

## Curriculum vitae

Surname: Santos Peñas  
ID: 51355097-F

Name: Matilde



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### Current position

Position: Professor (from 23/09/2011)  
Institution: Universidad Complutense de Madrid (UCM)  
Faculty: Computer Sciences  
Department: Computer Architecture and Automatic Control  
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### Research interests

Intelligent Control (mainly fuzzy and neuro-fuzzy), Modelling and Simulation, Control, Heuristic Optimization, Engineering applications of Soft Computing techniques, Pattern recognition, Clustering, Renewable energies (modelling and control of floating wind turbines).

<b>Researcher numbers</b>	Researcher ID	K-7671-2014
	Orcid code	0000-0003-1993-8368

### CV Summary

Matilde Santos Peñas received her B.Sc. and M.Sc. degrees in Physics (Computer Engineering) and her Ph.D in Physics in 1994, from the University Complutense of Madrid (UCM). Since 1988 she has been with the Department of Computer Architecture and Systems Engineering at the UCM, where she is currently Full Professor in System Engineering and Automatic Control (since 2011).

She has worked in several National and European projects, focused on intelligent control (fuzzy, neural networks, evolutionary strategies) mainly applied to engineering and industrial applications. The last decade she has worked on autonomous vehicles (marine and aerial). She has also developed some soft computing application for making decision systems and has applied machine learning techniques for pattern recognition in different fields (fusion signals, medical diagnosis, informatic access detection, handwriting). She has recently published some papers on modelling, simulation and control in the renewable energy field, on wind turbines, both on land and offshore.

She has published many papers in international scientific journals and several book chapters. She coauthored a book on Artificial Intelligence (RaMa, 2005). She has supervised 10 PhDs and more than 70 Master projects.

She currently serves as member of the editorial board of Engineering Application of Artificial Intelligence (Elsevier), Complexity (Hindawi) journals and she is editor-in-chief assistant of Revista Iberoamericana de Automática e Informática Industrial. She serves as Co-Program chair and PC of numerous international conferences.

She has got different awards at conferences. She has been invited as plenary speaker to some international congresses. She has also given several courses and seminars at different universities, some of them abroad.

Regarding management tasks, she is a member of different national and international committees. She is the chair of the Evaluation Committee the National Agency for Quality Assessment and Accreditation of Spain (ANECA) for Academic Staff Recruitment Assessment Programme (PEP). She acts as an Expert Evaluators for The Spanish National Evaluation Agency (ANEP), H2020 projects (European Community), FONCyT (Fondo para la Investigación Científica y Tecnológica), among others. She is actually the coordinator of the national CEA Intelligent Control group. She was external examiner at Dublin City University four years. She is Member of the TC3.2 Committee of the IFAC (<http://tc.ifac-control.org/3/2>) Computational Intelligence in Control.

Her last research stay has been at The City, University of London (three months, 2018). She collaborates with other national and international researchers from different centers.

Supervised thesis (last ten years): 9  
 Total cites: 1360 (google scholar)  
 Cites/year (since 2014): 734 (google scholar)  
 h-index: 19 (google scholar)  
 Q1 publications: 33

**Education**

PhD	University	Year
PhD Physics	Universidad Complutense de Madrid	1994
MS Degree Physics	Universidad Complutense de Madrid	1986
MS Degree Literature	Universidad Complutense de Madrid	2007

**Work experience**

System Engineer	ALCATEL Informática y Comunicaciones S.A. (Standard Eléctrica)	6/11/86-5/11/87
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**Languajes**

	Speaking	Reading	Writing
Spanish (mother tongue)	C	C	C
English	C	C	C

**Teaching**  
(Universidad Complutense de Madrid)

From 1988 until now

Subject (undergraduate)
Linear Systems Non-linear Systems Lab Automatic Control I Physics Laboratory Computing Systems Lab Electrical Engineering Communication System Data Transmission Digital Systems and Control lab Modelling and Simulation Signal Processing Artificial Intelligence applied to Control Dynamic Systems and Feedback Advanced signal processing
Subject (master)
Intelligent Control Modelling and Simulation Bio-systems Modeling and Simulation Energy Systems Computer Control and Supervision of Processes

Degrees
Physics (Computer and Automation) Physics Biology Geology Chemistry Electrical Engineering Chemical Engineering Computer Science Software Engineering
Masters
Computer Systems Computer Architecture and Automation System Engineering and Automatic Control Computer Science Applied Physics System Engineering and Control (UNED-UCM) Master on Energy

Final Projects supervised: 25

Final Master Projects supervised: 72

## Invited speaker

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- System models ¿Mirrors of the reality? RADIO-3 FM, RNE, 9/02/2011
  - Machine Learning: ¿Do machines learn? RADIO-3 FM, RNE, 24/03/2010
  - Fuzzy logic application RADIO-3 FM, RNE, 20/01/2010
  - Teaching computer how to think like humans: fuzzy logic RADIO-3 FM, RNE, 21/10/2009
  - Artificial Intelligence invades us RADIO-3 FM, RNE, 6/05/2009
  - Artificial Intelligence TVE-2 REDES: 11/01/2007

### National and International Congresses and Seminars

- Floating offshore wind turbines: controlling the impact of vibration  
Plenary Speaker ICSC 2018 7th Int. Conf. on Systems and Control, 24/10/2018, Valencia, Spain
- Applications of intelligent methods for control  
The School of Mathematics, Computer Science & Engineering, The City University of London, 25/09/2018, UK
- Control inteligente: la inteligencia artificial al servicio de la automatización  
Escuela Universitaria Politécnica, Ferrol, Universidad de la Coruña, 26 de Abril de 2018, Spain
- Soft Computing Techniques applied to Control  
Electronics Faculty, University of Vilnius Gedimino Technical University, 22/05/2014, Vilnius, Lituania
- Intelligent Control Applications  
Faculty of Electrical Engineering and Computing, University of Zagreb, 15/04/2012, Zagreb, Croacia
- Aplicaciones exitosas de control inteligente a casos reales  
VII Simposio de Control Inteligente, 2/06/2011, Universidad de la Rioja, Logroño, España
- Actividades del Grupo de Investigación en Soft-Computing de la Facultad de Informática de la UCM  
I Encuentro de investigadores de Lógica Fuzzy de la Comunidad de Madrid FuzzyMad, 27/11/2008, Madrid, España
- Aprendizaje Automático y Medidas de Confianza en la predicción  
III Reunión Red ALFA II BioSenInt, 5/06/2008, Nancy, Francia
- Tratamiento de señales e imágenes  
II Reunión Red ALFA II BioSenInt, 19/02/2007, México
- Laboratorio de aplicación de técnicas avanzadas de tratamiento de señales e imágenes  
III Jornada de Innovación Educativa en la UCM, ICE, 6/06/2006, UCM, Madrid
- Modelos difusos para el Reconocimiento de patrones  
XII Escuela Internacional de Ciencia y Tecnología de Materiales, 5/07/2005, Universidad de La Habana, Cuba
- ¿En qué consisten las nuevas técnicas de Fuzzy Logic?  
Primer Encuentro Empresarial sobre Fuzzy Logic, IIR, 4/06/2002, Hotel NH Habana, Madrid
  
