



CURRICULUM VITÆ



Jorge Manuel Miranda Dias

Jorge Dias has a Ph.D. on Electrical Engineering by the University of Coimbra, Portugal, specialization in Control and Instrumentation. Jorge Dias have been professor at the Department of Electrical Engineering and Computers (www.deec.uc.pt) and researcher from the Institute of Systems and Robotics (ISR) (www.isr.uc.pt) from the University of Coimbra (UC) (www.uc.pt). Jorge Dias research is in the area of Computer Vision and Robotics and has contributions on the field since 1984. He has several publications in international journals, books, and conferences. Jorge Dias has been teaching several courses on Computer Vision, Robotics, Automation, he has supervised several Ph.D. students in the topic of Computer Vision and Robotics. Jorge Dias was been principal investigator from several research projects. Jorge Dias coordinates the research group for **Artificial Perception for Intelligent Systems and Robotics** (<http://ap.isr.uc.pt>) of Institute of Systems and Robotics from University of Coimbra and the **Laboratory of Systems and Automation** (<http://las.ipn.pt>) from the Instituto Pedro Nunes (IPN) (www.ipn.pt) - a technology transfer institute from the University of Coimbra, Portugal. **Since July 2011, Jorge Dias is on leave of absence to setup the Robotics Institute and research activities on robotics at Khalifa University (Abu Dhabi, UAE).**

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Short CV

Jorge Manuel Miranda Dias

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Jorge Dias has an “Agregação” (Habilitation) degree¹ and a Ph.D. on Electrical Engineering by the University of Coimbra, specialization in Control and Instrumentation. **Since July 2011, Jorge Dias is on leave of absence to setup the Robotics Institute and research activities on robotics at Khalifa University (Abu Dhabi, UAE).** Jorge Dias have been Associated Professor at the University of Coimbra with activities in the Department of Electrical Engineering and Computers (www.deec.uc.pt) and the Institute of Systems and Robotics (ISR) (www.isr.uc.pt) from the University of Coimbra (UC) (www.uc.pt). Jorge Dias do research activities in the area of Computer Vision and Robotics and has contributions on the field since 1984. He has several publications in international journals, books, and conferences. Jorge Dias has been teaching several courses on Computer Vision, Robotics, Automation and Electrical Engineering and Computer Science and supervised several Ph.D. and Master students in the field of Computer Vision and Robotics. Jorge Dias was been principal investigator from several research international projects. **Jorge Dias coordinates the research group for Artificial Perception for Intelligent Systems and Robotics (<http://ap.isr.uc.pt>) of Institute of Systems and Robotics from University of Coimbra and the Laboratory of Systems and Automation (<http://las.ipn.pt>) from the Instituto Pedro Nunes (IPN) (www.ipn.pt).** Instituto Pedro Nunes (IPN) is a technology transfer institute from University of Coimbra. Jorge Dias it was Vice-President from the Instituto Pedro Nunes (IPN) since June 2008 to June 2011.

ACADEMIC DEGREES

- Agregação (Habilitation) degree by the University of Coimbra, October 2011.
- Ph.D. on Electrical Engineering by the University of Coimbra, specialization in Instrumentation and Control, November 1994.
- Thesis of Scientific and Pedagogical Ability from the Faculty of Science and Technology from the University of Coimbra, February 1988.
- Electrical Engineer Degree (specialization on Computers) by the Faculty of Science and Technology from the University of Coimbra on July 1984.

RESEARCH & ACADEMIC ACTIVITY

- *Since July 2011, Jorge Dias is on leave of absence from UC and acting as Associate Professor from ECE/Robotics at Khalifa University (UAE) at Abu Dhabi. The activities include the cooperation for academic curriculum development of ECE Department, setup the Robotics Institute and Khalifa University, mentoring of young faculty and research staff, promote research activities on robotics.*
- Associated Professor (tenure position) from the Department of Electrical Engineering and Computers (DEEC) from University of Coimbra (UC) – since 2000.
- Coordinator of MRL Mobile Robotics Laboratory from the ISR– UC <http://mrl.isr.uc.pt>.
- Chair of Scientific Council of Department of Electrical Engineering and Computers (DEEC-UC) between Dec. 2005 and March 2008. www.deec.uc.pt.
- Director of LAS-Lab. for Systems and Automation from IPN – Inst. Pedro Nunes (UC) <http://las.ipn.pt> since December 2001.
- Vice-President of IPN – Instituto Pedro Nunes (for technology transfer) since June 2008 – June 2011(www.ipn.pt)
- Vice-President of IPN INCUBADORA (spin-off incubator) since June 2008 – June 2011 www.ipn-incubadora.pt
- Member of Programme Board for HUMAN SPACEFLIGHT, MICROGRAVITY AND EXPLORATION representing the Portuguese Delegation to ESA – European Space Agency (<http://www.esa.int>) from Portuguese Foundation for Science and Technology, Ministry of Education and Science (<http://www.fct.pt/apoios/cooptrans/espaco/index.phtml.en>) – since November 2012

¹ Agregação – A degree equivalent to Habilitation/Agrégation. Is the highest academic qualification a scholar can achieve by his or her own pursuit in several European countries such as Portugal. Earned after obtaining a research doctorate (PhD), the “agregação” (habilitation) requires the candidate to write a professorial thesis (often known as a Habilitationsschrift, or Habilitation thesis) based on independent scholarship, reviewed by and defended before an academic committee in a process similar to that for the research doctoral dissertation.

- Senior Member of IEEE - Institute of Electrical and Electronics Engineers (www.ieee.org) - the world's largest professional association for the advancement of technology.
- President of IEEE Portuguese Chapter for IEEE-RAS (Robotics and Automation Society) (<http://ieee-ras.isr.uc.pt>) - 2009 - 2012
- Member from the Advisor Board from Portuguese Electrical Vehicle Association - APVE (<http://www.apve.pt>) since December 2012

Jorge Dias, since 1984, researches and teaches in the area of Computer Vision and Robotics and has contributions in the area with several publications that include 41 publications in international journals, 2 books in press, 15 books chapters, and 247 articles in international conferences with referee.

Since 1993, Jorge Dias was been principal investigator from several research projects with 24 of them oriented to research in total grant of around 3.8 millions of Euros and 11 projects of technology transfer in a total grant of 1.9 millions of Euros.

Along these years Jorge Dias had been very active professionally and his activities included teaching and training. Jorge Dias was responsible by the coordination and teaching of more then 25 courses for Electrical and Computer Engineering degrees, Biomedical Engineering degrees and Informatics Engineering degrees at PhD and Master level. Jorge Dias was been responsible for the supervision of students of 10 PhD thesis all them them finalized. Before the Academic Reform of 2007 (European Higher Education Area) Jorge Dias was been responsible by supervision of 8 Master thesis (duration of two years after engineering graduation) and more then 50 Electrical & Computers Engineering Dissertations (one year duration) for the course of Electrical and Computers Engineering Degree with five years duration.

The research activities of Jorge Dias have been concentrated in the Mobile Robotics Laboratory from Instituto of Systems and Robotics. The Institute of Systems and Robotics from University of Coimbra was awarded the outstanding grade "Excellent" as a result of the last R&D Portuguese Unit Evaluation, being the only Electrical and Computer Engineering unit (among a total of 25 nationwide) to receive such a distinction.

