

**CURRICULUM VITAE
EUROPEAN FORM**



PERSONAL INFORMATION

NAME	DENEGRI GIO BATTISTA
QUALIFICATION	ELECTRICAL ENGINEER FORMER FULL PROFESSOR – ELECTRICAL MACHINES AND DRIVES – POLYTECHNIC SCHOOL – UNIVERSITY OF GENOVA – ITALY
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E-MAIL	GIOMBATTISTA.DENEGRI@UNIGE.IT
NATIONALITY	ITALIAN
DATE OF BIRTH	09/10/1946

WORK EXPERIENCE

MAIN DUTIES AND RESPONSABILITIES

Name and address of the employer	University of Genova Department of Electrical, Electronic, Telecommunications Engineering and Naval Architecture* (DITEN) Via Opera Pia 11a, 16145 Genova.
Type of business or sector	University
Type of employment	Professor

CHRONOLOGICAL SUMMARY

1971-1972	Research and Development activity at ELSAG, Genova
1973-1980	Electrical Engineering Assistant Professor and then Adjunct Professor of Electrical Machine Dynamics, Engineering Faculty, University of Genova.
1980-1986	Associate Professor, Engineering Faculty, University of Genova
1987-2011	Full Professor of Electrical Machines and Drives, Engineering Faculty, University of Genova. Coordinator of NICES Laboratory, Network Infrastructures and Complex Electric Systems, DITEN, University of Genova. Scientific Manager of National and International Research Projects. Reviewer of International Journals such as IET Generation Transmission and Distribution, EPSR Electric Power System Research. Promoter and manager of research and industrial consultancy projects as an expert in the fields of modelling and dynamics of Electrical Machines and Electrical Energy Systems. Scientific manager of research industrial grants and PhD curricula in Electrical Engineering. President and member of the Commission for qualification of the engineering profession. President of the Degree Commission in Electrical Engineering. Member of national and international committees and working groups (CEI, CIGRE*) in the regulatory field on the design and management of synchronous generators for electrical energy production. Member of the Italian electrical and electronics Association (AEI). Author of several scientific publications in national and international journals or presented at national and international conferences in the energy-electrical field.
2012-2023	After retiring from work, he collaborates with the Department of Electrical, Electronic, Telecommunications Engineering and Naval Architecture* (DITEN) of the University of Genoa with a teaching/research agreement. He gives tutorials on the design of civil and industrial electrical applications using functional diagrams aimed at students of the degree course in electrical engineering. Cooperates in research activities of NICES Laboratory, Network Infrastructures and Complex Electric Systems, DITEN, University of Genova and is supervisor of final degree thesis. Co-tutor of a PhD curriculum in Electrical Engineering. Coordinates and manages the design and operation of the Electrical Systems Teaching Laboratory. Member of the Commission for qualification of the engineering profession as an expert in Electrical Industrial Engineering.

THEMATIC SUMMARY

Carries out technical/scientific support activities for companies in the electrical field (Ansaldo Energia, ABB, Piaggio Service) with reference to dynamic problems of electrical machines and systems even in the presence of renewable energy.

Teaching and research activities within the Italian scientific groups ING-IND/33 "Electrical Energy Systems" and ING-IND/32 "Converters, Electrical Machines and Drives".

Former Professor of:

- Electrical Drives (3rd year Degree in Electrical Engineering)
- Electrical Machines 2 (1st year Master Degree in Electrical Engineering)
- Electrical Machines and Drives (3rd year Degree in Electrical Engineering)

Professor of:

- Electrical Machine Dynamics (1st year Master Degree in Electrical Engineering) (from academic year 2009-2010 to 2023-2024)

Research activities and skills acquired in the fields:

- Generation, Transmission and Use of Electric Energy;
- Modelling, Regulation and Simulation of Electrical Machines and Energy Systems;
- Dynamic and Harmonic Analysis of Electrical Power Systems;
- Advanced Devices for voltage and active and reactive power flows control;
- Analysis of Industrial Grids and Microgrids with built-in the conventional, widespread and/or renewable energy resources;
- Service Quality and Management of the Electrical System;
- Control of gas turbine systems for electric energy production;
- Operator assistance tutorials in emergency and recovery conditions of electric grids;
- Collaborator to European research contracts (V Framework Program – EXaMINE Contract - 2001/2003) and at the national level (PRIN 1999);
- Owner and collaborator of industrial research contracts. (ENEL CRA since 1984, followed by CESI, annual contracts, without interruption until 2006, TERNA 2020);
- Expert of simulation programs for study of electromagnetic and electromechanical transients (such as EMTP, EPRI TMSP, CYME, MATLAB (PST));

