

DEPARTAMENTO DE TEORIA
DE LA SEÑAL Y COMUNIC.

DEPARTAMENTO DE TEORIA DE LA SEÑAL Y COMUNIC.

Actividades de investigación

Tesis Doctorales

- A new software suite for electromagnetics
Autores: GARCÍA DOÑORO, D.
Director/Codirectores: GARCIA-CASTILLO, L.E.; SARKAR, T.K.
Año: 2014
- Algoritmos para la reducción de los picos de potencia en los sistemas OFDM.
Autores: PAREDES, M.C.
Director/Codirectores: FERNANDEZ-GETINO, M. J.
Año: 2014
- Aplicación de metamateriales para el desarrollo de antenas activas autodiplexadas
Autores: DE CASTRO, D.
Director/Codirectores: SEGOVIA, D.; GONZALEZ, V.
Año: 2014
- Bayesian nonparametric modeling of psychiatric disorders
Autores: VALERA, M.I.
Director/Codirectores: PEREZ-CRUZ, F.
Año: 2014
- Clasificadores con pesos funcionales por puertas
Autores: OMARI, A.
Director/Codirectores: FIGUEIRAS-VIDAL, A. R.
Año: 2014
- Design and Optimization of Wireless Sensor Networks for Localization and Tracking
Autores: PINO, S.
Director/Codirectores: GONZALEZ, F. J.
Año: 2014
- Detección de eventos rápidos con una cámara IR de bajo coste
Autores: PIÑEIRO, J.
Director/Codirectores: ARTES, A.
Centro donde se presentó: Universidad de Alcalá de Henares
Año: 2014
- Enhancing the Radiated Power in the Terahertz Band
Autores: ANDRES, B.
Director/Codirectores: GARCIA, L.E.
Año: 2014

- Functional brain imaging on mobile devices by solving the eeg inverse problem: a structured sparsity approach.
Autores: MONTOYA, J.
Director/Codirectores: ARTES, A.
Año: 2014
- Gaussian processes methods for nonstationary regression
Autores: MUÑOZ, L.
Director/Codirectores: FIGUEIRAS-VIDAL, A. R. ; LAZARO, M.
Año: 2014
- Improving the capabilities from the antenna point of view at thz and sub-thz frequencies
Autores: MONTERO-DE-PAZ, J.
Director/Codirectores: SEGOVIA, D.
Año: 2014
- Information-estimation relationships over binomial, negative binomial and poisson models.
Autores: CAMILO G. TABORDA
Director/Codirectores: PEREZ-CRUZ, F.
Año: 2014
- Leaky Waves for Near and Far Field Antenna Beam Shaping.
Autores: BLANCO, D.J.
Director/Codirectores: RAJO-IGLESIAS, E. ; LLOMBART, N.
Año: 2014
- On the outer synchronization of complex dynamical networks
Autores: ASHEGHAN, M.
Director/Codirectores: MIGUEZ, J.
Año: 2014
- Sequence codes
Autores: WOODHEAD , L.G.A.
Director/Codirectores: BRAVO, A. M.
Centro donde se presentó: Universidad de Alcalá de Henares
Año: 2014
- Solving time domain scattering and radiation problems in a marching-on-in-degree technique for method of moment
Autores: MEI, Z.
Director/Codirectores: SARKAR, T.K.; SALAZAR-PALMA, MAGDALENA
Centro donde se presentó: Syracuse University
Año: 2014

Publicaciones y actividades de difusión de resultados

Publicaciones en revistas científicas nacionales

- ACEITUNO, P.; BOUSOÑO, C. ; ESCUDERO, J. J. ; HERRERA, F.J.
Formación en emprendimiento para periodistas, *El Profesional de la información*, Vol. 23, Núm. 4, 2014, pp. 409-414, ESPAÑA.

