



# UNIVERSITÀ DEGLI STUDI DELL'AQUILA

**Prof. Marco Antonio Villani**

## **Curriculum scientifico**

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Marco Villani received the M.S. degree in electrical engineering from the University of L'Aquila, Italy, in 1985. In the same year he joined the Department of Electrical Engineering of University of L'Aquila as Associate Researcher, contributing to the development of the Power Electronics and Drives Laboratory "F. Ferri". In 1987 he received the "Ferdinando Filaurio" scholarship and in 1988 he was Research Fellow at the University of Dresden where he studied the modeling and design of stepping motors. In 1989 he was Research Fellow at CESI of Milan where he cooperated in the design of high efficiency single-phase induction motors for household appliances. In 1995 he was at the Nagasaki University, where he studied the design of PM synchronous motors for traction. In 1998 he cooperated in two SAVE projects concerning the "Energy efficiency improvements in three-phase Induction Motors" and the "Barriers against energy efficient motor repair".

He has been involved in National Research Projects (CNR, MIUR and COFIN) and took the responsibility of several research contracts between the University of L'Aquila and industrial partners. He is currently project in charge, for the University of L'Aquila, of the Horizon 2020-Call Green Vehicles (2017-2020) project on the automotive, titled "RefreeDrive" and the MIUR project (*"Progetti di ricerca industriale e sviluppo sperimentale nelle 12 aree di specializzazione individuate dal PNR 2015-2020, area di specializzazione: Aerospazio"*) titled "LubforLife"

Reference Teacher for the bilateral agreements of Erasmus programs with the ESIEE-École Supérieure d'Ingénieurs en Électrotechnique et Électronique of Amiens (France) and with the KUT - Kaunas University of Technology of Kaunas (Lithuania), for the period 2007-2010.

He is reviewer for several International Conferences and Journals, including IEEE Transaction on Industry Applications and Energy Conversion, Journal of Energy Efficiency, IEEE Conference of Industrial Electronic Society (IECON), International Conference on Electrical Machines (ICEM), IEEE Energy Conversion Congress (ECCE).

He is Associate professor of Electrical Machines Design and Electric Systems for Mobility for the Master-level degree courses of Electrical Engineering at the University of L'Aquila.

His research interests are focused on modeling and design of electrical machines, high efficiency induction motors (IE3,IE4), line-start synchronous Reluctance motors, design of brushless motors for household appliances, optimization techniques for the electrical machines design, Finite Element analysis of electrical machines, design of PM synchronous motors, Reluctance motors and Switched-Reluctance motors for industrial, automotive and aerospace applications.

He is author of more than 170 technical papers in scientific journals and conference proceedings.

Publications of the last 10 years

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- A.M. Gazdac, L.Di Leonardo, L.Mabwe, F.Betin, M.Villani, ?Electric circuit parameters identification and control strategy of dual-rotor Permanent Magnet Induction machine?, IEEE Electrical Machines & Drive Conference (IEMDC), 2013, pp. 1102-1107.
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