

**DEPARTAMENTO DE TEORIA**  
**DE LA SEÑAL Y COMUNIC.**

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### **Áreas de conocimiento:**

- TEORIA DE LA SEÑAL Y COMUNICACIONES

## ÁREA DE CONOCIMIENTO: TEORIA DE LA SEÑAL Y COMUNICACIONES

### Actividades de investigación

#### Tesis Doctorales

- A rate control algorithm for scalable video coding  
*Autores:* SANZ, S.  
*Director:* DIAZ-DE-MARIA, F.  
*Centro donde se presentó:* CAMPUS DE LEGANES  
*Año:* 2011
  
- Aplicacion de algoritmos combinados de filtrado adaptativo a acustica de salas  
*Autores:* AZPICUETA, L.A.  
*Director:* ARENAS, J. ; FIGUEIRAS-VIDAL, A. R.  
*Centro donde se presentó:* CAMPUS DE LEGANES  
*Año:* 2011
  
- Bit and power loading for mimo systems with statistical channel knowledge at the trasmitter  
*Autores:* HONG, L.  
*Director:* GARCIA-ARMADA, A.  
*Centro donde se presentó:* CAMPUS DE LEGANES  
*Año:* 2011
  
- Blancos blandos enfatizados para clasificacion maquina  
*Autores:* EL JELALI, S.  
*Director:* FIGUEIRAS-VIDAL, A. R. ; LYHYAOUI, A.  
*Centro donde se presentó:* CAMPUS DE LEGANES  
*Año:* 2011
  
- Contributions to the development of microwace active circuits: metamaterial dual-band filters and broadband differential low-noise amplifiers  
*Autores:* GARCIA, O.A.  
*Director:* SEGOVIA VARGAS, D.; GONZALEZ, V.D.  
*Centro donde se presentó:* CAMPUS DE LEGANES  
*Año:* 2011
  
- Cost-sensitive classification based on Bregman divergences  
*Autores:* SANTOS-RODRIGUEZ, R.  
*Director:* CID-SUEIRO, J.  
*Centro donde se presentó:* CAMPUS DE LEGANES  
*Año:* 2011

- Expectation Propagation Decoding of Low-Density Parity-Check Codes  
*Autores:* OLMOS, P. M.  
*Director:* PEREZ-CRUZ, F.; MURILLO-FUENTES, J.J.  
*Centro donde se presentó:* UNIVERSIDAD DE SEVILLA  
*Año:* 2011
  
- Generative models for image segmentation and representation  
*Autores:* GONZALEZ, I.  
*Director:* DIAZ-DE-MARIA, F.  
*Centro donde se presentó:* CAMPUS DE LEGANES  
*Año:* 2011
  
- Máquinas de vectores soporte para reconocimiento robusto de habla  
*Autores:* SOLERA-UREÑA, R.  
*Director:* DIAZ-DE-MARIA, F. ; MARTINEZ-RAMÓN, M.  
*Centro donde se presentó:* CAMPUS DE LEGANES  
*Año:* 2011
  
- New approaches for eeg signal processing: ica-rls adaptive filter and tracks extraction method  
*Autores:* GUERRERO, C.A.  
*Director:* NAVIA, A. ; MALANDA, A.  
*Centro donde se presentó:* CAMPUS DE LEGANES  
*Año:* 2011
  
- Novel schemes for adaptive rejection sampling  
*Autores:* MARTINO, L.  
*Director:* MIGUEZ, J.  
*Centro donde se presentó:* CAMPUS DE LEGANES  
*Año:* 2011
  
- Similarity measures for clustering sequences and sets of data  
*Autores:* GARCÍA-GARCÍA, D.  
*Director:* DIAZ-DE-MARIA, F. ; PARRADO, E.  
*Centro donde se presentó:* CAMPUS DE LEGANES  
*Año:* 2011
  
- Statistical models for energy-efficient selective communications in sensor networks  
*Autores:* ARROYO-VALLES, R.  
*Director:* CID-SUEIRO, J.  
*Centro donde se presentó:* CAMPUS DE LEGANES  
*Año:* 2011

## **Publicaciones y actividades de difusión de resultados**

### **Publicaciones en revistas científicas internacionales**

- ALAIZ, R.; GUERRERO, A. ; CID-SUEIRO, J.  
Class and subclass probability re-estimation to adapt a classifier in the presence of concept drift ,  
*Neurocomputing*, Vol. 74, Núm. 16, 2011, pp. 2614-2623, HOLANDA.