Under Jorge Dias's coordination, the Mobile Robotics Laboratory have been involved in over a dozen international projects, CyberMove - Cybernetic Transportation Systems for the Cities of Tomorrow (EC-RTD Project, EVK4 – 2001), VISOR - Visual Perception System for a Social Robot (EURON-European Robotics Research Network) , IRPS - Intelligent Robotic Porter System (EU-IRPS FP6-IST-45048) , BACS - Bayesian Approach to Cognitive Systems (FP6-IST-027140), PROMETHEUS - Prediction and interpretation of human behaviour based on probabilistic structures and heterogeneous sensors (FP7 - 214901) and HANDLE - Developmental pathway towards autonomy and dexterity in robot in-hand manipulation (FP7-2008– 231640), Social Robot (FP7 Marie Curie - 285870) and in over 25 national projects: CHOPIN - Cooperation between Human and rObotic teams in catastroPhic Incidents, TICE Mobilidade, TICE Healthy, DIVA – Dirigível Instrumentado para Vigilância Aérea.

Jorge Dias, have been active in technology transfer activities through the Laboratory of Automatics and Systems (LAS) (<http://las.ipn.pt>) from the Instituto Pedro Nunes (IPN) (www.ipn.pt). He is coordinator of the Laboratory of Systems and Automation (LAS), which is a technology, transfer laboratory with a formal link with from University of Coimbra. Jorge Dias was Vice-President from the Instituto Pedro Nunes (IPN) before joining Khalifa University at 2011 on a leave of absence from University of Coimbra. He supported the genesis of two spin-off companies.

Academic Degrees

“Agregação” Degree (Habilitation)

Research Thesis

Jorge Dias, **Multi-Sensing Artificial Perception – Probabilistic Approaches for Robotic Perception**, University of Coimbra, October 2011 ([link](#)).

Academic Thesis

Jorge Dias, **CoDesign for Efficiency of Computing**, Group of Courses for Computer Science and Electrical Engineering and Computers, October 2011 ([link](#)).

Doctoral Thesis (PhD)

Jorge Dias, **Three Dimensional Reconstruction Using Dynamic Vision (Reconstrução Tridimensional Utilizando Visão Dinâmica)**, PhD Thesis – Specialization on Instrumentation and Control, University of Coimbra, November 1994

Thesis of Scientific and Pedagogical Ability (MSc – 2 Years Program Studies)

Jorge Dias, **Processing Module for a Vision System (Módulo Processador de um Sistema de Visão)**, Tese para Provas de Aptidão Científica, Thesis of Scientific and Pedagogical Ability, Faculty of Science and Technology from University of Coimbra, 1987

Jorge Dias, **Report and Plan for Classes on Robotic Manipulator Programming (Relatório de uma aula prática sobre programação de manipuladores)**, Thesis of Scientific and Pedagogical Ability, Faculty of Science and Technology from University of Coimbra, 1987

Engineering Degree (5 Years Program Studies)

Jorge Dias has Electrical Engineering Degree on specialization on Computers, Faculty of Science and Technology from University of Coimbra, 1987

PROFESSIONAL ACTIVITIES & PUBLICATIONS

RESEARCH

Publications & Research Results

A more complete and updated information on the research results is available at web link <http://www2.deec.uc.pt/~jorge> or <http://ap.isr.uc.pt> . From these Web links is possible to download the documents, access the citation index for articles or access to multi-media files.

Books

“Probabilistic Robotic Perception”,

João Filipe Ferreira, Jorge Dias,

Springer Tracts in Advanced Robotics (STAR) 91, ISBN 978-3-319-02006-8, 2014

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(<http://www.springer.com/series/5208>)

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- 13 Jorge Lobo, Carlos Queiroz, Jorge Dias, World feature detection and mapping using stereovision and inertial sensors, Robotics and Autonomous Systems Journal, 44(1), Elsevier, ISBN 0921-8890, pp. 69-81, July 2003
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- 2 Silva, V., **Dias, J.**, de Sá, L., de Almeida, A., "Sistema de Visão por Computador", *Revista de Informática-API*, Vol.6, Nº5, Setembro 87.
- 1 de Almeida, A., Araújo, H., **Dias, J.**, Perdigão, F., de Sá, L., Silva, V., Batista, J., "Actividades do GAAS nas áreas da Visão, Robótica e Processamento de Sinais", *Revista de Informática-API*, Vol.6,Nº5,Setembro 87.

Publications on Books and Book Chapter

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Editorial Activities

Editorial Board Of Journals

- 6 Editorial Board of International Journal of Intelligent & Robotic Systems, Springer, ISSN: 0921-0296 (<http://www.springer.com/engineering/robotics/journal/10846>) – since 2012
- 5 Editorial Board of International Journal SIP- Signal and Information Processing (<http://www.scirp.org/journal/jsip>) - since 2010
- 4 Editorial Board of JOURNAL OF PHYSICAL AGENTS (Agents for the real world: robotics, domotics, vision, control), ISSN: 1888-0258, (www.jopha.net)
- 3 Editorial Board of Journal of Robotics (<http://www.hindawi.com/journals/jr/>) , since 2008
- 2 Editorial Board of JAMRIS - "Journal of Automation, Mobile Robotics & Intelligent Systems", Al. Jerozolimskie 202, 02-486 Warsaw, POLAND, www.piap.pl/jamr, www.jamr.eu – Since 2007
- 1 Editorial Board of Portuguese Journal ROBÓTICA – Automação, Controlo e Instrumentação, , Publindustria, Porto, Portugal, www.publindustria.pt .

Editor of Special Issues in International Journals

- 5 Special Issue on “Scene Understanding and Behaviour Analysis” in **Pattern Recognition Letters** An official publication of the International Association for Pattern Recognition <http://www.journals.elsevier.com/pattern-recognition-letters/> (2013)
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Evaluation Panels, Evaluation Committees and Project Reviewer

Panel Vice-Chair

- EC-MC** Vice-Chair for the **FP6-Marie Curie fellowships** panel from European Commission for Call OIF, EIF, IIF (2006)
- EC-MC** Vice-Chair for the **FP6-Marie Curie fellowships** panel from European Commission for Call OIF, EIF, IIF (2005)

Evaluation Panels & Boards

- 29 KUSTAR** KU-KAIST Matching Fund Proposals - Call of October 2012
- 28 EC-MC** Evaluation of applications for FP7- **People fellowships** from European Commission for Call OIF, EIF, IIF (2012)
- 27 EC-FET** Evaluation for FP7 **FET Future and Emerging Technologies** CALL 9 from European Commission (IP and STREP proposals) (2012)
- 26 FCT -PT** Evaluation of proposals for funding by Portuguese research institutions for institutional strengthening of laboratories and research units. Call supported by the Portuguese Foundation for Science and Technology.
- 25 EC - ERC** Evaluation for 'ERC Starting Grant Call 2012' from **European Research Council** and European Commission (2012)
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- 19 ADI** Evaluation of Projects for ADI (Agência de Inovação) for Call **Concurso SI I&DT CoPromoção (SI I&DT)** QREN (2009). ADI is an agency from Portuguese Government for promotion of innovation and technological development.
- 18 EC-MC** Evaluation of applications for FP7- **People fellowships** from European Commission for Call OIF, EIF, IIF (2009)
- 17 ADI** Evaluation of Projects for ADI (Agência de Inovação) for Call **Sistema de Incentivos à Investigação e Desenvolvimento Tecnológico (SI I&DT)** for I&DT projects QREN (2008). ADI is an agency from Portuguese Government for promotion of innovation and technological development.
- 16 EC-MC** Evaluation of applications for FP7- **People fellowships** from European Commission for Call OIF, EIF, IIF (2008)
- 15 BES** Evaluation of applications for **Innovation Award** (Prémio Inovação) promoted BES bank, October 2007
- 14 EC-MC** Evaluation of applications for FP7- **People fellowships** from European Commission for Call OIF, EIF, IIF (2007)

