



**INSTITUTE FOR SYSTEMS AND ROBOTICS**



## ***Annual Report – 2012***

### ***Lisbon Pole***

*Torre Norte,  
Piso 7 IST,  
Av. Rovisco Pais  
1049 – 001 Lisboa  
Portugal*

## 1. EXECUTIVE SUMMARY

During the year of 2012 there were no research and technological activities taking place in the framework of the Lisbon Pole of ISR, nor were financed through ISR (NIF 502 854 227). All the research activities were carried out in the context of the research unit ISR/IST where all contracts and activities took place at Instituto Superior Técnico.

For informative purposes only, we describe the scientific publications and Theses that were produced by the research group hosted at the Instituto Superior Técnico, in spite of the fact that none of these activities were developed in the context of the Lisbon Pole of ISR.

---

### Contents

1. EXECUTIVE SUMMARY .....	2
2. PUBLICATIONS .....	3
a) Ph.D. Theses .....	3
b) M.Sc. Theses .....	3
c) In Books .....	5
d) In International Journals .....	6
e) In International Conferences .....	9
f) In National Conferences .....	21
g) In Technical Reports .....	22

## 2. PUBLICATIONS

### a) Ph.D. Theses (4)

1. **Abdolkarim Pahlani**, Active Cooperative Perception in Networked Robot Systems, Ph.D. Thesis, Instituto Superior Técnico, Universidade Técnica de Lisboa, March, 2012.
2. **Paulo Santos**, Ocean Parameter Estimation with High-Frequency signals using a Vector Sensor Array, Ph.D. Thesis, University of Algarve, Portugal, November, 2012.
3. **Daria Migotina**, Symbolic Representation of the Sleep Electroencephalogram Application in the Analysis of Sleep”, Ph.D. Thesis, Instituto Superior Técnico, Lisbon, Portugal, June 2012.
4. **Vahid Hassani**, Multiple Model Robust Adaptive Estimation and Control, Ph.D. Thesis, Instituto Superior Técnico, Universidade Técnica de Lisboa, December, 2012.

### b) M.Sc. Theses (32)

1. **Pedro Lourenço**, Analysis, Design and Implementation of an Integrated Simultaneous Localization and Mapping Algorithm, Master Thesis, Instituto Superior Técnico, Universidade Técnica de Lisboa, 2012
2. **João Leal**, Adaptive ROC analysis in Carotid Atherosclerosis Diagnosis for Endarterectomy, Master Thesis, Instituto Superior Técnico, Universidade Técnica de Lisboa, 2012
3. **Marta Sousa**, Classification in dementia based on structural and perfusion MRI, Master Thesis, Instituto Superior Técnico, Universidade Técnica de Lisboa, 2012
4. **Ana Afonso**, Classification of Pigmented Skin Lesions based on Color Features, Master Thesis, Instituto Superior Técnico, Universidade Técnica de Lisboa, 2012
5. **João Semedo**, Model-Based Clustering Applied to Sleep Macrostructure Analysis, Master Thesis, Instituto Superior Técnico, Universidade Técnica de Lisboa, 2012
6. **Mariana Francisco**, Sobre o Papel da Textura na Detecção Automática de Melanomas, Master Thesis, Instituto Superior Técnico, Universidade Técnica de Lisboa, 2012
7. **Joana Pinto**, Spatiotemporal dynamics of CBF and BOLD fMRI responses to breath-hold challenges, Master Thesis, Instituto Superior Técnico, Universidade Técnica de Lisboa, 2012
8. **Ana Ruela**, What is the role of color in dermoscopy analysis?, Master Thesis, Instituto Superior Técnico, Universidade Técnica de Lisboa, 2012
9. **Bruno Ribeiro**, A Robotic player of Six Men's Morris with a redundant Manipulator, Master Thesis, Instituto Superior Técnico, Universidade Técnica de Lisboa, 2012
10. **Davide Periquito**, Architecture for Augmented Reality interface, Master Thesis, Instituto Superior Técnico, Universidade Técnica de Lisboa, 2012

11. **João Carvalho**, Assisted Teleoperation of Quadcopters Using Obstacle Avoidance, Master Thesis, Instituto Superior Técnico, Universidade Técnica de Lisboa, 2012
12. **Pedro Morgado**, Automated Diagnosis of Alzheimer's Disease using PET Images - A study of alternative procedures for feature extraction and selection, Master Thesis, Instituto Superior Técnico, Universidade Técnica de Lisboa, 2012
13. **Gonçalo Deus**, Automação de um Sistema de Respirometria, Master Thesis, Instituto Superior Técnico, Universidade Técnica de Lisboa, 2012
14. **Duarte Dias**, Barcode-based Localization of Low Capacity Mobile Robots in Structured Environments, Master Thesis, Instituto Superior Técnico, Universidade Técnica de Lisboa, 2012
15. **Tiago Marcelo**, Control of An Autonomous Motorbike, Master Thesis, Instituto Superior Técnico, Universidade Técnica de Lisboa, 2012
16. **Henrique Silva**, Controlo de Formações em Veículos Aéreos não Tripulados, Master Thesis, Instituto Superior Técnico, Universidade Técnica de Lisboa, 2012
17. **Maria Féria**, Decision and Control System of a solar Powered Train, Master Thesis, Instituto Superior Técnico, Universidade Técnica de Lisboa, 2012
18. **Ana Alarza**, Detecting Conversion of Mild Cognitive Impairment to Alzheimer, Master Thesis, Instituto Superior Técnico, Universidade Técnica de Lisboa, 2012
19. **Sérgio Copeto**, Detecção de Objectos Activos em Ambientes Dinâmicos, Master Thesis, Instituto Superior Técnico, Universidade Técnica de Lisboa, 2012.
20. **Marta Calero**, Diagnosis of Alzheimer's Disease and Mild Cognitive Impairment Exploiting Class Ordering, Master Thesis, Instituto Superior Técnico, Universidade Técnica de Lisboa, 2012.
21. **João Reis**, Immersive Robot Teleoperation Using an Hybrid Virtual and Real Stereo Camera Attitude Control, Master Thesis, Instituto Superior Técnico, Universidade Técnica de Lisboa, 2012.
22. **João Córias**, Attitude Determination Using Multiple L1 GPS Receivers, Master Thesis, Instituto Superior Técnico, Universidade Técnica de Lisboa, 2012.
23. **Valter Roldão**, Formation Control of Autonomous Air Vehicles, Master Thesis, Instituto Superior Técnico, Universidade Técnica de Lisboa, 2012.
24. **José Sousa**, Target Localization and Mapping from an Aerial Vehicle, Master Thesis, Instituto Superior Técnico, Universidade Técnica de Lisboa, 2012.
25. **Fábio Gameiro**, Implementação e monitorização de uma rede de sensores móveis para medição da qualidade do ar, Master Thesis, Instituto Superior Técnico, Universidade Técnica de Lisboa, 2012.
26. **Pedro Vieira**, Interactive Mapping Using Range Sensor Data under Localization Uncertainty, Master Thesis, Instituto Superior Técnico, Universidade Técnica de Lisboa, 2012.
27. **João Fonseca**, Montagem Automática de Painéis de Azulejos, Master Thesis, Instituto Superior Técnico, Universidade Técnica de Lisboa, 2012.

28. **Manuel Silva**, Network Cameras Calibration, Master Thesis, Instituto Superior Técnico, Universidade Técnica de Lisboa, 2012.
29. **Filipe Veiga**, Robotic Grasp Optimization from Contact Force Analysis, Master Thesis, Instituto Superior Técnico, Universidade Técnica de Lisboa, 2012.
30. **Pedro Varela**, Sentiment Analysis, Master Thesis, Instituto Superior Técnico, Universidade Técnica de Lisboa, 2012.
31. **Filipe Jesus**, Simultaneous Localization and Mapping Using Vision for Search and Rescue Robots, Master Thesis, Instituto Superior Técnico, Universidade Técnica de Lisboa, 2012.
32. **Rui Figueiredo**, Simultaneous Recognition and Pose Estimation of Multiple 3D Objects: Real-Time Probabilistic Methods using Kinect Data, Master Thesis, Instituto Superior Técnico, Universidade Técnica de Lisboa, 2012.

