

CURRICULUM VITAE

di

Francesco Conte

Francesco Conte is assistant professor (tenure-track) of Electric Energy Systems with the Faculty of Engineering of the Campus Bio-Medico University of Rome (UCBM), Italy. He is senior member of the IEEE, member of IEEE Power & Energy Society, member of the University Group of Electric Energy Systems (GUSEE) and an associate member at the unit of University of Genova within the ENSIEL consortium.

He received his master's degree in Computer Science and Automatic Engineering in 2009 and his PhD degree in Electrical and Information Engineering in 2013, both from the University of L'Aquila, Italy. From 2013 to 2021, he was first Post-Doc and then Assistant Professor (RTD-A) at the Department of Electrical, Electronics and Telecommunication Engineering and Naval Architecture (DITEN), University of Genova, Italy. In 2009, he was a visiting student at the Institut National de Recherche en Informatique et en Automatique (INRIA Rhone-Alpes) in Grenoble, France.

In 2020, he obtained the national scientific qualification as associate professor of electric energy systems (SSD ING-IND/33). Also in 2020, he also obtained the national scientific qualification as associate professor of automatic control (SSD ING-INF/04).

At UCBM, he is lecturer of the courses "Economics and Smart Management of Electrical Systems" and "Smart Grid and Renewable Energy." At the University of Genoa, he was lecturer the courses "Protection of Electrical Systems" and "Optimization Techniques for Electrical Systems." He has also been an assistant professor and a member of examination committees for the courses "Control Fundamentals for Electrical Systems" and "Management and Control of Electrical Systems."

His research interests include frequency regulation services from renewable energy sources, loads and storage systems, equivalent modeling of distribution networks, fault detection and localization in distribution networks, intelligent energy management systems, local energy communities, electrochemical and hydrogen-based storage technologies and forecasting methods of renewable generation and loads. The results of his research activity are presented in more than 80 papers, published in peer-reviewed international journals, national journals, international book chapters and international conferences.

He collaborated or collaborates in more than 25 research projects, including two European projects and two PRINs. He has been principal or co-principal investigator in 10 research projects commissioned by industry and research companies and research unit chief in the PRIN project "Stability of converter-dominated power systems (SCooPS)".

From 2024 he is Associate Editor for the Journal of Modern Power Systems and Clean Energy. He has been associate editor for three special issues of international journals and reviewer for more than 20 international journals and more than 10 international conferences. From 2018, he is member of the CIGRE (International Council on Large Electric Systems) Working Group "Advanced Consumer-Side Energy-Resource Management Systems".

MAIN RESEARCH PROJECTS

- "SCooPS - Stability of converter-dominated power systems", PRIN 2022 (2023-2025), unit chief
- "ComER - Metodi e strumenti per la gestione ed il controllo delle Comunità di Energie Rinnovabili", funded from POR FESR Lazio 2014-2020, project no. A0375-2020-36770, (2021-2023), unit chief
- "Planning and flexible operation of micro-grids with generation, storage and demand control as a support to sustainable and efficient electrical power systems: regulatory aspects, modelling and experimental validation", PRIN 2017 (2020-2023), member of the working group
- European project "OSMOSE - Optimal System-Mix Of flexibility Solutions for European electricity", Horizon 2020 - Grant 773406 (2018-2021), member of the working group
- European project "MIGRATE - Massive InteGRation of power Electronic devices", Horizon 2020 - Grant 691800 (2016-2019), member of the working group
- "PEC-Microgrid: Pianificazione Energetica e Controllo di Microreti", funded by Regione Liguria, FSE 2014-2020 (2018-2019), principal investigator