Publicaciones en revistas científicas internacionales

- ALBARRACIN, L.F.; UGARTE, E.; GONZALEZ, V.; SEGOVIA, D.
Sensitivity Analysis for Active Matched Antennas With Non-Foster Elements, *IEEE Transactions on Antennas and Propagation*, Vol. 62, Núm. 12, 2014, pp. 6040-6048, ESTADOS UNIDOS DE AMERICA.
- ALVARADO, A.; BRANNSTROM, F.; AGRELL, E.; KOCH, T.M.
High-SNR asymptotics of mutual information for discrete constellations with applications to BICM, *IEEE Transactions on Information Theory*, Vol. 60, Núm. 2, 2014, pp. 1061-1076, ESTADOS UNIDOS DE AMERICA.
- BARRETO, C.M.; RAMIREZ, J.P.; GOMEZ, J.M.; ACHENIE, L.; MOLINA, H. Y. ; GONZALEZ, A.F.
DYNAMIC FLUX BALANCE ANALYSIS FOR PREDICTING GENE OVEREXPRESSION EFFECTS IN BATCH CULTURES, *Journal of biological systems*, Vol. 22, Núm. 3, 2014, SINGAPUR.
- BLANCO, D.J.; GOMEZ, J.L.; RAJO-IGLESIAS, E. ; LLOMBART, N.
Radially Polarized Annular-Slot Leaky-Wave Antenna for Three-Dimensional Near-Field Microwave Focusing, *IEEE Antennas and Wireless Propagation Letters*, Vol. 13, 2014, pp. 583-586, ESTADOS UNIDOS DE AMERICA.
- BLANCO, D.J.; LLOMBART, N.; RAJO-IGLESIAS, E.
On the Use of Leaky Wave Phased Arrays for the Reduction of the Grating Lobe Level, *IEEE Transactions on Antennas and Propagation*, Vol. 62, Núm. 4, 2014, pp. 1789-1795, ESTADOS UNIDOS DE AMERICA.
- CAMILO G. TABORDA; GUO, D.; PEREZ-CRUZ, F.
Information-Estimation Relationships Over Binomial and Negative Binomial Models, *IEEE Transactions on Information Theory*, Vol. 60, Núm. 5, 2014, ESTADOS UNIDOS DE AMERICA.
- CASTRO, E.; GOMEZ, V.; MARTINEZ-RAMÓN, M. ; KIEHL, K.A.; CALHOUN, V.D.
A multiple kernel learning approach to perform classification of groups from complex-valued fMRI data analysis: Application to schizophrenia, *Neuroimage*, Vol. 87, 2014, pp. 1-17, ESTADOS UNIDOS DE AMERICA.
- CESPEDES, J.; MARTINEZ, P.; SANCHEZ-FERNANDEZ, M. ; PEREZ, F.
Expectation Propagation Detection for High-Order High-Dimensional MIMO Systems, *IEEE Transactions on Communications*, Vol. 62, Núm. 8, 2014, pp. 2840-2849, ESTADOS UNIDOS DE AMERICA.
- COMMINIELLO, D.; SCARPINITI, M.; AZPICUETA, L.A.; ARENAS-GARCIA, J. ; UNCINI, A.
Nonlinear acoustic echo cancellation based on sparse functional link representations, *IEEE Transactions on Audio Speech and Language Processing*, Vol. 22, Núm. 7, 2014, pp. 1172-1183, ESTADOS UNIDOS DE AMERICA.
- CORVAJA, R.; GARCIA, J.J.; GARCIA, A.
Achievable rate and fairness in coordinated base station transmission, *IEEE Communications letters*, Vol. 18, Núm. 4, 2014, pp. 584-587, ESTADOS UNIDOS DE AMERICA.
- CRISAN, D.; MIGUEZ, J.
Particle-kernel estimation of the filter density in state-space models , *Bernoulli*, Vol. 20, Núm. 4, 2014, pp. 1879-1929, HOLANDA - PAISES BAJOS.

- DYAB, W.M.; SARKAR, T.K.; SALAZAR-PALMA, MAGDALENA
Reply to "Comments on 'A Physics-Based Green's Function for Analysis of Vertical Electric Dipole Radiation Over an Imperfect Ground Plane'", *IEEE Transactions on Antennas and Propagation*, Vol. 62, Núm. 9, 2014, pp. 4910-4913, ESTADOS UNIDOS DE AMERICA.
- ESCUDERO, J. J. ; DEVILLERS, B.; GARCIA, A.
Fairness-Adaptive Goodput-Based Resource Allocation in OFDMA Downlink with ARQ, *IEEE Transactions on Vehicular Technology*, Vol. 63, Núm. 3, 2014, pp. 1178-1192, ESTADOS UNIDOS DE AMERICA.
- ESCUDERO, J. J. ; HONG, M.; GARCIA, A.; GARCIA, A.
Interference Pricing Mechanism for Downlink Multicell Coordinated Beamforming, *IEEE Transactions on Communications*, Vol. 62, Núm. 6, 2014, pp. 1871-1883, ESTADOS UNIDOS DE AMERICA.
- GARCIA, L.E.
Comments on "THz Time-Domain Sensing: The Antenna Dispersion Problem and a Possible Solution", *IEEE transactions on terahertz science and technology*, Vol. 4, Núm. 1, 2014, pp. 125-126, ESTADOS UNIDOS DE AMERICA.
- GARCIA, L.E.; SEGOVIA, D.; GARCIA, O.; UGARTE, E.; GONZALEZ, V.; SERNA, J.M.; LOPEZ, J.A.
Broadband Active Differential Array for the Mid-Frequency SKA Band, *IEEE Antennas and Propagation Magazine*, Vol. 56, Núm. 2, 2014, pp. 27-38, ESTADOS UNIDOS DE AMERICA.
- GOMEZ, I.; GARCIA-CASTILLO, L.E.; LLORENTE ROMANO, S.; PARDO, D.
3D hp-adaptive finite element simulations of bend, step, and magic-T electromagnetic waveguide structures, *Journal of computational science*, Vol. 5, Núm. 2, 2014, pp. 65-75, HOLANDA - PAISES BAJOS.
- GONZALEZ DE SUSO, J.L.; JIMENEZ-MORENO, A.; MARTINEZ-ENRIQUEZ, E.; DIAZ-DE-MARIA, F.
Improved Method to Select the Lagrange Multiplier for Rate-Distortion Based Motion Estimation in Video Coding, *IEEE Transactions on circuits and systems for video technology*, Vol. 24, Núm. 3, 2014, pp. 452-464, ESTADOS UNIDOS DE AMERICA.
- GONZALEZ, I.; BAZ, C.E.; DIAZ-DE-MARIA, F.
A Generative Model for Concurrent Image Retrieval and ROI Segmentation, *IEEE transactions on multimedia*, Vol. 16, Núm. 1, 2014, pp. 169-183, ESTADOS UNIDOS DE AMERICA.
- JIMENEZ-MORENO, A.; MARTINEZ-ENRIQUEZ, E.; KUMAR, V.; DIAZ-DE-MARIA, F.
Standard-Compliant Low-Pass Temporal Filter to Reduce the Perceived Flicker Artifact, *IEEE transactions on multimedia*, Vol. 16, Núm. 7, 2014, pp. 1863-1873, ESTADOS UNIDOS DE AMERICA.
- KHIABANI, N.; HUANG, Y.; GARCIA, L.E.; SHEN, Y.C.; RIVERA, A.
A Novel Sub-THz Photomixer With Nano-Trapezoidal Electrodes, *IEEE transactions on terahertz science and technology*, Vol. 4, Núm. 4, 2014, pp. 501-508, ESTADOS UNIDOS DE AMERICA.
- KOH, J.; LEE, W.; SARKAR, T.K.; SALAZAR-PALMA, MAGDALENA
Calculation of Far-Field Radiation Pattern Using Nonuniformly Spaced Antennas by a Least Square Method, *IEEE Transactions on Antennas and Propagation*, Vol. 62, Núm. 4, 2014, pp. 1572-1578, ESTADOS UNIDOS DE AMERICA.
- LAZARO, M.; TITSIAS, M.K.; VERRELST, J.; CAMPS, G.
Retrieval of biophysical parameters with heteroscedastic Gaussian processes, *IEEE Geoscience and remote sensing letters*, Vol. 11, Núm. 4, 2014, pp. 838-842, ESTADOS UNIDOS DE AMERICA.