### c) In Books (9)

1. D. Milutinovic, Pedro Lima, Biological Cell Inspired Stochastic Models and Control, in Microbiorobotics - Biologically Inspired Microscale Robotic Systems, MinJun Kim, A. Agung Julius, Edward Steager (Eds), Elsevier Micro & Nano Technologies Series, 2012.
2. Matthijs T. J. Spaan, Partially Observable Markov Decision Processes, In Marco Wiering and Martijn van Otterlo, editors, Reinforcement Learning: State of the Art, pp. 387–414, Springer Verlag, 2012.
3. Barriga, F.J.A.S., J.M.R.S. Relvas, R.S. Santos & A. Pascoal 2012. Ciência e Recursos Minerais na Última Fronteira. Pp. 121-132. In: João Guerreiro (Ed.) Mar Português: Conhecimento, Valorização e Desenvolvimento. Universidade do Algarve. 236pp. [ISBN 978-989-8472-27-4], 2012.
4. J. S. Marques, J. C. Nascimento, C. Santiago, Robust Deformable Models for 2D and 3D Shape Estimation, in Deformation Models, M. González, A. Mir, J. Varona, eds., chapter, Springer, LNCVB-7, 2012.
5. Kurosh Madani, António Dourado Correia, Agostinho Rosa And Joaquim Filipe (eds.). (2012) Computational Intelligence, Springer, Series: Studies In Computational Intelligence, Volume 399, 2012. DOI: 10.1007/978-3-642-27534-0
6. Chin Ian Low, Daria Migotina, Joao P Rodrigues, Joao Semedo, Feng Wan, Peng Un Mak, Mang I Vai, Fernando Melicio, J Gomes Pereira and Agostinho Rosa. Object Recognition Test in Peripheral Vision: A Study on the Influence of Object Color, Pattern and Shape. Lecture Notes in Computer Science 7670 pp 18-26, Springer 2012, ISBN 978-3-642-35138-9.
7. C.M. Fernandes, J.J. Merelo, A.C. Rosa. (2012). Enhancing the Adaptive Dissortative Mating Genetic Algorithm in Fast Non Stationary Fitness Functions. Studies in Computational Intelligence, Springer, Volume 399, pp 115-130, 2012.
8. C.M. Fernandes, J.J. Merelo, A.C. Rosa. Controlling the Parameters of the Particle Swarm Optimization with a Self-Organized Criticality. *12<sup>th</sup> International Conference on Parallel Problem Solving from Nature*, Lecture Notes in Computer Science Volume 7492, 2012, pp. 153-163, 2012.

9. A. Pedro Aguiar and António Pascoal, Cooperative Control of Multiple Autonomous Marine Vehicles: Theoretical Foundations and Practical Issues, in Recent Advances in Unmanned Vehicles, IET, Editors Geoff Roberts and Robert Sutton, 2012.

#### d) In International Journals (45)

1. J. Ruesch, R. Ferreira, A. Bernardino, Predicting visual stimuli from self-induced actions: an adaptive model of a corollary discharge circuit, IEEE Transactions on Autonomous Mental Development 2012.
2. Nicola Greggio, Alexandre Bernardino, Cecilia Laschi, Paolo Dario, José Santos-Victor, Fast estimation of Gaussian mixture models for image segmentation, in Mach. Vis. Appl. 23(4): 773-789 (2012).
3. Giampiero Salvi, Luis Montesano, Alexandre Bernardino, José Santos-Victor, Language Bootstrapping: Learning Word Meanings From Perception-Action Association, in IEEE Transactions on Systems, Man, and Cybernetics, Part B 42(3): 660-671, 2012.
4. P. Ribeiro, P. Moreno, J. Santos-Victor, Introducing fuzzy decision stumps in boosting through the notion of neighbourhood, IET Computer vision 6(3), 2012.
5. Hugo Costelha, Pedro Lima, Robot task plan representation by Petri nets: modelling, identification, analysis and execution, Autonomous Robots, Volume 33, Issue 4, pp 337-360, November 2012.
6. P. Lichocki, Danesh Tarapore, L. Keller, D. Floreano, Neural networks as mechanisms to regulate division of labor, The American Naturalist, vol. 179, no. 3, pp. 391-400, 2012.
7. L. Merino, A. Gilbert, Jesús Capitán, R. Bowden, J. Illingworth, A. Ollero, Data Fusion in Ubiquitous Networked Robot Systems for Urban Services, Annals of Telecommunications, special issue on Ubiquitous Networked Robots, Vol. 67, No. 7-8, 2012.
8. Rajneesh Sharma and Matthijs T. J. Spaan, PuBayesian Game Based Fuzzy Reinforcement Learning Control for Decentralized POMDPs, IEEE Transactions on Computational Intelligence and AI in Games, 4(4):309-328, 2012.
9. Jorge JP, Figueiredo P, van der Zwaag W, Marques JP, Signal fluctuations in fMRI data acquired with 2D-EPI and 3D-EPI at 7 Tesla. Magn. Reson. Imag., 2012 [Epub ahead of print]
10. Murta T, Leal A, Garrido M, Figueiredo P, Dynamic Causal Modelling of epileptic seizure propagation pathways: a combined EEG-fMRI study. NeuroImage 62(3): 1634-1642, 2012.
11. Lemos R, Figueiredo P, Santana I, Simões MR, Castelo-Branco M, Temporal integration of 3D coherent motion cues defining simple objects of unknown orientation is impaired in amnesic Mild Cognitive Impairment and Alzheimer's Disease. Journal of Alzheimer's Disease 28(4):885-96, 2012.
12. Khovanov, M., A. Lauda, M. A. Mackaay, and M. Stosic (2012). Extended graphical calculus for categorified quantum  $sl(2)$ . Mem. Amer. Math. Soc. 219 (1029). arXiv:1006.2866, 2012.
13. M. Dodig, M. Stosic, Explicit solution of the Carlson problem, Linear Algebra and its Applications 436, No.1, 190-201, 2012.
14. Rodrigues, J.M.F., Lam, R., du Buf, J.M.H., Cortical 3D Face and Object Recognition Using 2D Projections, International Journal of Creative Interfaces and Computer Graphics, Vol. 3, No 1, pp. 45-6, 2012.

15. Serrão, M., Rodrigues, J.M.F., Rodrigues, J.I. and du Buf, J.M.H, Indoor localization and navigation for blind persons using visual landmarks and a GIS, *Procedia Computer Science*, Vol. 14, pp. 65 – 73. doi: 10.1016/j.procs.2012.10.008, 2012.
16. Moreno, M., Shahrabadi, S., José, J., du Buf, J.M.H. and Rodrigues, J.M.F., Realtime local navigation for the blind: detection of lateral doors and sound interface, *Procedia Computer Science* Vol. 14, pp. 74 – 82, 2012.
17. C. Barata, J. S. Marques, J. Rozeira, A System for the Detection of Pigment Network in Dermoscopy Images Using Directional Filters, *IEEE Transactions on Biomedical Engineering*, vol. 59, 2744 - 2754, 2012.
18. D. Jakovetic, J. M. F. Moura, J. Xavier, Distributed Detection over Noisy Networks: Large Deviations Analysis, *IEEE Transactions on Signal Processing*, Vol. 60, No. 8, August 2012.
19. D. Bajović, D. Jakovetić, J. Xavier, B. Sinopoli, J.M.F.Moura, Large Deviations Performance of Consensus+Innovations Distributed Detection with Non-Gaussian Observations, *IEEE Transactions on Signal Processing*, Vol. 60, No. 11, November 2012.
20. O.C. Rodríguez, J. Collis, H. Simpson, E. Ey, J. Schneiderwind, P. Felisberto, Seismo-acoustic ray model benchmarking against experimental tank data, *Journal of the Acoustical Society of America*, 132, No.2, pp.709-717. doi:10.1121/1.4734236, 2012.
21. J. Mota, J. Xavier, P. Aguiar, M. Püschel, Distributed Basis Pursuit, *IEEE Transactions Signal Processing*, Vol. 60, Issue: 4, 2012.
22. Martins, J.A., Rodrigues, J.M.F. and du Buf, J.M.H., Local object gist: meaningful shapes and spatial layout at a very early stage of visual processing, *Gestalt Theory*, Vol. 34, No. 3/4, pp. 349-380 (ISSN 0170-057 X), 2012.
23. Edited by Mario Hernandez, JordiVitria and Joao Miguel Sanches, Best Papers of Iberian Conference on Pattern Recognition and Image Analysis (IbPRIA'2011), *Pattern Recognition*, Volume 45, Issue 9 September 2012.
24. L. Bandeira, J. S. Marques, J. Saraiva, P. Pina, Advances in Automated Detection of Sand Dunes on Mars, *Earth Surface Processes and Landforms*, *Earth Surface Processes and Landforms*, article first published online: 27 SEP 2012. DOI: 10.1002/esp.3323, 2012.
25. M. Paladini, A. Del Bue, J. Xavier, L. Agapito, M. Stosic, M. Dodig, Optimal metric projections for deformable and articulated structure-from-motion, *International Journal of Computer Vision archive*, Vol. 96, Issue 2, January 2012, pp. 252-276, 2012.
26. U. RajendraAcharya, S. VinithaSree, Ricardo Ribeiro, GanapathyKrishnamurthi, RuiTatoMarinho, JoãoSanches, and Jasjit S. Suri, Data mining framework for fatty liver disease classification in ultrasound: A hybrid feature extraction paradigm, *Medical Physics / Volume 39 / Issue 7 / Ultrasound Physics*, 2012.
27. Oliveira, TF; Ferreira, L; Sanches, J; Paiva, T, An exploratory study of dissociated states during sleep in patients with fibromyalgia, *Journal of Sleep Research*, Vol. 21, Special Issue: Supplement: 1, Pages: 165, 2012.
28. U RajendraAcharya, Oliver Faust, VinithaSree S, A P C Alvin, GanapathyKrishnamurthi, José C R Seabra, JoãoSanches, Jasjit S Suri, Understanding symptomatology of atherosclerotic plaque by image-based tissue characterization, *Computer methods and programs in biomedicine* [Epub ahead of print], 2012.

