

STEFANO BRACCO**CV summary:**

Stefano Bracco is **Associate Professor of Electrical Power Systems** at the Electrical, Electronics and Telecommunication Engineering and Naval Architecture Department (DITEN) of the **University of Genoa**, Italy. He holds a Ph.D. in Mechanical Engineering – Fluid Machinery and Energy Systems.



At the University of Genoa he currently teaches the following 5 courses: Electrical Installations, Power Systems Simulation and Optimization, Power Systems Management, Critical Energy Infrastructures Modelling and Simulation, Energy Transition and Power Systems Management. Since 2018 he has been teaching “Microgrid optimal design and operation” within the Specialized Master in Renewable Energies organized by École Nationale Supérieure des Mines de Paris (Mines ParisTech, France) in Sophia Antipolis. From December 2021 to January 2022, he was professor of “Smart Grids and Electric Mobility in Power Networks” at the University of León in Spain. In 2019 he was the Director of the Specialization Course on “Electric Mobility Systems for the Smart City” organized by the University of Genoa in collaboration with the Italian association MOTUS-E, and in 2022 he was the Director of the International Alpgrids Microgrid Summer School within the European project ALPGRIDS (Increasing RES uptake through Microgrids in the Alps). He was the supervisor of four PhD students in Sciences and Technologies for Electrical Engineering and Complex Systems for Mobility at the University of Genova, one of them within a cotutelle agreement with the University of Sevilla. At the University of Genoa, he was supervisor/co-supervisor of more than 90 theses.

His main research activities deal with: optimal design, management and simulation of polygeneration microgrids and renewable energy communities; distributed generation power plants and storage systems modelling; integration of renewable power plants in distribution networks; smart charging of electric vehicles, V2X technologies, assessment of the impact of electric vehicle charging infrastructures on power networks, integration of electric mobility with renewable power plants and smart buildings; modelling of energy markets and energy communities; development of mathematical models for the calculation of the Levelized Cost of Energy. The research activities are developed through joint research projects with other universities and companies, such as the Zurich Polytechnic, the Universities of León and Sevilla, Politecnico di Milano, FIAMM SpA, Ansaldo Energia SpA, ENEA (National Agency for New Technologies, Energy and Sustainable Economic Development), Fera srl. Most of the activities are carried out on the innovative test-bed facilities installed at the Savona Campus within the Energia 2020 project: Smart Polygeneration Microgrid (built in 2014 with a 2.4 M€ funding by the Ministry of University and Research) and Smart Energy Building (energy prosumer constructed in 2017 with a 2.7 M€ funding by the Ministry for the Environment and Land and Sea). He is author of more than 100 scientific papers published in international journals and conference proceedings. In 2018 he published the book “Microgrid Design and Operation: Toward Smart Energy in Cities” by Artech House and in 2022 he published the book “Levelized Cost of Energy in Sustainable Energy Communities - A Systematic Approach for Multi-Vector Energy Systems” by Springer.

He participated to several European project, namely: “RESILIENT” - Coupling renewable, storage and ICTs, for low carbon intelligent energy management at district level; “OPTImising the energy Use in cities with smart decision support systems” (OPTIMUS) within the program ICT Smartcities 2013 – FP7-Smartcities-2013; EU Interreg project ALPGRIDS (Increasing RES uptake through Microgrids in the Alps). He was the pilot coordinator of the project aiming to realize a Positive Energy District in the Legino area of the Savona

municipality within the ALPGRIDS project. From 2018 to 2019 he was the scientific coordinator of the Agreement between the Interregional Superintendency for Public Works of Piemonte - Valle d'Aosta - Liguria and the University of Genoa, whose main aim was that of developing an energy efficiency project for the Savona courthouse. He has been in charge of two research projects commissioned by ENEA: "Mathematical models and optimization tools for the design of multi-vector energy systems in local energy communities" and "Optimal planning and management systems for energy communities with sustainable generation systems and e-mobility infrastructure". Moreover, he has been the scientific coordinator of a research project developed with Ansaldo Energia SpA on the integration of small-size cogeneration units and electric vehicle charging infrastructures in the residential and tertiary sectors. Since 2021 he has been the representative of the Framework Convention between the University of Genoa and RINA SpA company, having the aim of developing joint research activities, teaching and tutoring programs on the challenging topics set by Energy Transition and Blue Economy. He is currently involved in two national projects of the National Recovery and Resilience Plan (PNRR) funded by the European recovery programme NextGenerationEU, namely "Network for Energy Sustainable Transition" (NEST) and "National Center for Sustainable Mobility" (MOST). A new research laboratory is under construction at the Savona campus for the development of experimental research activities within the NEST and MOST projects.

He has been a speaker at national and international conferences where he has organized several special sessions. He has been a member of technical committees of international conferences, such as the European Conference on Electrical Engineering and Computer Science (EECS) and the International Conference on Ecological Vehicles and Renewable Energies (EVER). He is currently Journal Editor of the section "Electrical Engineering" of "Journal of Power Technologies", Member of the Advisory Editorial Board of "Sustainable Energy Developments" books published by CRC Press - Taylor and Francis Group, Member of the Editorial Board of "Energies" and Associate Editor of "Frontiers in Energy Research". Since 2015 he has been a member of the National Interuniversity Consortium (EnSiEL) and a member of the National Electrical Power Systems Group (GUSEE), as well as a member of IEEE - Institute of Electrical and Electronics Engineers. Furthermore, he is representing the University of Genoa within the national association MOTUS-E and he is one of the members of the scientific committee of the "San Giuseppe Calasanzio" high school in Carcare in the province of Savona.

Publications:

Scopus page: <https://www.scopus.com/authid/detail.uri?authorId=15049159900>

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