- MANCO, J.; LAZARO, M.; RAMIREZ, D.; VIA, J.; SANTAMARIA, I.
A Bayesian approach for adaptive multiantenna sensing in cognitive radio networks, *Signal processing*, Vol. 96, 2014, pp. 228-240, HOLANDA - PAISES BAJOS.
- MARTIN, L.; GILIOLI, G.; LANZARONE, E.; MIGUEZ, J.; PASQUALI, S.; RUGGERI, F.; RUIZ, D.P.
A Rao-Blackwellized Particle Filter for Joint Parameter Estimation and Biomass Tracking in a Stochastic Predator-Prey System, *Mathematical biosciences and engineering : MBE.*, Vol. 11, Núm. 3, 2014, pp. 573-597, ESTADOS UNIDOS DE AMERICA.
- MEI, Z.; LEE, W.; SARKAR, T.K.; SALAZAR-PALMA, MAGDALENA
The natural resonant singularity expansion method (SEM) poles for a dielectric sphere in various environments, *Microwave and Optical Technology Letters*, Vol. 56, Núm. 3, 2014, pp. 690-694, ESTADOS UNIDOS DE AMERICA.
- MEI, Z.; YEUNG, S.H.; SARKAR, T.K.; SALAZAR-PALMA, MAGDALENA
A study of transmission of RF signal with single conductor wire, *Microwave and Optical Technology Letters*, Vol. 56, Núm. 1, 2014, pp. 124-127, ESTADOS UNIDOS DE AMERICA.
- MONTERO-DE-PAZ, J.; UGARTE, E.; GARCIA, L.E.; CAMARA, I.; SEGOVIA, D.
Meander dipole antenna to increase CW THz photomixing emitted power, *IEEE Transactions on Antennas and Propagation*, Vol. 62, Núm. 9, 2014, pp. 4868-4872, ESTADOS UNIDOS DE AMERICA.
- MONTOYA, J.; ARTES, A.; PONTIL, M.; HANSEN, L.K.
A regularized matrix factorization approach to induce structured sparse-low-rank solutions in the EEG inverse problem, *EURASIP Journal on Advances in Signal Processing*, Vol. 2014, 2014, EGIPTO.
- MUÑOZ, L.; LAZARO, M.; FIGUEIRAS-VIDAL, A. R.
Divisive gaussian processes for nonstationary regression, *IEEE transactions on neural networks and learning systems*, Vol. 25, Núm. 11, 2014, pp. 1991-2003, ESTADOS UNIDOS DE AMERICA.
- O MAHONY, N.M.; FLORENTINO, B.; CARBALLO, J.J.; BACA, E.; ARTES, A.
Objective diagnosis of ADHD using IMUs, *Medical engineering & physics*, Vol. 36, Núm. 7, 2014, pp. 922-926, REINO UNIDO.
- PABLO, M.L.; SANCHEZ-FERNANDEZ, M.; RAJO-IGLESIAS, E.
Combination of the three types of diversity to design high capacity compact MIMO terminal, *IEEE Antennas and Wireless Propagation Letters*, 2014, pp. 1309-1312, ESTADOS UNIDOS DE AMERICA.
- PARRADO, E.; GOMEZ, V.; MARTINEZ, M.; SHAW-TAYLOR, J.; ALONSO, P.; PUJOL, J.; MENCHON, J.M.; CARDONER, N.; SORIANO, C.
Discovering brain regions relevant to obsessive-compulsive disorder identification through bagging and transduction, *Medical image analysis*, Vol. 18, Núm. 3, 2014, pp. 435-448, REINO UNIDO.
- PASTORE, A.; KOCH, T.M.; RODRIGUEZ, J.
A rate-splitting approach to fading channels with imperfect channel-state information, *IEEE Transactions on Information Theory*, Vol. 60, Núm. 7, 2014, pp. 4266-4285, ESTADOS UNIDOS DE AMERICA.
- PINEIRO, J.; BLANCO, M.; CRUZ, F.; ARTES, A.
Target detection for low cost uncooled MWIR cameras based on empirical mode decomposition, *Infrared Physics and Technology*, Vol. 63, Núm. MAR, 2014, pp. 222-231, REINO UNIDO.