- Aplicaciones reales de control inteligente (4 horas)  
Fechas y Lugar: 12/12/2016, Escuela de Ingeniería de Bilbao, Universidad del País Vasco
- Técnicas de control inteligente (10 horas)  
Fechas y Lugar: 29/06/2011 al 1/07/2011, Universidad Politécnica de Valencia
- Fuzzy Control (5 horas)  
Fechas y Lugar: curso 1995-96, CC. Físicas, UCM (10 horas)
- Neuronas lógicas. Neuronas analógicas. Control neuronal (10 horas)  
Fechas y Lugar: curso 1991-92, UNED
- Fundamentals and Applications of Intelligent Control (10 horas)  
Fechas y Lugar: 18 -22/04/2016, Budapest, Hungría
- Intelligent Control (10 horas)  
Fechas y Lugar: 19-23/05/2014, Vilnius, Lituania
- Intelligent Control (10 horas)  
Fechas y Lugar: 9-14/04/2012, Zagreb, Croacia
- Fuzzy Systems and Genetic Algorithms (10 horas)  
Fechas y Lugar: 20-27/10/2010, USP, Brasil
- Procesamiento de señal e inteligencia artificial (15 horas)  
Fechas y Lugar: 2-10/07/2003, CINVESTAV, Instituto Politécnico Nacional, México DF  
Fechas y Lugar: 21-30/06/2004, Pontificia Universidad Católica del Perú, Lima  
Fechas y Lugar: 1-13/07/2005, Facultad de Físicas, Universidad de la Habana, Cuba

## Research Projects

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Title: Red Temática de Control Inteligente Granter Institution: DPI2015-71320-REDT, Ministerio de Economía y Competitividad Dates: 01/01/2016-31/12/2017
Title: Sistema autónomo para la contención de vertidos en el mar (SAVEMAR) Granter Institution: RTC-2014-2306-5 Dates: 01/01/2014-31/12/2017
Title: SALACOM: Sistema Autónomo para la Localización y Actuación ante Contaminantes en el Mar Granter Institution: CICYT, DPI 2013-46665-C1 Dates: 01/01/2014-31/12/2016
Title: Desarrollo de sistema submarino autónomo (AUV, autonomous underwater vehicle) para detección temprana de vertidos en líneas submarinas Granter Institution: IPT-2012-0157-310000 Dates: 01/01/2013-31/12/2015
Title: Aplicación de la inteligencia artificial en los sensores y biosensores-2 Granter Institution: PCI-AECID B/024393/09, resolución 21/12/2009 (BOE, 16/01/2010) Dates: 2010 Principal Researcher: Matilde Santos Peñas Number of participants: 19
Title: Sistema de vigilancia, búsqueda y rescate en el mar mediante colaboración de vehículos autónomos marinos y aéreos Granter Institution: CICYT, DPI2009-14552-C02-01 Dates: 2010-2013
Title: AUTOMAR: Investigación en Automática y Robótica para la Industria Marina Granter Institution: Acción especial del Ministerio de Ciencia y Tecnología Dates: 2003-2009 (renovaciones)
Title: Control de sistemas complejos en la logística y producción de bienes y servicios Granter Institution: Conserjería de Educación de la CAM, S-0505/DPI/0391 Dates: 01/10/2006 to 30/09/2009
Title: Plataforma de planificación, simulación y control para colaboración de múltiples vehículos autónomos marinos y aéreos Granter Institution: CICYT, DPI 2006-15661-C02-01 Dates: 01/10/2006 to 30/09/2009
Title: BioSenInt: Métodos de procesamiento avanzado e inteligencia artificial en sistemas sensores y biosensores. II-0486-FC-FA-FCD-FI Granter Institution: Proyecto ALFA, Comisión Europea Dates: (36 months) 2005-2008 Principal Researcher: Lorenzo Leija Salas, CINVESTAV, México D.F. Coordinator at UCM: Matilde Santos Peñas
Title: Automatización de vehículos marinos para actuaciones en cooperación Granter Institution: CICYT, DPI.2003-09745-C04-02 Dates: 28/12/2003 to 27/12/2006
Title: Aplicación de la inteligencia artificial en los sensores y biosensores Granter Institution: AECE-EAL02-0512 (BOE, 23 de enero de 2003) Principal Researcher: Lorenzo Leija (México) and Matilde Santos Peñas (UCM) No. participants: 17 Dates: 2003 to 2005
Title: Estrategias de control en redes de distribución de gas Granter Institution: CICYT, DPI.2002-02924 Dates: 1/12/2002 to 1/11/2005
Title: Control en seis grados de libertad de Ferries rápidos para la mejora de la seguridad y confort Granter Institution: CICYT DPI 2000-0386-C03-01 Dates: from el 28-12-2001 to 27-12-2002
Title: Control robusto e inteligente de buques de alta velocidad Granter Institution: CICYT. TAP97-0607-C03 Dates: from: 1/08/1997 to: 31/07/2000
Title: Generador Automático de código de control en tiempo real e integración multisensorial: Aplicación a procesos mecánicos y químicos Granter Institution: CICYT TAP94-0832-C02-01

Dates: from 1/08/94 to 31/07/1997

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Title: Sistema Integrado para Control Experto en Tiempo Real: Aplicación a la Diagnósis de Fallos

Granter Institution: CICYT, TAP 92-0122

Dates: from 1992 to 1994

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Title: Modelización, Simulación, Calibración Sensorial y Navegación Inercial en Sistemas de Automatización Avanzada

Granter Institution: CICYT ROB89-0103-C02-01

Dates: from 6/11/1989 to 6/11/1992

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Title: Desarrollo de Simulaciones con Inteligencia Artificial para Aplicaciones de Automática.

Granter Institution: Grupos Precompetitivos de la Universidad Complutense de Madrid.

Dates: 1989-1991

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Title: Investigación y Desarrollo de un Sistema de Conducción Automática de Trenes Metropolitanos

Granter Institution: CAICYT y DIMETRONIC S.A.

