



15th International Conference of the Catalan Association of Artificial Intelligence

24th, 25th and 26th October, 2012
University of Alicante

Organized by:

Grupo Robótica y Visión Tridimensional
University of Alicante



The Catalan Association
for Artificial Intelligence

Invited talks

Dijous, 25 d'Octubre, 9:30 – 10:45

Eduardo Nebot: **Challenges of Automation and Safety in Field Robotics**



Eduardo Nebot is the Executive Director of the Australian Center for Field Robotics, at University of Sydney, Australia. This center counts with more than 70 research people in four core areas: Sensors, Fusion & Perception, Actuators, Control & Decision, Modeling, Learning & Adaptation, and Architectures, Systems & Cooperation. These four core research areas define the science of field robotics and intelligent systems and represent the main

focus of the ACFR. Eduardo's main research interest is about the field of robotics, focusing on the automation of open pit mines. He is the author of more than 100 journals and conference papers and has several patents in the area described before. His talk in the conference was about different research in the area of open pit mines, involving intelligent vehicles, computer vision, pattern recognition, sensors, etc.

Divendres, 26 d'Octubre, 9:30 – 10:45

Óscar Cordón: **Some Real-world Applications of Soft Artificial Intelligence: Scientogram Mining, Assembly Line Balancing, and Forensic Identification**



Óscar Cordón (SM'11) is Full Professor with the University of Granada (UGR), Granada, Spain. He was the founder and leader of that University's Virtual Learning Center between 2001 and 2005. From 2006 to 2011 he was one of the founding researchers of the European Centre for Soft Computing, Mieres, Spain, in his role of Principal Researcher, and he is still contracted as Scientific Advisor at the Centre.

He has been, for more than 15 years, an internationally recognized contributor to R&D Programs in fuzzy systems, evolutionary algorithms, and ant colony optimization. He has published around 280 peer-reviewed scientific publications including a research book on genetic fuzzy systems and 66 JCR-SCI-indexed journal papers, advised 13 Ph.D. dissertations, participated in 34 research projects and contracts (coordinating 20 of them), and co-edited eight special issues in international journals and three research books. By October 2012, his publications had received 1956 citations, carrying an h index of 23, and being included in the 1% of most-cited researchers in the world (source: Thomson's Web of Knowledge). He also has an approved international patent on an intelligent system for forensic identification that is being commercialized in Mexico. He is Associate Editor of 11 international journals and was recognized as the IEEE TRANSACTIONS ON FUZZY SYSTEMS Outstanding Associate Editor in 2008. He is a reviewer for more than 30 international journals. Since 2004, he has taken many different representative positions with Eusflat and the IEEE Computational Intelligence Society (CIS). He is currently a member of the IEEE CIS AdCom (term 2010-2012).

Prof. Cordón received the UGR Young Researcher Career Award in 2004. In July 2010, he received the IEEE CIS Outstanding Early Career Award in its 2011 edition, the first such award conferred. In 2011, his developments on soft computing methods in forensic identification were recognized with the IFSA Award for Outstanding Applications of Fuzzy Technology and with the granting of the EUSFLAT Best Ph.D. Thesis Award to Dr. Ibañez's PhD dissertation, co-advised by Dr. Cordón.

Social Program

A bus will go up and down every day to / from the University. It will leave at 9:00 in the morning from the Melia hotel. On Wednesday 24th at 20:00 it will leave the University towards the Castle and get back to University (dropping people off in the hotels before that) after dinner. On Thursday 25th it will leave University at 20:00 towards the hotels.

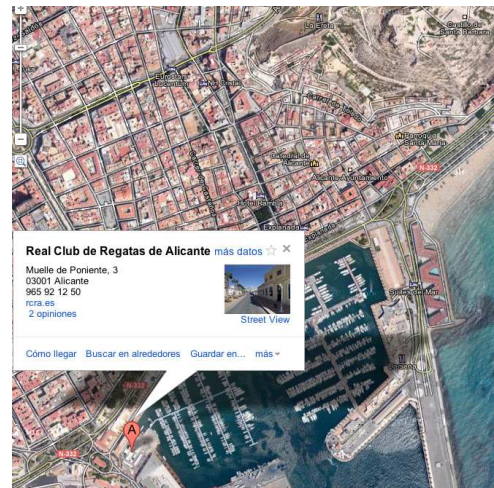
Wednesday, 24th October. 20:00

Visit to the Santa Barbara Castle http://es.wikipedia.org/wiki/Castillo_de_Santa_B%C3%A1rbara
Guided visit and light dinner.

At the top of Benacantil Mount, also called Face on the Moor, is this castle. The current construction is the result of different interventions over time. So there are several venues. The origin of the castle is Arabic, although there are not visible remains due to medieval works. The oldest constructions are the Macho and the wall that forms the second enclosure. In the sixteenth century there was another intervention that made the complete enclosure stronger. In the eighteenth century there was a partial destruction, after which repairs and improvements were made in the defensive enclosure. In 1852 it was disarmed and lost its strategic value. There still exist several buildings like barracks, towers, the so called Revellín of Bon Repos and the walls, only remaining on the slopes of Benacantil.

Thursday, 25th October. 21:30

Conference Dinner. Restaurant Aldebarán. Real Club de Regatas de Alicante



Lunch of 25th and 26th will take place at the Mar I Terra restaurant located at social club 1.

