

**DEPARTAMENTO DE**  
**INFORMATICA**

## **DEPARTAMENTO DE INFORMÁTICA**

### **Actividades de investigación**

#### **Tesis Doctorales**

- A cloudification methodology for high performance simulations  
*Autores:* GARCIA, A.  
*Director/Codirectores:* GARCIA-CARBALLEIRA, F. ; CARRETERO, J.  
*Universidad:* UNIVERSIDAD CARLOS III DE MADRID  
*Año:* 2016
- A design pattern language to assist the design of alarm visualizations for operating control systems  
*Autores:* ROMERO, R.M.  
*Director/Codirectores:* DIAZ, M.P.  
*Universidad:* UNIVERSIDAD CARLOS III DE MADRID  
*Año:* 2016
- A General Cognitive Framework for Context-Aware Systems: Extensions and Applications for High-Level Information Fusion Approaches  
*Autores:* SERRANO, M.A.  
*Director/Codirectores:* MOLINA, J.M.; GARCIA, J.  
*Universidad:* UNIVERSIDAD CARLOS III DE MADRID  
*Centro donde se presentó:* CAMPUS COLMENAREJO  
*Año:* 2016
- A Generic I/O Architecture for Data-Intensive Applications Based on In-Memory Distributed Cache  
*Autores:* RODRIGO, F.J.  
*Director/Codirectores:* CARRETERO, J.; GARCIA, F.J.  
*Universidad:* UNIVERSIDAD CARLOS III DE MADRID  
*Año:* 2016
- Algoritmo inteligente para el reconocimiento y acotación semántica de primitivas en una nube de puntos 3D  
*Autores:* PEREZ, Y.  
*Director/Codirectores:* LOPEZ, J. L. ; GARCIA, A.  
*Universidad:* UNIVERSIDAD CARLOS III DE MADRID  
*Centro donde se presentó:* CAMPUS DE LEGANES  
*Año:* 2016
- An ontology for human-like interaction systems  
*Autores:* ALBACETE, E.  
*Director/Codirectores:* CASTRO, E. ; CALLE, F. J.  
*Universidad:* UNIVERSIDAD CARLOS III DE MADRID  
*Año:* 2016

- Application Partitioning and Mapping Techniques for Heterogeneous Platforms  
*Autores:* SOTOMAYOR, R.  
*Director/Codirectores:* GARCIA, J.D.  
*Universidad:* UNIVERSIDAD CARLOS III DE MADRID  
*Centro donde se presentó:* ESCUELA POLITECNICA SUPERIOR  
*Año:* 2016
- Automated Planning Through Abstractions in Dynamic and Stochastic Environments  
*Autores:* MARTINEZ, M.  
*Director/Codirectores:* BORRAJO, D.; FERNANDEZ, F.  
*Universidad:* UNIVERSIDAD CARLOS III DE MADRID  
*Centro donde se presentó:* CAMPUS DE LEGANES  
*Año:* 2016
- Designing collaborative technologies for long term emergency planning  
*Autores:* TENA, S.  
*Director/Codirectores:* AEDO, I.; DIEZ, D.  
*Universidad:* UNIVERSIDAD CARLOS III DE MADRID  
*Año:* 2016
- Enhancing the programmability and energy efficiency of storage in hpc and virtualized environments  
*Autores:* LLOPIS, P.  
*Director/Codirectores:* GARCIA, F.J.; ISAILA, F.D.  
*Universidad:* Escuela Politécnica Superior de la Universidad Carlos III de Madrid  
*Año:* 2016
- Extracción automática de modelos uml contenidos en imágenes  
*Autores:* MORENO, V.  
*Director/Codirectores:* JUAN LLORENS; GENOVA, G.  
*Universidad:* UNIVERSIDAD CARLOS III DE MADRID  
*Año:* 2016
- High Performance Computing Techniques Applied to the Design of Complex Railway Infrastructures  
*Autores:* GOMEZ, C.  
*Director/Codirectores:* GARCIA-CARBALLEIRA, F. ; CARRETERO, J.  
*Universidad:* UNIVERSIDAD CARLOS III DE MADRID  
*Centro donde se presentó:* CAMPUS DE LEGANES  
*Año:* 2016
- Marco de referencia para la comunicación y seguimiento de la implantación de una estrategia tecnológica  
*Autores:* LANDAETA, J.F.  
*Director/Codirectores:* GARCIA, J.  
*Universidad:* UNIVERSIDAD CARLOS III DE MADRID  
*Año:* 2016
- Marco para la definición multidimensional del modelo de datos, estructura, taxonomías y reglas de la especificación XBRL  
*Autores:* SANTOS, I.J.  
*Director/Codirectores:* VELASCO, M. ; CASTRO, E.  
*Universidad:* UNIVERSIDAD CARLOS III DE MADRID  
*Centro donde se presentó:* CAMPUS DE LEGANES  
*Año:* 2016

