

Curriculum Vitae

Gianpaolo Vitale

**Senior Researcher – The Institute for high performance computing and networking (ICAR)
National Council of research (CNR) –Palermo, Italy**

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Carriera professionale

4/1990- 11/1994	voluntary resercher/winner of research grants	CNR - CERISEP
11/1994 – 12/1997	Temporary researcher	CNR - CERISEP
12/1997- 12/2001	Researcher	CNR - CERISEP
Dal 12/2001	Senior Researcher	CNR – ISSIA/ICAR

Dal 2004 IEEE member (#41629851 Italy section) , Senior Member since 2013.

Dal 1990

- Research activity at CNR,
 - Coordinator of research groups,
 - Teaching at University of Palermo as adjunct professor.
 - Mentor or co-mentor of 50 MD and BD thesis,
 - Mentor of 4 PhD Thesis,
 - Mentor of 16 research grants
 - Author or co-author of over 120 papers, among which 40 on international ISI journals,
 - Hindex: 29, i10-index: 64 – 2815 citations on Google scholar.

Abilitazione scientifica nazionale per professore di prima fascia: “electric energy engineering” (cod. 09/E2) conseguita nel 2013

Abilitazione scientifica nazionale per professore di prima fascia: “electronic engineering” (cod. 09/E1) conseguita nel 2018 .

Responsabilità progetti scientifici

1997-2001..... Responsible of the CNR Finalized project "Beni Culturali" del CNR: "Diagnostica e controllo automatizzato delle condizioni ambientali del clima museale attraverso sistemi innovativi di sensori intelligenti" (Diagnosis and Control of a Museum Environmental Climate through Innovative and Intelligent Sensors). Funded by CNR with about 50.000 euro.

2000-2006..... Responsible of the CERISEP-CNR research project: "Laboratorio e ricerche di compatibilità elettromagnetica per l'innovazione e la sperimentazione sugli azionamenti elettrici intelligenti, sul software di gestione e sui sistemi di telecomunicazione ad essi associati nei sistemi di trasporto al fine di garantirne la sicurezza di funzionamento (dependability), la sicurezza attiva (safety) e la sicurezza passiva (security)", project CLUSTER 13 EMC of MIUR. Funded by Italian Ministry of Education, University and Research (MIUR) with 2.272.742 €.

2004-2008 Responsible of the CERISEP-CNR research project: “Automazione della gestione intelligente della generazione distribuita di energia elettrica da fonti rinnovabili e non inquinanti e della domanda di energia elettrica, anche con riferimento alle compatibilità interne e ambientali, all'affidabilità e alla sicurezza” Funded by Italian Ministry of Education, University and Research (MIUR) with 350.000 €.

2012 Responsible for the Palermo section of the CNR research project "RITmare, Italian Research for the sea" funded by CNR with 1.755.000 €. Project duration from 2012 to 2017.

Responsabile di Commessa presso l'istituto ISSIA-CNR: “Intelligent Conversion of Energy in Electrical Drives and Electric Generation from Renewable Sources”

Attività di insegnamento Universitario

1999-2000	Professor of “Electronics” M.D. Electrical Engineering, University of Palermo, Italy.
2000-2001	Professor of “Power Electronics” M.D. Electrical Engineering, University of Palermo, Italy.
2002-2003	Professor of “Power Electronics” M.D. Electrical Engineering, University of Palermo, Italy.
2003-2004	Professor of “Power Electronics” M.D. Electrical Engineering, University of Palermo, Italy.
2004-2005	Professor of “Applied Electronics” M.D. Electrical Engineering, University of Palermo, Italy.
2005-2006	Professor of “Applied Electronics” M.D. Electrical Engineering, University of Palermo, Italy.
2006-2007	Professor of “Applied Electronics” M.D. Electrical Engineering, University of Palermo, Italy.
2013-2014	Professor of “Elettronica 3” (Power Electronics) M.D. Electronic Engineering, Univ. of Palermo, Italy.
2014-2015	Professor of “Elettronica 3” (Power Electronics) M.D. Electronic Engineering, Univ. of Palermo, Italy.
2015-2016	Professor of “Elettronica 3” (Power Electronics) M.D. Electronic Engineering, Univ. of Palermo, Italy.
2016-2017	Professor of “Elettronica 3” (Power Electronics) M.D. Electronic Engineering, Univ. of Palermo, Italy.

2017-2018	Professor of "Industrial Electronics" M.D. Electronic Engineering, Univ. of Palermo, Italy
2018-2019	Professor of "Industrial Electronics" M.D. Electronic Engineering, Univ. of Palermo, Italy
2019-2020	Professor of "Industrial Electronics and laboratory" M.D. Electronic Engineering, Univ. of Palermo, Italy

- **Revisore per le riviste:** IEEE transactions on Industrial Electronics, IEEE Transactions on Vehicular Technology, IEEE transactions on Magnetics, IEEE transactions on Power Electronics, Progress In Electromagnetics Research (PIER), European Transactions on Electrical Power, MDPI-Energies, MDPI-Electronics, International Journal of Circuit theory and applications, Journal of Power Sources, Applied energy.

Brevetti:

US Patent 9.856.857 B2: "METHOD AND RELEVANT SYSTEM FOR CONVERTING MECHANICAL ENERGY FROM A GENERATOR ACTUATED BY A TURBINE INTO ELECTRIC ENERGY" - USA - 2018.

