

PERSONAL INFORMATION

Andrea Bonfiglio



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Sex: Male | Date of birth 01/01/1986 | Italian

WORK EXPERIENCE

1st November 2020 – Today

Fixed Term Researcher RTD-B – Art. 24, comma 3, lettera b) Legge 240/2010

University of Genoa

Research and teaching – SSD ING-IND/33 Electric Power Systems

1st May 2017 – 31st October 2020

Fixed Term Researcher RTD-A – Art. 24, comma 3, lettera a) Legge 240/2010

University of Genoa

Research and teaching – SSD ING-IND/33 Electric Power Systems

1st March 2013 – 30th April 2017

Research Fellow

University of Genoa

Research – SSD ING-IND/33 Electric Power Systems

EDUCATION AND TRAINING

1st November 2009 –
23rd April 2013

PhD Degree in Electric Engineering

University of Genoa

Electric power systems dynamics and control, renewable energy source integration, microgrids.

1st September 2007–
27th September 2009

Msc Degree in Electric Engineering – Score 110/110 cum laude

University of Genoa

Electric engineering

1st September 2004–
27th September 2007

Bsc Degree in Electric Engineering - Score 110/110 cum laude

University of Genoa

Electric engineering

PERSONAL SKILLS

Mother tongue(s) Italian

Other language(s) English – advanced

Job-related skills Good relational skill for team-working.

Digital skills Proficient with MS Office tools, Software for electric power analysis (Digsilent Power factory and PSCAD), MATLAB and Simulink.

ADDITIONAL INFORMATION

- Publications
- [1] A. Bonfiglio, M. Brignone, F. Delfino, and R. Procopio, "Optimal Control and Operation of Grid-Connected Photovoltaic Production Units for Voltage Support in Medium Voltage Networks". *IEEE Transaction on Sustainable Energy* ISSN 1949-3029 Volume 5, Issue 1 pp. 254-263, 2014; DOI: 10.1109/TSTE.2013.22800811.
 - [2] I. Bendato, A. Bonfiglio, M. Brignone, F. Delfino, F. Pampararo and R. Procopio "A real-time Energy Management System for the integration of economical aspects and system operator requirements: definition and validation" Published in *Renewable Energy Journal* Vol. 102, Part B, Pages 406-416, March 2017, ISSN 0960-1481. DOI: 10.1016/j.renene.2016.10.061.
 - [3] A. Bonfiglio, F. Delfino, F. Gonzalez-Longatt and R. Procopio "Steady-State Assessments of PMSGs in Wind Generating Units" *International Journal of Electrical Power and Energy Systems*, 2017. DOI: 10.1016/j.ijepes.2017.02.002.
 - [4] A. Bonfiglio, M. Invernizzi, A. Labella and R. Procopio, "Design and Implementation of a Variable Synthetic Inertia Controller for Wind Turbine Generators," in *IEEE Transactions on Power Systems*. DOI: 10.1109/TPWRS.2018.2865958.
 - [5] M. Minetti, A. Rosini, G.B. Denegri, A. Bonfiglio, R. Procopio "An Advanced Droop Control Strategy for Reactive Power: Assessment in Islanded Microgrids" *IEEE Transactions on Power Systems*, 2021. DOI: 10.1109/TPWRS.2021.3124062.

- Scientific Indexes
- Number of paper published in Index international Journals: 30
 - Number of Citations: 858
 - h-index: 21

Source: Scopus Database

- Project Coordination
- Scientific coordinator of the project "Study of Innovative control approaches based on the sliding mode technique for the control of gas turbine power generators" in collaboration with Ansaldo Energia S.p.A. duration: 1 year – 2017 - 2018
 - Scientific coordinator of the project "DlgSILENT Model Development Consultation for Smart Valve" in with Smart Wires Inc. – Union City, CA, USA, - 2018.
 - Scientific coordinator of the Project "Implementing Agreement N.1 to the Agreement on Academic and Scientific Cooperation for Engineering Analysis and Development for Coil Power Supply System of ITER Power System" developed in collaboration with ITER Organization International research center for Fusion Energy duration two years – 2020 - 2022 .
 - Scientific coordinator of the project "Adaptive Battery Energy Storage System response during grid fault conditions" in collaboration with ABB Power Grids Italy, duration 1 year – 2021
 - Scientific coordinator of the project "Grid-Forming Inverters to Enhance Grid Strength" in collaboration with Hitachi Energy Italy, duration 1 year – 2022
 - Principal Investigator of the SMAT WIND Proof of Concept Project, co-founded by the Italian Ministry of Economic Development (MISE) – Duration: 9 months – 2021.

- Patents
- Inventor of the international patent "Method and System for Controlling Non-Inertial Generators, in Particular Wind Generators, by Inertia Emulation".
 - Inventor of the patent "Method and System to Evaluate the Stability of Islanded Microgrids", Italian patent under PCT extension.
 - Inventor of the patent "Primary MPC Control for Islanded Microgrids" Italian patent under PCT extension.

Journal Editorial Board	<ul style="list-style-type: none"> • Member of IEEE Transactions on Sustainable Energy Editorial Board • Member of the Energies Editorial Board, MDPI, EISSN: 1996-1073; • Editor in Chief of Electric Power System Topic of Energies Journal - EISSN: 1996-1073 • Editor of the Journal of Electrical and Computer Engineering ISSN: 2090-0147.
Awards	<ul style="list-style-type: none"> • Best Conference Papers Section on Power System Analysis and Modeling at IEEE PES General Meeting 2014, Washington DC – USA 27-31 July 2014 for the article “Criteria for the Equivalent Modeling of Large Photovoltaic Power Plants”. • Patent “Method and System for Controlling Non-Inertial Generators, in Particular Wind Generators, by Inertia Emulation” presented at the final event of Intellectual Property Award (IPA) 2021 held at Expo Dubai – Italian Pavillon.
Collaborations	<ul style="list-style-type: none"> • From 2010 to 2013 collaboration to the development of project GRID+ “Supporting the Development of the European Electricity Grids Initiative (EEGI)” EU 7th Framework Program. • Since 2013 collaboration with ABB Power Grids S.p.A. in the field of renewable sources integration to the grid and microgrids. • From 2015 to 2017 collaboration with Loughborough University, The Wolfson School: Electronic, Electrical and Systems Engineering on the topic of frequency support provided by wind power generators. • Since 2015 collaboration with the Massachusetts Institute of Technology (MIT) Boston – USA on the topic of “Dynamic Market Mechanism” application to co-generative microgrids. • Since 2017 collaboration with Aalborg University, Department of Energy Technology Power and Electronic Systems Division on the topic of the control of islanded microgrids. • Since 2016 collaboration with ITER Organization International Research Center for Fusion Energy in the field of power system solution for the electric power supply of ITER supply system for the Coil Supply. • Since 2021 collaboration with Tema S.p.A. for the analysis of the future grid scenario in terms of frequency and voltage stability and the development of a technical-economic analysis of possible ancillary services.
Additional activities and information	<ul style="list-style-type: none"> • Member of the Tutoring and Income Orientation Commission of the polytechnic school of the University of Genoa;