

DEPARTAMENTO DE TEORIA DE
LA SEÑAL Y COMUNICACIONES

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Actividades de investigación

Tesis Doctorales

- Algorithms for energy-efficient adaptive wireless sensor networks.
Autores: FERNÁNDEZ-BES J.
Director/Codirectores: CID-SUEIRO, J. ; ARENAS-GARCIA, J.
Universidad: UNIVERSIDAD CARLOS III DE MADRID
Centro donde se presentó: ESCUELA POLITECNICA SUPERIOR
Año: 2015
- Análisis Multivariante: Soluciones eficientes e interpretables
Autores: MUÑOZ, S.
Director/Codirectores: ARENAS-GARCIA, J. ; GOMEZ VERDEJO, V.
Universidad: UNIVERSIDAD CARLOS III DE MADRID
Centro donde se presentó: ESCUELA POLITECNICA SUPERIOR
Año: 2015
- Bayesian nonparametrics for crowdsourcing
Autores: GARCIA, P.
Director/Codirectores: PEREZ, F.; ARTES, A.
Universidad: UNIVERSIDAD CARLOS III DE MADRID
Centro donde se presentó: ESCUELA POLITECNICA SUPERIOR
Año: 2015
- Bayesian nonparametrics for time series modeling.
Autores: RODRIGUEZ, F.J.
Director/Codirectores: PEREZ, F.
Universidad: UNIVERSIDAD CARLOS III DE MADRID
Centro donde se presentó: CAMPUS DE LEGANES
Año: 2015
- Blind interference alignment for cellular networks
Autores: MORALES, M.
Director/Codirectores: GARCIA, A.
Universidad: UNIVERSIDAD CARLOS III DE MADRID
Centro donde se presentó: ESCUELA POLITECNICA SUPERIOR
Año: 2015
- Contribuciones a la Aplicación de la Factorización de Matrices No Negativas a las Tecnologías del Habla
Autores: LUDEÑA, J.D.
Director/Codirectores: GALLARDO-ANTOLÍN, A.
Universidad: UNIVERSIDAD CARLOS III DE MADRID

Centro donde se presentó: CAMPUS DE LEGANES
Año: 2015

- Coordinación de estaciones base en sistemas celulares= Block diagonalization techniques for cellular networks: clustering and scheduling.
Autores: GARCIA, J.J.
Director/Codirectores: GARCIA, A.
Universidad: STANFORD RESEARCH SYSTEMS
Año: 2015

- Estimación de canal y desplazamiento de frecuencia en sistemas MIMO-OFDM con prefijo cíclico insuficiente
Autores: PRIETO DEL AMO, C.
Director/Codirectores: FERNANDEZ-GETINO GARCIA, M. J.
Universidad: UNIVERSIDAD CARLOS III DE MADRID
Centro donde se presentó: CAMPUS DE LEGANES
Año: 2015

- Mejoras de diseño en sistemas inalámbricos de última generación basados en MIMO: estudio de terminales compactos y gestión de interferencias en esquemas coordinados.
Autores: PABLO, M.L.
Director/Codirectores: GARCIA, A.; SANCHEZ-FERNANDEZ, M.
Universidad: UNIVERSIDAD CARLOS III DE MADRID
Centro donde se presentó: CAMPUS DE LEGANES
Año: 2015

- Métodos de Monte Carlo para inferencia Bayesiana en sistemas complejos=Nonlinear population monte carlo methods for bayesian inference.
Autores: KOBLENTS, E.
Director/Codirectores: MIGUEZ, J.
Universidad: UNIVERSIDAD CARLOS III DE MADRID
Centro donde se presentó: CAMPUS DE LEGANES
Año: 2015

Publicaciones y actividades de difusión de resultados

Publicaciones en revistas científicas nacionales

- ALONSO, S.; ALVAREZ, L.; BERNAL, M.; DIAZ, L.; FERNANDEZ, D.; FERREIRA, J.; GIL, R.; MOHINO, I.; MORENO, B.; RODRIGUEZ, R.; ROSA, M.; SEOANE, F.; YBARRA, C.
Análisis en tiempo real del estrés del combatiente, *Boletín de Observación Tecnológica en Defensa*, Núm. 45 (4º trimestre), 2015, pp. 15-18, ESPAÑA.

Publicaciones en revistas científicas internacionales

- AHACHAD, A.; OMARI, A.; FIGUEIRAS-VIDAL, A. R.
Neighborhood Guided Smoothed Emphasis for Real Adaboost Ensembles, *Neural Processing Letters*, Vol. 42, Núm. 1, 2015, pp. 155-165, BÉLGICA.

- ALGABA, A.; RAJO, E.; VAZQUEZ ROY, J. L. ; VOSOOGH, A.; KILDAL, P.S.

Design and Validation of Microstrip Gap Waveguides and Their Transitions to Rectangular Waveguide, for Millimeter-Wave Applications, *IEEE transactions on microwave theory and techniques*, Vol. 63, Núm. 12, 2015, pp. 4035-4050, ESTADOS UNIDOS DE AMERICA.

- AZAZIL, A.; LOTFI, S.L.; VENKAT, I.; FERNANDEZ, F.
Towards a robust affect recognition: Automatic facial expression recognition in 3D faces, *Expert systems with applications*, Vol. 42, Núm. 6, 2015, pp. 3056-3066, REINO UNIDO.

- BLANCO, D.J.; RAJO, E.; MACI, S.; LLOMBART, N.
Directivity Enhancement and Spurious Radiation Suppression in Leaky-Wave Antennas Using Inductive Grid Metasurfaces, *IEEE Transactions on Antennas and Propagation*, Vol. 63, Núm. 3, 2015, pp. 891-900, ESTADOS UNIDOS DE AMERICA.