13	ADI	Evaluation of Projects for ADI (Agência de Inovação) for Call “Projectos de Investigação e Desenvolvimento em Consórcio entre Empresas e Instituições de I&D” (2006). ADI is an agency from Portuguese Government for promotion of innovation and technological development.
12	EC-CEC	Evaluation of Projects for European Commission for CEC-IST Future and Emerging Technologies unit da under the European Research Network – FP6 EURON contract (FP6-NOE-507728) (2006)
11	EC-MC	Evaluation of Projects for FP6- Marie Curie fellowships from European Commission Call Transfer OF Knowledge (2006)
10	PT/ADI	Evaluation of Projects for SEF (Serviço de Estrangeiros e Fronteiras) and Agência de Inovação for the Portuguese Electronic Passport , Janeiro 2006. ADI is an agency from Portuguese Government for promotion of innovation and technological development.
9	EC-MC	Evaluator for the FP6-Marie Curie fellowships panel from European Commission for Call OIF, EIF, IIF (2006)
8	EC-MC	Evaluator for the FP6-Marie Curie fellowships panel from European Commission for Call OIF, EIF, IIF (2005)
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3	ADI	Evaluation of projects for ADI (Agência de Inovação) in the call “Projectos de Investigação e Desenvolvimento em Consórcio entre Empresas e Instituições de I&D” (2002). ADI is an agency from Portuguese Government for promotion of innovation and technological development.
2	ANR – CNRS	Evaluation of applications for the French Agence National de la Recherche –CNRS for programme Jeunes Cheurcheurs (2008)
1	ANR - CNRS	Evaluation of applications for French Agence National de la Recherche –CNRS for programme Jeunes Cheurcheurs (2007)

Project Reviewer

- ADI** Project Reviewer for Portuguese Agência de Inovação for Call **“Projectos de Investigação e Desenvolvimento em Consórcio entre Empresas e Instituições de I&D”**, 2008. ADI is an agency from Portuguese Government for promotion of innovation and technological development.
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Associated Editor

- 6 Associate editor for the 2013 IEEE International Conference on Robotics and Automation (ICRA 2013) Karlsruhe, Germany on May 6 - 10, 2013.
- 5 Associate editor for the 2012 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2012), October 7-12, Vilamoura, Portugal, 2012.
- 4 Associate editor for the 2011 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2011), San Francisco, California, USA, Sept. 25-30, 2011.
- 3 Associate editor for the 2010 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2010), Taipei, Taiwan, October 18-22, 2010
- 2 Associate editor for the 2009 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2009), St. Louis, USA, October 2009
- 1 Associated editor for the 2008 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2008), Nice, France, September 2008

Reviewer for International Journals

Jorge Dias have been acting as reviewer for the following International Journals

- 35 Journal of Applied Remote Sensing (JARS), E-ISSN: 1931-3195 Publisher: SPIE
- 34 IEEE Pervasive Computing
- 33 International Journal of Advanced Robotic Systems - *ISSN: 1729-8806*
- 32 IEEE/ASME Transactions on Mechatronics.
- 31 Elsevier journal: Mechatronics - The Science of Intelligent Machines
- 30 Elsevier journal: Pattern Recognition Letters
- 29 IEEE Transactions on Systems, Man, and Cybernetics--Part C
- 28 IEEE Signal Processing Letters
- 27 International Journal of Systems Science, ISSN: 0020-7721,
(<http://www.tandf.co.uk/journals/tf/00207721.html>)
- 26 International Journal of Applied Bionics and Biomechanics, ISSN: 1754-2103
(www.editorialmanager.com/abbi)
- 25 The International Journal of Robotics Research, (<http://ijr.sagepub.com/>)
- 24 Proceedings of The Royal Society – Proceedings B, (<http://royalsociety.org/>)
- 23 The International EURASIP Journal on Advances in Signal Processing
(<http://www.hindawi.com/journals/asp/>)
- 22 Tamkang Journal of Science and Engineering, Taipei County Taiwan 25137, Republic of China
(<http://www2.tku.edu.tw/~tkjse/>)
- 21 International Journal of Information Sciences, Elsevier
- 20 International Journal of Transactions on Systems, Man, and Cybernetics, IEEE – Part B:

Cybernetics

- 19 Transactions on Systems, Man, and Cybernetics -- Part C: Applications and Reviews
- 18 International Journal of Intelligent and Robotic Systems, Springer London
- 17 International Journal of TRANSACTIONS ON ROBOTICS, IEEE
- 16 The International Journal of Mechatronics, The Science of Intelligent Machines - A Journal of IFAC, the International Federation of Automatic Control, (<http://ees.elsevier.com/mech/>)
- 15 International Journal of Sensors, Basel, Switzerland, (<http://www.mdpi.com/journal/sensors/>)
- 14 EURASIP Journal on Advances in Signal Processing
- 13 EURASIP Journal on Embedded Systems, Hindawi Publishing Corporation
- 12 International Journal of Journal of Real-Time Image Processing, Springer (<http://www.editorialmanager.com/jrtip/>)
- 11 International Journal of Pattern Recognition Journal, Elsevier (<http://ees.elsevier.com/pr/>)
- 10 International Journal of Robotics and Autonomous Systems Journal, Elsevier
- 9 ASME Journal of Biomechanical Engineering, ASME, <http://journaltool.asme.org>.
- 8 Special issue on Intelligent Embedded Agents - International Journal of Information Sciences, Elsevier
- 7 The Imaging Science Journal, The Journal of Photographic Science, Copyright The Royal Photographic Society, W.S. Maney & Son Ltd, UK
- 6 International Journal of Systems and Control Engineering, Institution of Mechanical Engineers from UK, Professional Engineering Publishing
- 5 International Journal of Robotics & Automation Magazine, IEEE
- 4 Portuguese Journal ROBÓTICA – Automação, Controlo e Instrumentação
- 3 International Journal of Intelligent & Robotics Systems, Kluwer
- 2 International Journal of Robotics and Automation, ACTA Press / IASTED
- 1 International Journal of Machine Vision Applications, Elsevier