29. J. S. Marques, M. Barão, J. M. Lemos, Alignment of velocity fields for video surveillance, *Pattern Recognition Letters*, Vol. 33, 1632-1637, September 2012.
30. Wenya Nan, Joao Pedro Rodrigues, Jiali Ma, Xiaoting Qu, Feng Wan, Mang I Vai, Agostinho Rosa. (2012) Individual alpha neurofeedback training effect on short term memory. *International Journal of Psychophysiology*, vol. 86, Issue 1, pp 83-87, 2012.
31. Vasco Rui Carvalho Pereira Fernandes Fachada, Nuno Fachada, Tuomas Turpeinen, Paavo Rahkila, Agostinho Rosa and Heikki Kainulainen. (2012) TopoCell – An image analysis tool to study intracellular topography. *The Federation of American Society of Experimental Biology Journal (FASEB)*. 2012; 26:578.2.
32. Fernández-Ares, A.M. Mora, J.J. Merelo, P. García-Sánchez, C.M. Fernandes, “Effect of Noisy Fitness in Real-Time Strategy Games Player Behaviour Optimisation Using Evolutionary Algorithms”, *Journal of Computer Science and Technology*, *Journal of Computer Science and Technology*, 27(5), pp. 1007-1023, 2012.
33. Enric Xargay, Vladimir Dobrokhodov, Isaac Kaminer, Antonio Pascoal, Naira Hovakimyan, and Chengyu Cao, Time-Critical Cooperative Control of Multiple Autonomous Vehicles: Robust decentralized strategies for path-following control and time-coordination over dynamic communications networks, *IEEE Control Systems Magazine*, Vol. 32 No.5, pp. 49-73, October 2012.
34. Marco Morgado, Pedro Batista, Paulo Oliveira, and Carlos Silvestre, Attitude estimation for Intervention-AUVs working in Tandem with Autonomous Surface, *European Journal of Control*, Volume 18, No. 5, Pages: 485-495, October 2012.
35. Bruno Guerreiro, Carlos Silvestre, and Rita Cunha, Terrain Avoidance Nonlinear Model Predictive Control for Autonomous Rotorcraft, *Journal of Intelligent & Robotic Systems*, Volume 68, Issue 1, pages: 69-85, September 2012.
36. L. P. Perera, C. Guedes Soares, and Paulo Oliveira, Maritime Traffic Monitoring Based on Vessel Detection, Tracking, State Estimation, and Trajectory Prediction, *Transactions on Intelligent Transportation Systems*, IEEE, vol. 13, nº 3, pp. 1188-1200, September 2012.
37. Pedro Batista, Carlos Silvestre, and Paulo Oliveira, Sensor-based Globally Asymptotically Stable Filters for Attitude Estimation: Analysis, Design, and Performance Evaluation, *IEEE Transactions on Automatic Control*, Volume 57, Issue 8, Pages: 2095 – 2100, August 2012.
38. João Almeida, Carlos Silvestre, and António Pascoal, Continuous-time consensus with discrete-time communications, *Elsevier Systems and Control Letters*, Volume 61, Issue 7, Pages: 788-796, July 2012.
39. David Cabecinhas, R. Naldi, L. Marconi, Carlos Silvestre, and Rita Cunha, Robust Take-off for a Quadrotor Vehicle, *IEEE Transactions on Robotics*, Volume: 28, Issue: 3, Pages: 734 – 742, June 2012.
40. Duarte Antunes, J. P. Hespanha, and Carlos Silvestre, Volterra Integral Approach to Impulsive Renewal Systems: Application to Networked Control, *IEEE Transactions on Automatic Control*, Volume 57, No. 3, Pages: 607-619, March 2012.
41. Daniel Viegas, Pedro Batista, Paulo Oliveira, Carlos Silvestre, Decentralized H2 observers for position and velocity estimation in vehicle formations with fixed topologies, *Elsevier Systems and Control Letters*, Volume 61, Issue 3, March 2012, Pages 443-453, March 2012.
42. João Almeida, Carlos Silvestre, and António Pascoal, Cooperative control of multiple surface vessels with discrete-time periodic communications, *International Journal of Robust and Nonlinear Control*, Volume 22, Pages: 398–419, Pages: 398–419, March 2012.



43. Pedro Batista, Carlos Silvestre, and Paulo Oliveira, A GES attitude observer with single vector observations, Elsevier Automatica, Volume 48, Issue 2, Pages: 388–395, February 2012.
44. Pedro Batista, Carlos Silvestre, and Paulo Oliveira, Globally exponentially stable cascade observers for attitude estimation, Elsevier Control Engineering Practice, Volume 20, Issue 2, Pages: 148–155, February 2012.
45. OmidNamaki-Shoushtari, A. Pedro Aguiar, and Ali Khaki Sedigh, Target Tracking of Autonomous Robotic Vehicles using Range-only Measurements: A Switched Logic-Based Control Strategy, International Journal of Robust and Nonlinear Control, Vol. 22, Issue 17, pp. 1983-1998, 2012.

#### e) In International Conferences (184)

1. M. Silva, R. Ferreira, J. Gaspar, Camera Calibration using a Color-Depth Camera: Points and Lines Based DLT including Radial Distortion, In WS in Color-Depth Camera Fusion in Robotics, held with IROS 2012, October 7, 2012, Vilamoura, Portugal.
2. Nuno Moutinho, Martim Brandão, Ricardo Ferreira, José Gaspar, Alexandre Bernardino, Atsuo Takanishi, José Santos-Victor, Online Calibration of a Humanoid Robot Head from Relative Encoders, IMU Readings and Visual Data, IROS 2012.
3. Ricardo Galego, Alexandre Bernardino, José Gaspar, Auto-calibration of Pan-Tilt Cameras including Radial Distortion and Zoom, International Symposium on Visual Computing (ISVC), July 16-18, Crete, Greece, 2012.
4. R. de Souza, A. Bernardino, J. Santos-Victor, A. Billard, On the Representation of Anthropomorphic Robot Hands: Shape versus Function, HUMANOIDS 2012.
5. R. Figueiredo, A. Shukla, D. Aragão, P. Moreno, A. Bernardino, J. Santos-Victor, A. Billard, Reaching and Grasping Kitchenware Objects, In SII 2012.
6. F. Veiga and A. Bernardino, Towards Bayesian Grasp Optimization with Wrench Space Analysis, Workshop Beyond Robot Grasping at IROS 2012.
7. J. Ruesch, R. Ferreira and A. Bernardino, Toward Self-Organization of Visual Sensorimotor Structures, In Biologically Inspired Cognitive Architectures 2012, Palermo, Italy.
8. U. Prieur, V. Perdereau, A. Bernardino, Modeling and Planning High\*-Level In\*-Hand Manipulation Actions from Human Knowledge and Active Learning from Demonstration, In IROS 2012, Vilamoura, Portugal.
9. J. Ruesch, R. Ferreira and A. Bernardino, Self-organization of Visual Sensor Topologies Based on Spatio-temporal Cross-correlation, In Simulation of Adaptive Behaviour 2012, Odense, Denmark.
10. Sébastien Gay, Auke Jan Ijspeert, José Santos-Victor, Predictive gaze stabilization during periodic locomotion based on Adaptive Frequency Oscillators, in ICRA 2012: 271-278, 2012.
11. Bogdan Moldovan, Plinio Moreno, Martijn van Otterlo, José Santos-Victor, Luc De Raedt, Learning relational affordance models for robots in multi-object manipulation tasks, in ICRA 2012: 4373-4378.
12. Bruno D. Damas, José Santos-Victor, An online algorithm for simultaneously learning forward and inverse kinematics, in IROS 2012: 1499-1506, 2012.