- Metodología orientada a la optimización automática de la calidad de los requisitos  
*Autores:* PARRA, E.  
*Director/Codirectores:* MORENO, V. ; FRAGA, A.  
*Universidad:* UNIVERSIDAD CARLOS III DE MADRID  
*Centro donde se presentó:* CAMPUS DE LEGANES  
*Año:* 2016
- Modelado y Desarrollo en el reconocimiento de Actividades de Grupo  
*Autores:* POZO, A.  
*Director/Codirectores:* MOLINA, J.M.; GARCIA, J.  
*Universidad:* UNIVERSIDAD CARLOS III DE MADRID  
*Centro donde se presentó:* CAMPUS COLMENAREJO  
*Año:* 2016
- Portfolio Approaches for Problem Solving  
*Autores:* NUÑEZ, S.  
*Director/Codirectores:* BORRAJO, D.; LINARES, C.  
*Universidad:* UNIVERSIDAD CARLOS III DE MADRID  
*Centro donde se presentó:* CAMPUS DE LEGANES  
*Año:* 2016
- Predictive Statistical User Models under the Collaborative Approach  
*Autores:* CASTAÑO, L.  
*Director/Codirectores:* CASTRO, E. ; CALLE, F. J.  
*Universidad:* UNIVERSIDAD CARLOS III DE MADRID  
*Centro donde se presentó:* CAMPUS DE LEGANES  
*Año:* 2016
- Security protocols for mobile ubiquitous e-health systems  
*Autores:* PICAZO, P.  
*Director/Codirectores:* ESTEVEZ-TAPIADOR, J.M.; PERIS, P.  
*Universidad:* UNIVERSIDAD CARLOS III DE MADRID  
*Año:* 2016

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

### **Publicaciones en revistas científicas nacionales**

- BALDOMINOS, A.; ALBACETE, E.; MARRERO, I.; SAEZ, Y.  
Real-Time Prediction of Gamers Behavior Using Variable Order Markov and Big Data Technology: A Case of Study, *International Journal of Interactive Multimedia and Artificial Intelligence*, Vol. 3, Núm. 6, 2016, pp. 44-51, ESPAÑA.
- CALDERON, A.; GARCIA-CARBALLEIRA, F.; PRIETO, J.  
WepSIM: Simulador modular e interactivo de un procesador elemental para facilitar una visión integrada de la microprogramación y la programación en ensamblador, *Revista de Enseñanza y Aprendizaje de Ingeniería de Computadores*, Núm. 6, 2016, pp. 35-53, ESPAÑA.

- GRIOL, D.; PATRICIO, M. A.; MOLINA, J.M.  
CALIMACO: Application of multimodal dialog systems and mobile devices to provide enhanced library services, *Revista española de documentación científica*, Vol. 39, Núm. 2, 2016, ESPAÑA.
- MARTINEZ, P.; MORENO, L.  
eGovernAbility: Marco para el desarrollo de servicios personalizables accesibles en la Administración electrónica, *Procesamiento del lenguaje natural*, Núm. 57, 2016, pp. 163-166, ESPAÑA.
- MORATO, J. L.; SANCHEZ-CUADRADO, S.; FERNÁNDEZ, M.T.  
Trends in the technological profile of information professionals, *El Profesional de la informacion*, Vol. 25, Núm. 2, 2016, pp. 169-178, ESPAÑA.
- NUÑEZ, L.F.; SEGURA, I.; MARTINEZ, P.  
EasyLecto: Un sistema de simplificación léxica de efectos adversos presentes en prospectos de fármacos en español, *Procesamiento del lenguaje natural*, Núm. 57, 2016, pp. 177-180, ESPAÑA.
- ROBLEDANO, J. ; MORENO, V. ; PEREIRA, J.M.  
Aproximación experimental al uso de métricas objetivas para la estimación de calidad cromática en la digitalización de patrimonio documental gráfico, *Revista española de documentación científica*, Vol. 39, Núm. 2, 2016, ESPAÑA.