Scientific Committee for International Conferences & Workshops

- 92 EPIA 2013 – 16th Portuguese Conference on Artificial Intelligence, Angra do Heroísmo, Açores, Portugal, 9-13 September, 2013
- 91 Ro-Man 2013, 22th IEEE International Symposium on Robot and Human Interactive Communication, Gyeongju, Korea from August 26 to 29, 2013. (www.ro-man2013.org)
- 90 ICUAS'13 The 2013 International Conference on Unmanned Aircraft Systems, , Grand Hyatt AtlantaAtlanta, Georgia, USA, May 28-31, 2013
- 89 2013 IEEE International Conference on Robotics and Automation (ICRA 2013) Karlsruhe, Germany on May 6 - 10, 2013.
- 88 Ro-Man 2012, 20th IEEE International Symposium on Robot and Human Interactive Communication, Paris, France - 9-13 September 2012
- 87 2012 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2012), October 7-12, Vilamoura, Portugal, 2012.
- 86 3rd edition of the CompIMAGE 2012 Conference- Computational Modeling of Objects Presented in Images: Fundamentals, Methods and Applications, Rome (Italy) from 5th to 7th of September 2012 (<http://www.dis.uniroma1.it/compimage2012>) .
- 85 Ro-Man 2011, 20th IEEE International Symposium on Robot and Human Interactive Communication, Atlanta, Georgia - 31 July - 3 August 2011
- 84 REACTS - Workshop on Recognition and Action for Scene Understanding (www.grupoisis.uma.es/reacts2011/InformationREACTS2011.htm) , Malaga, Sept 1-2, 2011.
- 83 12 CLEEE - 12th Portuguese-Spanish Conference in Electrical Engineering, Ponta Delgada - Açores, 30th June- 2nd July 2011, for short 12CLEEE (www.apdee.org/conferences/xiicleee).
- 82 IMAGAPP 2011- International Conference on Imaging Theory and Applications, 5-7 March, 2011, Vilamoura - Algarve, Portugal
- 81 VISAPP 2011- International Conference on Computer Vision Theory and Applications, 5-7 March, 2011, Vilamoura - Algarve, Portugal
- 80 2nd Doctoral Conference on Computing, Electrical and Industrial Systems (DoCEIS'11), 21-23 February 2011, Costa da Caparica, Lisbon - Portugal
- 79 2011 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2011), San Francisco, California, USA, Sept. 25-30, 2011.
- 78 RA 2010 - The 15th IASTED International Conference on Robotics and Applications, November 1 – 3, 2010, Cambridge, Massachusetts, USA
- 77 IROS 2010 WORKSHOP ON “Grasp Planning and Task Learning by Imitation”, Monday, October 18, 2010, (<http://www.iros2010.org.tw>) (<http://www.isir.fr/iros10ws>)
- 76 2010 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2010), Taipei, Taiwan, October 18-22, 2010
- 75 EFTA 2010 - IEEE International Conference on Emerging Technologies and Factory Automation (Track 7: "Intelligent Robots and Systems"), Bilbao, Spain, September 13-16, 2010. (<http://www.etfa2010.org>)
- 74 OPTIM 2010 - 12th International Conference on Optimization of Electrical and Electronic Equipment (Track - Industrial Automation and Control, Mechatronics), May 20-22, 2010, Brasov, Romania. (<http://www.info-optim.ro>)

- 73 ComplIMAGE'2010 Symposium - Computational Modeling of Objects Represented in Images: Fundamentals, Methods and Applications, in Buffalo, NY, from 5th - 7th of May 2010, (<http://www.cs.fredonia.edu/barneva/CompIMAGE10/>)
- 72 ROBOTICA 2010 - 10th Conference on Mobile Robots and Competitions, Leiria, Portugal, 24th March 2010 (<http://robotica2010.ipleiria.pt/robotica2010/>)
- 71 eTELEMED 2010 - The Second International Conference on eHealth, Telemedicine, and Social Medicine, February 10-16, 2010 - St. Maarten, Netherlands Antilles (<http://www.iaria.org/conferences2010/eTELEMED10.html>)
- 70 VISAPP 2010 – International Conference on Computer Vision Theory and Applications, 17-21 May, 2010, Angers, France
- 69 IMAGAPP 2010 - International Conference on Imaging Theory and Applications, 17-21 May, 2010, Angers, France
- 68 RA 2009 - The 14th IASTED International Conference on Robotics and Applications, November 4 – 6, 2009, Cambridge, Massachusetts, USA
- 67 TAT 2009 - The Second IASTED International Conference on, Telehealth and Assistive Technology, November 2 – 4, 2009, Cambridge, Massachusetts, USA
- 66 iROBOT 2009 - 4th Intelligent Robotics Workshop at EPIA'2009, 14th Portuguese Conference on Artificial Intelligence, Aveiro, Portugal, October 12-15, 2009. (<http://epia2009.web.ua.pt/irobot/>)
- 65 IROS 2009 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2009), St. Louis, USA, October 2009
- 64 4th European Conference on Mobile Robots (ECMR 2009) 23-25 September, in Mlini/Dubrovnik, Croatia, member of International Program Committee (IPC) (<http://www.ecmr09.fer.hr>)
- 63 ETFA 2009 - 14th IEEE International Conference on Emerging Technologies and Factory Automation (<http://www.etfa2009.org>) .
- 62 ICINCO 2009 - 6th International Conference on Informatics in Control, Automation and Robotics, 2-5 July, 2009, Italy
- 61 7th IFAC Symposium on Fault Detection, Supervision and Safety of Technical Processes (SafeProcess 2009) , Barcelona, Spain, June 30 - July 3, 2009
- 60 ICIAR 2009, International Conference on Image Analysis and Recognition, Program Committee member, Halifax, Canada, 6-8 July, 2009 (<http://www.iciar.uwaterloo.ca/iciar09/>)
- 59 ICAR 2009 - 14th International Conference on Advanced Robotics (ICAR 2009) being held in the Munich Marriott Hotel, Germany, from June 22th to 26th, 2009, (<http://www.icar2009.org/>)
- 58 ROBOTICA 2009 - 9th Conference on Mobile Robots and Competitions, Castelo Branco, Portugal, 7th May 2009 (<http://www.est.ipcb.pt/robotica2009/>)
- 57 40th International Symposium on Industrial Robots (ISR'09) - Barcelona 10-13 March, 2009, member of the ISR09 International Programme Committee
- 56 ROBIO 2008 - IEEE International Conference on Robotics and Biomimetics, February 22 -25, 2009, Bangkok, Thailand.

- 55 IMAGAPP 2009 - International Conference on Imaging Theory and Applications, 5-8 February, 2009, Lisbon, Portugal
- 54 VISAPP 2009 International Conference on Computer Vision Theory and Applications, 5-8 February, 2009, Lisbon, Portugal
- 53 eTELEMED 2009, International Conference on eHealth, Telemedicine, and Social Medicine, February 1-6, 2009 - Cancun, Mexico
(<http://www.iaria.org/conferences2009/eTELEMED09.html>)
- 52 IROS-2008 WORKSHOP ON "Grasp and Task Learning by Imitation", 22-26 September, 2008, Nice - France (<http://iros2008.inria.fr/>) (<http://iros08ws.robot.jussieu.fr/>)
- 51 2008 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2008), Nice, France, September 2008
- 50 IASTED International Conference on Telehealth and Assistive Technologies (Telehealth/AT 2008), member of the International Program Committee, April 16-18 in Baltimore, Maryland
- 49 2008 IEEE International Conference on Robotics and Automation, ICRA 2008, on May 19-23 2008 in Pasadena, California
- 48 IEEE/RSJ 2008 International Conference on Intelligent Robots and Systems, 22-26 September 2008, Nice, France
- 47 IASTED International Conference on Telehealth and Assistive Technologies (Telehealth/AT 2008), which was held April 16-18 in Baltimore, Maryland
- 46 IROBOT'2008 - 3rd International Workshop on Intelligent Robotics at IBERAMIA 2008 - 11th edition of the Ibero-American Conference on Artificial Intelligence, October 14-17, 2008, Lisbon, Portugal, (<http://paginas.fe.up.pt/~irobot/index.htm>)
- 45 IBERAMIA'2008 - International Ibero-American conference on Artificial Intelligence (<http://adetti.iscte.pt/events/IBERAMIA2008/>)
- 44 5th International Conference on Informatics in Control, Automation and Robotics – ICINCO 2008, <http://www.icinco.org>, May 11 - 15, 2008, Funchal, Madeira - Portugal
- 43 IASTED International Conference on Telehealth (Telehealth 2008), which is to take place in Baltimore, USA from April 16-18, 2008
- 42 3rd International Conference on Computer Vision Theory and Applications, 22 - 25 January, 2008, Funchal, Madeira – Portugal, VISAPP 2008 (<http://www.visapp.org>)
- 41 6th IFAC Symposium on Intelligent Autonomus Vehicles, Participation on the International Program Committee, 3-5 September, 2007, Toulouse, France
- 40 Associate Editor (Program Committee Member) for the 2007 IEEE/RSJ International Conference on Intelligent Robots and Systems (2007 IROS), to be held in Sheraton Hotel, San Diego, CA, USA.
- 39 International Congress on Ultrasonics, Vienna, April 9 - 13, 2007, Session R11: "High Frequency and Parametric. Automatic Segmentation of Echocardiographic Left Ventricular Images by Windows Adaptive Thresholds"
- 38 IRMA2007 International Conference – member International Program Committee – IRMA (<http://www.irmainternational.org>)
- 37 2nd International Conference on Computer Vision Theory and Applications, Program Committee Membership, 8 - 11 March, 2007, Barcelona, Spain, VISAPP 2007 (<http://www.visapp.org>)