EDUCATION AND TRAINING

• Date (from – to)	November 1966 – November 1970
Name and type of education or training institution	University of Genova – Engineering Faculty
Main subjects / professional skills covered by the study	Basic courses in Mathematics, Physics, Chemistry, Computer Science Specialized courses in Electrical Engineering in the fields of Electrical Machines, Electrical Systems and Automatic Controls
Degree obtained	Degree in Electrical Engineering with 110/110 cum laude, press dignity, Faculty of Engineering, University of Genoa

PERSONAL SKILLS

NATIVE LANGUAGE	Italian	
OTHER LANGUAGES	English	French
• Reading Skills	Good	Good
• Writing Skills	Good	Sufficient
• Oral expression Skills	Sufficient	Sufficient

FURTHER INFORMATION

TEMPO LIBERO	<ul style="list-style-type: none">• Bricolage for home maintenance.• Organic cultivation of small vegetable gardens for family use• Cycling sport activity
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Genova, December 31, 2023

GIO BATTISTA DENEGRÌ



1. F. Delfino, **G.B. Denegri**, P. Girdinio, M. Invernizzi, R. Procopio, M. Rossi, D. Falorni, A. Freddo, V. Iuliani, G. Toschi: Current standard practice in EHV/HV Italian substation design: Oriented modelling and simulation of lightning protection system for improving design criteria. Proceedings of CIGRE' International Colloquium on Application of Line Surge Arresters in Power Distribution and Transmission Systems, pp. 1-6, May 2008, Cavtat, Dubrovnik, Croatia.
2. F. Delfino, **G.B. Denegri**, M. Invernizzi, R. Procopio: An integrated active and reactive power control scheme for grid-connected photovoltaic production systems. Proceedings of the 39th IEEE Power Electronics Specialists Conference (PESC08), pp. 1463-1468, June 2008, Rhodes, Greece.
3. F. Delfino, **G.B. Denegri**, S. Guido, M. Invernizzi, M. Masera, I. Nai Fovino, S. Olivero: The security assessment of critical energy infrastructures: an evaluation approach. Proceedings of European Electromagnetics Symposium (EUROEM), July 2008, Lausanne, Switzerland.
4. F. Delfino, **G.B. Denegri**, M. Invernizzi, R. Procopio: Performance and control of photovoltaic systems supplying both primary and ancillary services. Proceedings of the 43th International Universities Power Engineering Conference (UPEC), pp. 1-5, September 2008, Padova, Italy.
5. **G.B. Denegri**, M. Invernizzi, G. Macciò, R. Procopio, U. Reggio: An extended modeling of synchronous generators for internal fault evaluation and protection assessment. CIGRE' Plenary Session, Paper A1-114, September 2008, Paris, France.
6. F. Delfino, **G.B. Denegri**, M. Invernizzi, R. Procopio, G. Ronda: A P-Q capability chart approach to characterize grid connected PV-units. Proceedings of CIGRE' International Symposium: Integration of Wide-Scale Renewable Resources into the Power Delivery System, pp. 1-8, July 2009, Calgary, Canada.
7. F. Delfino, **G.B. Denegri**, M. Invernizzi, R. Procopio: Feedback linearization control technique for the use of PV units as reactive power providers. Conference Proceedings of the Italian Electrical, Electronics, Automation, Informatics and Telecommunications (AEIT) Meeting, September 2009, Catania, Italy.
8. F. Delfino, **G.B. Denegri**, M. Invernizzi, F. Pampararo, R. Procopio: Modellistica di generatori sincroni per l'analisi di guasti interni (in italian). Conference Proceedings of the Italian Electrical, Electronics, Automation, Informatics and Telecommunications Association (AEIT) Meeting, September 2009, Catania, Italy.
9. A. Bonfiglio, F. Delfino, **G.B. Denegri**, M. Invernizzi, A. Perfumo, R. Procopio: - An advanced nonlinear control technique for grid connected generating units – Part I: Theory: Proceedings of the 9th WSEAS International Conference on Electric Power Systems, High Voltages, Electric Machines, pp.140-146, October 2009, Genova, Italy.
10. A. Bonfiglio, F. Delfino, **G.B. Denegri**, M. Invernizzi, A. Perfumo, R. Procopio: - An advanced nonlinear control technique for grid connected generating units – Part II: Simulations: Proceedings of the 9th WSEAS International Conference on Electric Power Systems, High Voltages, Electric Machines, pp. 147-152, October 2009, Genova, Italy.
11. F. Delfino, **G.B. Denegri**, M. Invernizzi, R. Procopio: A control algorithm for the maximum power point tracking and the reactive power injection from grid-connected PV systems. Proceedings of the IEEE Power and Energy Society General Meeting, pp. 1-7, July 2010, Minneapolis, USA.
12. F. Delfino, **G.B. Denegri**, M. Invernizzi, F. Pampararo, R. Procopio, M. Rossi: Modelling and Control of DDPM Wind Generators. Proceedings of the 45th International Universities Power Engineering Conference (UPEC), pp. 1-5, August 2010, Cardiff, Wales.