Conference Program

Day 1 (24/10/2012)

15:30 - 16:00	Registration
16:00 - 16:20	Opening
16:20 - 17:00	Session 1: KDD, DM and Machine Learning 1 Chairman: Diego Viejo <i>The use of the Traffic Lights Panel as a goodness-of-clustering indicator. An application to Financial Assets</i> Dante Conti and Karina Gibert <i>Active learning of actions based on Support Vector Machines</i> Francisco Ruiz, Albert Samà and Núria Agell
17:00 - 17:30	Coffee break
17:30 - 18:30	Session 2: KDD, DM and Machine Learning 2 Chairman: Núria Agell <i>Towards the formalization of re-identification for some data masking methods</i> Vicenç Torra <i>Data Mining and Query Answer techniques applied to a bio-nutritional trials focused Expert System</i> Oscar Alonso, Pedro de la Peña, Aitor Moreno, Gabriel Anzaldi and Xavier Domingo <i>Using Gabriel graphs in Borderline-SMOTE to deal with severe two-class imbalance problems on neural networks</i> Primitivo Toribio, Roberto Alejo, Rosa María Valdovinos and Horacio Pacheco-Sánchez
18:30 - 19:30	ACIA award
20:00	Visit to the Castle.

Day 2 (25/10/2012)

9:30 - 10:45	Invited talk <i>Challenges of Automation and Safety in Field Robotics</i> Eduardo Nebot
10:45 - 11:45	Session 3: Natural Language Processing and Recommenders Chairman: Vicenc Torra <i>Towards Object Descriptions in Natural Language from Qualitative Models</i> Zoe Falomir, Lledó Museros, Pablo Ródenas and Ismael Sanz <i>Semantically-Enhanced Recommenders</i> Victor Codina and Luigi Ceccaroni <i>Extending a temporal defeasible argumentation framework with possibilistic weights</i> Lluís Godo, Enrico Marchioni and Pere Pardo
11:45 - 12:15	Coffee break
12:15 - 13:35	Session 4: Computer Vision Chairman: Domenec Puig <i>Supervised Texture Classification Using Optimization Techniques</i> Domenec Puig, Jaime Melendez, Agusti Solanas, Aïda Valls and Antonio Moreno <i>Modelling facial expressions dynamics with Gaussian Process Regression</i> Adria Ruiz and Xavier Binefa <i>Survey on Spatio-Temporal View Invariant Human Pose Recovery</i> Xavier Pérez-Sala, Sergio Escalera and Cecilio Angulo <i>A study of registration techniques for 6DoF SLAM</i> Vicente Morell, Miguel Cazorla, Diego Viejo, Sergio Orts and Jose Garcia
13:35 - 15:30	Lunch
15:30 - 16:50	Session 5: Robotics Chairman: Cecilio Angulo <i>Selection and adaptation of an object detection method for robot grasping</i> Ferran Rigual, Arnau Ramisa, Guillem Alenya and Carme Torras

	<p><i>The role of i-Walker in post-stroke training</i> Benedetta Giuliani, Ulises Cortés, Antonio Martinez Velasco, Cristian Barrué and Roberta Annicchiarico</p> <p><i>Using a RGB-D camera for 6DoF SLAM</i> José Muñoz, Daniel Pastor, Pablo Gil, Santiago Puente and Miguel Cazorla</p> <p><i>Learning Topological SLAM using Visual Information</i> Anna Romero and Miguel Cazorla</p>
16:50 - 17:20	Coffee break
17:20 - 18:40	<p>Session 6: AI Applications to Real World Chairman: Domingo Gallardo</p> <p><i>A Case-Based Hybrid System for Injection Molding Sensorization</i> Isaac Pinyol, Raquel Ventura and David Cabanillas</p> <p><i>Firsts Studies on Self-Preserving Digital Objects</i> Josep Lluís De La Rosa and José Antonio Olvera</p> <p><i>Intelligent Building Energy Management through holistic knowledge based approach</i> Gabriel Anzaldi, Aitor Corchero, Dan Gutu, Milan Marinov, Michael James Dibley and Kris McGlenn</p> <p><i>Quantitative and qualitative approaches for stock movement prediction</i> Jordi Petchamé Sala, Àngela Nebot and René Alquézar</p>
18:40 - 20:00	ACIA general meeting
21:30	Conference dinner

Day 3 (26/10/2012)

9:30 - 10:45	<p>Invited talk <i>Some Real-world Applications of Soft Artificial Intelligence: Scientogram Mining, Assembly Line Balancing, and Forensic Identification</i> Óscar Cerdón</p>
10:45 - 11:15	Coffee break
11:15 - 12:55	Session 6: AI for Optimization Problems

Chairman: José García

Exploring Genetic Algorithms and Simulated Annealing for Immobile Location-Allocation Problem

Ferran Torrent, Víctor Muñoz and Beatriz López

Analysis and Generation of Pseudo-Industrial MaxSAT Instances

Carlos Ansótegui, María Luisa Bonet, Jordi Levy and Chu Min Li

A SAT-Based Approach to MinSAT

Carlos Ansótegui, Chu Min Li, Felip Manyà and Zhu Zhu

Multicast Session Protection Planner - Tool to plan and deploy protection infrastructure: SPEA approach

Ferney A. Maldonado-Lopez and Yezid Donoso

13:00 - 13:30 Closing ceremony

13:30 Lunch

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The Catalan Association
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Supported by:

Vicerrectorado de
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Universitat d'Alacant
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