13. M. Neumann, R. Garnett, P. Moreno, N. Patricia, K. Kersting, Propagation kernels for partially labeled graphs, In Proc. Workshop on mining and learning with graphs, 2012.
14. DaneshTarapore, A. Christensen, Pedro Lima, J. Carneiro, Environment classification in multiagent systems inspired by the adaptive immune system, Proc. of the ALife 13th International Conference on the Synthesis and Simulation of Living Systems, MIT Press, Boston, MA, USA, p. 275-282, 2012.
15. Jesús Capitán, Matthijs Spaan, L. Merino, A. Ollero, Decentralized Multi-Robot Cooperation with Auctioned POMDPs, Proc. of ICRA 2012 - IEEE International Conference on Robotics and Automation, St. Paul, USA, 2012.
16. Tarapore, A. Christensen, Pedro Lima, J. Carneiro, Clonal expansion without self-replicating entities, Danesh Proc. of ICARIS - 11th International Conference on Artificial Immune Systems, Springer, Berlin, Germany, pp. 191-204, 2012.
17. Alberto Vale, D. Fonte, F. Valente, M. Isabel Ribeiro, C. Gonzalez, Flexible Path Optimization for the Cask and Plug Remote Handling System in ITER, Proc. of SOFT 2012 - 27th Symposium on Fusion Technology, Liège, Belgium, 2012
18. J. Ferreira, Alberto Vale, M. Isabel Ribeiro, Localization of Cask and Plug Remote Handling System in ITER, Proc. of SOFT2012 - 27th Symposium on Fusion Technology, Liège, Belgium, 2012.
19. Carlos Bispo, Active Idleness Scheduler with Simulated Annealing, Proc. of INCOM 2012 - 14th IFAC Symposium on Information Control Problems in Manufacturing, Bucharest, Romania, 2012.
20. Meysam Basiri, F. Schill, Pedro Lima, D. Floreano, Robust Acoustic Source Localization of Emergency Signals from Micro Air Vehicles, Proc. of IROS 2012 - IEEE/RSJ International Conference on Intelligent Robots and Systems, Vilamoura, Algarve, Portugal, 2012.
21. Jesús Capitán, Matthijs Spaan, L. Merino, Role-based Cooperation for Environmental Monitoring with Multiple UAVs, IROS Workshop on Robotics for Environmental Monitoring, Vilamoura, Portugal, 2012.
22. P. Lichocki, Danesh Tarapore, L. Keller, D. Floreano, Limitations of response thresholds models of division of labor, Proc. of the ALife 13th International Conference on the Synthesis and Simulation of Living Systems, MIT Press, Boston, MA, USA, pp. 561-562, 2012.
23. S. Khan, A. DSouza, João Sanches, Rodrigo Ventura, Geometric correction of deformed chromosomes for automatic karyotyping, Proc. of EMBC 2012 - 34th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, San Diego, CA, USA, pp. 4438-4441, 2012.
24. M. Veloso, J. Biswas, B. Coltin, S. Rosenthal, Susana Dias Brandão, T. Kollar, C. Mericli, Rodrigo Ventura, CoBots: Collaborative robots, Proc. of IROS 2012 - IEEE/RSJ International Conference on Intelligent Robots and Systems, Vilamoura, Portugal, Jubilee Video, 2012.
25. M. Veloso, J. Biswas, B. Coltin, S. Rosenthal, Susana Dias Brandão, T. Mericli, Rodrigo Ventura, Symbiotic-autonomous service robots for user-requested tasks in a multi-floor building, Proc. of the Workshop on Cognitive Assistive Systems (CAS), IROS 2012 - IEEE/RSJ International Conference on Intelligent Robots and Systems, Vilamoura, Portugal, 2012. URL:
26. I. Filip, Alberto Vale, Rodrigo Ventura, Logistics management for parking multiple cask plug and remote handling systems in ITER, Proc. of SOFT2012 - 27th Symposium on Fusion Technology, Liège, Belgium, 2012 -

27. F. Jesus, Rodrigo Ventura, Combining monocular and stereo vision in 6D-SLAM for the localization of a tracked wheel robot, Proc. of SSRR 2012 - 10th IEEE International Symposium on Safety, Security, and Rescue Robotics, College Station, TX, USA, 2012.
28. P. Vieira, Rodrigo Ventura, Interactive mapping in 3D using RGB-D data, Proc. of SSRR 2012 - 10th IEEE International Symposium on Safety, Security, and Rescue Robotics, College Station, TX, USA, 2012.
29. J. Mendes, Rodrigo Ventura, Safe teleoperation of a quadrotor using Fast SLAM, Proc. of SSRR 2012 - 10th IEEE International Symposium on Safety, Security, and Rescue Robotics, College Station, TX, USA, 2012.
30. Pedro Vieira, Rodrigo Ventura, Interactive Mapping using Range Rensor Data Under Localization Uncertainty, Proc. of PEMRA 2012 - 1st International Workshop on Perception for Mobile Robots Autonomy, Poznan, Poland, 2012.
31. Pedro Vieira, Rodrigo Ventura, Interactive 3D Scan-Matching Using RGB-D Data, Proc. of ETFA - 17th IEEE International Conference on Emerging Technologies & Factory Automation, Kraków, Poland, 2012.
32. Alberto Vale, F. Valente, M. Isabel Ribeiro, J. Ferreira, Rodrigo Ventura, Motion planning and localization approaches for mobile robot navigation in ITER, Proc. of Robotica 2012, Guimarães, Portugal. pp. 75-80, 2012.
33. Carlos Neves, Rodrigo Ventura, Survey of semi-passive locomotion methodologies for humanoid robots, Proc. of CLAWAR 2012 - International Conference on Climbing and Walking Robots and the Support Technologies for Mobile Machines, Baltimore, MD, USA, 2012.
34. F. Jesus, Rodrigo Ventura, Simultaneous localization and mapping for tracked wheel robots combining monocular and stereo vision, Proc. of PEMRA 2012 - 1st International Workshop on Perception for Mobile Robots Autonomy, Poznan, Poland, 2012.
35. D. Dias, Rodrigo Ventura, Absolute localization for low capability robots in structured environments using barcode landmarks, Proc. of PEMRA 2012 - 1st International Workshop on Perception for Mobile Robots Autonomy, Poznan, Poland, 2012.
36. Joao Sequeira and Marco diVittori, Motorbike Modeling and Control, Proc. of the 9th International Conference on Informatics, Control, Automation and Robotics (ICINCO 2012), Rome, Italy, 28-31 July 2012.
37. J. Silva, C. Santos, J. Sequeira, Timed Trajectory Generation for a Vision-Based Autonomous Mobile Robot in a Hospital Environment, Proc. of the 9th International Conference on Informatics, Control, Automation and Robotics (ICINCO 2012), Rome, Italy, 28-31 July 2012.
38. J. Sequeira, C. Santos, J. Silva, Dynamical Systems in Robot Control Architectures: A Building Block Perspective, Proc. of the 12th International Conference on Control, Automation, Robotics and Vision (ICARCV 2012), Guangzhou, China, 5-7- Dec 2012.
39. Jorge Silva, Cristina P. Santos and Joao Sequeira, Timed Trajectory Generation Combined with an Extended Kalman Filter for a Vision-Based Autonomous Mobile Robot, Proc. of the 12th International Conference on Intelligent Autonomous Systems (IAS-12), Jeju, Korea, June 26-29, 2012.
40. João Sequeira, Antonios Tsourdos, Hyo-Sang Shin, S-estimators in mapping applications, Proc. of the 15th International Conference on Information Fusion (Fusion 2012), Singapore July 9-12, 2012.
41. Fernando Silva, Diogo Lopes, João Sequeira, Designing Transformers for the Power Supply of a Transmission Line Inspection Robot, Proc. CIGRÉ Canada Conference, Montréal (Québec), Sept 24-26, 2012.

42. Leite M, Murta T, Vulliemoz S, Carmichael D, Figueiredo P, Lemieux L (2012). Narrow-band artefact correction in multiple-channel acquisitions: application to EEG recorded during fMRI. Proc. 29th Annual Scientific Meeting of the ESMRMB, Lisbon, Portugal, October 2012.
43. Jorge J, Figueiredo P, Gruetter R, va der Zwaag W (2012). Intra and cross-modal negative BOLD response to contrast-varying visual stimuli. Proc. 29th Annual Scientific Meeting of the ESMRMB, October 2012, Lisbon, Portugal.
44. Sousa I, Vilela P, Figueiredo P (2012). Regional variations of vascular delays during cued deep breathing. Proc. 29th Annual Scientific Meeting of the ESMRMB, Lisbon, Portugal, October 2012.
45. Sousa I, Vilela P, Figueiredo P (2012). Comparing CBF and BOLD dynamics in response to cued deep breathing. Proc. 29th Annual Scientific Meeting of the ESMRMB, Lisbon, Portugal, October 2012.
46. Pinto J, Jorge J, Vilela P, Figueiredo P (2012). Spatiotemporal dynamics of the ASL CBF and BOLD responses to breath-holding. Proc. 29th Annual Scientific Meeting of the ESMRMB, Lisbon, Portugal, October 2012.
47. Sousa M, Silveira M, Vilela P, Nunes de Oliveira S, Figueiredo P (2012). ASL perfusion and structural MRI for computer aided diagnosis in dementia. Proc. 29th Annual Scientific Meeting of the ESMRMB, Lisbon, Portugal, October 2012.
48. Osório P, Rosa P, Silvestre C, Figueiredo P (2012). Stochastic Dynamic Causal Modelling with Multiple-Model Kalman Filters. Proc. 7th International Workshop on Biosignal Interpretation (BSI2012) July 2-4, Como, Italy, 2012.
49. Osório P, Rosa P, Figueiredo P, Silvestre C (2012). DCM Model Selection with Multiple Model Kalman Filters. Proc. 18th Annual Meeting of the Organization for Human Brain Mapping (HBM 2012), Beijing, China, June 2012,
50. Leite M, Chaudhary U, Rodionov R, Carmichael D, Lemieux L, Figueiredo P (2012). EEG spectrum - BOLD correlations in epilepsy. Proc. 18th Annual Meeting of the Organization for Human Brain Mapping (HBM 2012), Beijing, China, June 2012.
51. Murta T, Leite M, Figueiredo P (2012). A study on the sensitivity of DCM inferences to haemodynamic variability. Proc. 18th Annual Meeting of the Organization for Human Brain Mapping (HBM 2012), Beijing, China, June 2012.
52. Jorge J, Vilela P, van der Zwaag, Figueiredo P (2012). Improving the characterization of the BOLD response to breath-hold challenges. Proc. 18th Annual Meeting of the Organization for Human Brain Mapping (HBM 2012), Beijing, China, June 2012.
53. Portelo A, Sousa I, Vilela P, Figueiredo P (2012). Non-invasive CVR assessment using ASL and BOLD. European Congress of Radiology (ECR 2012), Vienna, Austria, March 2012.
54. Rosa P, Silvestre C, Figueiredo P (2012). HRF Model Selection in Fmri Using Kalman Filtering. American Control Conference, Montreal, Canada, June 2012.
55. Barriga, F.J.A.S., J.M.R.S. Relvas, A. Pascoal, R.S. Santos (2012) Exploration for Sub-Seafloor Massive Sulphide Deposits. Workshop on Deep Sea and Sub-Seafloor Frontier (DS3F) Sitges (Barcelona) Spain, 11-14 March, 2012.
56. Pedro Torres, JoãoSanches, Paulo Gonçalves, Jorge Martins, Femur Reconstruction using a Robotized Ultrasound, Proc. of IEEE International Conference on Biomedical Robotics and Biomechanics, June 24-27, Rome, Italy, 2012.

