists at **NETL-DOE Morgantown WV**, 2005, 2012, 2014, 2016.
- Visiting scientists at **IESE, Barcelona** (Spain), 2007.
- "More Experienced researcher" under **Marie Curie "EnSOFC" grant** (2007 – 2010), at RRFCS laboratories, Loughborough, UK.
- "More Experienced researcher" under **Marie Curie "Bio-SOFC" grant** (2007 – 2010), at AGH University laboratories, Krakow, Poland.
- Member of the **Academic Senate University of Genoa** 2009-2012.
- Deputy Dean **Faculty of Engineering**, 2003-2008.

4. Research activity and results:

Prof. Massardo is the coordinator of the **Thermochemical Power Group** (www.tpg.unige.it) since 1998. In the group more than 25 researchers between permanent staff, post docs, and Ph.D. students are active. TPG financial support is about **70% at international level** (companies, US government, and UE programs) and less than 20% is from Italian Government. TPG average **funds per year are about 2 M€** based on the last 15 years data.

In the same period, he has been involved in **more than 22 EU research projects**, and in many other international collaborations including the one with **Department of Energy US through the CRADA agreement No. AGMT-0562** between the **US Department of Energy (DoE), National Energy Technology Laboratory (NETL) and University of Genoa (IT)**. The CRADA agreement No. AGMT-0562 is one of the few made between the NETL and a non-US partner, with the final signature obtained on 2016. It is based on several years of collaborations between TPG group at University of Genoa and NETL in Morgantown, WV. The general objective of the CRADA collaboration is not only to share knowledge but as agreed at Government level to provide bilateral access to facilities related to high temperature fuel cell such as SOFC, turbine hybrid system and biofuels.

Prof. Massardo is the owner of **7 patents** (see www.tpg.unige.it), and his research activity includes more than **20 international “invited and keynote lecturers”**, and more than **130 Journal papers**, and roughly the same number of Conference presentations.

His **scientific bibliometric results** (based on SCOPUS) are: **Hindex 34; papers 250, citations 4390**, and his **most cited publication** is: “*Costamagna, P., Magistri, L., Massardo, A.F., Design and Part-load Performance of a Hybrid System Based on a Solid Oxide Fuel Cell Reactor and a Micro Gas Turbine*”, *Journal of Power Sources* 96(2): 352-368, June 2001, DOI: 10.1016/S0378-7753(00)00668-6”, **citations 485, (Scopus percentile 99%)**. Prof. Massardo is ranked in **the first hundred Italian researchers for the engineering area and is the most cited researcher in the field of Machinery and Energy Systems in Italy**.

Prof. Massardo established in 2014 the spin-off “**H2Boat**” operating in the field of Hydrogen and Fuel Cells for marine and land-based applications. H2Boat collaborates with Fincantieri the largest European shipyard for the development of innovative clean energy solutions based on fuel cells and hydrogen utilisation in the marine field. A new joint laboratory directed by Prof. Massardo named *Genoa-HISI (Hydrogen Innovative Solution Initiative)* between Fincantieri, TPG group and H2Boat is active since 2016 at the Savona Campus of University of Genoa.

5. Awards

Prof. Massardo is the recipients of **12 “international Awards”**:

- **ASME, Cycle Innovations Committee, 2018 Best Paper Award**: “Experimental Dynamic Analysis on a T100 Microturbine Connected with Different Volume Sizes”, ASME Paper GT2017-63579.
- **ASME Outstanding Service Award**, Cycle Innovations T. C., 2015 Montreal, Canada.
- **Award of Innovation Awards** for “Fincantieri Challenge”, Technology Innovation Foundation, Rome, 2014.
- **ICAE 2013 Best Paper Award**, Paper: "Real-time tool for management of smart polygen grids including thermal energy storage", *Applied Energy* (2014, Vol.130, pp.670-678), 2014.
- **ASME, Cycle Innovations Committee, 2009 Best Paper Award**: "Modelling and performance analysis of the Rolls-Royce fuel cell systems 1 MW plant", 2010.