- PINO, S.; ARROYO-VALLES, R.; CID-SUEIRO, J.
Selective forwarding for energy-efficient target tracking in sensor networks, *Signal processing*, Vol. 94, Núm. January, 2014, pp. 557-569, HOLANDA - PAISES BAJOS.
- PINO, S.; GONZALEZ, F. J.
Comparison of optimization algorithms in the sensor selection for predictive target tracking, *Ad Hoc Networks*, Vol. 20, 2014, pp. 182-192, HOLANDA - PAISES BAJOS.
- PUCCI, E.; RAJO-IGLESIAS, E. ; VAZQUEZ ROY, J. L. ; KILDAL, P.S.
Planar Dual-Mode Horn Array With Corporate-Feed Network in Inverted Microstrip Gap Waveguide, *IEEE Transactions on Antennas and Propagation*, Vol. 62, Núm. 7, 2014, pp. 3534-3542, ESTADOS UNIDOS DE AMERICA.
- RAJO-IGLESIAS, E. ; CUIÑAS, I.; NEWMAN , R.M.; TREBAR, M.; CATARINUCCI, L.; ÁLVAREZ , A.
Wireless corner: RFID-based traceability along the food-production chain, *IEEE Antennas and Propagation Magazine*, Vol. 56, Núm. 2, 2014, pp. 196-207, ESTADOS UNIDOS DE AMERICA.
- RAJO-IGLESIAS, E. ; GALLEGO, I.; L. INCLAN-SANCHEZ ; QUEVEDO, O.
Textile Soft Surface for Back Radiation Reduction in Bent Wearable Antennas, *IEEE Transactions on Antennas and Propagation*, Vol. 62, Núm. 7, 2014, pp. 3873-3878, ESTADOS UNIDOS DE AMERICA.
- READ, J.M.; ACHUTEGUI, K.; MIGUEZ, J.
A distributed particle filter for nonlinear tracking in wireless sensor networks, *Signal processing*, Vol. 98, Núm. MAY, 2014, pp. 121-134, HOLANDA - PAISES BAJOS.
- RODRIGUEZ, F.J.; VALERA, M.I.; BLANCO, C.; PEREZ-CRUZ, F.
Bayesian nonparametric comorbidity analysis of psychiatric disorders, *Journal of Machine Learning Research*, Vol. 15, Núm. APR, 2014, pp. 1215-1247, HOLANDA - PAISES BAJOS.
- SANTIAGO, R.; PEREZ-CRUZ, F.; MADDEN, M.G.; ARTES, A.
An automated screening system for tuberculosis, *IEEE journal of biomedical and health informatics*, Vol. 18, Núm. 3, 2014, pp. 855-862, ESTADOS UNIDOS DE AMERICA.
- SARKAR, T.K.; DYAB, W.M.; ABDALLAH, M.N.; SALAZAR-PALMA, MAGDALENA; PRASAD, M.V.S.N.; TING, S.W.
Application of the schelkunoff formulation to the sommerfeld problem of a vertical electric dipole radiating over an imperfect ground, *IEEE Transactions on Antennas and Propagation*, Vol. 62, Núm. 8, 2014, pp. 4162-4170, ESTADOS UNIDOS DE AMERICA.
- SEOANE, F.; MOHINO, I.; FERREIRA, J.; ALVAREZ, L.; BUENDÍA, R.; AYLLÓN, D.; LLERENA, C.; GIL, R.
Wearable Biomedical Measurement Systems for Assessment of Mental Stress of Combatants in Real Time, *Sensors*, Vol. 14, Núm. 4, 2014, pp. 7120-7141, SUIZA.
- TAUSTE, A.; VAZQUEZ, G.; GUILLEN, A.; KOCH, T.M.; MARTINEZ, A.
A Derivation of the Source-Channel Error Exponent Using Nonidentical Product Distributions, *IEEE Transactions on Information Theory*, Vol. 60, Núm. 6, 2014, pp. 3209-3217, ESTADOS UNIDOS DE AMERICA.
- TORRECILLA, J.; URRUCHI, V. ; SANCHEZ, J.M.; BENNIS, N.; GARCÍA LAMPÉREZ, A.; SEGOVIA, D.
Improving the pass-band return loss in liquid crystal dual-mode bandpass filters by microstrip patch reshaping, *Materials*, Vol. 7, Núm. 6, 2014, pp. 4524-4535, SUIZA.

- VALVERDE, F.J.; PELAEZ, C.
100% classification accuracy considered harmful: The normalized information transfer factor explains the accuracy paradox, *PloS one*, Vol. 9, Núm. 1, 2014, ESTADOS UNIDOS DE AMERICA.
- YANG, W.; DURISI, G.; KOCH, T.M.; POLYANSKIY, Y.
Quasi-Static Multiple-Antenna Fading Channels at Finite Blocklength, *IEEE Transactions on Information Theory*, Vol. 60, Núm. 7, 2014, pp. 4232-4265, ESTADOS UNIDOS DE AMERICA.
- YEUNG, S.H.; GARCÍA LAMPÉREZ, A.; SARKAR, T.K.; SALAZAR-PALMA, MAGDALENA
Thin and compact dual-band four-element broadside patch antenna arrays, *IEEE Antennas and Wireless Propagation Letters*, Vol. 13, 2014, pp. 567-570, ESTADOS UNIDOS DE AMERICA.
- YEUNG, S.H.; GARCÍA LAMPÉREZ, A.; SARKAR, T.K.; SALAZAR-PALMA, MAGDALENA
Comparison of the Performance between a Parasitically Coupled and a Direct Coupled Feed for a Microstrip Antenna Array, *IEEE Transactions on Antennas and Propagation*, Vol. 62, Núm. 5, 2014, pp. 2813-2818, ESTADOS UNIDOS DE AMERICA.
- YEUNG, S.H.; SARKAR, T.K.; GARCÍA LAMPÉREZ, A.; SALAZAR-PALMA, MAGDALENA; TANG, S.W.
A course proposal on pareto-based multi-objective microwave-circuit optimization using the genetic algorithm, *IEEE Antennas and Propagation Magazine*, Vol. 56, Núm. 2, 2014, pp. 176-190, ESTADOS UNIDOS DE AMERICA.