- 36 ECMR'07, 3rd European Conference on Mobile Robotics, Freiburg, Germany, on September 19-21, 2007, Albert-Ludwigs-University Freiburg, Germany.
- 35 VISAPP 2007 – International Conference on Computer Vision Theory and Applications
- 34 ICRA 2006 – IEEE International Conference on Robotics and Automation, Orlando, USA, May, 15-19, 2006
- 33 INTERNATIONAL CONFERENCE ON IMAGE ANALYSIS AND RECOGNITION (ICIAR 2006), 18 - 20 September, 2006, Póvoa de Varzim, Portugal
- 32 IASTED International Conference on Robotics and Applications (RA 2006), Honolulu, USA from August 14 to 16, 2006
- 31 IASTED International Conference on Telehealth (Telehealth 2006), which is to take place in Banff, Canada from July 03- 05, 2006
- 30 OPTIM '06 Conference, Brasov, Romania, 18-20 May 2006
- 29 IROBOT'05:1st International Workshop on Intelligent Robotics. The workshop will be held at the 12th Portuguese Conference on Artificial Intelligence - EPIA '05, December, 5-8, 2005, Covilhã, Portugal
- 28 IASTED International Conference on Robotics and Applications (RA 2005), MIT-Cambridge, USA from October 31-2, 2005
- 27 ROBOTICS 2005 - International Program Committee of Robotics: Science & Systems, Conference: June 8-11, 2005, MIT – USA
- 26 INERVIS – 2nd Workshop in Second Workshop on Inertial and Vision Fusion, Workshop at IEEE International Conference on Robotics and Automation, Barcelona, Spain, April 18- 22, 2005
- 25 3rd Annual International Society for Imaging in the Eye –“Registration of Functional and Morphological Imaging Modalities”, 2005
- 24 ICRA 2005 – IEEE International Conference on Robotics and Automation, Barcelona, Spain, April 18- 22, 2005
- 23 International Program Committee for the RoboCup 2005 Symposium, Osaka, Japan, 13 to 19 July 2005
- 22 2005 IEEE International Symposium on Industrial Electronics - ISIE 2005, Dubrovnik, Croatia, Dubrovnik, Croatia - June 20-23, 2005
- 21 ECMR'05, 2nd European Conference on Mobile Robotics, Ancona, Italy, on September 7-10, 2005
- 20 Telehealth 2005 - IASTED International Conference on Telehealth (Telehealth 2005), Banff, Canada, July 19-21, 2005
- 19 ICOM'05 – International Conference on Mechatronics 2005, UK, 23-24th June 2005, Loughborough University, UK
- 18 10th IASTED International Conference on ROBOTICS AND APPLICATIONS ~RA 2004~ August 23-25, 2004, Honolulu, Hawaii, USA
- 17 Robotica 2004, Festival Nacional de Robótica, 22 a 25 de Abril de 2004 no Pavilhão Rosa Mota (Palácio de Cristal)

- 16 CCA'04 - 2004 IEEE Conference on Control Applications, Grand Hotel Taipei, September 2-4, 2004, Taipei, Taiwan
- 15 ICRA 2004 – IEEE International Conference on Robotics and Automation, New Orleans, Los Angeles, USA, April 26- May 1, 2004
- 14 Robotica 2003, Festival Nacional de Robótica, 8 a 11 de Maio, Centro de Congressos de Lisboa (ex-FIL), Lisboa, 2003
- 13 International Program Committee for the RoboCup 2003 Symposium, July 2003
- 12 ICOM'03 – International Conference on Mechatronics 2003, June 25-27, 2003, Loughborough University, UK
- 11 ECMR'03 – European Conference on Mobile Robots, September 4-6, 2003, Warsaw, Poland
- 10 ICRA 2003 – IEEE International Conference on Robotics and Automation, May 12-17, 2003, Taipei, Taiwan
- 9 Robotica 2002, Festival Nacional de Robótica, Aveiro, Portugal, 24 – 27 Abril, 2002
- 8 RECPAD 2002, 12th Portuguese Conference on Pattern Recognition, Aveiro, Portugal, June 27 - 28, 2002
- 7 RET 2001 - Robotics Education and Training, July 21, 2001 – Weingarten, Germany
- 6 EUROBOT'01 – 4th European Workshop on Advanced Mobile Robots, September 19 - 21, 2001, Lund, Sweden
- 5 CARS & FOF 2000, 16th International Conference on CAD/CAM, Robotics and Factories of the Future, June 26-28, 2000
- 4 RECPAD 2000, 11th Portuguese Conference on Pattern Recognition, Porto, Portugal, May 11 - 12, 2000
- 3 M2VIP'2000 - 7th Annual conference on Mechatronics and Machine Vision in Practice, Hervey Bay, Queensland Australia 19 - 21 September 2000
- 2 M2VIP'99 – 6th Internacional Conference on Mechatronics and Machine Vision in Practice, Ankara, Turkey, September 1-3, 1999
- 1 Technical Program Committee of AMC- 5th International Workshop on Advanced Motion Control, June 29 - July 1, 1998

