

Pere Andrada



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Pere Andrada, was born in Barcelona in 1957. He is an Industrial Engineer (1980) and a Doctor of Industrial Engineering (1990) at the School of Industrial Engineering of Barcelona (ETSEIB) of the Universitat Politècnica de Catalunya (UPC). In 1980 he began his teaching career at the UPC, where he got the position of Professor of University School (TEU) in 1986 and University School Full Professor (CEU) in 1992. Throughout his teaching career has taught and has been responsible for teaching subjects in bachelor, master, and doctorate at different UPC schools; Polytechnic School of Engineering of Vilanova i la Geltrú (EPSEVG), University School of Industrial Technical Engineering of Barcelona (ETSEIB), and School of Industrial Engineering of Barcelona (EUETIB), always in the area of knowledge of Electrical Engineering and in recent times specifically in the field of electric machines and electric drives. Regarding university management, he has been, at various periods, Head of Section of the Department of Electrical Engineering and Deputy Director of Research and Infrastructure at the EPSEVG. From 2004 to 2017, he was the head of the Research Group of the UPC, GAECE (Electronically Commutated Drives Group). In recent years, his main research interest has focused on two lines: the development of linear reluctance and linear hybrid reluctance drives and the high-performance electric drives for electric traction. In the first line, he contributed to the simulation, control, and sizing of double-sided linear SRM and the mitigation of the detent force in linear hybrid reluctance actuators. In the second line, he led the development of a series (2, 4, and 8 kW; 48-72 V) of in-wheel outer rotor permanent synchronous motors (with 40 poles and 42 slots) for an electric scooter. Work carried out within the framework of a technology transfer contract. He was responsible for optimizing and designing a novel hybrid reluctance motor. Motor characterized by a stator formed by the combination of independent magnetic structures, composed of a U-shaped magnetic core with one or several coils wound on it, associated with a permanent magnet disposed between the legs of the U-core, near the air gap; being the rotor of this machine like that of a conventional switched reluctance motor. Project carried out thanks to a series of three technology transfer contracts. In the framework of a competitive project, he led the development of an in-wheel axial-flux switched reluctance motor with a double rotor with 12 stator poles and 10 poles in each of the two rotors. In this motor, the particular distribution of the stator poles is remarkable, resulting in short magnetic circuits without inversion of the flux with the consequent reduction of the losses in the core. It is also important to point out that the magnetically active parts were built using SMC. Now, he is working to develop a double stator switched reluctance drive for the traction through a transmission of a light electric vehicle implementing techniques of direct torque control. This research activity has had as a consequence to file several patents, the supervision of doctoral theses, the publication of papers in prestigious journals (JCR), and international and national congresses.

Additional Information:

- Member of the ICREPQ-International Scientific Committee.
- RE&PQJ-Scientific Committee Member.