Colaboraciones en obras colectivas

- DE LA CRUZ RAMOS, P.; PEREZ-LEAL, R. ; GONZÁLEZ, F.; BELLIDO , L.
"Model for QoE estimation based on QoS parameters monitoring for multimedia convergent services (3-Play)", en: "Quality of Experience Engineering for Customer Added Value Services: From Evaluation to Monitoring", (1), JOHN WILEY AND SONS LTD, pp. 191-220, 2014.
- GONZALEZ, I.; BENOIS-PINEAU, J.; BUSO, V.; BOUJUT, H.
Fusion of Multiple Visual Cues for Object Recognition in Videos, en: Fusion in Computer Vision : Understanding Complex Visual Content, SPRINGER , SUIZA, pp. 79-107, 2014.

Ponencias y Comunicaciones a congresos

- ALVARADO, A.; BRANNSTROM, F.; AGRELL, E.; KOCH, T.M.
On the asymptotic optimality of Gray Codes for BICM and one-dimensional constellations; en: 2013 Communication Theory Workshop, 2014.
- ARROYO-VALLES, R.; MALEKI, S.; LEUS, G.
Distributed wideband spectrum sensing for cognitive radio networks; en: IEEE International Conference on Acoustics Speech and Signal Processing (ICASSP 2014) , IEEE - THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC, 2014.
- AZPICUETA, L.A.; ARENAS-GARCIA, J. ; NASCIMENTO, V.H.; SILVA, M.T.M.
Reduced-cost combination of adaptive filters for acoustic echo cancellation; en: 2014 International Telecommunications Symposium (ITS), IEEE - THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC, 2014.
- AZPICUETA, L.A.; DAS, B.K.; CHAKRABORTY, M.; ARENAS-GARCIA, J.
A comparative study of two popular families of sparsity-aware adaptive filters; en: 4th International Workshop on Cognitive Information Processing (CIP 2014), IEEE - THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC, 2014.

- BARTZOUDIS, N.; FONT, O.; PAYARO, M.; PASCUAL, A.; RUBIO, J.; GARCIA, J.J.; GARCIA, A. *Energy profiling of FPGA-based PHY-layer building blocks encountered in modern wireless communication systems*; en: 2014 IEEE 8th Sensor Array and Multichannel Signal Processing Workshop (SAM), proceedings, IEEE - THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC., 2014.
- CALLE, F.; GALLARDO-ANTOLÍN, A.; PELAEZ, C. *Deep Maxout Networks applied to Noise-Robust Speech Recognition*; en: Lecture Notes in Computer Science, Springer LNCS, 2014.
- CALLE, F.; VALVERDE, F. J. ; GALLARDO-ANTOLÍN, A.; PELAEZ, C. *ASR Feature Extraction with Morphologically-Filtered Power-Normalized Cochleograms*, 15th Annual Conference of the International Speech Communication Association (INTERSPEECH 2014), SINGAPUR, SINGAPUR, 2014.
- CESPEDES, J.; MARTINEZ, P.; SANCHEZ-FERNANDEZ, M. ; PEREZ-CRUZ, F. *Improved performance of LDPC-coded MIMO systems with EP-based soft-decisions*; en: IEEE International Symposium on Information Theory (2014), IEEE - THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC, 2014.
- CID, J.; FIGUEIRAS-VIDAL, A. R. *Nonlinear Equalizers that Estimate Error Rate during Reception* , European Association for Signal Processing Eusipco - 98, RHODES, GRECIA, 2014.
- DJURIC, P.; BRAVO, A. M. *Cooperative mesh networks with EGC detectors*; en: 2014 IEEE 8th Sensor Array and Multichannel Signal Processing Workshop (SAM), IEEE - THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC., 2014.
- ELVIRA, V.; NAZABAL, A.; ARTES, A. *A novel feature extraction technique for human activity recognition*; en: 2014 IEEE Workshop on Statistical Signal Processing (SSP), IEEE - THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC, 2014.
- FERNANDEZ, F.; FERNANDO, L.; CORDOBA, R.; MONTERO, J.M. *A Web-based Application for the Management and Evaluation of Tutoring Requests in PBL-Based Massive Laboratories*, 44th Annual Frontiers in Education Conference (FIE), MADRID, ESPAÑA, 2014.
- FERNANDEZ, F.; HERNANDEZ, A.; GALLARDO-ANTOLÍN, A.; DIAZ-DE-MARIA, F. *Combining audio-visual features for viewers' perception classification of Youtube car commercials*, 2nd IEEE/ISCA Workshop on Speech, Language and Audio in Multimedia (SLAM 2014), PENANG, MALASIA, 2014.
- FERNANDEZ, M.; MORENO, P.G.; RODRIGUEZ, F.J.; VALERA, M.I.; MOLINA, H. Y. ; PEREZ-CRUZ, F. *Map/Reduce Uncollapsed Gibbs Sampling for Bayesian Nonparametric Models*, 28th Annual Conference on Neural Information Processing Systems (NIPS 2014). 1st Workshop on Software Engineering for Machine Learning (SW4M 2014L), Montreal, CANADA, 2014.
- FERNÁNDEZ-BES J.; ARENAS-GARCIA, J. ; SAYED, A.H. *Adjustment of combination weights over adaptive diffusion networks*; en: Proc. 2014 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), IEEE - THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC, 2014.