Dates: from 1988 to 1990

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Title: Finalización de un Simulador de Centrales Térmicas

Granter Institution: CAICYT

Dates: from 1984 to 1988

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### **European Projects**

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SELFNET: Framework for Self-Organized network management in virtualized and software defined networks (Número de proyecto: 671672) (H2020-ICT-2014-2)

Dates: 01/07/2015 to 30/06/2018

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RAMSES: Internet Forensic platform for tracking the money flow of financially-motivated malware (Número de proyecto: 700326) (H2020-FCT-2015)

Dates: 01/09/2016 (3 años)

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## Contracts

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Title: Sistema de control de actitud de nano/micro-satélites

Company: INTA, Contrato 177-2010

Dates: 01/09/2010 to 01/09/2012

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Title: Predicción de periodo quiescente en embarcaciones

Company: Ministerio de Defensa. Contrato 150-2009, Programa SI0705-EDA European Defence Agency

Dates: 09/07/2009 to 15/12/2009

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Title: Visión Estereoscópica para Auto-Rover: Investigación aplicada a la autonomía basada en imágenes para ROVER de exploración planetaria

Company: TCP Sistemas e Ingeniería S.L., Contrato 408-2008

Dates: 01/06/2008 to 31/12/2009

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Title: Auto-Rover: Estudio de autonomía basada en imágenes para ROVER de exploración planetaria

Company: TCP Sistemas e Ingeniería S.L., Contrato 458-2007

Dates: 01/12/2007-30/09/2009

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Title: Metodología para los Entornos de Modelado y Simulación Distribuidos

Company: INDRA SISTEMAS S.A. Contrato: 353-2005

Dates: 1/12/2005-30/11/2007

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Title: Evaluación de técnicas de inteligencia artificial para toma de decisiones y optimización de estrategia

Company: EADS-CASA

Dates: from: 1/09/2005 to 30/11/2006

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Title: Generación Gráfica de la Red con Alta Topología de Detalle

Company: REPSOL S.A.

Dates: from: 1/06/2002 to: 31/05/2003

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Title: Formación en nuevas tecnologías. Repercusiones en el empleo femenino

Company: Cooperación Internacional

Investigador responsable: Matilde Santos

Dates: from: 08/01/2002 to 08/07/2002

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Title: Generación Gráfica de la Red con Alta Topología de Detalle

Company: REPSOL Petróleo S.A.

Dates: from: 1/06/2001 to: 31/05/2002

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Title: Optimización en el Almacenamiento y la Distribución Farmacéutica

Company: COFARES

Dates: from: 1-3-2000 to: 28/02/2002

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Title: Generación Gráfica de la Red con Alta Topología de Detalle

Company: REPSOL Petróleo S.A.

Dates: from: 1/04/2000 to: 31/05/2001

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Title: Generación Gráfica de la Red con Alta Topología de Detalle

Company: REPSOL Petróleo S.A.

Dates: from: 1/04/1999 to: 31/03/2000

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Title: Generación Gráfica de la Red con Alta Topología de Detalle

Company: REPSOL PETROLEO S.A.

Dates: from: 1/04/98 to: 31/03/1999

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Title: An adaptive fuzzy control scheme for embedded applications

Company: Oxford Instruments UK Ltd.

Dates: from: 1/07//1998 to 31/12/1999

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Title: Técnicas Avanzadas de Control y Supervisión de Procesos mediante Sistema Experto

Company: Sociedad General Azucarera de España (SGAE)

Dates: 1992 to 1994

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Title: Un nuevo modelo de Tren para Ferrocarril Metropolitano

Company: DIMETRONIC S.A.

Dates: 1991

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### Indexed Publications JCR

1. J. M. Guerrero, A. Muñoz, M. Santos, G. Pajares (2019). Collision avoidance based on radar images processing. *Journal of Navigation* (Q2)
2. Sierra, J.E., Santos, M. (2019). Wind and payload disturbance rejection control based on adaptive neural estimators: application on quadrotors. *Complexity*, Article ID 6460156, 20 pages (Q2)
3. Santos, M., Calafat, M.A. (2019). Dynamic simulation of induced voltages in high voltage cable sheaths: Steady state. *Int. J. Electrical Power & Energy Systems* 105, 1-16 (Q1)
4. Aubin, V., Mora, M., & Santos-Peñas, M. (2018). Off-line writer verification based on simple graphemes. *Pattern Recognition*, 79, 414-426. (Q1)
5. V. San Juan, M. Santos, J. M. Andújar. Intelligent UAV map generation and discrete path planning for search and rescue, *Complexity*, Article ID 6879419, 17 pages, 2018 (Q1)
6. R. Naranjo, J. Arroyo, M. Santos, Fuzzy modeling of stock trading with fuzzy candlesticks, *Expert System with Applications*, 93, 15-27, 2018 (Q1)
7. J.E. Sierra, M. Santos, Modeling engineering systems using analytical and neural techniques: hybridization, *Neurocomputing*, 271, 70-83, 2018 (Q1)
8. J.C. Rojas, M. Mora, M. Santos, Neural networks ensemble for automatic DNA microarray spot classification, *Neural Computing and Applications*, 2017 (Q2/T1)
9. J.A. Romera, M. Santos, ParaTrough v1.0: Librería en Modelica para simulación de plantas termosolares, *Rev. Iberoam Automática e Informática Industrial* 14(4):412-423, 2017 (Q4)
10. C. Guevara, M. Santos, V. López. Data Leakage Detection Algorithm based on Task Sequences and Probabilities. *Knowledge-Based Systems*, 2017 (Q1)
11. J.C. Rojas, M. Santos, M. Mora. New internal index for clustering validation based on graphs, *Expert Systems with Applications*, 86, 334-349, 2017 (Q1)
12. P. García-Auñón, M. Santos, J.M. de la Cruz. Parameter selection based on fuzzy logic to improve UAV path-following algorithms. *Journal of Applied Logic*, 24, 62-75, 2017 (Q1)
13. J. Menoyo, M. Santos. Intelligent rudder control of an autonomous surface vessel. *Expert Systems with Applications* 55, 106-117, 2016. (Q1)
14. F. Alonso Zotes, M. Santos, Una revisión de técnicas de optimización heurística para el diseño de trayectorias interplanetarias en misiones espaciales. *Revista Iberoamericana de Automática e Informática Industrial*, 4, 1, 1-15, 2017 (Q4)
15. D. Romero-Laorden, J. Villazón-Terrazas, O. Martínez-Graullera, A. Ibáñez, M. Parrilla, and M. Santos Peñas. Analysis of parallel computing strategies to accelerate ultrasound imaging processes. *IEEE Trans. on Parallel and Distributed Systems*, 27, 12, 3429-3440, 2016 (Q1)
16. S. Moreno, M.G. Romana, M. Santos, Fuzzy model of vehicle delay to determine the level of service of two-lane roads. *Expert Systems With Applications* 54, 48-60, 2016 (Q1)
17. N. Ochoa, M. Santos, Modeling and Simulation of a Solar-Thermal System for its Efficient Implementation in Quito (Ecuador), *IEEE Latin America Transactions*, 14 (5), 2271-2279, 2016 (Q4)
18. C.B. Guevara, V. López, M. Santos, Negative Selection and Knuth Morris Pratt Algorithm for Anomaly Detection, *IEEE Latin America Transactions*, Vol. 14, Issue 3, 1473-1479, March 2016 (Q4)
19. E. Aranda-Escolástico, M. Guinaldo, M. Santos, S. Dormido. Control of a chain pendulum: A Fuzzy logic approach, *International Journal of Computational Intelligence Systems*, vol. 9, no. 2, 281-295, 2016 (Q3)
20. Oscar Hernández, J.P. San Martín, M.C. García-Alegre, Matilde Santos, D. Guinea. Smart Building: Decision making architecture for thermal energy management. *Sensors*, 15(11), 27543-27568, 2015 (Q1)
21. J. Pérez-Rastelli, M. Santos. Fuzzy logic steering control of autonomous vehicles inside roundabouts, *Applied Soft Computing*, 35, 662-669, 2015 (Q1)
22. R. Naranjo, A. Meco, J. Arroyo, M. Santos. An intelligent trading system with fuzzy rules and fuzzy capital management, *International Journal of Intelligent Systems* 30, 963-983, 2015 (Q2)
23. Farias, G; Dormido-Canto, S; Vega, J; Santos, M; Pastor, I; Fingerhuth, S; Ascencio, J. Iterative noise removal from temperature and density profiles in the TJ-II Thomson scattering, *Fusion Engineering and Design*, 89, 5, 761-765, 2014 (Q1)
24. M. Mikati, M. Santos, C. Armenta, Electric grid dependence on the configuration of a small-scale wind and solar power hybrid system, *Renewable Energy* 57, 587-593, 2013 (Q1)
25. G. Farias, S. Dormido-Canto, J. Vega, I. Pastor, M. Santos. Application and Validation of Image Processing Algorithms to Reduce the Stray-light on the TJ-II Thomson Scattering Diagnostic. *Fusion Science and Technology*, 63, 1, 20-25, 2013 (Q3)
26. M. Mikati, M. Santos, C. Armenta. Modeling and Simulation of a Hybrid Wind and Solar Power System for the Analysis of Electricity Grid Dependency. *Revista Iberoamericana de Automática e Informática Industrial*, 9,3, 267-281, 2012 (Q4)