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Detectors for Cooperative Mesh Networks With Decode-and-Forward Relays, *IEEE Transactions on Signal Processing*, Vol. 63, Núm. 1, 2015, pp. 5-17, ESTADOS UNIDOS DE AMERICA.

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Goal-oriented top-down probabilistic visual attention model for recognition of manipulated objects in egocentric videos, *Signal Processing: Image Communications*, Vol. 39, 2015, pp. 418-431, HOLANDA - PAISES BAJOS.

- CALLE, F.; VALVERDE-ALBACETE, F. J. ; GALLARDO-ANTOLÍN, A.; Carmen Peláez-Moreno
Morphologically Filtered Power-Normalized Cochleograms as Robust, Biologically Inspired Features for ASR, *IEEE-Association for Computing Machinery Transactions on audio speech and language processing*, Vol. 23, Núm. 11, 2015, pp. 2070-2080, ESTADOS UNIDOS DE AMERICA.

- DE-FRUTOS-LOPEZ, M.; GONZALEZ DE SUSO, J.L.; SANZ, S.; Carmen Peláez-Moreno; DIAZ-DE-MARIA, F.
Two-level sliding-window VBR control algorithm for video on demand streaming, *Signal Processing: Image Communications*, Vol. 36, 2015, pp. 1-13, HOLANDA - PAISES BAJOS.

- ELVIRA, V.; MARTINO, L.; LUENGO, D. ; FERNANDEZ, M.
Efficient Multiple Importance Sampling Estimators, *IEEE Signal Processing Letters*, Vol. 22, Núm. 10, 2015, pp. 1757-1761, ESTADOS UNIDOS DE AMERICA.

- FERNANDEZ, F.; HERNANDEZ, A.; DIAZ-DE-MARIA, F.
Succeeding metadata based annotation scheme and visual tips for the automatic assessment of video aesthetic quality in car commercials, *Expert systems with applications*, Vol. 42, Núm. 1, 2015, pp. 293-305, REINO UNIDO.

- FERNÁNDEZ-BES J.; ARROYO-VALLES, R.; CID-SUEIRO, J.
Asymptotic analysis of cooperative censoring policies in sensor networks, *Ad Hoc Networks*, Vol. 29, 2015, pp. 63-77, HOLANDA - PAISES BAJOS.

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Simple Design of Wireless Sensor Networks for Traffic Jams Avoidance, *Journal of sensors*, Vol. 2015, Núm. 380794, 2015, pp. 1-7, 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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Electrically small antennas design challenges; en: IEEE Antennas and Propagation Society, AP-S International Symposium (Digest), IEEE COMPUTER SOCIETY, 2015.
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How to eliminate shadow fading in a cellular wireless system; en: Proceedings of the 2015 IEEE-APS Topical Conference on Antennas and Propagation in Wireless Communications, IEEE APWC 2015, IEEE COMPUTER SOCIETY, 2015.
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Actividades de formación y movilidad de personal investigador

Estancias en otros centros

- ADRIAN AMOR MARTIN
Título: Estancia académica de 45 días en el laboratorio de Electromagnetismo Computacional de la Universidad de Macao
Centro Externo: University of Macau
País: MACAO
Duración: 15/06/2015 a 30/07/2015.

- ALEJANDRO RIVERA LAVADO
Título: Characterization of a 4x4 Dielectric Rod Waveguide antennas array in the W band.
Centro Externo: Aalto University
País: FINLANDIA
Duración: 01/05/2015 a 15/05/2015.

- FERNANDO PEREZ CRUZ
Título: "Machine Learning"
Centro Externo: Bell-Labs, Alcatel-Lucent, in Murray Hill, New Jersey
País: ESTADOS UNIDOS DE AMERICA
Duración: 01/06/2014 a 01/06/2015.

- JAVIER CESPEDES MARTIN
Título: Estancia Lund
Centro Externo: Lund University
País: SUECIA
Entidad Financiadora: UNIVERSIDAD CARLOS III DE MADR
Duración: 01/09/2015 a 08/11/2015.

- LUIS ANTONIO AZPICUETA RUIZ

Título: Aplicación de algoritmos combinados de filtrado adaptativo utilizando excitaciones tipo MLS
Centro Externo: Department of Electrical Engineering en la University of Utah
País: ESTADOS UNIDOS DE AMERICA
Duración: 09/02/2015 a 11/03/2015.

- **MATILDE PILAR SANCHEZ FERNANDEZ**

Título: Estancia de Investigación post-doctoral Sistemas MIMO masivos
Centro Externo: Nokia Bell-Labs
País: ESTADOS UNIDOS DE AMERICA
Duración: 08/05/2015 a 07/08/2015.

- **MELANIE FERNANDEZ PRADIER**

Título: "Machine Learning for Personalized Medicine"
Centro Externo: Memorial Sloan-Kettering Cancer Center, New York
País: ESTADOS UNIDOS DE AMERICA
Duración: 01/10/2014 a 30/06/2015.

- **PABLO GARCIA MORENO**

Título: "Bayesian non-parametric models and their application to crowdsourcing, recommendation systems and human activity recognition; approximate inference algorithms"
Centro Externo: Amazon Development Center Germany Internet/software
País: ALEMANIA
Duración: 01/11/2014 a 15/02/2015.

- **PABLO MARTINEZ OLMOS**

Título: Desarrollo de métodos de Localización precisa en Sistemas 5G
Centro Externo: Nokia-Bell Labs, New Providence (NJ)
País: ESTADOS UNIDOS DE AMERICA
Duración: 07/07/2015 a 07/12/2015.