- **ASME Cycle Innovations Committee**, 2007 Best Paper Award: "Time Characterisation of the Anodic Loop of a Pressurised Solid Oxide Fuel Cell System", 2008.
- **Best Paper Awards ASME**, Cycle Innovations Committee 1995, 1998, 2000, 2002, 2003, 2006 (see for details www.tpg.unige.it).

6. Editorial Board Membership:

- **Applied Thermal Engineering**, Elsevier, since 2006.
- **Applied Energy**, Elsevier, since 2009.
- **ASME Journal of Engineering for Gas Turbine and Power** (Associate Editor) 2002 -2005;
- **Journal of Aircraft Engineering and Aerospace Technology**, Emeraldj, since 2005.

7. National and international consultant positions:

- Member of the **Technology Advisory Board of Rolls-Royce FCS**, since 2007.
- Member of the "**Technical Advisory Board**" of **GSE** (www.gse.it), Rome, 2010-2018.
- Member of the "**Cogeneration Power Plants Inspection Group**" of the Italian Authority for Electricity and Gas, **AEEG**, 2004-2010.
- Chair of the **Evaluation Committee for the National Research Council (CNR), ENEA and RSE activities** in the frame of "Ricerca del Sistema Elettrico RdS" since 2005.
- **Consultant of the Italian Authority for Electricity and Gas, AEEG** (now **ARERA**), for "High Efficiency Cogeneration rules development and applications", 2005-2010.
- Evaluator for **EU DG Research, FP6 FET, FP7 ENERGY**, and **FP7 SPACE**.
- Vice Chair for the Proposal Evaluation **EU-DG Research - FP7 ENERGY** (FET - Future Emerging Technology), Call 2008, and Call 2009 -2010.
- Chair for the Proposal Evaluation **EU-FCH JU** - Call 2012, 2013 FP7, Call 2014, 2015, and 2017 H2020.
- Member of the **Panel PE08 Starting Grant** "Process and Production Engineering" of the **European , Research Council ERC**, European Union, Bruxelles, 2012-2013.
- Chair of the **Panel PE08 Consolidator Grant** "Process and Production Engineering" of the **European Research Council ERC**, European Union, Bruxelles, 2014-2018.
- Member of the Panel for evaluation of **Severo Ochoa Centres of Excellence – Ministry of Economy**, 2016 and 2019, **Madrid, Spain**.
- Consultant of several **national and international companies** in the field of power generation, environmental protection, RES utilisation, clean hydrogen, fuel cells and sustainability.