27. M. Santos, J.A. Martín-H., V. López, G. Botella. Dyna-H: a heuristic planning reinforcement learning algorithm applied to role-playing-game strategy decision systems. *Knowledge-Based Systems, KNOSYS*, 32, 28-36, 2012 (Q1)
28. F. Alonso, M. Santos. Particle swarm optimisation of interplanetary trajectories from Earth to Jupiter and Saturn. *Engineering Application of Artificial Intelligence*, 25, 189-199, 2012 (Q1)
29. M. Santos. An applied approach of Intelligent Control/Un enfoque aplicado del Control Inteligente. *Revista Iberoamericana de Automática e Informática Industrial*, 8, 4, 283-296, 2011 (Q4)
30. G. Botella, J.A. Martín-H., M. Santos, U. Meyer-Baese. FPGA-Based multimodal embedded sensor system integration low and mid-level vision, *Sensors*, 11, 8164-8179, 2011 (Q1)
31. F. Alonso Zotes, M. Santos. Modelling, simulation and control of satellites in the Lagrange points of the Earth-Moon system/ Modelado, simulación y control de satélites situados en los puntos de Lagrange del sistema Tierra-Luna. *Revista Iberoamericana de Automática e Informática Industrial*, 8, 204-215, 2011 (Q4)
32. A. Macedo-Cruz, G. Pajares, M. Santos, I. Villegas-Romero. Digital Image Sensor-Based Assessment of the Status of Oat (Avena sativa L.) Crops after Frost Damage, *Sensors* 11, 6, 6015-6036, 2011 (Q1)
33. M. Santos, A.J. Cantos. Classification of plasma signals by genetic algorithms. *Fusion Science and Technology*, 58, 706-713, 2010 (Q3)
34. V. López, M. Santos, J. Montero. Fuzzy Specification in Real Estate Market Decision Making. *International Journal of Computational Intelligence Systems*, 3, 1, 8-20, 2010 (Q2)
35. A. Macedo, G. Pajares, M. Santos. Unsupervised classification with ground cover color images. *Agrociencia*, 44, No. 6, 711-722, 2010 (Q3)
36. F. Alonso Zotes, M. Santos. Multi-criteria Genetic Optimisation of the Manoeuvres of a Two-Stage Launcher. *Information Sciences*, 180(6), 896-910, 2010 (Q1)
37. J.A. Martín-H, M. Santos, J. de Lope. Orthogonal variant moments features in image analysis. *Information Sciences*, 180(6), 846-860, 2010 (Q1)
38. G. Farias, M. Santos, V. López. Making decisions on brain tumour diagnosis by soft computing techniques. *Soft Computing*, 14(2), 1287-1296, 2010 (Q1)
39. M. Santos, G. Farias. Laboratorios virtuales de procesamiento de señales, *Revista Iberoamericana de Automática e Informática Industrial*, 7, 1, 91-100, 2010 (Q4)
40. M. Santos, G. Farias. Laboratorios virtuales de procesamiento de señales. *Revista Iberoamericana de Automática e Informática Industrial*, 7, 1, 91-100, 2010 (Q4)
41. J. A. Martín H, M. Santos, G. Farias, N. Duro, J. Sanchez, R. Dormido, S. Dormido-Canto, J. Vega, H. Vargas. Dynamic Clustering and Modeling Approaches for Fusion Plasma Signals. *IEEE Transactions on Instrumentation and Measurement*, 58, 9, 2969-2978, 2009 (Q2)
42. J.A. Martín H, J. de Lope, M. Santos. A Method to Learn the Inverse Kinematics of Multi-link Robots by Evolving Neuro-Controllers, *Neurocomputing*, 72, 13, 2806-2814, 2009 (Q2)
43. G. Pajares, J.J. Ruz, P. Lanillos, M. Guizarro, J.M. de la Cruz, M. Santos. Generación de trayectorias y toma de decisiones para UAVs. *Revista Iberoamericana de Automática e Informática Industrial*, 5, 1, 83-92, 2008 (Q4)
44. G.A. Rattá, J. Vega, A. Pereira, A. Portas, E. de la Luna, S. Dormido-Canto, G. Farias, R. Dormido, J. Sánchez, N. Duro, H. Vargas, M. Santos, G. Pajares, A. Murari. First applications of structural pattern recognition methods to the investigation of specific physical phenomena at JET. *Fusion Engineering and Design*, 83, 467-470, 2008 (Q1)
45. J. Vega, A. Pereira, A. Portas, S. Dormido-Canto, G. Farias, R. Dormido, J. Sánchez, N. Duro, M. Santos, E. Sánchez and G. Pajares. Data mining technique for fast retrieval of similar waveforms in fusion massive databases, *Fusion Engineering and Design*, 83, 132-139, 2008 (Q1)
46. X.P. Burgos-Artizzu, A. Ribeiro, M. Santos. Controlador borroso multivariable para el ajuste de tratamientos en agricultura de precisión, *Revista Iberoamericana de Automática e Informática Industrial*, 4, 2, 64-71, 2007 (Q4).
47. S. Dormido-Canto, G. Farias, J. Vega, R. Dormido, J. Sánchez, N. Duro, M. Santos, J.A. Martín, G. Pajares. Search and retrieval of plasma wave forms: structural pattern recognition approach. *Review of Scientific Instruments*, 77, 10, 514-518, 2006 (Q1)
48. N. Duro, J. Vega, R. Dormido, G. Farias, S. Dormido-Canto, J. Sánchez, M. Santos, G. Pajares. Automated clustering procedure for TJ-II experimental signals. *Fusion Engineering and Design*, 81, 1987-1991, 2006 (Q1)
49. G. Farias, S. Dormido-Canto, J. Vega, J. Sánchez, N. Duro, R. Dormido, M. Ochando, M. Santos, G. Pajares. Searching for patterns in TJ-II time evolution signals. *Fusion Engineering and Design*, 81, 1993-1997, 2006 (Q1)
50. M. Santos, R. López, J.M. de la Cruz. A Neuro-Fuzzy Approach to Fast Ferry Vertical Motion Modelling. *Engineering Application of Artificial Intelligence*, 19, 313-321, 2006 (Q1)
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56. M. Santos, G. Pajares, M. Portela, J.M. de la Cruz. A new wavelets image fusion strategy, *Lecture Notes in Computer Science*, 2652, 919-926, 2003 (Q3)
57. M. Santos and A.L. Dexter. Control of a cryogenic process using a Fuzzy PID Scheduler. *Control Engineering Practice*, 10, 1147-1152, 2002 (Q2)
58. M. Santos and A.L. Dexter. Temperature control in a liquid helium cryostat using a self-learning neurofuzzy controller. *IET Proc.-Control Theory Applications*, 148, 3, 233-238, 2001 (Q2)
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60. M. Santos, S. Dormido, A. P. Madrid, F. Morilla, J.M. de la Cruz. Tuning fuzzy logic controllers by classical techniques. *Lecture Notes in Computer Science*, 1105, 214-224, 1996 (Q1)
61. J. Mira, A. E. Delgado, M. Santos, A. P. de Madrid, J. R. Álvarez. Local learning in networks of universal analogic neurons. *Cybernetics and Systems*, 25, 2, 259-273, 1994 (Q2)
62. J. Mira, A. E. Delgado, J. R. Álvarez, A. P. de Madrid, M. Santos. Towards more realistic self contained models of neurons: high-order recurrence and local learning. *Lecture Notes in Computer Science*, 686, 55-62, 1993 (Q1)