Reviewer for International Conferences

- 45 ICRA 2011 - IEEE International Conference on Robotics and Automation, May 9-13, 2011, Shanghai, China
- 44 CONTROLO 2010 – 9th Portuguese Conference on Automatic Control, Coimbra, Portugal, 8-10 September, 2010 (<http://www.uc.pt/congressos/controlo2010>)
- 43 2010 American Control Conference , Baltimore, MD, June 30-July 02, 2010.
- 42 ICRA 2010 - IEEE International Conference on Robotics and Automation, May 4-8, 2010, Anchorage, Alaska, USA
- 41 HRI 2010 - 5th ACM/IEEE International Conference on Human-Robot Interaction, March 2-5 2010, Osaka
- 40 CDC09 - 48th IEEE Conference on Decision and Control to be held in Shanghai, P.R. China, December, 16-18, 2009.
- 39 DSCC - 2nd Annual Dynamic Systems and Control Conference, October 12-14, 2009, Hollywood, CA, USA
- 38 EPIA'2009 - 14th Portuguese Conference on Artificial Intelligence, 12-15 October 2009, Aveiro, Portugal.
- 37 IASTED RTA 2009 International Conference on Robotics, Telematics and Applications, 12-14 October 2009, Beijing, China.
- 36 IECON 2009 is the 35th Annual Conference of the IEEE Industrial Electronics Society, 3-5 November 2009 at Alfandega Congress Center, Porto, Portugal (<http://paginas.fe.up.pt/~iecon09/>).
- 35 SafeProcess 2009: 7th IFAC Symposium on Fault Detection, Supervision and Safety of Technical Processes, June 30 - July 3, 2009, Barcelona, Spain
- 34 ICRA 2009 – IEEE International Conference on Robotics and Automation, May 12-17, 2009, Kobe, Japan
- 33 HRI 2009 - 4th ACM/IEEE International Conference on Human-Robot Interaction, 9-13 March, 2009, La Jolla, CA, USA (<http://www.hri2009.org>)
- 32 2008 IEEE International Conference on Robotics and Automation, ICRA 2008, 19-23 May 2008, Pasadena, California.
- 31 IEEE/RSJ 2008 International Conference on Intelligent Robots and Systems, 22-26 September 2008, Nice, France.
- 30 IASTED International Conference on Telehealth and Assistive Technologies (Telehealth/AT 2008), which was held April 16-18 in Baltimore, Maryland.
- 29 IROBOT'2008 - 3rd International Workshop on Intelligent Robotics- IBERAMIA is the international Ibero-American conference on Artificial Intelligence (<http://adetti.iscte.pt/events/IBERAMIA2008/>)
- 28 5th International Conference on Informatics in Control, Automation and Robotics – ICINCO 2008, <http://www.icinco.org>, May 11 - 15, 2008, Funchal, Madeira - Portugal
- 27 IASTED International Conference on “Telehealth and Assistive Technologies” Baltimore, Maryland, USA from April 16-18, 2008

- 26 3th International Conference on Computer Vision Theory and Applications (<http://www.visapp.org>), Funchal, Madeira – Portugal, 22 - 25 January, 2008.
- 25 ISIE'07 – 2007 IEEE International Symposium on Industrial Electronics.
- 24 ITSC 2007 - IEEE 10th Intelligent Transportation Systems Conference (ITSC 2007), 2007
- 23 IECON06 - Annual Conference of the IEEE Industrial Electronics Society 2006
- 22 ITSC 2006 - IEEE 9th Intelligent Transportation Systems Conference (ITSC 2006), Toronto, Canada, September 17-20, 2006
- 21 16th IFAC World Congress, Prague, Czech Republic, July 4-8, 2005.
- 20 IROS 2004, 2004 IEEE/RSJ International Conference on Intelligent Robots and Systems, September 28 - October 2, 2004, Sendai International Centre, Sendai, Japan
- 19 IEEE Intelligent Vehicle Symposium (IV'04), Parma, Italy, June 14-17, 2004
- 18 IV04- IEEE Intelligent Vehicles Symposium, PARMA, ITALY, June 14-17, 2004
- 17 ICRA 2004 – IEEE International Conference on Robotics and Automation, April 26-May 1, 2004. New Orleans LA, USA
- 16 ICOM'03 – International Conference on Mechatronics 2003, June 25-27, 2003, Loughborough University, UK
- 15 ICRA 2003 – IEEE International Conference on Robotics and Automation, May 12-17, 2003, Taipei, Taiwan
- 14 Robotica 2002, Festival Nacional de Robótica, Aveiro, Portugal, 24 – 27 Abril, 2002
- 13 RECPAD 2002, 12th Portuguese Conference on Pattern Recognition, Aveiro, Portugal, June 27th - 28th, 2002
- 12 RoboCup 2002 – The 6th International Competitions and Conferences, June 19th - June 25th, 2002, Fukuoka, Japan / Busan, Korea
- 11 IROS' 2002 – 2002 IEEE/RSJ International Conference on Intelligent Robots and Systems, Lausanne, Switzerland
- 10 RET 2001 - Robotics Education and Training, July 21, 2001 - Weingarten, Germany
- 9 EUROBOT'01 – Fourth European Workshop on Advanced Mobile Robots, September 19-21, 2001, Lund, Sweden
- 8 RET 2001 - Robotics Education and Training, July 21, 2001 - Weingarten, Germany
- 7 RECPAD 2000, 11th Portuguese Conference on Pattern Recognition, Porto, Portugal, May 11th - 12th, 2000
- 6 Controlo 98 - the 3rd Portuguese Conference on Automatic Control, Coimbra, Portugal, September 9-11, 1998
- 5 AMC'98 -5th International Workshop on Advanced Motion Control, Coimbra, Portugal, June 29 - July 1, 1998
- 4 WAC'98 -World Automation Congress - Special on session ISOMA- Sixth International Symposium on Manufacturing and Applications, Anchorage, Alaska, USA, May 10-14, 1998

- 3 ISIE'97 - IEEE International Symposium on Industrial Electronics
- 2 IROS'97 – 1997 IEEE/RSJ International Conference on Intelligent Robots and System
- 1 R&A'96 – 1996 IEEE International Conference on Robotics and Automation

Organization of Scientific Events, Conferences and Workshops

- 27 REACTS 2013 – 2nd Workshop on Recognition and Action for Scene Understanding (<http://www.reacts2013.uma.es>), King's Manor at York, United Kingdom, 30-31 August 2013 in cooperation with CAIP 2013 from IAPR-International Association for Pattern Recognition.
- 26 Handling ROS Tutorial - Introductory tutorial to ROS and its use for robot in-hand manipulation, (<http://mrl.isr.uc.pt/events/iros2012tutorial>) at IROS 2012 - IEEE/RSJ International Conference on Intelligent Robots and Systems, October 7-12, 2012, Vilamoura, Algarve [Portugal] (<http://www.iros2012.org>)
- 25 2012 IEEE International Conference on Multisensor Fusion and Information Integration (MFI 2012), 13-15 September 2012 at the University of Hamburg, Hamburg, Germany. (<http://mfi-2012.informatik.uni-hamburg.de>)
Awards Committee Chair
- 24 REACTS 2011 - Workshop on Recognition and Action for Scene Understanding, (www.grupoisis.uma.es/reacts2011/InformationREACTS2011.htm), Malaga, Sept 1-2, 2011 in cooperation with CAIP 2011 from IAPR-International Association for Pattern Recognition.
- 23 Co-Chair of Conference Mathematical Methods in Engineering International Symposium, 21-24 October 2010 (<http://mme10.ipc.pt/>).
- 22 IROS 2010 WORKSHOP ON “Grasp Planning and Task Learning by Imitation”, Monday, October 18, 2010, (<http://www.iros2010.org.tw>) (<http://www.isir.fr/iros10ws>)
- 21 Co-Chair of CONTROLO 2010 – 9th Portuguese Conference on Automatic Control, Coimbra, Portugal, 8-10 September, 2010 (<http://www.uc.pt/congressos/controlo2010>)
- 20 Special Session on FUSION 2010 - 13th International Conference on Information Fusion - Special Session on “Analysis and Prediction of Human Behaviour by Sensor Networks”, 26-29 July 2010 EICC Edinburgh, UK (<http://www.fusion2010.org>) (<http://www.fusion2010.org/special-session-prop.htm>)
- 19 Innovation Days 09 - EUREKA – “Sustainable Mobility – The Individual Automatic Mobility”, Lisbon, Portugal, 18-20 June, 2009
- 18 IROS-2008 WORKSHOP ON “Grasp and Task Learning by Imitation”, 22-26 September, 2008, Nice - France (<http://iros2008.inria.fr/>) (<http://iros08ws.robot.jussieu.fr/>)
- 17 Programa Ciência Viva (2006), “As tecnologias e o desenvolvimento da nossa sociedade – Energia, Telecomunicações, Materiais e Robótica”, DEEC, FCTUC-UC, 17-21 July 2006, Coimbra, Portugal.
- 16 Covilhã Showcase Workshop “Promoção da mobilidade sustentável”, 09-11 October 2006, Covilhã, Portugal.
- 15 MoveAveiro, Conferência “A Bicicleta, a Mobilidade e o Desenvolvimento Sustentável”, 31 March, 2006, Aveiro Portugal
- 14 International Workshop on Vision Based Human-Robot Interaction held in conjunction with EUROS-2006 (EUROPEAN ROBOTICS SYMPOSIUM - EUROS-06, 16-18 March 2006, Palermo, Italy), Palermo, Italy on March 18, 2006 (http://www.deec.uc.pt/~jorge/in_out/HRI06/CDROM/)
- 13 Programa Ciência Viva (2005), “Vamos construir a equipa de futebol robótico da tua escola”, DEEC, FCTUC-UC, July 2005, Coimbra, Portugal.
- 12 INERVIS Second Workshop on Inertial and Vision Fusion – ICRA 2005 - IEEE International Conference on Robotics and Automation, Barcelona, Spain, April 18- 22, 2005.