Genoa, April 2020



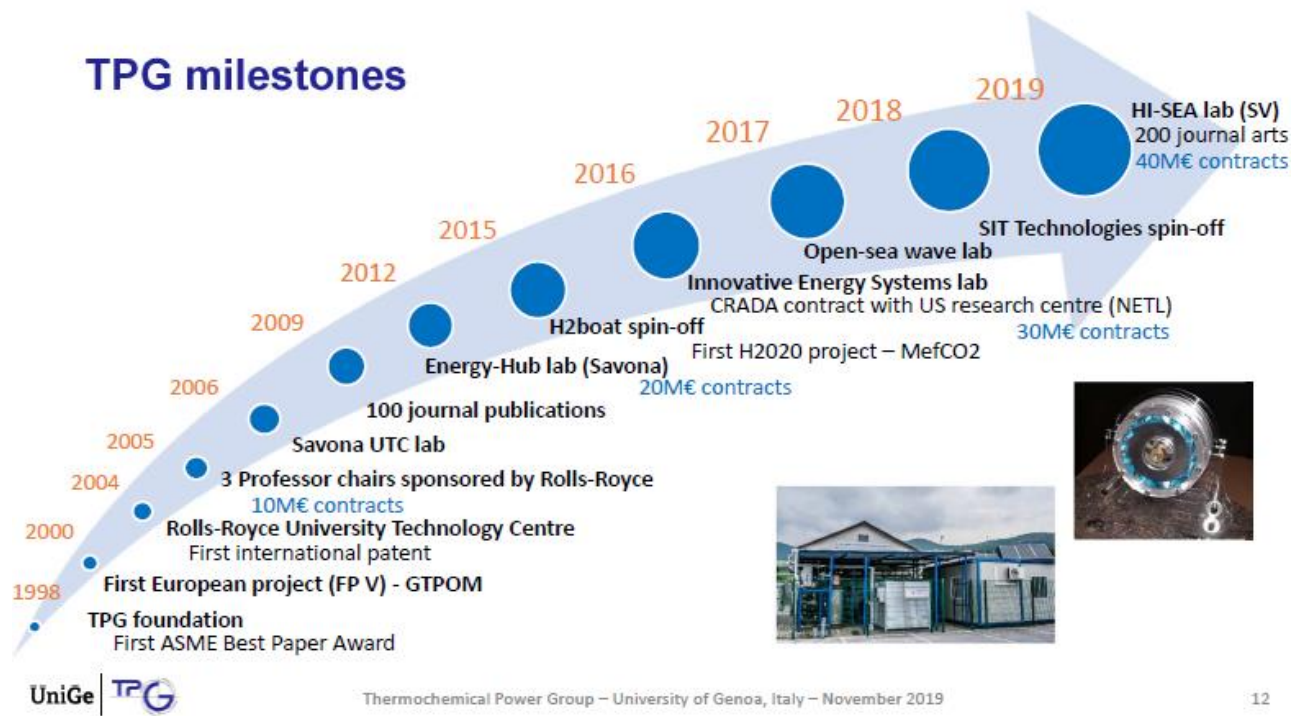


Fig. 1: TPG evolution between 1998 and 2019.



European Union

TPG European Research Projects



Italy

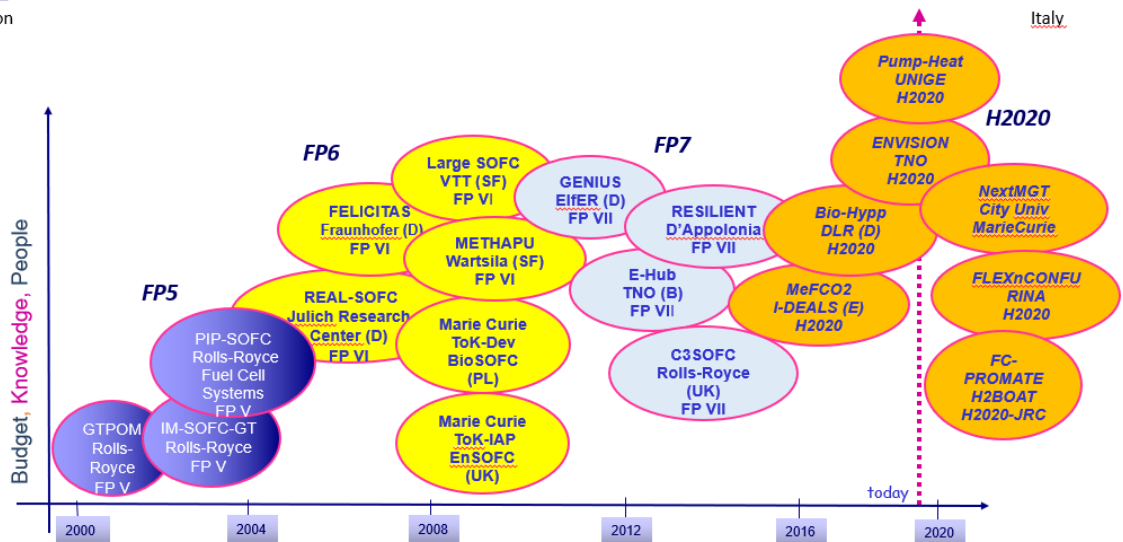


Fig. 2: TPG FP5, FP6, FP7 and H2020 EU financed projects.