## Journal Publications

63. Naranjo R., Santos M. New fuzzy singleton distance measurement by convolution. *Lecture Notes in Computer Science*, 11314, pp. 812–820, 2018
64. D. Romero-Laorden, C.J. Martín-Arguedas, J. Villazón-Terrazas, O. Martínez-Graullera, M. Santos Peñas, C. Gutiérrez-Fernández, A. Jiménez Martín. Cheetah: A Library for Parallel Ultrasound Beamforming in Multi-Core Systems
65. *Journal of Applied Mathematics and Physics*, 3, 8, 1056-1061, 2015
66. C. Guevara, M. Santos, V. López. Data leakage detection algorithm based on sequences of activities. *Lecture Notes in Computer Science*, 8688, 477-478, 2014
67. M. Santos Peñas, E. Miranda Suescun. Aplicación de la lógica difusa en el ámbito de las energías renovables. *Elementos*, 2, 1, 101-114, 2012
68. J.A. Martín H, J. de Lope, M. Santos. Evolution of neuro-controllers for multi-link robots. *Advances in Soft Computing*, 44, 175-182, 2008
69. J.A. Martín H., M. Santos, A. García, J. de Lope. A Computational model of the equivalence class formation psychological phenomenon. *Advances in Soft Computing*, 44, 104-111, 2008
70. F.J. Sánchez-Jurado, M. Santos. Hopfield Neural Network and Boltzmann Machine Applied to Hardware Resource Distribution on Chips. *Lecture Notes in Computer Science*, 4527, 387-396, 2007
71. O.J. Arévalo Acosta, M. Santos, Classification of biomedical signals using a Haar 4 Wavelet transform and a Hamming neural network. *Lecture Notes in Computer Science*, 4528, 637-646, 2007
72. J.A. Martín, M. Santos. Orthogonal variant moments in computer vision. *Lecture Series on Computer and Computational Science*, 8, 163-166, 2007
73. G. Farias, M. Santos, A computational fusion of wavelets and neural networks in a classifier for biomedical applications, *Lecture Series on Computer and Computational Science* 8, 66-70, 2007
74. G. Farias, M. Santos. Analysis of the Wavelets Transform Parameters in Image Processing, *Lecture Series on Computer and Computational Science*, 2, 51-54, 2005
75. M. Santos. Lógica fuzzy, aproximación al razonamiento humano. *Cooperación Internacional*, 4, 7, pág. 93-112, 2001.