57. Oliveira, T.F., Sitges, C., Alves, H., Sanches, J., Paiva, T. & Montoya, P., Sensorial and affective pain images: is there dissociation in Fibromyalgia brain processing?, Proc of III International Symposium for the Study of Chronic pain and Fibromyalgia – (Palma de Mallorca - Spain), 12-13 July, 2012.
58. David Afonso, José Seabra, Jasjit S. Suri and J. Miguel Sanches, A CAD system for Atherosclerotic Plaque Assessment, Proc. of the 34th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, San Diego, USA, August/September 2012.
59. RuiTatoMarinho and J. Miguel Sanches, Global and Local Detection of Liver Steatosis from Ultrasound, Proc. of the 34th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, San Diego, USA, August/September 2012.
60. A. Domingues, Teresa Paiva and J. M. Sanches, An actigraphy heterogeneous mixture model for sleep assessment, Proc. of the 34th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, San Diego, USA, August/September 2012.
61. Oliveira, T.F., Ferreira, L., Sanches, J.M., Paiva, Dissociated states during sleep in fibromyalgia and healthy controls, T. Neuroscience 2012 – Society for Neuroscience Annual Meeting – (New Orleans, LA., EUA), October, 2012
62. AlexandreDomingues, Teresa Paiva and J. M. Sanches, Statistical Characterization of Actigraphy Data for Sleep/Wake Assessment, proc. of the 7th International Workshop on Biosignal Interpretation (BSI 2012), Como, Italy on July 2-4th 2012.
63. Isabel Rodrigues, J. Miguel Sanches, Differential equation model for fading in fluorescence microscopy images, Proc. of the International Symposium in Applied Bioimaging bridging development and application, Porto, September 20-21, 2012
64. J. Miguel Sanches, Joana Figueiredo, Isabel Rodrigues, Raquel Seruca, Characterization of E-Cadherin Distribution from Fluorescence Images, Proc. of the International Symposium in Applied Bioimaging bridging development and application, Porto, September 20-21, 2012
65. Carlos Carreiras, Luís Borges de Almeida and J. Miguel Sanches, Phase-Locking Factor in a Motor Imagery Brain-Computer Interface, Proc. of the 34th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, San Diego, USA, August/September 2012.
66. A. Barata, J. S. Marques, T. Mendonça, On the Role of Texture and Color in the Classification of Dermoscopy Images, Proc. of the International Conference of the IEEE Engineering in Medicine and Biology Society, San Diego, September 2012.
67. J. C. Nascimento, J. M. Lemos, J. S. Marques, A Class of Parametric Vector Fields for Human Activity Recognition, Proc. of the IEEE International Conference on Image Processing (ICIP 2012), Orlando, October 2012.
68. A. Barata, J. S. Marques, J. Rozeira, A System for the Automatic Detection of Pigment Network, Proc. of the IEEE International Symposium on Biomedical Imaging (ISBI 2012), Barcelona, May 2012.
69. M. V. Afonso, J. S. Marques, J. C. Nascimento, Automatic Estimation of Multiple Motion Fields Using Object Trajectories and Optical Flow, Proc. of the International Conference on Pattern Recognition Applications and Methods, Vilamoura, Algarve, 2012.
70. T. Simão, M. Barão, J. S. Marques, Recursive Bayesian Identification of Nonlinear Autonomous Systems, Proc. IEEE Mediterranean Conference on Control and Automation, Barcelona, July 2012

71. G. Carneiro, N. Pinho da Silva, A. Del Bue, J.P. Costeira, Artistic Image Classification: An Analysis on the PRINTART Database, Proc. of the 12th European Conference on Computer Vision, ECCV2012, Florence, Italy, 2012.
72. A. Bicacro, M. Silveira, J. S. Marques, Alternative feature selection methods in 3D brain image-based diagnosis of Alzheimer's Disease, Proc. of the IEEE International Conference on Image Processing, Florida, USA, 2012.
73. P. Felisberto, P.J. Santos, O.C. Rodríguez, S.M. Jesus, The vertical pressure gradient in geoacoustic inversion (invited), Proc. of SERENADE'2012, Grenoble (France).
74. S. Brandao, M. Veloso, J. P. Costeira, Joint Alignment and Stitching of Non Overlapping Meshes, Workshop on Color-Depth Cameras in Robotics, IROS12, Vilamoura, Portugal, 2012.
75. S.M. Jesus, Environmental-friendly Underwater Acoustic Communication and Networks (Keynote Speaker), Proc. of UCOMMS'12 Conference, Sestri Levante (Italy), 2012.
76. A. Bicacro, M. Silveira, J. S. Marques, D. Costa, 3D Brain Image-based diagnosis of Alzheimer's Disease: Bringing medical vision into feature selection, Proc. of IEEE International Symposium on Biomedical Imaging, Barcelona, 134-137, Spain, 2012.
77. S. Ijaz, A. Silva, S.M. Jesus, Arrival-Based Equalizer for Underwater Communication Systems, Proc. of UCOMMS'12 Conference, Sestri Levante (Italy), 2012. URL:
78. O.C. Rodríguez, P. Felisberto, E. Ey, J. Schneiderwind S.M. Jesus, Vector sensor geoacoustic estimation with standard arrays, Proc. of the 11th European Conference on Underwater Acoustics, Edinburgh (Scotland), 2012.
79. P. Felisberto, F. Zabel, C. Martins, S.M. Jesus, Acoustic monitoring of the oxygen production of a seagrass meadow, Proc. of 11th European Conference on Underwater Acoustics, Edinburgh (Scotland), 2012.
80. P. Felisberto, O.C. Rodríguez, S.M. Jesus, Estimating the multipath structure of an underwater channel using a single vector sensor, Proc. of the 11th European Conference on Underwater Acoustics, Edinburgh (Scotland), 2012.
81. S.M. Jesus, An integrated vision for environmental monitoring and the role of acoustic communication networks (invited), Proc. of SERENADE'2012, Grenoble (France), 2012.
82. Eduardo Bicacro, Margarida Silveira, Jorge S. Marques, Alternative feature selection methods in 3D brain image-based diagnosis of Alzheimer's Disease, Proc. of the IEEE International Symposium on Biomedical Imaging, Barcelona, Spain, 2012.
83. S. Zejnilovic, J. Gomes, B. Sinopoli, Collaborative Diffusive Source Localization in Wireless Sensor Networks, Proc. of the 20th European Signal Processing Conference (EUSIPCO'12), Bucharest, Romania, 2012.
84. D. Bajović, J. Xavier, B. Sinopoli, Products of Stochastic Matrices: Large Deviation Rate for Markov Chain Temporal Dependencies, Proc. of Allerton'12 - Allerton Conference on Communication, Control, and Computing, Urbana-Champaign, IL, USA, 2012.
85. D. Bajović, J. Xavier, B. Sinopoli, Products of Stochastic Matrices: Exact Rate for Convergence in Probability for Directed Networks, Telfor'12 - Telecommunications forum, Belgrade, Serbia, 2012.