- FERNÁNDEZ-BES J.; AZPICUETA, L.A.; SILVA, M.T.M.; ARENAS-GARCIA, J.
Estimación distribuida con redes de difusión: algoritmo con combinadores adaptativos y agentes que preservan estimaciones locales, XXIX Simposium Nacional de la Unión Científica Internacional de Radio (URSI 2014), VALENCIA, ESPAÑA, 2014.
- FUENTE, A.; GARCIA, A.; PEREZ-LEAL, R.
Joint Multicast/Unicast Scheduling with Dynamic Optimization for LTE Multicast Service, European Wireless 2014, BARCELONA, ESPAÑA, 2014.
- GALLARDO-ANTOLÍN, A.; MONTERO, J.M.; KING, S.
A Comparison of Open-Source Segmentation Architectures for Dealing with Imperfect Data from the Media in Speech Synthesis , 15th Annual Conference of the International Speech Communication Association (INTERSPEECH 2014), SINGAPUR, SINGAPUR, 2014.
- GARCIA, A.; INVESTIGADORES, O.
Asymptotic Analysis of Multiuser-MIMO Networks with Battery-Constrained Receivers, BARCELONA, ESPAÑA, 2014.
- GARCIA, A.; TOMAS, V.A.; EL-HAJJAR, M.; HANZO, L.
Radio-over-Fiber Aided Base Station Coordination for OFDM, IEEE VTC Fall, Vancouver, CANADA, 2014.
- GARCIA, J.J.; GARCIA, A.
Characterization of a Simple Threshold to Fight Out of Cluster Interference , European Conference on Networks and Communications , Bologna, ITALIA, 2014.
- GARCIA, J.J.; GARCIA, A.; INVESTIGADORES, O.
Adaptive Block Diagonalization and User Scheduling With Out of Cluster Interference, European Wireless, BARCELONA, ESPAÑA, 2014.
- GARCIA, J.J.; MORALES, M.; SANCHEZ-FERNANDEZ, M. ; GARCIA, A.
Improved Interference Aware Precoding for Cellular Network-MIMO Systems, European Signal Processing Conference (EUSIPCO) , Lisbon, PORTUGAL, 2014.
- GARCIA, L.E.; MONTERO-DE-PAZ, J.; UGARTE, E.; RIVERA, A.; MENDEZ, M.; SEGOVIA, D.; DOHLER, G.H.; PREU, S.; MALZER, S.; BAUERSCHMIDT, S.; GONZALEZ-OVEJERO, D.
On the finite semiconductor thickness effect applied to large area emitters devices for THz radiation; en: 44th European Microwave Conference (EuMC 2014). Proceedings, IEEE - THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC, ESTADOS UNIDOS DE AMERICA, 2014.
- GONZALEZ, F. J. ; AMOR, A.; CASAMAYON, J.
State estimation using an Extended Kalman Filter with privacy protected observed inputs, IEEE Workshop on Information Forensics and Security (WIFS'14), ATLANTA, ESTADOS UNIDOS DE AMERICA, 2014.
- GOPALAN, P.; RODRIGUEZ, F.J.; RANGANATH, R.; BLEI, D.M.
Bayesian Nonparametric Poisson Factorization for Recommendation Systems; en: JMLR Workshop and Conference Proceedings Volume 33. Proceedings of the Seventeenth International Conference on Artificial Intelligence and Statistics, 2014.

- KOCH, T.M.
On the Dither-Quantized Gaussian Channel at Low SNR; en: IEEE International Symposium on Information Theory 2014, IEEE - THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC, 2014.
- L. INCLAN-SANCHEZ ; VAZQUEZ ROY, J. L. ; RAJO-IGLESIAS, E.
Considerations on Designing Microstrip Gap Waveguide Slot Arrays, 8th European Conference on Antennas and Propagation (EUCAP 14) , *La Haya*, HOLANDA - PAISES BAJOS, 2014.
- LENTISCO, C.M.; BELLIDO , L.; FUENTE, A.; PASTOR, E.; PEREZ-LEAL, R. ; GARCIA, A.
A model to evaluate MBSFN and AL-FEC techniques in a multicast video streaming service, 2014 IEEE 10th International Conference on Wireless and Mobile Computing, Networking and Communications (WiMob), *Larnaca*, CHIPRE, 2014.
- LOPEZ, J.; VAZQUEZ ROY, J. L. ; MARANTE, F.R.
Diseño de antenna de microcinta de dimensiones reducidas empleando metamateriales, VIII Congreso Internacional de Telemática y Telecomunicaciones CITTEL 2014 (17 Convención Científica de Ingeniería y Arquitectura), *La Habana*, CUBA, 2014.
- LORENZO, J.; ECHEVERRY, J.D.; BARRA, R.; SAN SEGUNDO, R.; FERREIROS, J.; GALLARDO-ANTOLÍN, A.; YAMAGISHI, J.; KING, S.; MONTERO, J.M.
Development of a Genre-Dependent TTS System with Cross-Speaker Speaking- Style Transplantation, 2nd Workshop on Speech, Language and Audio in Multimedia (SLAM 2014), *PENANG*, MALASIA, 2014.
- LUTU, A.; BAGNULO, M.G.; CID-SUEIRO, J. ; MAENNEL, O.
Separating wheat from chaff: Winnowing unintended prefixes using machine learning; en: IEEE INFOCOM 2014 - IEEE Conference on Computer Communications, IEEE - THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC, ESTADOS UNIDOS DE AMERICA, 2014.
- MARTINEZ, P.; MITCHELL, D.G.M.; TRUHACHEV, D.; COSTELLO, D.J.
Improving the finite-length performance of long SC-LDPC code chains by connecting consecutive chains; en: 2014 8th International Symposium on Turbo Codes and Iterative Information Processing (ISTC), 2014.
- MARTINEZ, T.; FERNANDEZ, M.A.; JIMENEZ-MORENO, A.; GONZALEZ, I.; DIAZ-DE-MARIA, F. ; GUZMÁN-DE-VILLORIA, J.; FERNANDEZ, P.
A Bayesian model for brain tumor classification using clinical-based features; en: IEEE International Conference on Image Processing (ICIP 2014), IEEE - THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC, 2014.
- MARTINO, L.; ELVIRA, V.; LUENGO, D. ; ARTES, A.; CORANDER, J.
Orthogonal MCMC algorithms; en: 2014 IEEE Workshop on Statistical Signal Processing (SSP), IEEE - THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC, 2014.
- MARTINO, L.; ELVIRA, V.; LUENGO, D. ; CORANDER, J.
An adaptive population importance sampler; en: 2014 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), IEEE - THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC, 2014.
- MONTOYA, J.; ARTES, A.; PONTIL, M.
Structured sparse-low rank matrix factorization for the EEG inverse problem; en: 2014 4th International Workshop on Cognitive Information Processing (CIP), IEEE - THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC, 2014.