### Books and book chapters (last 10 years)

- G. Pajares, M. Santos. *Inteligencia Artificial e Ingeniería del Conocimiento*. RA-MA, Madrid, **2005**. ISBN: 84-7897-676-0
- Cesar Guevara, Matilde Santos, Janio Jadán. Movement detection algorithm for patients with hip surgery. In: Springer International Publishing, AISC vol. 771, 439-448, 2019. 978-3-319-94119-6, DOI: 10.1007/978-3-319-94120-2
- Matilde Santos, Nicolás Antequera. Genetic simulation tool for the robustness optimization of controllers. In: *Advances in Intelligent Systems and Computing*. Int. Join Conf. Springer, AISC vol. 771, 313-323, 2019. ISBN: 978-3-319-94119-6, DOI: 10.1007/978-3-319-94120-2
- Zhengya Zhang, Matilde Santos. Optimizing a fuzzy equivalent sliding mode control applied to servo drive systems. In: *Advances in Intelligent Systems and Computing*. Int. Join Conf. Springer, AISC vol. 771, 303-312, 2019. ISBN: 978-3-319-94119-6, DOI: 10.1007/978-3-319-94120-2
- J. Enrique Sierra, Matilde Santos. Disturbances based adaptive neuro-control for UAVs: A first approach. In: *Advances in Intelligent Systems and Computing*. Int. Join Conf. Springer AISC vol. 771, 293-302, 2019. ISBN: 978-3-319-94119-6, DOI: 10.1007/978-3-319-94120-2
- M. Santos. Neuro-Fuzzy Modeling and Fuzzy Control of a Fast Ferry. In: *Fuzzy Modeling and Control: Theory and Applications*. Atlantis Press, Atlantis Computational Intelligence Systems, vol. 9, cap. 10, 191-204, **2014**. ISBN: 978-94-6239-081-2 (doi: 10.2991/978-94-6239-082-9)
- P. García Auñón, M. Santos. Use of genetic algorithms for unmanned aerial systems path planning. In: *Decision Making and Soft Computing*. World Scientific. 9, 430-435, 2014. ISBN: 978-981-4619-96-7 doi: 10.1142/9789814619998\_0072.
- C. Guevara, M. Santos, V. López. Training strategy to improve the efficiency of an intelligent detection system. In: *Decision Making and Soft Computing*. World Scientific. 9, 544-549, 2014. ISBN: 978-981-4619-96-7 doi: 10.1142/9789814619998\_0090
- David Reolid, M. Santos, V. López. Image stabilization system based on minimization frame differences by a fuzzy logic supervisor. In: *World Scientific*. 9, 436-441, 2014. ISBN: 978-981-4619-96-7 doi: 10.1142/9789814619998\_0073
- Elías Plaza, M. Santos. Fuel fuzzy control in an aircraft: a first approach. In: *Decision Making and Soft Computing*. World Scientific. 9, 442-447, 2014. ISBN: 978-981-4619-96-7 doi: 10.1142/9789814619998\_0074
- E. Aranda, M. Guinaldo, S. Dormido, M. Santos. Fuzzy logic vs analytic controllers on a non-linear system. In: *Decision Making and Soft Computing*. World Scientific. 9, 448-453, 2014. ISBN: 978-981-4619-96-7 doi: 10.1142/9789814619998\_0075
- Andreas Muñoz, M. Santos, V. López. Design of intelligent control for HVAC system using fuzzy logic. In: *Decision Making and Soft Computing*. World Scientific 9, 424-429, 2014. ISBN: 978-981-4619-96-7 doi: 10.1142/9789814619998\_0071
- J. Martínez, Matilde Santos, Victoria López. Photograph's Exposure Control by Fuzzy Logic. In: *Practical Applications of Intelligent Systems*. Springer Berlin Heidelberg, vol. 279, 293-303, 2014. ISBN: 978-3-642-54926-7.
- Monir Mikati, Matilde Santos. Knowledge-Based Decision System for Sizing Grid-Connected Photovoltaic Arrays. In: *Advances in Intelligent Systems and Computing*. Springer Berlin Heidelberg, vol. 214, pp. 463-472, 2014. ISBN: 978-3-642-37831-7.
- Alejandro Carpio, Matilde Santos, José Antonio Martín. A First Approach of a New Learning Strategy: Learning by Confirmation. In: *Advances in Intelligent Systems and Computing*. Springer Berlin Heidelberg, vol. 214, pp. 409-418, 2014. ISBN: 978-3-642-37831-7
- M. Santos. Control Theory (Cybernetics). In: *Encyclopedia of Sciences and Religions*. Springer Netherlands 496-499, 2013. ISBN: 978-1-4020-8264-1, p.2090. doi: 10.1007/978-1-4020-8265-8\_100998
- Macedo Cruz, Santos Peñas, Pajares Martinsanz, Villegas R. Unsupervised classification of aerial images based on the Otsu's Method. In: *Deforestation around the World*. InTech, cap. 9, 171-186, **2012**. ISBN: 979-953-307-313-1
- M. Santos, M. Romana. Decision fuzzy system on the state of delayed vehicles. In: *Uncertainty Modeling in Knowledge Engineering and Decision Making*, World Scientific, 1245-1250, 2012. ISBN: 978-981-4417-73-0
- G. Farias, S. Dormido-Canto, M. Santos, J. Vega. Making intelligent decisions on noisy images. In: *Uncertainty Modeling in Knowledge Engineering and Decision Making*. World Scientific, 999-1004, 2012. ISBN: 978-981-4417-73-0
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- C. Martín, M. Santos, L. Garmendia. A fuzzy decision system for an autonomous car parking. In: *Handbook on Decision Making: ISRL 33*, Springer-Verlag, 2, chapter 13, 237-258, 2012. ISBN: 978-3-642-25754-4.
- M. Santos, V. López. Fuzzy decision system for safety on roads. In: *Handbook on Decision Making: ISRL vol. 33*. Springer-Verlag. ISBN: 978-3-642-25754-4, ISSN: 1868-4393; Vol. 2, chapter 9, 171-187, 2012.