13. F. Delfino, **G.B. Denegri**, M. Invernizzi, F. Pampararo, G. Amann, J. L. Bessède, A. Luxa, G. Monizza: Towards a renewal of Transmission & Distribution infrastructures to meet EU 2020 goals. Proceedings of the 21st World Energy Congress, World Energy Council, pp. 1-6, September 2010, Montreal, Canada.
14. A. Bonfiglio, F. Delfino, **G.B. Denegri**, M. Invernizzi, F. Pampararo, R. Procopio, M. Rossi: Integrazione della risorsa eolica nella rete di distribuzione (in italian). Conference Proceedings of the Italian Electrical, Electronics, Automation, Informatics and Telecommunications (AEIT) Meeting, June 2011, Milano, Italy.
15. A. Bonfiglio, F. Delfino, **G.B. Denegri**, M. Invernizzi, F. Pampararo, R. Procopio, G. Amann, J. L. Bessède, A. Luxa, G. Monizza: The application of modern electric systems to T&D infrastructures to achieve EU 20/20/20 climate & energy target. CIRED 2011, March 2011, Lille, France.
16. A. Bonfiglio, F. Delfino, **G.B. Denegri**, M. Invernizzi, F. Pampararo: Quantification of the Environmental Benefits Provided by State-of-the-Art Technologies to T&D Grids. CIGRÉ 2011, September 2011, Bologna, Italy.
17. A. Bonfiglio, F. Delfino, **G.B. Denegri**, M. Invernizzi, R. Procopio: Definition and Validation of Key Performance Indicators to Assess the Effectiveness of "Smarting Actions" on a Distribution Network. Proceedings of CIRED 2013, June 2013, Stockholm, Sweden.
18. G. Amann, J-L. Bessède, A. Bonfiglio, R. Charnah, F. Delfino, **G.B. Denegri**, M. Invernizzi, A. Luxa, M. Margarone, G. Monizza, R. Procopio: A Set of KPIs to Quantify Environmental & Technical Benefits of Renewing Actions on Transmission Grids. Proceedings of Powertech 2013, June 2013, Grenoble, France.
19. A. Bonfiglio, L. Barillari, S. Bracco, M. Brignone, F. Delfino, **G.B. Denegri**, F. Pampararo, R. Procopio, M. Rossi, M. Invernizzi: The Smart Microgrid Pilot Project of the University of Genoa. Conference Proceedings of the Italian Electrical, Electronics, Automation, Informatics and Telecommunications (AEIT) Meeting, July 2013, Palermo, Italy.
20. A. Bonfiglio, A. Oliveri, R. Procopio, F. Delfino, **G.B. Denegri**, M. Invernizzi, M. Storace: Improving Power Grids Transient Stability Via Model Predictive Control. 18th Power System Computation Conference PSCC 2014, August 2014, Wroclaw, Poland.
21. **G.B. Denegri**, M. Invernizzi, M. Minetti, A. Rosini: Reactive Power Sharing Analysis in Islanded AC Microgrids. 19th International Conference on Environment and Electrical Engineering and Commercial Power Systems Europe (EEEIC/I&CPS Europe), June 2019, Genova, Italy.
22. **G.B. Denegri**, M. Minetti, A. Rosini: New Approaches to Reactive Power Sharing and Voltage Control in Islanded AC Microgrids. 55th International Universities Power Engineering Conference, UPEC 2020, September 2020, Torino, Italy.
23. **G.B. Denegri**, M. Minetti, A. Rosini, A. Bonfiglio, R. Procopio: An Advanced Droop Control Strategy for Reactive Power Assessment in Islanded Microgrids. IEEE Transactions on Power Systems, Vol.37, n. 4, July 2022, pp. 3014-3025.
24. **G.B. Denegri**, M. Minetti, A. Rosini, A. Bonfiglio, R. Procopio: A Contribution to Reactive Power Control in Inverter Based Islanded Microgrids. IEEE Power and Energy Society General Meeting, pp. 1-5, July 2022, Denver, Colorado, USA.
25. M. Fresia, M. Minetti, A. Rosini, R. Procopio, A. Bonfiglio, M. Invernizzi, **G.B. Denegri**, G. Lisciandrello, L. Orrù A Techno-Economic Assessment to Define Inertia Needs of the Italian Transmission Network in the 2030 Energy Scenario. IEEE Transactions on Power Systems, Early Access, November 2023, DOI 10.1109/TPWRS.2023.3331178.