- 11 IAV 2004 –The IFAC Symposium on Intelligent Autonomous Vehicles, July 5-7, 2004, Lisbon, Portugal
- 10 RoboCup 2004 – The RoboCup 2004 Symposium, June 28- July 4, 2004, Lisbon, Portugal
- 9 INERVIS First Workshop on Inertial and Vision Fusion - ICAR 2003 - The 11th International Conference on Advanced Robotics, 29 June, 2003, Coimbra, Portugal
- 8 ICAR 2003 – The 11th International Conference on Advanced Robotics, June 30 –July 3 2003, University of Coimbra, Portugal
- 7 Workshop on Aerial Robotics - IROS 2002 - International Conference on Intelligent Robots and Systems, 30 September- 4th October, 2002, Lausanne, Switzerland
- 6 Publicity Chair - IROS 2002 - International Conference on Intelligent Robots and Systems, 30 September-5 October, 2002, Lausanne, Switzerland
- 5 Vice-Chair of SIRS'99- 7th International Symposium on Intelligent Robotic Systems'99, 20-23 July, 1999, Coimbra, Portugal
- 4 CONTROLO 98- the 3rd Portuguese Conference on Automatic Control, Coimbra, Portugal, September 9 -11, 1998.
- 3 AMC- 5th International Workshop on Advanced Motion Control, June 29 - July 1, 1998
- 2 RECPAD 97, 9th Portuguese Conference on Pattern Recognition, Coimbra, March 20-21, 1997
- 1 RECPAD 92, 4th Portuguese Conference on Pattern Recognition, Coimbra, March 12-13, 1992

Organization of International Schools

- 2 SLAM – First Summer School on Mobile Robotics Navigation, EURON – European Robotics Research Network, August 5-9, 2002, KTH, Stockholm, Sweden
- 1 Summer School on Mobile Robotics Navigation, EURON – European Robotics Research Network, September 3-7, 2001, EPFL, Lausanne, Switzerland

Science Dissemination and Large Public Events

- Organization of Conference of Prof Alain Berthoz, From College de France, with a talk on "Perception of Movement" at IBILI (www.ibili.pt) from University of Coimbra, 12th of December, 2008.
- Summer Robotic Courses in 2005 (Curso Ciência Viva 2005)
- Summer Robotic Courses in 2006 (Curso Ciência Viva 2006)
Jorge Dias organized these Summer Robotic Courses in 2005 and 2006 (Curso Ciência Viva 2005 e 2006) for prospect engineering students. These courses aimed to motivate the students for participation in the competitions using advanced technologies within a highly multidisciplinary area. The event gives a positive contribution for the development of research in Robotics and Automation and a greater diffusion of Science and Technology in Portugal. The course was partially financial supported by the Ciência Viva (<http://www.cienciaviva.pt>) and Faculty of Science and Technology from the University of Coimbra.
- Organizer of Robotica 2005 - 5th Portuguese Robotics Open, (<http://robotics.dem.uc.pt/web/>), 29 April – 1 May, 2005, University of Coimbra "The Portuguese Robotics Open" (<http://www.spr.ua.pt/fnr/>), which had its first edition in 2001, aims at promoting science and technology among young people of basic, secondary and higher education as well as the general public, through robots competitions. This event, which takes place every year in a different city, includes also a scientific meeting where researchers in the area of robotics come together to present the latest results of their activity. This event has had since its beginning a tremendous growth, both in number of participants and teams, and also in terms of audience. The Portuguese Robotics Open is, currently, endorsed by the Portuguese Robotics Society (<http://www.spr.ua.pt/>)
- Jorge Dias it was member of the organization of a the international large event for robotic competitions named RoboCup 2004 – The RoboCup 2004 Symposium, June 28- July 4, 2004, Lisbon, Portugal. It was responsible by the competition on "Search and Rescue". (<http://www.robocup2004.pt>)

Visits & International Courses

Visitor at Computer Vision and Active Perception Laboratory (CVAP) do Royal Institute of Technology, (KTH) Stockholm, (www.kth.se) at from July, 1996 to November, 1996 as researcher from European network for computer vision and named VIRGO- Vision-Based Robot Navigation.

Visitor at Computer Vision and Active Perception Laboratory (CVAP) do Royal Institute of Technology, (KTH) Stockholm, (www.kth.se) at from July, 1993 to October, 1993.

NATO - Advanced Study Institute on Verification and Validation of Complex and Integrated Human-Machine Systems from 6th July to 17th July, 1992, Vimeiro - Portugal.

NATO - Advanced Study Institute on PACS-Picture Archiving and Communications Systems in Medicine from 14th October to 26th October 1990, Evian - France.

NATO - Advanced Study Institute on Active Vision from 15th July to 30th July, 1989, Maratea - Italy

Artificial Intelligence course First Advanced School of Artificial Intelligence - EAIA/88 (10-15 October 1988) organized by APIA - Associação Portuguesa para a Inteligência Artificial.

Visitor at Electrical Engineering Department of BRUNEL University, Uxbridge, LONDON, UK at the Pattern Recognition Group, from May to August, 1988.

Visitor at Laboratoire d'Automatique et d'Analyses des Systems (LAAS) (www.laas.fr) , Toulouse, France in the team of Robotics and Artificial Intelligence, October, 1986 to December, 1986.