- E. Castañeda, L. Garmendia, M. Santos. Searching musical representative phrases using decision making with fuzzy similarities. In: Handbook on Decision Making: ISRL 33, Springer-Verlag. ISBN: 978-3-642-25754-4, ISSN: 1868-4393; Vol. 2, chapter 7, 125-149, 2012
- M.C. García-Alegre, J. Rivas, D. Martín, M. Santos. Aprendizaje mediante árboles de decisión. In: Aprendizaje Automático. Un enfoque práctico, Ed. RA-MA, **2010**, cap. 10, 293-308. ISBN: 978-84-9964-011-2
- J.A. Martín-H, M. Santos. Aprendizaje por refuerzo. In: Aprendizaje Automático. Un enfoque práctico. Ed. RA-MA, **2010**, cap. 12, 329-346. ISBN: 978-84-9964-011-2
- M.C. García-Alegre, J. Rivas, D. Martín, M. Santos. Fuzzy decision tree in a homeland security application. In: Computational Intelligence. Foundations and Applications, World Scientific, 335-341, 2010. ISBN: 978-981-4324-69-4
- C.M. Álvarez, M. Santos, V. López. Reinforcement learning vs. A\* in a role playing game benchmark scenario. In: Computational Intelligence. Foundations and Applications, World Scientific, 644-650, 2010. ISBN: 978-981-4324-69-4
- A. Torrents, M. Santos. Fuzzy control approach of a binary distillation column. In: Computational Intelligence. Foundations and Applications. World Scientific, 328-334, 2010. ISBN: 978-981-4324-69-4
- F. Alonso, M. Santos. Genetic optimization of an interplanetary trajectory from Earth to Jupiter. In: Computational Intelligence. Foundations and Applications, World Scientific, 1048-1053, 2010. ISBN: 978-981-4324-69-4
- V. López, M. Santos, J. Montero. Improving reliability and performance in computer systems by means of fuzzy specifications. In: Intelligent decision making systems, World Scientific, 351-356, 2009. ISBN: 978-981-4295-05-5
- C. Martín, L. Garmendia, M. Santos, R. González del Campo. Influence of different strategies and operators on a fuzzy decision system for car parking. In: Intelligent decision making systems. World Scientific, 345-350, 2009. ISBN: 978-981-4295-05-5
- L. Valverde, M. Santos, V. López. Fuzzy decision system for safety on roads. In: Intelligent decision making systems. World Scientific, 326-331, 2009. ISBN: 978-981-4295-05-5
- E. Castañeda, L. Garmendia, M. Santos. Design of an intelligent system for computer aided musical composition. In: Intelligent decision making systems. World Scientific, 13-18, 2009. ISBN: 978-981-4295-05-5
- D. Martín, R. López-Gómez, M.C. García-Alegre, Matilde Santos. Información de contexto en el ajuste borroso de umbral para la segmentación de imágenes naturales en la interacción robot-entorno. In: Interacción Persona-Robot. Ed. UNED, cap. 10, 147-171, 2009. ISBN-13: 978-84-692-5987-0
- M. Santos, J.M. de la Cruz. Algoritmos genéticos. In: Métodos de Procesamiento Avanzado e Inteligencia Artificial en Sistemas Sensores y Biosensores. Ed. Reverté S.A., cap. 15, 321-333, **2009**. ISBN 978-84-291-8013-8 España
- J.M. de la Cruz, M. Santos, G. Pajares. Máquinas de vectores soportes para clasificación. In: Métodos de Procesamiento Avanzado e Inteligencia Artificial en Sistemas Sensores y Biosensores. Ed. Reverté S.A., cap. 16, 335-351, **2009**. ISBN 978-84-291-8013-8 España.
- F. Alonso Zotes, M. Santos Peñas. GA Optimization of the height of a low earth orbit. In: Computational Intelligence in Decision and Control, World Scientific, 719-724, 2008. ISBN: 978-981-279-946-3
- J. Gutiérrez Plaza, M. Santos Peñas. Artificial Neural Networks for the routing in proactive ad-hoc networks. In: Computational Intelligence in Decision and Control, World Scientific, 373-378, 2008. ISBN: 978-981-279-946-3
- J.A. Martín H, M. Santos. Application of Orthogonal variant moments to computer vision. In: Computational Intelligence in Decision and Control, World Scientific, 441-446, 2008. ISBN: 978-981-279-946-3
- A. Iglesias, M.D. del Castillo, M. Santos, J.I. Serrano, J. Oliva. A comparison between possibility and probability in multiple criteria decision making. In: Computational Intelligence in Decision and Control, World Scientific, 307-312, 2008. ISBN: 978-981-279-946-3

## Research stays

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The School of Mathematics, Computer Science & Engineering, City, University of London, UK			
City: London	Country: Inglaterra (UK)	1/07/2018– 30/09/2018	Weeks: 12
Project: Modelado, simulación y control de turbinas eólicas marinas			
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Computer Learning Research Centre, Computer Science Department, Royal Holloway College, University of London, UK			
City: Egham, Surrey	Country: Inglaterra (UK)	1/09/2007– 24/2/2008	Weeks: 25
Project: Machine learning applications to Bioinformatics			
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Department of Engineering Science, University of Oxford			
City: Oxford	Country: Inglaterra (UK)	1-07-31-12 de 1999	Weeks: 25
Project: An adaptive fuzzy control scheme for embedded applications			
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Departamento de Informática y Automática, Universidad Nacional de Educación a Distancia			
City: Madrid	Country: Spain	14-10-1990-14-10-1991	Weeks: 52
Project: Control Adaptativo Experto			

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## Short stays:

- The City, University of London, U.K. 2019 (8 days)
- Titu Maiorescu University, Bucarest, Rumania 2018 (6 days)
- Eötvös Loránd University, Budapest, Hungría 2016 (6 days)
- Vilnaus Gedimino Technikos Universitetas, Lituania 2014 (6 days)
- Zagreb University, Croacia 2012 (6 days)
- Universidade de Sao Paolo, Brasil 2010 (11 days)
- Universidad de la Habana, Cuba 2005 (13 days)
- Universidad Pontificia de Lima, Perú 2004 (20 days)
- CINVESTAV, México 2003 (18 days)

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## Supervised PhD Dissertations

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Title: "Verificación de la identidad de personas en base a trazos manuscritos simples"

Student: Verónica Inés Aubín

Date and University: 12 de Julio de 2018, University Complutense of Madrid

Supervisors: Dr. Matilde Santos Peñas y Dr. Marco Mora Cofre

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Title: "Modelado de sistemas de inversión mediante lógica borrosa como soporte a la toma de decisiones en mercados bursátiles"

Student: Rodrigo Naranjo Mota

Date and University: 7 de Julio de 2017, University Complutense of Madrid

Supervisors: Dr. Matilde Santos Peñas y Dr. Javier Arroyo

---

Title: "Desarrollo de algoritmos eficientes para identificación de usuarios en accesos informáticos/Development of efficient algorithms for identifying users in computer access"

Student: César Byron Guevara Maldonado

Date and University: 22 de Junio de 2017, University Complutense of Madrid (European Mention)

Supervisors: Dr. Matilde Santos Peñas y Dr. Victoria López

---

Title: "Estrategias para la reducción de recursos electrónicos en sistemas de imagen basados en arrays ultrasónicos"

Student: David Romero Laorden

Date and University: 9 de Febrero de 2016, University Complutense of Madrid

Supervisors: Dr. Matilde Santos y Dr. Oscar Martínez Graullera

---

Title: Edificios inteligentes y sostenibles: arquitectura de percepción y control para la gestión de energía

Student: Oscar Hernández Uribe

Date and University: 14 de Enero de 2016, University Complutense of Madrid

Supervisors: Dr. Domingo Guinea, Dr. Matilde Santos, y Dr. María C. García-Alegre

---

Title: Pattern recognition and machine learning on nuclear fusion databases /Reconocimiento de patrones y aprendizaje automático en bases de datos de fusión nuclear