## Publicaciones en revistas científicas internacionales

- AGUILAR, R.; ALER, R. ; VALLS, J. M. ; GALVAN, I. M.  
Machine learning techniques for daily solar energy prediction and interpolation using numerical weather models, *Concurrency and computation*, Vol. 28, Núm. 4, 2016, pp. 1261-1274, REINO UNIDO.
- ALJUMAILY, H.T.A.; LAEFER, D.F.; CUADRA, M. D.  
Big-Data Approach for Three-Dimensional Building Extraction from Aerial Laser Scanning, *Journal of Computing in Civil Engineering*, Vol. 30, Núm. 3, 2016.
- AMESCUA, A. D. ; ALVAREZ, J.M.; Sanchez-Segura Maria-Isabel; MEDINA, F.  
An Agile Framework Definition for creating an engineering Massive Open Online Course from scratch. A case study, *International Journal of Engineering Education*, Vol. 32, Núm. 5 B, 2016, pp. 2360-2373, IRLANDA.
- AYORA, C.; TORRES, V.; VARA, J.L.; PELECHANO, V.  
Variability management in process families through change patterns, *Information and software technology*, Vol. 74, 2016, pp. 86-104, REINO UNIDO.
- BARRA, E.; MORATO, J. L.  
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An Agile Framework Definition for Creating an Engineering Massive Open Online Course from Scratch: A Case Study, *International Journal of Engineering Education*, Vol. 32, Núm. 5, 2016, pp. 2260-2273, IRLANDA.

- BELLUCCI, A.; ROMANO, M.; AEDO, I.; DIAZ, M.P.  
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- BELLUCCI, A.; VIANELLO, A.; FLORACK, Y.; JACUCCI, G.  
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- CALDERON, A. ; GARCIA, A.; GARCIA-CARBALLEIRA, F. ; CARRETERO, J.; FERNANDEZ, J.  
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- DIEZ, D.; ROMERO, R.M.; TENA, S.  
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## Libros

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## Monografías Científicas

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- *Inventores*: CARRERO, J.M.; GONZALEZ, F.J.; RUIZ, M.B.; SANCHEZ PENA, J.M.  
Procedimiento y sistema para medir el tiempo de audiodescripción en flujos de transporte de radio y televisión  
*Tipo*: PATENTE  
*Titular*: UNIVERSIDAD CARLOS III DE MADRID  
*Número Solicitud*: **P201631471**  
*Fecha Solicitud*: 17/11/2016  
*Países*: ESPAÑA
- *Inventores*: GARCIA, A.  
Sistema de recogida de subtítulos y sincronización vía DCP  
*Tipo*: PROTECCIÓN DE SOFTWARE

*Titular:* UNIVERSIDAD CARLOS III DE MADRID  
*Número Solicitud:* **M-007736/2016**  
*Fecha Solicitud:* 30/11/2016  
*Países:* ESPAÑA