86. D. Bajović, J. Xavier, J.M.F.Moura, B. Sinopoli, Exact Rate for Convergence in Probability of Averaging Processes via Generalized Min-Cut, Proc. of CDC'12 - Conference on Decision and Control, Maui, Hawaii, 2012.
87. D. Jakovetic, J. M. F. Moura, J. Xavier, Consensus+Innovations Detection: Phase Transition under Communication Noise, Proc. of Allerton'12 - Allerton Conference on Communication, Control, and Computing, Urbana-Champaign, IL, USA, 2012.
88. C. Santiago, J. S. Marques, J. Nascimento, Robust Deformable Model for Segmenting The Left Ventricle in 3D Volumes of Ultrasound Data, Proc. of the International Conference on Pattern Recognition Applications and Methods, Vilamoura, Algarve, 2012.
89. D. Jakovetic, J. Xavier, J. M. F. Moura, Convergence Rate Analysis of Distributed Gradient Methods for Smooth Optimization, Telfor'12 - Telecommunications forum, Belgrade, Serbia, 2012.
90. D. Jakovetic, J. M. F. Moura, J. Xavier, Distributed Nesterov-like Gradient Algorithms, Proc. of CDC'12 - Conference on Decision and Control, Maui, Hawaii, 2012.
91. Eduardo Bicacro, Margarida Silveira, Jorge S. Marques, Durval C. Costa, 3D Brain Image-based diagnosis of Alzheimer's Disease: Bringing medical vision into feature selection, Proc. of the IEEE International Symposium on Biomedical Imaging, Barcelona, Spain, 2012.
92. Ana Afonso, Margarida Silveira, Hair detection in dermoscopic images using Percolation, Proc. of the 34th IEEE EMBS Annual International Conference, San Diego, 2012.
93. A. Zamanizadeh, J. Gomes, J. Bioucas-Dias, Model-based underwater acoustic source localization and speed estimation using HF transmissions, Proc. of the 12th European Conference on Underwater Acoustics (ECUA'12), Edinburgh, Scotland, 2012.
94. J. Gomes, F. Pacini, M. Luise, G. Bacci, L. Sanguinetti, M. Zorzi, P. Casari, H. Wymeersch, C. Laot, S. Houcke, O. Kebkal, B. Tevene, An overview of project COMPOUND: Cooperative communications and positioning in mobile underwater networks, Future Network & Mobile Summit (FUNEMS'12), Berlin, Germany, 2012.
95. P. Oguz-Ekim, J. Gomes, J. Xavier, P. Oliveira, Experimental evaluation of simultaneous 3D localization of sensor nodes and tracking of moving targets, Proc. of the 20th European Signal Processing Conference (EUSIPCO'12), Bucharest, Romania, 2012.
96. E. Zamanizadeh, J. Gomes, J. Bioucas-Dias, Wavefront segmentation and classification for model-based underwater high-frequency source localization, Proc. of MTS/IEEE OCEANS'12, Hampton Roads, USA, 2012.
97. A. Gameiro, J. Gomes, Implementation of a network of mobile sensors for air quality monitoring, Proc. of the 15th ACM International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems (MSWIM'12), Paphos, Cyprus, 2012.
98. J. Gomes, E. Zamanizadeh, J. Bioucas-Dias, J. Alves, T. Furfaro, Building location awareness into acoustic communication links and networks through channel delay estimation, Proc. of the 7th ACM International Conference on Underwater Networks and Systems (WUWNet'12), Los Angeles, USA, 2012.
99. Saleiro, M., Rodrigues, J.M.F. and du Buf, J.M.H., Minimalistic Vision-based Cognitive SLAM, Proc. of the 4th International Conference on Agents and Artificial Intelligence, Special Session Intelligent Robotics (ICAART-SSIR2012), Vilamoura, Portugal, 6-8 Fev., Vol. 1, pp. 614-623, 2012.

100. D. Jakovetic, J. M. F. Moura, J. Xavier, Fast Cooperative Distributed Learning, Proc. of Asilomar'12 - Asilomar Conference on Signals, Systems, and Computers, Pacific Grove, California, 2012.
101. Farrajota, M., Saleiro, S., Terzic, K., Rodrigues, J.M.H, du Buf, J.M.H, Multi-scale cortical keypoints for realtime hand tracking and gesture recognition, 1st International Workshop on Cognitive Assistive Systems: Closing the Action-Perception Loop (ISBN 978-972-8822-26-2) in conjunction with IEEE/RSJ Int. Conf. on Intelligent Robots and Systems, Vilamoura, Portugal, 7-12 Oct., pp. 9-15, 2012.
102. Martins, J.A. Farrajota, M., Lam, R., Rodrigues, J.M.F, Terzic, K., du Buf, J.M.H., A disparity energy model improved by line, edge and keypoint correspondences, Proc. of the European Conference on Visual Perception, Alghero, Italy, 2-6 Sept., Perception Vol. 41 Suppl., pp. 76.
103. Terzic, K., Rodrigues, J.M.F, du Buf, J.M.H., Fast and accurate multi-scale keypoints based on end-stopped cells, Proc. of the European Conference on Visual Perception, Alghero, Italy, 2-6 Sept., Perception Vol. 41 Suppl., pp. 97.
104. José, J., Moreno, M. Pinilla-Dutoit, J., Rodrigues, J.M.F, du Buf, J.M.H., Blavigator: a navigation aid for blind persons, Proc. of the European Conference on Visual Perception, Alghero, Italy, 2-6 Sept., Perception Vol. 41 Suppl., pp. 99, 2012.
105. Rodrigues, J.M.F., Martins, J., Lam, R., du Buf, J.M.H, Cortical multiscale line-edge disparity model, Proc. of the International Conference on Image Analysis and Recognition, A. Campilho and M. Kamel (Eds.), Part I, LNCS 7324, Springer, Heidelberg, Aveiro, Portugal, 25-27 Jun., pp. 296-303, 2012. doi: 10.1007/978-3-642-31295-3\_35.
106. J. Mota, J. Xavier, P. Aguiar, M. Püschel, ADMM For Consensus On Colored Networks, proc. of the Conference on Decision and Control, Maui, Hawaii, 2012.
107. Rui Leitão, R., Brito, A., Rodrigues, J.M.F., Aplicação de realidade aumentada para o ensino de sólidos geométricos, Proc. of the 6th International Conference on Digital Arts, Algarve, Portugal, 8-9 Nov., pp. 423-426 (Portuguese only).
108. José, J., Rodrigues, J.M.F., du Buf, J.M.H., Visual navigation for the blind: path and obstacle detection, proc. of the International Conference on Pattern Recognition Applications and Methods (ICPRAM 2012), Vilamoura, Portugal, 6-8 Fev. Vol. 2, pp. 515-519.
109. J. Mota, J. Xavier, P. Aguiar, M. Püschel, Distributed ADMM for Model Predictive Control and Congestion Control, Proc. of the Conference on Decision and Control, Maui, Hawaii, 2012.
110. J. Mota, J. Xavier, P. Aguiar, M. Püschel, D-ADMM: A Distributed Algorithm For Compressed Sensing and Other Separable Optimization Problems, Proc. of the International Conference on Acoustics, Speech, and Signal Processing, Kyoto, Japan, 2012.
111. Nuno Leite, Rui Neves, Nuno Horta, Fernando Melicio and Agostinho Rosa, Solving an Uncapacitated Exam Timetabling Problem Instance using a Hybrid NSGA-II, Proc of IJCCI-ECTA 2012.
112. Chin Ian Lou, Feng Wan, Daria Migotina, Joao P Rodrigues, Joao Semedo, Fernando Melicio, J Gomes Pereira, and Agostinho Rosa. Object Recognition Test in Peripheral Vision: A Study on the Influence of Object Color, Pattern and Shape. Proc of Brain Informatics 2012, pp 18-26.
113. Carlos Fernandes, Juan Luis Jiménez Laredo, Carlos Cotta and Agostinho da Rosa. A 2-dimensional Self-organized Framework for Structured Population-based Metaheuristics. Proc of ICCS'12 - IEEE International Congress on Complex Systems, Agadir, Morocco, 2012.



114. DG Migotina, AC Rosa. Segmentation of Sleep EEG Signal by Optimal Threshold. Proceedings of IASTED Biomed 2012, pp 114-121. DOI: 10.2316/P.2012.764-063.
115. DG Migotina, A Calapez, A Rosa. Automatic Artifacts Detection and Classification in Sleep EEG Signals Using Descriptive Statistics and Histogram Analysis: Comparison of Two Detectors. Proc of 2012 Spring World Congress on Engineering and Technology (SCET2012) pp 26-31, 2012.
116. JP Rodrigues, JD Semedo, FM Melicio, JG Pereira, AC Rosa. Peripheral Vision Dynamic test for Athletes. Proceedings of IASTED Biomed 2012, pp 933-938. DOI: 10.2316/P.2012.764-063.
117. Wenya Nan, Joao Pedro Rodrigues, Feng Wan, Peng Un Mak, Pui In Mak, Mang I Vai, Agostinho Rosa. A Further Study on Short Term Memory Improvement by Neurofeedback. Proc ICBEB 2012.
118. Wenya Nan, Lanshin Chang, Joao Pedro Rodrigues, Feng Wan, Mang I Vai, Agostinho Rosa. Neurofeedback for the Treatment of Schizophrenia: Case Study, Proc of VECIMS 2012, TienJin, pp 78-81, 2012.
119. C.M. Fernandes, J.J. Merelo, F. Fernández, A.C. Rosa, "Particle Swarm with Self-Organized Criticality," pool-based based on couch DB," Proceedings of GECCO 2012, pp.1397-1398, ACM, 2012. (<http://dl.acm.org/citation.cfm?id=2330950>).
120. Carlos Fernandes, Juan Merelo, Agostinho Rosa. Pherogenic Drawings: Generating Colored 2-Dimensional Abstract Representations of Sleep EEG with the KANTS Clustering Algorithm. International Conference on Evolutionary Computation Theory and Applications, IJCCI, page 72-80. SciTePress, 2012.
121. Carlos Fernandes, Juan Merelo, Agostinho Rosa. Using Self-Organized Criticality for Adjusting the Parameters of a Particle Swarm Optimization Algorithm. International Conference on Evolutionary Computation Theory and Applications, IJCCI, page 62-71. SciTePress, 2012.
122. C.M. Fernandes, J.J. Merelo, F Fernandez, A.C. Rosa. Generating Colored 2-Dimensional Representations of Sleep EEG with the KANTS Clustering Algorithm, Proceedings of GECCO 2012, pp.435-442, ACM, 2012. (pre-print)
123. Carlos M. Fernandes, Juan L. Laredo, Agostinho C. Rosa and Juan Julián Merelo. Estudio y Optimización de un Operador de Mutación para Algoritmos Genéticos Basado en la Teoría de la Criticalidad Auto-Organizada, MAEB 2012.
124. J.J. Merelo, A.M. Mora, C. M. Fernandes, Anna I. Esparcia-Alcázar, "Validating design choices in a pool-based distributed evolutionary algorithms architecture". Proceedings of GECCO 2012, pp.1517-1518, ACM, 2012.
125. J.J. Merelo, A.M. Mora, C. M. Fernandes, Anna I. Esparcia-Alcázar, "SofEA, a distributed, asynchronous, pool-based based on couch DB", Proceedings of GECCO 2012, pp.109-116, ACM, 2012.
126. A. Fernández-Ares, A.M. Mora, P. García-Sánchez, J.J. Merelo, C.M. Fernandes, "Optimización Evolutiva de Bots Para el Juego Planet Wars," in Proceedings of the VIII Congreso Español sobre Metaheurísticas, Algoritmos Evolutivos y Bioinspirados (MAEB), 2012.
127. J.L.J. Laredo, B. Dorronsoro, J. Pecero, P. Bouvry, J.J. Durillo, C.M. Fernandes, "Designing a Self-Organized Approach for Scheduling Bags-of-Tasks," 2012 Seventh International Conference on P2P, Parallel, Grid, Cloud and Internet Computing (3PGCIC), page 315-320. IEEE (2012).
128. J.J. Merelo, A.M. Mora, C.M. Fernandes, A. Esparcia, J.L.J. Laredo, "Pool vs. island based evolutionary algorithms: an initial exploration", 2012 Seventh International Conference on P2P, Parallel, Grid, Cloud and Internet Computing (3PGCIC), pp.19-24, IEEE, 2012.