Student: Gonzalo A. Farias Castro

Date and University: 17 de Mayo de 2013, University Complutense of Madrid, Faculty Thesis Award, CEA CI Award

Supervisors: Dr. Matilde Santos Peñas, Dr. Sebastián Dormido Canto

---

Title: Técnicas de clasificación automática de uso del suelos agrícolas y forestales basadas en imágenes digitales

Student: Antonia Macedo Cruz

Date and University: 29 de Octubre de 2012, University Complutense of Madrid

Supervisors: Dr. Matilde Santos y Dr. Gonzalo Pajares

---

Title: Agentes de control de vehículos autónomos en entornos urbanos y autovías

Student: Joshué Manuel Pérez Rastelli

Date and University: 28 de Marzo de 2012, University Complutense of Madrid (European Mention). CEA CI Award

Supervisors: Dr. Matilde Santos Peñas y Dr. Teresa de Pedro Lucio

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Title: Application of Intelligent Algorithms to Aerospace problems /Aplicación de algoritmos inteligentes a problemas aeroespaciales.

Student: Fernando Alonso Zotes

Date and University: 29 de Noviembre de 2011, National University of Distance Education, CEA CI Award

Supervisors: Dr. Matilde Santos Peñas

---

Title: Modelo y Control neuro-borroso de las aceleraciones verticales de un buque de alta velocidad

Student: Rafael López Martínez

Date and University: 12 de Marzo de 2004, University Complutense of Madrid

Supervisors: Dr. Matilde Santos Peñas y Dr. Luis Vázquez

## Awards

- UCM Award Innovative Idea. IV Contest of Innovative Ideas and New Technology-Based Companies. OTRI, Rectorado de Investigación y Política científica, UCM, 20/12/2010
- Best Intelligent Control Doctoral Thesis:
  - 2014, Gonzalo Farias Castro, Comité Español de Automática (CEA), Mathworks
  - 2013, Fernando Alonso Zotes, Comité Español de Automática (CEA), Mathworks
  - 2012, Joshué Pérez Rastelli. Comité Español de Automática (CEA), Mathworks
- Best student paper: I Jornadas de Investigación en Ciberseguridad JNIC 2015
- Best Intelligent Control poster paper (XXXV Jornadas de Automática 2014)
- Best Poster Paper ISKE 2013
- Excellent FLINS 2010 Conference Poster Paper
- The Second Best IEEE ISKE 2009 Conference Poster Paper
- The Third Best IEEE ISKE 2009 Conference Poster Paper
- The Best IEEE ISKE 2008 Conference Poster Paper
- Best Intelligent Control poster paper (XXVIII Jornadas de Automática 2007)
- Best Intelligent Control poster paper (XXVI Jornadas de Automática 2005)

## Evaluation Activities

- President (currently), Secretary and member of the committee of the National Agency for Quality Assessment and Accreditation of Spain (ANECA), for Academic Staff Recruitment Assessment Programme (PEP), since 2009
- Evaluator for the National Evaluation and Foresight Agency (ANEP), State Department of Research of the Ministry of Science and Innovation. Scientific/technical evaluation of the units, teams and research proposals of projects of the National Plan, since 2009
- Evaluator for the National Evaluation and Foresight Agency (ANEP). National Programme for Recruitment and Incorporation of Human Resources
- External Examiner at Dublin City University (Electronic Engineering), 2013/14 al 2016/17

## Editorial board

- Editorial board of RIAI Journal (SCI-indexed Journal, Q4), since 2007. Editorial co-chief (2018)
- Editorial board of EAAI Journal (SCI-indexed Journal, Q1), since 2009
- Editorial board of Complexity Journal (SCI-indexed Journal, Q1), since 2018

Reviewer of a selection of SCI-indexed scientific journals

## Local organizing committee

- XXXVII Jornadas de Automática, CEA-IFAC, 7 al 9 de Septiembre, Madrid, España
- X Simposio de Control Inteligente 2014, CEA, 25 al 27 Junio de 2014, Segovia, España
- Simposio de Ingeniería de Control 2011: CEA, 15 Marzo, UCM, Madrid, España
- Jornada de Modelado y Simulación de Sistemas 2009: CEA, 12 Diciembre, UCM, Madrid, España
- FuzzyMad 2009: II Lógica Fuzzy de la Comunidad de Madrid, 3 de Diciembre, UCM, Madrid, España
- Int. Conference FLINS 2008: 8<sup>th</sup> Int. Conf. on Computational Intelligence in Decision and Control, 21 al 24 de Septiembre, Madrid, España
- FuzzyMad 2008: I Encuentro de investigadores de Lógica Fuzzy de la Comunidad de Madrid, 27 de Noviembre, UCM, Madrid, España
- Simposio de Ingeniería de Control 2008: CEA, 18 Abril, UNED, Madrid, España



## Management experience

- Board of Directors CEA (Spanish Committee of Automatic)
- Coordinator of the national Group of Intelligent Control, 2014-2018, Spanish Committee of Automatic
- Member of the TC3.2 Committee of the IFAC (<http://tc.ifac-control.org/3/2>), Computational Intelligence in Control, from 2009 to date
- Chair (Head) Doctoral Programme:
  - System Engineering and Automatic Control, UNED-UCM, 2002/03-2009/10
  - Computer Architecture and Automatic Control, UCM, 1997/98 to 2003/04
  - Student Access to University Programme, Electrical Engineering, 1998/99 to 2011/12
- International Conferences Program Committee (more than 50)
- Conferences Local Organizing Committee
- Research Project Director:
  - o AIASYB-2: Aplicaciones de la Inteligencia Artificial en los Sensores y Biosensores-2  
Agencia Española de Cooperación Internacional para el Desarrollo PCI-AECID B/024393/09  
Dates: 2010 (12 months)
  - o BioSenInt: Métodos de procesamiento avanzado e inteligencia artificial en sistemas sensores y biosensores  
Entidad Financiadora: Comisión Europea, ALFA, 0486-FC-FA-FCD-FI  
Dates: 2005-2008 (36 months)
  - o AIASYB Aplicaciones de la Inteligencia Artificial en los Sensores y Biosensores  
Entidad Financiadora: AECl, EAL02-0512, BOE 23/01/2003  
Dates: 2003-2005 (36 months)
  - o Formación en nuevas tecnologías. Repercusiones en el empleo femenino  
Entidad Financiadora: Contrato LOU Art. 83, 180-2002, Fondo Social Europeo y C. Internacional  
Dates: 2002 (6 months)
  - o Proyectos de Innovación Educativa y Mejora de la Calidad Docente (6)  
Entidad Financiadora: Universidad Complutense de Madrid  
Dates: 2004-2009