



PhD Grant Position in Telecommunications Engineering

(Project funded by the Spanish ‘Ministerio de Ciencia e Innovación’)

- **Department/University:** Signal Theory and Communications/Technical University of Catalonia (Barcelona Tech)

- **Research activity:** The PhD grant holder will join the Control Monitoring and Communications (CMC) Group (<http://cmc.upc.edu>) and will develop her/his research in the field of linearization techniques for microwave power amplifiers in the framework of a Spanish National funded project. This project is devoted to the design and implementation of emerging architectures capable of overcoming the existing trade-off between linearity and efficiency in wireless transmitters. In this sense, novel techniques will be addressed for taking advantage of the nonlinear device behavior in the conception of the RF power stages. This includes optimum design of envelope controlled GaN HEMT-based power amplifiers (PA); development of advanced digital signal processing algorithms for predistorting Envelope Tracking (ET) and Polar Transmitters (PT) or to compensate for imbalances in LINC (Linear Amplification with Nonlinear Components) topologies; circuit and system level approaches in the optimum implementation of ET and polar architectures suitable for being used in future multiband and multimode transmitters. The student will address some of these issues in her/his doctoral thesis. The CMC Group is developing its activity at the Baix Llobregat Campus (<http://epsc.upc.edu>).

- **Length of position:** 4 years duration. More details are available accessing the website: http://web.micinn.es/contenido.asp?menu1=1&menu2=&menu3=&dir=03_Plan_IDI/00-LIAs/00@LIARRHH/00-Formacion/00-FPI/001Con09&idioma=en

- **Required knowledge and abilities in:**

- Telecommunications Engineer or similar.
- Advanced Signal Processing and DSP's/ FPGA's programming capabilities.
- Radiofrequency subsystems (theoretical and laboratory experience).
- Capability and motivation for working in a laboratory environment.
- A good English level is required.

- **Contact and more information:** Send your CV to Gabriel Montoro **before January 21st**. E-mail: montoro@tsc.upc.edu.

Barcelona, January 9, 2009