- MORALES, M.; PLATA, J.; TOUMPAKARIS, D.; GARCIA, A.
On the Choice of Blind Interference Alignment Strategy for Cellular Systems with Data Sharing, IEEE International Conference on Communications (ICC), Sidney, AUSTRALIA, 2014.
- MORALES, M.; PLATA, J.; TOUMPAKARIS, D.; GARCIA, A.
Cognitive Blind Interference Alignment for Macro-Femto Cellular Networks, IEEE GLOBECOM, Austin, ESTADOS UNIDOS DE AMERICA, 2014.
- OSTMAN, J.; YANG, W.; DURISI, G.; KOCH, T.M.
Diversity versus multiplexing at finite blocklength; en: 2014 11th International Symposium on Wireless Communications Systems (ISWCS), IEEE - THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC, , 2014.
- PASTORE, A.; KOCH, T.M.; FONOLLOSA, J.R.
A Rate-Splitting Approach to Fading Multiple-Access Channels with Imperfect Channel-State Information; en: 2014 International Zurich Seminar on Communications Proceedings, 2014.
- PELAEZ, C.; VALVERDE, F. J. ; PEÑAS, A.
On Concept Lattices as Information Channels, Kosice, ESLOVAQUIA, 2014.
- RAJO-IGLESIAS, E.
Overview of Antenna Designs Based on Gap Waveguide Technology, Loughborough Antennas & Propagation Conference - LAPC 2014, REINO UNIDO, 2014.
- RAJO-IGLESIAS, E. ; BLANCO, D.; VICO, A.
Evaluation of the performance of wearable directive antennas based on Fabry-Perot type , Antennas and Propagation Society International Symposium (APSURSI), 2014 IEEE , ESTADOS UNIDOS DE AMERICA, 2014.
- RAJO-IGLESIAS, E. ; KILDAL, P.S.; ALGABA, A.
Investigation of transitions for use in inverted microstrip gap waveguide antenna arrays , Antennas and Propagation (EuCAP), 2014 8th European Conference on, HOLANDA - PAISES BAJOS, 2014.
- RAJO-IGLESIAS, E. ; KILDAL, P.S.; ALGABA, A.
Design of a transition from WR-15 to microstrip packaged by gap waveguide technology , Antennas and Propagation (ISAP), 2014 International Symposium on , TAIWAN, 2014.
- RAJO-IGLESIAS, E. ; KILDAL, P.S.; ZAMAN, A.U.
Prospective new PMC based Gap Waveguide shielding for microwave modules , Electromagnetic Compatibility (EMC Europe), 2014 International Symposium on , SUECIA, 2014.
- RAJO-IGLESIAS, E. ; SANCHEZ, C.
Low Cost Self Diplexed Antenna in Inverted Microstrip Gap Waveguide Technology, Antennas and Propagation (ISAP), 2014 International Symposium on , TAIWAN, 2014.
- RIVERA, A.; LLORENTE ROMANO, S.; HERRAIZ, F.J.; GARCIA, L.E.; LOPEZ FERNANDEZ, J.A.; LOPEZ PEREZ, J.A.; TERCERO-MARTINEZ, F.; SEGOVIA, D.
Dyson conical Quad-Spiral Array for VLBI2010; en: 8th European Conference on Antennas and Propagation (EuCAP 2014), IEEE - THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC, 2014.

- RIVERA, A.; SEGOVIA, D.; RAISANEN, A.V.; PREU, S.; GARCIA, L.E.; GENERALOV, A.; MONTERO-DE-PAZ, J.; DOHLER, G.; LIOUBTCHENKO, D.; MENDEZ, M.; MALZER, S.
Ultra-wideband Dielectric Rod Waveguide antenna as photomixer-based THz emitter; en: 8th European Conference on Date of Conference Antennas and Propagation (EuCAP), 2014, IEEE - THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC, 2014.
- RODRIGUEZ, F.J.; LAWRENCE, N.; HENSMAN, J.
True Natural Gradient of Collapsed Variational Bayes, Advances in Variational Inference NIPS 2014 Workshop, Montreal, CANADA, 2014.
- STINNER, M.; MARTINEZ, P.
Diversity versus multiplexing at finite blocklength; en: IEEE International Symposium on Information Theory, IEEE - THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC, 2014.
- TORRESANO, J.A.; BRIZ, S.; LLORENTE, R.C.; GALLARDO-ANTOLÍN, A.
Study case: new methodology to develop and assess a program outcome in the context of a general educational program in telecommunications engineering; en: ICERI2013 Proceedings, , 2014.
- TRIGANO, T.; KOLESNIKOV, V.; LUENGO, D. ; ARTES, A.
Grouped sparsity algorithm for multichannel intracardiac ECG synchronization; en: 22nd European Signal Processing Conference (EUSIPCO) 2014, 2014.
- VAERENBERGH, S.V.; AZPICUETA, L.A.
Kernel-based identification of Hammerstein systems for nonlinear acoustic echo-cancellation; en: IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP 2014), IEEE - THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC, 2014.
- VALERA, M.I.; PEREZ-CRUZ, F.; RODRIGUEZ, F.J.
A bayesian nonparametric receiver for joint channel estimation and symbol detection for multiple users; en: Information Theory and Applications Workshop2013, 2014.
- VALERA, M.I.; RODRIGUEZ, F.J.; PEREZ-CRUZ, F.
Infinite Factorial Unbounded Hidden Markov Model For Blind Multiuser Channel Estimation, 4th International Workshop on Cognitive Information Processing (CIP 2014), Copenhagen, DINAMARCA, 2014.
- VAZQUEZ, I.; GALLARDO-ANTOLÍN, A.; PELAEZ, C.; RUIZ, M.B.
Improving accessibility for hearing impaired on board the airplane with ASR , VIII Jornadas en Tecnología del Habla and IV Iberian SLTech Workshop (IberSPEECH 2014), PALMAS DE GRAN CANARIA (LAS), ESPAÑA, 2014.
- YANG, W.; DURISI, G.; KOCH, T.M.; POLYANSKIY, Y.
Dispersion of Quasi-Static MIMO Fading Channels via Stokes' Theorem; en: 2014 IEEE International Symposium on Information Theory (ISIT), IEEE - THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC, 2014.
- ZAZO, S.; ZAZO, J.; SANCHEZ-FERNANDEZ, M.
A Control Theoretic Approach to Solve a Constrained Uplink Power Dynamic Game, 22nd European Signal Processing Conference (EUSIPCO 2014), Lisbon, 2014.