- ANDRES, B.; GARCIA, L. E. ; BAUERSCHMIDT, S.; PREU, S.; MALZER, S.; DOEHLER, H.G.; WANG, L.; SEGOVIA VARGAS, D.  
Gain Enhancement by Dielectric Horns in the Terahertz Band, *IEEE Transactions on Antennas and Propagation*, Vol. 59, Núm. 9, 2011, pp. 3164-3170, ESTADOS UNIDOS DE AMERICA.
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Ultrawideband antenna excited by a photomixer for terahertz band, *Progress in Electromagnetics Research*, Vol. 114, 2011, pp. 1-15, ESTADOS UNIDOS DE AMERICA.
- ARROYO-VALLES, R.; MARQUES, A.G.; CID-SUEIRO, J.  
Optimal Selective Forwarding for Energy Saving in Wireless Sensor Networks, *IEEE Transactions on wireless Communications*, Vol. 10, Núm. 1, 2011, pp. 164-175, ESTADOS UNIDOS DE AMERICA.
- ASHEGHAN, M.; MIGUEZ, J.; HAMIDI, M.T.; TAVAZOEI, M.S.  
Robust outer synchronization between two complex networks with fractional order dynamics, *Chaos*, Vol. 21, Núm. 3 (033121), 2011, REINO UNIDO.
- AZPICUETA, L.A.; ZELLER, M.; FIGUEIRAS-VIDAL, A. R. ; ARENAS, J. ; KELLERMANN, W.  
Adaptive Combination of Volterra Kernels and Its Application to Nonlinear Acoustic Echo Cancellation, *IEEE Transactions on Audio Speech and Language Processing*, Vol. 19, Núm. 1, 2011, pp. 97-110, ESTADOS UNIDOS DE AMERICA.
- FEIJOO, J. R. ; CID-SUEIRO, J. ; GARCIA, J.A.; CONDE, P.  
Optimal Double Route Search in a Telecommunication Network: A Telecontrol Network Application, *IEEE transactions on reliability*, Vol. 60, Núm. 1, 2011, pp. 341-350, ESTADOS UNIDOS DE AMERICA.
- FERNANDEZ-RECIO, R.; GARCÍA CASTILLO, L. E.; LLORENTE ROMANO, S.; GOMEZ REVUELTO, I.  
Convergence Study of a Non-Standard Schwarz Domain Decomposition Method for Finite Element Mesh Truncation in Electro-Magnetics , *Progress in Electromagnetics Research*, Vol. 120, 2011, pp. 439-457, ESTADOS UNIDOS DE AMERICA.
- GARCÍA DOÑORO, D.; MARTÍNEZ FERNÁNDEZ, I.; GARCÍA CASTILLO, L. E.; ZHANG, Y.; SARKAR, T.K.  
RCS Computation Using a Parallel in-core and out-of-core Direct Solver, *Progress in Electromagnetics Research*, Vol. 118, 2011, pp. 505-525, ESTADOS UNIDOS DE AMERICA.
- GARCÍA LAMPÉREZ, A.; SALAZAR-PALMA, MAGDALENA  
Single-Band to Multiband Frequency Transformation for Multiband Filters , *IEEE transactions on microwave theory and techniques*, Vol. 59, Núm. 12, 2011, pp. 3048-3058, ESTADOS UNIDOS DE AMERICA.
- GARCIA, O.A.; GONZALEZ, V.; GARCIA, L. E. ; SEGOVIA VARGAS, D.  
Noise-Figure Measurement of Differential Amplifiers Using Nonideal Baluns, *IEEE transactions on microwave theory and techniques*, Vol. 59, Núm. 6, 2011, pp. 1658-1664, ESTADOS UNIDOS DE AMERICA.
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Data Balancing for Efficient Training of Hybrid ANN/HMM Automatic Speech Recognition Systems , *IEEE Transactions on Audio Speech and Language Processing*, Vol. 19, Núm. 3, 2011, pp. 468-481, ESTADOS UNIDOS DE AMERICA.
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## Colaboraciones en obras colectivas

