Paolo Molfino

Full professor

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Education and training

1978

Degree in Electrical Engineering (five years studies)

Brushless supply systems for variable speed synchronous motors - 110/110 cum laude

University of Genoa - Genoa - IT

Academic experience

1990 - ONGOING

Full professor of Electrical Engineering

Unibversity of Genoa - Genoa - IT

Teacher of Electrical Engineering for mechanical engineering students and Electrical Engineering for Naval Engineering students.

1987 - 1990

Associate Professor

University of Genoa - Genoa - IT

Teacher of Numerical Models for circuits and fields and Computer aided Design of Electric and Magnetic devices for Electrical Engineers. Researcher in many national and International research projects

1984 - 1987

Assistant professor

University of Genoa - Genoa - IT

Investigator in many national research projects. Teacher of Numerical Models for circuits and fields and Computer aided Design of Electric and Magnetic devices for Electrical Engineers.

1978 - 1984

Research scholarship

University of Genoa - Genoa - IT

Investigator in many national research projects.

Language skills

English

Independent

Teaching activity

During first years of cooperation with University of Genoa I was involved in teaching activities as lecturers of “Computer Aided Design of Electric and Magnetic devices” devoted to students of Electrical engineering.
Afterwards, as assistant professor, I have had the responsibility of teaching “Numerical models for Fields and Circuits” and “Computer aided design of Electric and Magnetic devices” for students of Electrical engineering.
As associate professor I have continued to teach “Numerical models for Fields and Circuits” and “Computer aided design of Electric and Magnetic devices” for students of Electrical engineering.
From 1990, as full professor, I have assumed responsibility of the courses of “Electrical Engineering” for mechanical engineering and naval engineering students.

Postgraduate research and teaching activity

Supervision of PhD students, residents and post-doctoral fellows

During my activities at University of Genoa I have had the pleasure to follow many graduate students that have then assumed positions of relief in academic field (two full professors in prestigious Italian university), scientific field (responsible of scientific in JET and ITER project) and industries.

Research interests

My reaserch activity has been carried out mainly on thematic of:
Computer aided design of electric am magnetic devices;
Numerical errors estimate procedure and adaptive meshing for finite elements computation;
Numerical analysis techniques for coupled thermo-electromagnetic phenomena;
Development of formulations and numerical codes for eddy currents analysis;
Development of numerical models for magnetic hysteresis finite element analysis.
I’m author and co-author of more than 100 scientific papers in computational electromagnetics, numerical errors estimate and adaptive meshing for electromagnetic analysis codes, development of numerical methods for the analysis of coupled problems, development of numerical models for magnetic hysteresis FEM analys, systems optimization for energy generation of distributed type.

Editorial activity

During my activities I have been referee for numerous conferences (COMPUMAG, IGTE International Symposium, INTERMAG) and magazines (IEEE transaction on Magnetics, COMPEL International Journal for

Computation and Mathematics in Electrical and Electronic Engineering, International Journal of Numerical Modelling: Electronic Network, Devices and Fields).

Other professional activities

I have participated to many activities of technological transfer for “conto terzi”, mainly in design and optimization of electric and magnetic devices for small, medium and great industries, research centers and research agencies (Ansaldo, Ansaldo Magnets, Ansaldo superconductors, OEL, ENEL, Vector
Fields, Philips, ENEA Frascati, INFN, ENEA Ispra...).