Propiedad Industrial/intelectual

- *Inventores:* SANCHEZ-FERNANDEZ, M. ; GARCIA, A.; RAJO-IGLESIAS, E.
Método y sistema para aumentar la capacidad de enlace ascendente entre un terminal de usuario y una estación base
Titular: UNIVERSIDAD CARLOS III DE MADRID
Número Solicitud: **P201431806**
Fecha Solicitud: 09/12/2014

Actividades de formación y movilidad de personal investigador

Estancias en otros centros

- ALEJANDRO RIVERA LAVADO
Título: Fabricación de lentes embebidas en antenas dielectric rod waveguide (DRW)
Centro Externo: Aalto University
País: FINLANDIA
Duración: 18/02/2014 a 17/08/2014.
- ANA GARCIA ARMADA
Título: Massive MIMO con detección no coherente
Centro Externo: University of Southampton
País: REINO UNIDO
Duración: 01/06/2014 a 30/08/2014.
- 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.
- FERNANDO PEREZ CRUZ
Título: "Machine Learning"
Centro Externo: Amazon, Nueva York
País: ESTADOS UNIDOS DE AMERICA
Duración: 03/06/2013 a 31/05/2014.
- FRANCISCO JESUS RODRIGUEZ RUIZ
Título: Collapsed variational inference for conjugate probabilistic models
Centro Externo: Department of Computer Science and Sheffield Institute for Translational Neuroscience (University of
País: REINO UNIDO
Duración: 22/06/2014 a 22/08/2014.
- JOAQUIN MIGUEZ ARENAS
Título: Parallelisation of particle filtering algorithms and their application to complex dynamical networks
Centro Externo: Department of Mathematics, Imperial College London
País: REINO UNIDO
Duración: 01/06/2014 a 31/07/2014.

- **LUIS ANTONIO AZPICUETA RUIZ**
Título: Estancia de investigación postdoctoral en la Universidad de Sao Paulo (USP)
Centro Externo: Universidad de Sao Paulo
País: BRASIL
Duración: 09/12/2013 a 11/03/2014.

- **LUIS ENRIQUE GARCIA MUÑOZ**
Título: Investigación en Large Area Emitters
Centro Externo: Max Planck Institute für Radioastronomie
País: ALEMANIA
Duración: 05/09/2014 a 05/12/2014.

- **MARIA DEL ROCIO ARROYO VALLES**
Título: Estancia posdoctoral en TU Delft
Centro Externo: TU Delft (Delft University of Technology)
País: HOLANDA - PAISES BAJOS
Duración: 28/08/2014 a 23/12/2014.

- **MARIA DEL ROCIO ARROYO VALLES**
Título: Beca de movilidad posdoctoral en centros extranjeros (financiada por el Ministerio de Educación, Ciencia y Deporte de España) bajo el programa nacional de movilidad de recursos humanos del plan nacional I+D+i 2008/2011
Centro Externo: TU Delft (Delft University of Technology)
País: HOLANDA - PAISES BAJOS
Duración: 28/08/2012 a 27/08/2014.

- **MARIA ISABEL VALERA MARTINEZ**
Título: Machine Learning Group at the Department of Engineering. Bayesian nonparametric machine learning
Centro Externo: University of Cambridge
País: REINO UNIDO
Duración: 01/02/2014 a 30/04/2014.

- **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: Coding for distributed storage
Centro Externo: École Nationale Supérieure de l'Electronique et de ses Applications (ENSEA)
País: FRANCIA
Duración: 01/07/2014 a 08/08/2014.

Estancias de investigadores externos en la universidad

- **EVA RAJO IGLESIAS**
Título: Estancia de Astrid Algaba-Brazalez de la Universidad de Chalmers (Suecia) con una STSM del COST
Investigador Externo: ALGABA, A.
Centro Externo: Chalmers University of Technology
País: SUECIA
Duración: 20/10/2014 a 25/11/2014.
- **JERONIMO ARENAS GARCIA**
Título: Visita de estudiante de doctorado dentro de Proyecto bilateral con IIT Kharagpur
Investigador Externo: KUMAR, B.
Centro Externo: I.I.T. Kharagpur
País: INDIA
Duración: 29/04/2014 a 27/08/2014.
- **JOAQUIN MIGUEZ ARENAS**
Título: Nonlinear filtering, positioning, tracking and Bayesian inference
Investigador Externo: SVENSSON, L.
Centro Externo: Chalmers University of Technology
País: SUECIA
Duración: 27/10/2014 a 21/11/2014.