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## Ponencias y Comunicaciones a congresos

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## Propiedad Industrial/intelectual

- *Inventores:* GARCIA-ARMADA, A.; DE PALO, M.L.; SANCHEZ-FERNANDEZ, M. ; CORVAJA, R.; BERBERANA, I.  
Método para optimizar la asignación de potencia de flujos de usuario transmitidos desde estaciones base en sistemas de transmisión de estación base coordinada  
*Titular:* TELEFONICA DE ESPAÑA, S.A.U.  
*Número Solicitud:* **P201131183**  
*Fecha Solicitud:* 13/07/2011  
*Países:* ESPAÑA
- *Inventores:* HIDALGO-CARPINTERO, I.; PADILLA-CRUZ, M.; GARCÍA LAMPÉREZ, A.; SALAZAR-PALMA, MAGDALENA  
Generalized Multiplexing Network  
*Tipo:* PATENTE  
*Titular:* THALES ALENIA SPACE, SA  
*Número Solicitud:* **EP20040292797.0**  
*Fecha Solicitud:* 26/11/2004  
*Fecha Concesión:* 17/08/2011
- *Inventores:* KILDAL, P.S.; AHMED, K.; RAJO, E.  
Packaging of active and passive microwave circuits using lid or bed of curved posts  
*Tipo:* PATENTE  
*Titular:* KILDAL ANTENN CONSULTING  
*Número Registro:* **EP2390953 A1**  
*Fecha Solicitud:* 25/10/2010  
*Fecha Concesión:* 30/11/2011

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Surface Consisting of Miniature Horizontal Plane Corrugations, Antenna and Circuit  
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*Titular:* UNIVERSIDAD CARLOS III DE MADRID  
*Número Solicitud:* **WO2011ES00112 2**  
*Fecha Solicitud:* 12/04/2011  
*Fecha Concesión:* 20/10/2011

## **Actividades de formación y movilidad de personal investigador**

### **Estancias en otros centros**

- DANIEL SEGOVIA VARGAS  
*Título:* Acción preparatoria para el desarrollo de un programa de educación superior en el área de tecnologías de las comunicaciones en la Universidad Católica San Pablo de Arequipa  
*Centro Externo:* Universidad Católica San Pablo de Arequipa  
*País:* PERU  
*Duración:* 05/2011 a 06/2011.
- DANIEL SEGOVIA VARGAS  
*Título:* GANT, acción de cooperación del Gobierno checo para el desarrollo de estancias cortas de investigación  
*Investigador Externo:* EICHLER, J.  
*Centro Externo:* Universidad Técnica de Praga  
*País:* REPUBLICA CHECA  
*Duración:* 10/10/2011 a 20/11/2011.
- JAVIER MONTERO DE PAZ  
*Título:* Estancia en la TU Darmstadt  
*Centro Externo:* Universidad Técnica de Darmstadt  
*País:* ALEMANIA  
*Duración:* 01/06/2011 a 01/09/2011.
- MANUEL ALBERTO VAZQUEZ LOPEZ  
*Título:* Estancia postdoctoral en Nanyang Technological University  
*Centro Externo:* Nanyang Technological University  
*País:* SINGAPUR  
*Duración:* 01/02/2011 a 31/08/2011.
- MATILDE PILAR SANCHEZ FERNANDEZ  
*Título:* Estancia posdoctoral en la Universidad de Princeton, EEUU en temas relacionados con Teoría de la Información  
*Centro Externo:* Universidad de Princeton  
*País:* ESTADOS UNIDOS DE AMERICA  
*Duración:* 08/02/2011 a 30/07/2011.

## **Estancias de investigadores externos en la universidad**

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*Título:* Acción preparatoria para el desarrollo de un programa de educación superior en el área de tecnologías de las comunicaciones en la Universidad Católica San Pablo de Arequipa  
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*Centro Externo:* Universidad Católica San Pablo de Arequipa  
*País:* PERU  
*Duración:* 09/2011 a 10/2011.