Robotica 2012: 12th International Conference on Autonomous Robot Systems and Competitions
April 11, 2012, Guimarães, Portugal

The 12th International Conference on Autonomous Robot Systems and Competitions (www.robotica2012.org/EC
) is an international scientific meeting in the field of autonomous robotics and related areas, which will take place in conjunction with the 12th Portuguese Robotics Open, a RoboCup Local Event.

As in previous years, we expect the conference to get the Technical co-sponsorship of the IEEE Robotics and Automation Society.

The conference will be held in the beautiful city of Guimarães, Portugal, on April 11, 2012. Guimarães is the cradle of Portugal and it was classified by Unesco as Worldwide Heritage. In 2012 it will be European Capital of Culture .

PROCEEDINGS

Proceedings of the 12th International Conference on Autonomous Robot Rystems and Competitions

Proceedings Download

CONFERENCE VENUE

Address

Alameda da Universidade, 4800-058 Guimarães.
Auditório Nobre, Campus de Azurém (Guimarães), University of Minho

GPS: 41º 27'1.22''N,   8º17'37.92''W

how to get here (more information)

Conference Program

[*download(beta version).pdf*](#)

08:30-08:50 Registration

08:50-09:00 Welcome session

09:00-10:40 Session 1: Planning, Reasoning, Modeling and Learning

Chair: to be announced

09:00-09:25 Marco Guarnieri, Eros Magri, Davide Brugali and Luca Gherardi, A Domain Specific Language for Modeling Differential

Constraints of Mobile Robots

09:25-09:50 António João Ferreira, José Almeida and Eduardo Silva, Towards a Mobile Three-dimensional Model ling

System for

Underground Structures

09:50-10:15 Alain Droniou, Serena Ivaldi, Patrick Stalph, Martin Butz and Olivier Sigaud, Learning Velocity Kinematics: Experimental

Comparison of On-line Regression Algorithms

10:15-10:40 Didier Marin and Olivier Sigaud, Towards fast and adaptive optimal control policies for robots: A direct policy search   approach

10:40-11:00 Coffee-Break

11:00-12:40 Session 2: Applications of Autonomous Robotic Systems & Simulators

Chair: to be announced

11:00-11:25 Tiago Malheiro, Toni Machado, Sérgio Monteiro, Wolfram Erlhagen and Estela Bicho   , Object Transportation by a Human

and a Mobile Manipulator: a dynamical systems approach

11:25-11:50 Marco Bonini, Alice Kirchheim and Wolfgang Echelmeyer, Challenges in the Application of Autonomous Cognitive
Systems within Logistics

11:50-12:15 Paulo Trigueiros and A. Fernando Ribeiro, Vision-based Hand Wheel-chair Control

12:15-12:40 Toni Machado, Miguel Sousa, Sérgio Monteiro and Estela Bicho, CoopDynSim: a 3D
robotics
simulator

12:40-14:00 Lunch

14:00-15:00 Invited Talk

Chair: to be announced

"Robots that care: a need for decent human-robot interaction", Raymond H. Cuijpers,

Department of Human Technology, Faculty of Industrial Engineering and Innovation Sciences, Eindhoven University of Technology

15:00-15:50 Session 3: Underwater vehicles

Chair: to be announced

15:00-15:25 José Melo and Aníbal Matos, A bottom-following problem approach using an altimeter

15:25-15:50 Bruno Ferreira, Aníbal Matos and Nuno Cruz, Modeling and control of TriMARES AUV

15:50-16:15 Coffee-Break

16:15-18:20 Session 4: Perception, Localization, SLAM

Chair: to be announced

 16:15-16:40 Luis J. Manso, Pablo Bustos, Pilar Bachiller and Marco A. Gutierrez, Graph Grammars for Active Perception

 16:40-17:05 Fernando Carreira, Camilo Christo, Duarte Valério, Mário Ramalho, Carlos Cardeira, João Calado and Paulo Oliveira, Ex
perimental
Validation
of
a PCA-
Based
Localization
System
for Mobile Robots in
Unstructured
Environments

 17:05-17:30 Alberto Vale, Filipe Valente, Isabel Ribeiro, João Ferreira and Rodrigo Ventura, M
otion planning and localization

approaches for mobile robot navigation in ITER

 17:30-17:55 Jan Steckel, Dieter Vanderelst and Herbert Peremans, BatSLAM: Combining biomimetic sonar with a hippocampal model

17:55-18:20 Evangelos Georgiou, Jian Dai and Michael Luck, Regularized Linear Regression for Distance Estimation with an RGB-D

Sensor

18:20-18:30 Closing session

Note: *25 min are allocated per oral presentation, including Q&A.*

KeyNote Speaker

Topics

- Artificial Intelligence;
- Architectures for Mobile Robots;
- Sensors and Sensor Integration;
- Motion and Actuation Systems;
- Multi-Robot Systems;
- Human-Robot Interaction;
- Simulation and Visualization;
- Robotic Competitions;
- Planning, Reasoning and Modeling;
- Cooperative Navigation and Control;
- Cooperative Perception;
- Computer Vision and Image-Processing;
- Navigation and Control of Mobile Robots;
- Recognition, Localization, Tracking, SLAM;
- Robot Learning;
- Applications of Autonomous Intelligent Robots;
- Computer and Robotic Entertainments.

Important Dates

All dead-lines are 23:59 GMT
- 30th January, 2012 Submission of full-length papers
- 2nd March, 2012 Notification of acceptance
- 11th March, 2012 Camera Ready Papers
- 18th March, 2012 Early Registration Deadline
- 11th April, 2012 Conference takes place

Submission guidelines

Authors should submit their papers electronically in PDF format via **easychair.**
(https://www.easychair.org/conferences/?conf=robotica2012)

Six pages in the standard IEEE format are allowed for each paper, including figures. Papers must be written in English following the standard IEEE guidelines.
(http://www.ieee.org/conferences_events/conferences/publishing/templates.html)

Conference Fee

- 100 € if payment before 20th March 2012,
- 150 € if after.

Email Contacts

robotica2012@easychair.org   or   ecrobotica2012@dei.uminho.pt

Programme Committee

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- Sergio Monteiro (UMinho-PT)
- Urbano Nunes (UCoimbra - PT)
- Vicente Matellán (ULeon - ES)
- Vítor Santos (UAveiro - PT)

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Chair: *to be announced*

·   **09:00-09:25** Marco Guarnieri, Eros Magri, Davide Brugali and Luca Gherardi, *A Domain Specific Language for Modeling Differential Constraints of Mobile Robots* (artigo 8)

·   **09:25-09:50** António João Ferreira, José Almeida and Eduardo Silva, *Towards a Mobile Three-dimensional Modelling System for Underground Structures* (artigo 27)

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(artigo 12)

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·   **11:50-12:15** Paulo Trigueiros and A. Fernando Ribeiro, *Vision-based Hand Wheel-chair Control*   (artigo 4)

·   **12:15-12:40** Toni Machado, Miguel Sousa, Sérgio Monteiro and Estela Bicho, *CoopDynSim : a 3D robotics simulator* (artigo 26)

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(artigo 25)

·   **16:40-17:05** Fernando Carreira, Camilo Christo, Duarte Valério, Mário Ramalho, Carlos Cardeira, João Calado and Paulo Oliveira,   *Experimental Validation of a PCA-Based Localization System for Mobile Robots in Unstructured Environments*
(artigo 29)

·   **17:05-17:30** Alberto Vale, Filipe Valente, Isabel Ribeiro, João Ferreira and Rodrigo Ventura
,
Motion planning and localization approaches for mobile robot navigation in ITER
(artigo 22)

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