

**Marco Invernizzi**

- **Date of birth:** 27/12/1959
- **University:** Università degli Studi di Genova (UniGe)
- **Address and Contact Details:** Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), via all'Opera Pia 11a, 16145 Genova
- **Qualification:** Full professor
- **Competitive Sector:** 09/E2
- **Scientific-disciplinary sector:** ING-IND/33

**Biography**

M.Sc. (cum laude) in 1984 from the University of Genoa with thesis "Influence of tap changing under load transformers on voltage stability" (supervisors: Bruno Delfino, Fabio Saccomanno; co-supervisors: Roberto Marconato, Pierangelo Scarpellini)

PhD (III cycle) in 1989 with thesis "Expert systems in electrical energy. Study and synthesis of a prototype for the emergency control of electrical grids" (supervisor: Bruno Delfino).

Since 16/06/1990: Assistant Professor in Electrical Energy Systems at the Electrical Engineering Department of the University of Genoa.

Since 01/11/1998: Associate Professor in Electrical Energy Systems at the Electrical Engineering Department of the University of Genoa.

Since 30/12/2005: Full Professor in Electrical Energy Systems at the Electrical Engineering Department of the University of Genoa.

**LANGUAGE SKILLS**

1979: Cambridge First Certificate

1981: Cambridge Proficiency in English

1981: Kleines Deutsches Sprachdiplom Ludwig-Maximilians-Universitaet zu Muenchen

**ACADEMIC POSITIONS**

2007-2013: President, subsequently Coordinator, of the Council of Study Courses in Electrical Engineering of the University of Genoa

2013-2014: Head of the Education Working Group of the Department of Electric, Electronic, Telecommunication Engineering and Naval Architecture of the University of Genoa

2014-2018: Head of the Department of Electric, Electronic, Telecommunication Engineering and Naval Architecture (DITEN) of the University of Genoa

2018-2020: Vice Rector for Research and Technology Transfer of the University of Genoa, with responsibility extended to PhD and Third Mission

2018-2022: Member of the Management Committee of the Physics Department as MIUR Department of Excellence for the five-year period, as Vice Rector for Research and Technology Transfer for the first two years and as representative of the Polytechnic School for the second two-year period

2018-2022: Member of the Quality Assurance Team of the University of Genoa, with responsibility for research and third mission in the first two years and as representative of professors, as well as contact person, together with the Delegate for Quality Assurance of the University, for the quality assurance processes at the governance level

**TEACHING ACTIVITY**

- Five-year master's degree course in Electrical Engineering

- Automatic Controls
- Electrical Installations
- Electrical Energy Systems
- Joint Bachelor's/Master's degree course in Electrical Engineering
  - Electrical Energy Systems 1 and 2
  - Electrical Installations 1 and 2
  - Electrical Installations
- Bachelor's and master's degree course in Electrical Engineering
  - Electrical Installations
  - Automatic Controls for Electric Drives
- Bachelor's degree course in Naval Engineering
  - Naval Electrical Systems
- Bachelor's degree course in Maritime Science and Technology
  - Shipboard Power Systems

Promoter, as head of DITEN Department, of the establishment of new study courses with international and interdisciplinary characteristics:

Maritime Science and Technology – L-28

Engineering for Natural Risk Management – LM-26

Engineering Technology for Strategy (and Security) – LM-DS Class

Promoter, as Vice Rector for Research and Technology Transfer, of the establishment of a new PhD Course in Security, Risk and Vulnerability, with six curricula:

- Cybersecurity and Reliable Artificial Intelligence
- Security and Law
- Security and Strategic Studies
- Management and Security
- Risk and Resilience Engineering for the Natural, Industrialized and Built Environments
- Risk, Climate Change and Sustainable Development

After four years since the first activation 81 PhD students were recruited.

## **RESEARCH ACTIVITY**

He has carried out visits to various foreign universities, conducting series of seminars (Polytechnic Faculty of Mons), activating research collaborations (University of Liège) and framework partnerships (Florida International University) and participating in commissions for the defence of doctoral theses (University of Lyon).

Starting from 1986 he joined the Electrical Systems Laboratory of the Electrical Engineering Department of the University of Genoa, subsequently setting up the Network Infrastructures and Complex Electrical Energy Systems (NICES) laboratory from 2003 with his own research group, active in the Genoa and Savona campuses.

His main research interests concern modelling and dynamics of electrical energy systems, as well as security and real-time management of electrical power networks. The most significant results were obtained in the study of market models for the dispatching of primary and ancillary services, as well as in the creation of models, dedicated simulators, and prototypes of intelligent systems for the resolution of emergency and restorative control in electrical grids. Current research activity is also focused on management and control aspects of transmission and distribution networks. In recent years, attention has particularly migrated towards the control and management of microgrids and the definition of new frequency and voltage control devices and logics in networks with an increasing presence of inverter generation.

In April 2021, he served as Principal Investigator of the here cited project: EUROPEAN COMMISSION - European Research Executive Agency - GRANT AGREEMENT NUMBER 101034449 — Excellent Science, Marie Skłodowska-Curie COFUND, ‘Training to Complexity: muLtidisciplinary approaches to rural and mOuntain sustainable devElopment and conservation for innovative Doctoral Programmes — CLOE’

Duration: 01/04/2021 – 31/03/2026

Number of participants: 1 (with partner organizations for Early-Stage Researchers’ secondment activity)

Project total costs: 2.461.860,00 EUR, EU contribution: 1.220.400,00 EUR + Co-funding UniGe via Compagnia di San Paolo

### **THIRD MISSION ACTIVITY**

- Responsible and committed part in research contracts with Enel Centro Ricerca di Automatica, Enel Centro Ricerca Elettrica, CESI Centro Elettrotecnico Sperimentale Italiano, ABB Power Systems, T&D Europe, Ansaldo Energia, Paul Wurth Italia, Terna.
- Head of the Technical Scientific Committee of the Research and Innovation Centre of Regione Liguria named EASS – Energy Environment and Sustainable Development, in charge for the three years since 27/04/2021
- President of the Advisory Board of UniGe Strategic Centre Security Risk Vulnerability, duration of the assignment from 25/07/2022 until 31/12/2025
- Reference person within the Framework Agreement Comitato Elettrotecnico Italiano – Università degli Studi di Genova, and coordinator of Working Group 3 “Government incentives for building/implementing data feeders and casing infrastructures” within Discussion Table “Digital Transition”