129. Carlos M. Fernandes, Antonio Mora, Juan Julián Merelo and Agostinho C. Da Rosa. Towards Swarm Art with KANTS: 2-Dimensional Representations of Sleep EEG with an Ant-based Algorithm. Proc. of ICCS'12, IEEE International Congress on Complex Systems, Agadir, Morocco, 2012.
130. Francisco Curado Teixeira, Antonio Pascoal, PramodMaurya, A Novel Particle Filter Formulation with Application to Terrain-Aided Navigation, Proc. IFAC Workshop on Navigation, Guidance, and Control of Underwater Vehicles (NGCUV'2012), Porto, Portugal, 10-12 April, 2012.
131. PramodMaurya, Francisco Curado Teixeira, Antonio Pascoal, Complementary Terrain/Single Beacon-Based AUV Navigation," Proc. IFAC Workshop on Navigation, Guidance and Control of Underwater Vehicles (NGCUV'2012), Porto, Portugal, 10-12 April, 2012.
132. João Almeida, Carlos Silvestre, Antonio Pascoal, Observer based self-triggered control of an acyclic interconnection of linear plants, 51th IEEE Conference on Decision and Control (CDC 2012), December 10-13, 2012, Maui, Hawaii, USA.
133. João Almeida, Carlos Silvestre, Antonio Pascoal, Observer Based Self-Triggered Control of Linear Plants with Unknown Disturbances, Proc. of the American Control Conference (ACC 2012), June 27-June 29, Montréal, Canada, 2012.
134. V. Hassani, A. Sorenson, A. Pascoal, Evaluation of three dynamic ship positioning controllers: from calm to extreme conditions, Proc. 2012 IFAC Workshop on Automatic Control in Offshore Oil and Gas Production, Norwegian University of Science and Technology, Trondheim, Norway, May 31 - June 1, 2012.
135. V. Hassani, A. Sorenson, A. Pascoal, Robust Dynamic Positioning of Offshore Vessels using Mixed m-Synthesis, Proc. 2012 IFAC Workshop on Automatic Control in Offshore Oil and Gas Production, Norwegian University of Science and Technology, Trondheim, Norway, May 31 - June 1, 2012.
136. Pedro Casau, Ricardo G. Sanfelice, Rita Cunha, and Carlos Silvestre, A Landmark-Based Controller for Global Asymptotic Stabilization on SE(3), 51th IEEE Conference on Decision and Control (CDC 2012), December 10-13, 2012, Maui, Hawaii, USA.
137. SérgioBrás, Paulo Rosa, Carlos Silvestre, and Paulo Oliveira, Fault Detection and Isolation for Inertial Measurement Units, 51th IEEE Conference on Decision and Control (CDC 2012), December 10-13, 2012, Maui, Hawaii, USA.
138. Pedro Serra, Rita Cunha, Carlos Silvestre, and Tarek Hamel, Visual Servo Aircraft Control for Tracking Parallel Curves, 51th IEEE Conference on Decision and Control (CDC 2012), December 10-13, 2012, Maui, Hawaii, USA.
139. David Cabecinhas, SérgioBrás, Carlos Silvestre, Paulo Oliveira, and Rita Cunha, Integrated Solution to Quadrotor Stabilization and Attitude Estimation Using a Pan and Tilt Camera, 51th IEEE Conference on Decision and Control (CDC 2012), December 10-13, 2012, Maui, Hawaii, USA.
140. Pedro Batista, Carlos Silvestre, Paulo Oliveira, Globally Asymptotically Stable Filters for Navigation aided by Direction and Depth Measurements, 51th IEEE Conference on Decision and Control (CDC 2012), December 10-13, 2012, Maui, Hawaii, USA.
141. Pedro Batista, Carlos Silvestre, Paulo Oliveira, GES Integrated LBL/USBL Attitude Determination System for Underwater Vehicles, 51th IEEE Conference on Decision and Control (CDC 2012), December 10-13, 2012, Maui, Hawaii, USA.

142. João Almeida, Carlos Silvestre, Antonio Pascoal, Observer based self-triggered control of an acyclic interconnection of linear plants, 51th IEEE Conference on Decision and Control (CDC 2012), December 10-13, 2012, Maui, Hawaii, USA.
143. Córias J., Sanguino J., and Paulo Oliveira, Quaternion Estimation for Attitude Determination Using Multiple L1 GPS Receivers, 6th ESA Workshop on Satellite Navigation Technologies - Navitec 2012, Noordwijk, Netherlands, December 2012.
144. F. Carreira, C. Christo, D. Valério, M. Ramalho, C. Cardeira, J. Calado, and Paulo Oliveira, 2D PCA-based Localization for Mobile Robots in Unstructured Environments, IEEE/RSJ International Conference on Intelligent Robots and Systems, "Vilamoura, Portugal, October 2012.
145. Pedro Casau, Paulo Rosa, S. Tabatabaeipour, and Carlos Silvestre, Fault Detection and Isolation and Fault Tolerant Control of Wind Turbines Using Set-Valued Observers, 8th IFAC Symposium on Fault Detection, Supervision and Safety of Technical Processes, August 29-31, Mexico City, Mexico, 2012.
146. Paulo Rosa, Pedro Casau, Carlos Silvestre, S. Tabatabaeipour, and J. Stoustrup, A Set-Valued Approach to FDI and FTC: Theory and Implementation Issues, 8th IFAC Symposium on Fault Detection, Supervision and Safety of Technical Processes, August 29-31, Mexico City, Mexico, 2012.
147. Pinar Ekim, João Gomes, João Xavier, and Paulo Oliveira, Experimental Evaluation of Simultaneous Localization of Sensor Nodes and Tracking a Robot/Human, 20th European Signal Processing Conference - EUSIPCO 2012, Bucharest, Romania, August 2012.
148. Rosa, Paulo, Tiago Simão, Lemos, Joao, Silvestre, Carlos, Multiple-Model Adaptive Control of an Air Heating Fan using Set-Valued Observers, Proc. 20th Mediterranean Conference on Control and Automation, Barcelona, Spain, July 3-6, 2012.
149. Sérgio Brás, Paulo Rosa, Carlos Silvestre, and Paulo Oliveira, Set-Valued Observers for Attitude and Rate Gyros Bias Estimation, Proc. of the American Control Conference (ACC 2012), June 27-June 29, Montréal, Canada, 2012.
150. Duarte Antunes, W.P.M.H. Heemels, J.P. Hespanha, and Carlos Silvestre, Scheduling Measurements and Controls Over Networks - Part I: Rollout Strategies for Protocol Design, Proc. of the American Control Conference (ACC 2012), June 27-June 29, Montréal, Canada, 2012.
151. Duarte Antunes, W.P.M.H. Heemels, J.P. Hespanha, and Carlos Silvestre, Scheduling Measurements and Controls Over Networks - Part II: Rollout Strategies for Simultaneous Protocol and Controller Design, Proc. of the American Control Conference (ACC 2012), June 27-June 29, Montréal, Canada, 2012.
152. Pedro Casau, David Cabecinhas, and Carlos Silvestre, Almost Global Stabilization of a Vertical Take-Off and Landing Aircraft in Hovered Flight, Proc. of the American Control Conference (ACC 2012), June 27-June 29, Montréal, Canada, 2012.
153. Pedro Casau, Paulo Rosa, and Carlos Silvestre, Wind Turbines Fault Detection and Identification Using Set-Valued Observers, Proc. of the American Control Conference (ACC 2012), June 27-June 29, Montréal, Canada, 2012.
154. David Cabecinhas, Rita Cunha, and Carlos Silvestre, Saturated Output Feedback Control of a Quadrotor Aircraft, Proc. of the American Control Conference (ACC 2012), June 27-June 29, Montréal, Canada, 2012.
155. Pedro Batista, Carlos Silvestre, and Paulo Oliveira, A Two-Step Control Strategy for Docking of Autonomous Underwater Vehicles, Proc. of the American Control Conference (ACC 2012), June 27-June 29, Montréal, Canada, 2012.

