



UNIVERSITAT POLITÈCNICA DE CATALUNYA  
BARCELONATECH

Escola Politècnica Superior d'Enginyeria  
de Vilanova i la Geltrú



# Workshop

## SRM Drives an Alternative for E-traction

**February 2, 2018, EPSEVG, Vilanova i la Geltrú (Barcelona) Spain  
ROOM AA207**

### OBJECTIVES

Electrification of road vehicles is one of the most consistent initiatives to achieve a clean, environmentally friendly and efficient transport system. The choice of the electric machine for the powertrain is an important consideration, nowadays tilted towards permanent magnet synchronous machines. However, rare earth permanent magnet supply drawbacks open up new prospects for other types of machines, such as switched reluctance machines. The Workshop aims to be a meeting point for groups that are currently working on the development of Switched Reluctance Motor drives (SRMD) and an opportunity to establish future collaborations. The Workshop consists of two parts. In the first part, in the morning, participants, all by invitation, will present new types of switched reluctance machines for electric traction applications. In the second part, in the afternoon, all participants will discuss what aspects slow down the application of SRMD for electric traction and their possible solutions.

### PROGRAM

**9:30.-** Welcome and opening ceremony

**9:45.-** Presentation of the Workshop: SRM an alternative for E-Traction. P.Andrada (GAECE-UPC, Spain)

**10.-** PM Materials and Processes for Soft Magnetic Applications. M.J. Dougan (AMES, S.A, Spain)

**10:30.-** Modular Switched Reluctance Machines to be Used in Automotive Applications. Loránd Szabó (Technical University of Cluj-Napoca, Romania)

**11-11:30.-** Coffee break

**11:30.-** Torque Control Strategy for an Axial Flux Switched Reluctance Machine. A. Egea, G. Ugalde, J. Poza. (Mondragon University, Spain)

**12.-** In-Wheel Axial-Flux SRM Drive for Light Electric Vehicles. P.Andrada, B.Blanqué, E.Martínez, J.I.Perat, J.A. Sánchez, M.Torrent (GAECE-UPC, Spain)

**12:30.-** A Novel Topology of High-Speed SRM for High-Performance Traction Applications. F. J Márquez Fernández (Lund University, Sweden), M.D. McCulloch (University of Oxford, UK), J.H. J. Potgieter (Dyson Ltd., UK), A. G. Fraser (McLaren Automotive LTD, UK)

**13: 15:30.-** Lunch

**15:30- 16:30.-** Round table I.

**What is slowing down the application of SRMD for road vehicle electrification?**

**16:30-17:30.-** Round table II.

**Where should research and development focus to boost application of SRMD to E-traction?**

**17. 30.-** Conclusions

**18.-** Closure and farewell ceremony

## **CONTACT**

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