- *Inventores:* GARCIA, A.; LOPEZ, J. L.; GONZALEZ, I.  
Sistema de sincronización en servidor mediante audio en abierto para elementos de accesibilidad  
*Tipo:* PROTECCIÓN DE SOFTWARE  
*Titular:* UNIVERSIDAD CARLOS III DE MADRID  
*Número Registro:* **16/2016/4531**  
*Fecha Solicitud:* 24/05/2016  
*Países:* ESPAÑA
- *Inventores:* GARCIA, J.D.; SANCHEZ, L.M.; SOTOMAYOR, R.; FERNANDEZ, J. ; CARRETERO, J.;  
GARCIA-CARBALLEIRA, F.  
SPT: Static Partitioning Tool  
*Tipo:* PROTECCIÓN DE SOFTWARE  
*Titular:* UNIVERSIDAD CARLOS III DE MADRID  
*Número Registro:* **16/2016/3740**  
*Fecha Solicitud:* 18/04/2016  
*Países:* ESPAÑA
- *Inventores:* GARCIA, J.D.; SANCHEZ, L.M.; SOTOMAYOR, R.; RIO, D.D.; GARCIA, F.J.;  
CALDERON, A. ; FERNANDEZ, J. ; CARRETERO, J.; GARCIA-CARBALLEIRA, F.  
AKI: Automatic Kernel Identification  
*Tipo:* PROTECCIÓN DE SOFTWARE  
*Titular:* UNIVERSIDAD CARLOS III DE MADRID  
*Número Registro:* **16/2016/3738**  
*Fecha Solicitud:* 18/04/2016  
*Países:* ESPAÑA
- *Inventores:* GARCIA, J.D.; SOTOMAYOR, R.; FERNANDEZ, J. ; SANCHEZ, L.M.; CARRETERO, J.;  
GARCIA-CARBALLEIRA, F.  
DPE: Dynamic Partitioning Engine  
*Tipo:* PROTECCIÓN DE SOFTWARE  
*Titular:* UNIVERSIDAD CARLOS III DE MADRID  
*Número Registro:* **16/2016/3739**  
*Fecha Solicitud:* 18/04/2016  
*Países:* ESPAÑA
- *Inventores:* GONZALEZ, I.; GARCIA, A.; LOPEZ, J.L.  
Sistema de sincronización para elementos de accesibilidad  
*Titular:* UNIVERSIDAD CARLOS III DE MADRID  
*Número Solicitud:* **M-003491/2016**  
*Fecha Solicitud:* 12/02/2016  
*Fecha Concesión:* 24/05/2016
- *Inventores:* PERIS, P.; MARTIN, H.; ESTEVEZ-TAPIADOR, J.M.; Carmen Camara  
AKARI-1: Generador de números pseudoaleatorios para dispositivos ligeros  
*Tipo:* PROTECCIÓN DE SOFTWARE  
*Titular:* UNIVERSIDAD CARLOS III DE MADRID  
*Número Registro:* **16/2016/3065**  
*Fecha Solicitud:* 12/02/2016  
*Países:* ESPAÑA

- *Inventores:* PERIS, P.; MARTIN, H.; ESTEVEZ-TAPIADOR, J.M.; Carmen Camara  
*AKARI-2:* Generador de números pseudoaleatorios para dispositivos ligeros  
*Tipo:* PROTECCIÓN DE SOFTWARE  
*Titular:* UNIVERSIDAD CARLOS III DE MADRID  
*Número Registro:* **16/2016/3066**  
*Fecha Solicitud:* 12/02/2016  
*Países:* ESPAÑA

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

### **Estancias en otros centros**

- ESTEFANIA SERRANO LOPEZ  
*Título:* Estancia en IMEC  
*Centro Externo:* Imec  
*País:* BÉLGICA  
*Duración:* 01/06/2016 a 29/07/2016.
- JOSE MARIA DE FUENTES GARCIA ROMERO DE TEJADA  
*Título:* Estancia de 3 meses en University of Birmingham, Birmingham (United Kingdom)  
*Centro Externo:* University of Birmingham  
*País:* REINO UNIDO  
*Duración:* 01/01/2016 a 30/03/2016.
- LORENA GONZALEZ MANZANO  
*Título:* Estancia de 3 meses en University of Birmingham (United Kingdom)  
*Centro Externo:* University of Birmingham  
*País:* REINO UNIDO  
*Duración:* 01/01/2016 a 30/03/2016.
- MARIA PAULA DE TOLEDO HERAS  
*Título:* Estancia de investigación cofinanciada por el Programa Salvador de Madariaga 2015 (PRX15/00554)  
*Centro Externo:* Instituto de ingeniería Biomédica (IBME), Universidad de Oxford  
*País:* REINO UNIDO  
*Duración:* 01/09/2015 a 30/03/2016.
- NEREA LUIS MINGUEZA  
*Título:* Estancia de 4 meses en el grupo CORAL, Carnegie Mellon University (Pittsburgh, USA). Dirigida por Manuela Veloso.  
*Centro Externo:* Carnegie Mellon University  
*País:* ESTADOS UNIDOS DE AMERICA  
*Duración:* 15/03/2016 a 07/07/2016.
- PEDRO PERIS LOPEZ  
*Título:* En Aalto University. Department of Computer Science, Finlandia  
*Centro Externo:* Department of Computer Science  
*País:* FINLANDIA  
*Duración:* 01/09/2016 a 31/12/2016.