156. Paulo Rosa, J. M. Lemos, T. Mendonça, and Carlos Silvestre, A Set-Valued Observer Approach to Multiple-Model Adaptive Control of Neuromuscular Blockade, Proc. of the American Control Conference (ACC 2012), June 27-June 29, Montréal, Canada, 2012.
157. Almeida, João, Silvestre, Carlos, Pascoal, Antonio, Observer Based Self-Triggered Control of Linear Plants with Unknown Disturbances, Proc. of the American Control Conference (ACC 2012), June 27-June 29, Montréal, Canada, 2012.
158. Bruno Guerreiro, Pedro Batista, Carlos Silvestre, and Paulo Oliveira, Sensor-Based Simultaneous Localization and Mapping - Part I: GAS Robocentric Filter, Proc. of the American Control Conference (ACC 2012), June 27-June 29, Montréal, Canada, 2012.
159. Bruno Guerreiro, Pedro Batista, Carlos Silvestre, and Paulo Oliveira, Sensor-Based Simultaneous Localization and Mapping - Part II: Online Inertial Map and Trajectory Estimation, Proc. of the American Control Conference (ACC 2012), June 27-June 29, Montréal, Canada, 2012.
160. Daniel Viegas, Pedro Batista, Paulo Oliveira, and Carlos Silvestre, Decentralized Range-Based Linear Motion Estimation in Acyclic Vehicle Formations with Fixed Topologies, Proc. of the American Control Conference (ACC 2012), June 27-June 29, Montréal, Canada, 2012.
161. Pedro Batista, Carlos Silvestre, and Paulo Oliveira, GAS ocean current estimation with limited velocity readings, IFAC Workshop on Navigation, Guidance and Control of Underwater Vehicles (NGCUV'2012), Porto, Portugal, April, 2012.
162. P. Sanz, P. Ridao, G. Oliver, G. Casalino, C. Insaurralde, and C. Silvestre, TRIDENT: Recent Improvements about Autonomous Underwater Intervention Missions, IFAC Workshop on Navigation, Guidance and Control of Underwater Vehicles (NGCUV'2012), Porto, Portugal, April, 2012.
163. Marco Morgado, Pedro Batista, Paulo Oliveira, and Carlos Silvestre, Attitude Filter for Intervention-AUVs working in Tandem with Autonomous Surface Craft, IFAC Workshop on Navigation, Guidance and Control of Underwater Vehicles (NGCUV'2012), Porto, Portugal, April, 2012.
164. Daniel Viegas, Pedro Batista, Paulo Oliveira, and Carlos Silvestre, Position and Velocity Filters for Intervention AUVs based on Single Range and Depth Measurements, IEEE International Conference on Robotics and Automation ICRA, St. Paul, Minnesota, USA, May 2012.
165. V. Cichella, I. Kaminer, E. Xargay, V. Dobrokhodov, N. Hovakimyan, A. Pedro Aguiar, and A. Pascoal, A Lyapunov-based approach for Time-Coordinated 3D Path-Following of Multiple Quadrotors, in Proc. of CDC'12 - 51st IEEE Conference on Decision and Control, Maui, Hawaii, USA, Dec. 2012.
166. Alessandro Saccon, A. Pedro Aguiar, Andreas J. Häusler, John Hauser, and António Pascoal, Constrained Motion Planning for Multiple Vehicles on SE(3), in Proc. of CDC'12 - 51st IEEE Conference on Decision and Control, Maui, Hawaii, USA, Dec. 2012.
167. Alessandro Marino, Gianluca Antonelli, A. Pedro Aguiar, and Antonio Pascoal, A new approach to multi-robot harbour patrolling: theory and experiments, in Proc. of IROS'12 - IEEE/RSJ International Conference on Intelligent Robots and Systems, Vila Moura, Algarve, Portugal, Oct. 2012.
168. I Kaminer, E. Xargay, V. Cichella, N. Hovakimyan, A. Pascoal, A. Pedro Aguiar, V. Dobrokhodov, and R. Ghabcheloo, Time-Critical Cooperative Path Following of Multiple UAVs: Case Studies, Itzhack Y. Bar-Itzhack Memorial Symposium on Estimation, Navigation, and Spacecraft Control, Haifa, Israel, Oct. 2012.

169. Mohammadreza Bayat and A. Pedro Aguiar, Observability Analysis for AUV Range-only Localization and Mapping: Measures of Unobservability and Experimental Results, in Proc. of MCMC'12 - 9th IFAC Conference on Manoeuvring and Control of Marine Craft, Arenzano, Italy, Sep. 2012.
170. Andreas J. Häusler, Alessandro Saccon, A. Pedro Aguiar, John Hauser, and António Pascoal, Cooperative Motion Planning for Multiple Autonomous Marine Vehicles, in Proc. of MCMC'12 - 9th IFAC Conference on Manoeuvring and Control of Marine Craft, Arenzano, Italy, Sep. 2012.
171. Thomas Glotzbach, Mohammadreza Bayat, A. Pedro Aguiar, and António Pascoal, An underwater acoustic localisation system for Assisted Human Diving Operations, in Proc. of MCMC'12 - 9th IFAC Conference on Manoeuvring and Control of Marine Craft, Arenzano, Italy, Sep. 2012.
172. Vahid Hassani, Asgeir J. Sorensen, António M. Pascoal, and A. Pedro Aguiar, Multiple Model Adaptive Wave Filtering for Dynamic Positioning of Marine Vessels, in Proc. of ACC'12 - American Control Conference, Montreal, Canada, Jun. 2012.
173. Jorge M. Soares, A. Pedro Aguiar, Antonio M. Pascoal, and Marco Gallieri, Triangular formation control using range measurements: An application to marine robotic vehicles, in Proc. of NGCUV'12 - IFAC Workshop on Navigation, Guidance and Control of Underwater Vehicles, Oporto, Portugal, Apr. 2012.

#### **f) In National Conferences (11)**

1. M. Silva, R. Ferreira, J. Gaspar, Effect of Image Resolution on DLT\*-Lines Camera Calibration Including Radial Distortion, In 18th Portuguese Conference on Pattern Recognition (RecPad 2012), Coimbra, Portugal, October 2012.
2. Rui Pimentel de Figueiredo, Plinio Moreno, Alexandre Bernardino, Fast performance 3D object recognition: Dealing with rotationally symmetric objects, In 18th Portuguese Conference on Pattern Recognition (RecPad 2012), Coimbra, Portugal, October 2012.
3. Pedro Fazenda, P. Carreira, Pedro Lima, Context-Based Reasoning in Smart Buildings, Procs. of IT4ENERGY 2012 - 1st International Workshop on Information Technology for Energy Applications, Lisbon, Portugal, Vol. 923 of CEUR Workshop Proceedings, ISSN 1613-0073, 2012.
4. A Carvalho, Rodrigo Ventura, Comparative study of inverse and forward sensor models in occupancy grid mapping using sonars, Proc. of RecPad 2012 - 18th Portuguese Conference on Pattern Recognition, Coimbra, Portugal, 2012.
5. Mendes, Rodrigo Ventura, Assisted teleoperation of a quadrotor using active perception, Proc. of RecPad 2012 - 18th Portuguese Conference on Pattern Recognition, Coimbra, Portugal, 2012.
6. Reis, Rodrigo Ventura, Immersive robot teleoperation using an hybrid virtual and real stereo camera attitude control, Proc. of RecPad 2012 - 18th Portuguese Conference on Pattern Recognition, Coimbra, Portugal, 2012.
7. Pinto J, Vilela P, Jorge J, Figueiredo P (2012) Study of cerebrovascular dynamics using functional MRI. Proc. 18th Portuguese Conference on Pattern Recognition, October 26th, Coimbra, Portugal.
8. Sousa M, Silveira M, Vilela P, Nunes de Oliveira S, Figueiredo P (2012) Classificação de AD e DCL com base em imagens estruturais ponderadas em T1 e de perfusão por ASL. Congresso da Sociedade Portuguesa de Neurorradiologia, 25-26 Maio 2012, Porto, Portugal.

9. Isabel Rodrigues and J. Miguel Sanches, A Photobleaching/Photoblinking analytical model for LSFCM imaging, XLVI Congress of the Portuguese Society for Microscopy, September 24-25, 2012.
10. MohammadrezaBayat and A. Pedro Aguiar, Observability Analysis of the Simultaneous Underwater Vehicle Localization and Mapping Based on Ranging Measurements, in Proc. of CONTROLO'12 - 10th Portuguese Conference on Automatic Control, Madeira, Portugal, Jul. 2012.
11. VahidHassani, Asgeir J. Sorensen, António M. Pascoal, and A. Pedro Aguiar, A Linear Design Model for Wave Filtering and Dynamic Positioning, in Proc. of CONTROLO'12 - 10th Portuguese Conference on Automatic Control, Madeira, Portugal, Jul. 2012.

#### **g) In Technical Reports (1)**

1. Pedro Serra, Rita Cunha, Visual servo aircraft control for tracking parallel curves, Technical Report, Institute for Systems and Robotics, Instituto Superior Tecnico, 2012.