SELECTED PUBLICATIONS

- D. Cirio, F. Conte, B. Gabriele, C. Gandolfi, S. Massucco, M. Rapizza, F. Silvestro, "Fast Frequency Regulation from a Wind Farm-BESS Unit by Model Predictive Control: Method and Hardware-In-the-Loop Validation," IEEE TRANSACTIONS ON SUSTAINABLE ENERGY, vol. 14, no. 4, pp. 2049-2061, Oct. 2023
- F. Conte, F. D'Agostino and F. Silvestro, "Rethinking Ports as Multienergy Hubs: Managing cold ironing and hydrogen supply/bunkering," in IEEE ELECTRIFICATION MAGAZINE, vol. 11, no. 1, pp. 43-51, Mar. 2023
- F.R. Bianchi, B. Bosio, F. Conte, S. Massucco, G. Mosaico, G. Natrella, M. Saviozzi, "Modelling and optimal management of renewable energy communities using reversible solid oxide cells," APPLIED ENERGY, vol. 334, 120657, Mar. 2023
- F. Conte, F. D'Agostino, B. Gabriele, G.-P. Schiapparelli, F. Silvestro, "Fault Detection and Localization in Active Distribution Networks using Optimally Placed Phasor Measurements Units", IEEE TRANSACTIONS ON POWER SYSTEMS, vol. 38, no. 1, pp. 714-727, Jan. 2023
- F. Conte, F. D'Antoni, G. Natrella, M. Merone, "A new hybrid AI optimal management method for renewable energy communities," ENERGY AND AI, Vol. 10, 2022, 100197
- F. Conte, F. D'Agostino, S. Massucco, F. Silvestro, C. Bossi, M. Cabiati, "Experimental Validation of a Dynamic Equivalent Model for Microgrids", IEEE TRANSACTIONS ON INDUSTRY APPLICATIONS, Vol. 57, no. 3, pp. 2202-2211, May-June 2021
- F. Conte, S. Massucco, M. Paolone, G.-P. Schiapparelli, F. Silvestro, Y. Zuo, "Frequency stability assessment of modern power systems: models definition and parameters identification", SUSTAINABLE ENERGY, GRIDS AND NETWORKS, Vol. 23, 100384, September 2020
- F. Conte, S. Massucco, G.P. Schiapparelli, and F. Silvestro, "Day-Ahead and Intra-Day Planning of Integrated BESS-PV Systems providing Frequency Regulation", IEEE TRANSACTIONS ON SUSTAINABLE ENERGY, vol. 11, no. 3, pp. 1797-1806, July 2020
- F. Conte, F. D'Agostino, S. Massucco, F. Silvestro, "Operational constrained nonlinear modeling and identification of active distribution networks", ELECTRIC POWER SYSTEM RESEARCH, Vol. 168, pp. 92-104, 2019
- F. Conte, F. D'Agostino, P. Pongiglione, M. Saviozzi, F. Silvestro, "Mixed-Integer Algorithm for Optimal Dispatch of Integrated PV-Storage Systems", IEEE TRANSACTIONS ON INDUSTRY APPLICATIONS, Vol. 55, No. 1, January 2019
- F. Conte, S. Massucco, M. Saviozzi, F. Silvestro, "A Stochastic Optimization Method for Planning and Real-Time Control of Integrated PV-Storage Systems: Design and Experimental Validation," IEEE TRANSACTIONS ON SUSTAINABLE ENERGY, Vol. 9, Issue 3, July 2018
- F. Conte, S. Massucco, F. Silvestro, E. Ciapessoni, D. Cirio, "Stochastic modelling of aggregated thermal loads for impact analysis of demand side frequency regulation in the case of Sardinia in 2020", INTERNATIONAL JOURNAL OF ELECTRICAL POWER & ENERGY SYSTEMS, Vol. 93, pp. 291-307, December 2017
- F. Conte, S. Massucco, and F. Silvestro, "Frequency control services by a building cooling system aggregate", ELECTRIC POWER SYSTEMS RESEARCH, Vol. 141, pp. 137-146, December 2016
- F. Baccino, F. Conte, S. Grillo, S. Massucco, and F. Silvestro, "An Optimal Model-Based Control Technique to Improve Wind Farm Participation to Frequency Regulation," IEEE TRANSACTIONS ON SUSTAINABLE ENERGY, Vol. 6, No. 3, July 2015