National Patent RM2013A000272: METODO E RELATIVO SISTEMA PER LA CONVERSIONE DI ENERGIA MECCANICA, PROVENIENTE DA UN GENERATORE COMANDATO DA UNA TURBINA, IN ENERGIA ELETTRICA.- 2013.

Libri

- [1] Cirrincione M., Pucci M., Vitale G. 'Power Converters and AC Electrical Drives with Linear Neural Networks', CRC PRESS of Taylor and Francis Group, June 2012, ISBN: 978-1-4398-1814-5
- [2] Di Piazza M. C., Vitale G. 'Photovoltaic Sources: Modelling and Emulation', Springer, 2013. ISBN: ISSN 1865-3529 ISSN 1865-3537 (electronic), ISBN 978-1-4471-4377-2 ISBN 978-1-4471-4378-9 (eBook), DOI 10.1007/978-1-4471-4378-9
- [3] Manuel Pérez-Donsión, Silvano Vergura and Gianpaolo Vitale: "Renewable energy – selected issues vol. II", edited book, Cambridge Scholars Publishing, Lady Stephenson Library, Newcastle upon Tyne, NE6 2PA, UK, ISBN (13): 978-1-4438-8803-5, 2016.
- [4] Manuel Pérez-Donsión, Silvano Vergura and Gianpaolo Vitale: "Renewable energy – selected issues vol. I", edited book, Cambridge Scholars Publishing, Lady Stephenson Library, Newcastle upon Tyne, NE6 2PA, UK, ISBN (13): 978-1-4438-8377-1, 2015.
- [5] Manuel Pérez-Donsión, Gianpaolo Vitale "Advances in Renewable Energy and Power Quality", Cambridge Scholars Publishing, ISBN-13: 978-1-5275-4530-4 ISBN-10: 1-5275-4530-X., Date of Publication: 01/03/2020

Lavori recenti su riviste ISI

- Ribino, P., Bonomolo, M., Lodato, C., & **Vitale, G.** (2020). A Humanoid Social Robot Based Approach for Indoor Environment Quality Monitoring and Well-Being Improvement. International Journal of Social Robotics, 1-20.
- Alonge, F., Collura, S. M., D'ippolito, F., Guilbert, D., Luna, M., & **Vitale, G.** (2020). Design of a robust controller for DC/DC converter–electrolyzer systems supplied by μ WECSs subject to highly fluctuating wind speed. Control Engineering Practice, 98, 104383.
- D. Guilbert, **G. Vitale**. "Improved Hydrogen-Production-Based Power Management Control of a Wind Turbine Conversion System Coupled with Multistack Proton Exchange Membrane Electrolyzers." Energies 13.5 (2020): 1239.
- Collura SM, Guilbert D, **Vitale G**, Luna M, Alonge F, D'Ippolito F, Scipioni A (2019). Design and experimental validation of a high voltage ratio DC/DC converter for proton exchange membrane electrolyzer applications. International Journal of Hydrogen Energy, vol. 44, p. 7059-7072, ISSN: 0360-3199, doi: 10.1016/j.ijhydene.2019.01.210
- D. Guilbert, D. Sorbera, and **G. Vitale**. "A stacked interleaved DC-DC buck converter for proton exchange membrane electrolyzer applications: Design and experimental validation." International Journal of Hydrogen Energy 45.1 (2020): 64-79.
- E. Pipitone, and **G. Vitale**. "A regenerative braking system for internal combustion engine vehicles using supercapacitors as energy storage elements-Part 1: System analysis and modelling." Journal of Power Sources (2019): 227368.
- E. Pipitone, and **G. Vitale**. "A regenerative braking system for internal combustion engine vehicles using supercapacitors as energy storage elements-Part 2: Simulation results." Journal of Power Sources (2019): 227258.
- **G. Vitale** et al.. "Design and experimental validation of a high voltage ratio DC/DC converter for proton exchange membrane electrolyzer applications." International Journal of Hydrogen Energy 44.14 (2019): 7059-7072.
- D. Guilbert and **G. Vitale**. "Dynamic Emulation of a PEM Electrolyzer by Time Constant Based Exponential Model." Energies 12.4 (2019): 750.

Premi e riconoscimenti

CEI Award for the MD thesis "Reti elettriche di distribuzione in presenza di generazione distribuita. Analisi della rete alimentata da piccoli generatori tramite convertitori statici" discussed by Carmelo Gitto, AA 2002/2003 (mentorship).
 Best Paper Award (Third prize) "Experimental Application of Least-Squares Technique for Estimation of Double Layer Super Capacitor Parameters" International Conference on Electrical Machines and Systems, ICEMS Sydney (Australia) 11 - 14 Aug. 2017.
 Best Poster Award "Solar Nanoantennas energy based characterization", International Conference on Renewable Energies and Power Quality (ICREPQ'16) Madrid (Spain), 4th to 6th May, 2016.
 IEEE Italy Section ABB Award 2018 (<http://ABBaward2018.ieeesezioneitalia.it/>) for the PhD Thesis: "Control of the Energy Conversion in Intelligent microgrids" by eng. Stefania Maria Collura (mentorship).

Palermo 12/05/2020