Invited Talks

- 15 Invited Lecture on "Emotive Dialog Between a Human and a Robot - A New Probabilistic Methodology", in 4th July 2012 on Research-Centric Summer School In Interactive Robotics And Media, New York University Abu Dhabi (NYUAD), June 17-July 12,2012
- 14 Invited Lecture on "Labanotation: A Language for inforMotion", in 4th July 2012 on Research-Centric Summer School In Interactive Robotics And Media, New York University Abu Dhabi (NYUAD), June 17-July 12,2012
- 13 Talk at New York University Abu Dhabi (NYUAD) with title "Robotics @ KUSTAR by the Khalifa University Robotics Institute - A Knowledge & Technology Transfer Roadmap", Workshop: Robotics, Intelligent Systems and AI in the GCC and Beyond, June 18th, 2012
- 12 **IEEE RAS Distinguished Lecture** at the 2nd Int. Robotics Competition 2011, that took place in Laico Hotel, Hammamet – Tunisia, from 18-20 December 2011, with a plenary talk on “Multi-Sensing Artificial Perception A Probabilistic Approaches for Robotic Perception”.
(<http://robocomp.ieee-enis.org>)
- 11 Invited Talk for students of Medicine in Jornadas Científicas do Estudante de Medicina (XI JoCEM) with a talk on concept of “Bionics”, Centro Cultural e de Congressos da Secção Regional do Norte da Ordem dos Médicos, Porto, 19-21 Novembro 2010 (<http://www.anem.pt/>)
- 10 Invited Speaker on Conference Mathematical Methods in Engineering International Symposium with a talk "Probabilistic Approaches for Artificial Robotic Perception", 21-24 October 2010 (<http://mme10.ipc.pt/>).
- 9 Invited Seaker at Malaga University with talk on “Multi-sensing Artificial Perception. A Probabilistic Approach Supported by Robotic Technologies”, June 15, 2010, Dpto. de Tecnología Electrónica. UMA (www.uma.es)
- 8 Invited Speaker on Conference “E(l)mergencia da Complexidade”, with a talk “Robotics and Complexity on Human Behaviour Imitation”. Science Museum from University of Coimbra, 22 of May of 2010,
(www.museudaciencia.pt/index.php?iAction=Actividades&iArea=22&iId=166)
- 7 Invited Talk at School of Computer Science, University of Birmingham with a talk on “Multi-Sensing Artificial Perception -- A Probabilistic Approach supported by Robotic Technologies”, 22 of March, 2010, (www.cs.bham.ac.uk)
- 6 Invited Speaker on “CyberMover: Innovation for Individual Transport and Mobility (Inovação para o transporte individual e Mobilidade)” in “6th Conference on New Trends on Transports (6^o Encontro Transporte em Revista)”, 17-18 of September of 2009,
(www.transportesemrevista.com), (<http://shared1.ultrawhb.com/~transpor/congresso6/>)
(http://shared1.ultrawhb.com/~transpor/congresso6/gallery/index_4.html)
- 5 Invited Talk at Faculty of Science and Technology, University of Macao with a talk on “Multi-sensing Integration with Vision and Inertial Sensors”, 11 of April, 2008, (<http://www.umac.mo>)
- 4 Invited Talk at Faculty of Science and Technology, University of Macao with a talk on “Perception and Human Robot Interaction”, 18 of April, 2008, (<http://www.umac.mo>)
- 3 Invited speaker on “Reunião de Actualização Oftalmológica” with a talk on “New perspectives for diagnosis and treatment of glaucoma and macular diseases (Novas perspectivas no diagnóstico e tratamento de doenças maculares e glaucoma”, 2 June, 2001, Auditorium of IBILI (www.ibili.uc.pt) , Coimbra, Portugal
- 2 Invited speaker workshop on INDUSTRIAL ROBOTICS - New Trends and Perspectives" with "New Technology Demands for Future Robotics", 12 Novembro, 1999, FIL, Parque das Nações, Lisboa

- 1 Invited speaker on 2º Congresso da Associação de Técnicos de Engenharia Hospitalar Portugueses- As instalações e Equipamentos de Saúde na Viragem do Século, with “Medical Image Archiving and the Hospitals by the end of XX Century” (“Arquivação de Imagens Médicas nas Instalações e Equipamentos de Saúde na Viragem do Século”), Auditorium of HUC (Hospitais da Universidade de Coimbra), Coimbra, Portugal, 11-13 December, 1995

Activities on Scientific and Professional Societies

- Jorge Dias was member of MAB (Member Activities Board) of the Robotics and Automation Society (RAS) from IEEE from 2008 to 2009. MAB is a structure to promote specific member activities within RAS (student activities, academic activities, promotion of science, etc.)
- Founder and member of the Portuguese Society for Robotics (www.spr.ua.pt), a non-profit association for promotion of robotics and engineering on Portugal.
- Senior Member of IEEE - Institute of Electrical and Electronics Engineers (www.ieee.org) - the world's largest professional association for the advancement of technology.
- Vice-President of the IEEE Portuguese Chapter for IEEE – RAS (Robotics and Automation Society) (<http://ieee-ras.isr.uc.pt>) at 2008.
- President of IEEE Portuguese Chapter for IEEE-RAS (Robotics and Automation Society) (<http://ieee-ras.isr.uc.pt>) - 2009 - 2012
- Member Portuguese Society for Engineers (<http://www.ordemengenheiros.pt/>), a non-profit association for promotion of engineering on Portugal.
- Member from the Advisor Board from Portuguese Electrical Vehicle Association - APVE (<http://www.apve.pt>) since December 2012
- Member of Editorial Board of the Journals
 - Editorial Board of International Journal of Intelligent & Robotic Systems, Springer, ISSN: 0921-0296 (<http://www.springer.com/engineering/robotics/journal/10846>) – since 2012
 - Editorial Board of International Journal SIP- Signal and Information Processing (<http://www.scirp.org/journal/jsip>) - since 2010
 - Editorial Board of JOURNAL OF PHYSICAL AGENTS (Agents for the real world: robotics, domotics, vision, control), ISSN: 1888-0258, (www.jopha.net) since 2009
 - Editorial Board of Journal of Robotics (<http://www.hindawi.com/journals/jr/>) , since 2008
 - Editorial Board of JAMRIS - "Journal of Automation, Mobile Robotics & Intelligent Systems", Al. Jerozolimskie 202, 02-486 Warsaw, POLAND, www.piap.pl/jamr, www.jamr.eu – Since 2007
 - Editorial Board of Portuguese Journal ROBÓTICA – Automação, Controlo e Instrumentação, , Publindustria, Porto, Portugal, www.publindustria.pt - since 2002

Events

- Organizer of an Invited Lecture on “Nanorobotics” by Prof. Ari Requicha from University of Southern California, Los Angeles, USA, 14 April, 2010.
- Member of a Discussion Panel on “The White Book for Robotics in Portugal” with support of Presidency of Portuguese Foundation for Science and Technology, FIL, Parque das Nações, 20 of June, 2009.
- IEEE Region 8 Chapter Workshop on “Move from Research to Business”, May 30, 2010, Oeiras (Lisbon Region) – Portugal (<http://workshop2010.ieee-pt.org/>)

- Organization of keynote lecture supported by IEEE RAS – PT on ROBOTICA 2010 by Professor Henrik Hautop Lund, head of the Center for Playware at the Technical University of Denmark, with the talk "Playware - Creating Playful Interaction with Modular Technology", ROBOTICA 2010 - 10th Conference on Mobile Robots and Competitions, Leiria, Portugal, 24th March 2010.
- Organization of keynote lecture supported by IEEE RAS – PT on ROBOTICA 2009 by Prof. Dr. Jean Paul Laumond from LAAS-CNRS, Toulouse, France, with the talk " ON HUMAN AND HUMANOID MOTIONS", ROBOTICA 2009 - 9th Conference on Mobile Robots and Competitions in Castelo Branco, Portugal, in May the 7th, 2009.

Committees

- Member of Committee for Evaluation of Training Reports from applications for New Member from Portuguese Society for Engineers (www.ordemengenhheiros.pt), a non-profit association for promotion of engineering on Portugal.
- Member of Committee for the elaboration of the Strategic Research Agenda (SRA) for Robotics in Europe – 2009 (www.robotics-platform.eu).
- Member of Committee and co-author of the book: “The White Book for Robotics in Portugal” from the Portuguese Society for Robotics (www.spr.ua.pt).
- Member of Technical Group that supports the GPPQ (Gabinete de Promoção da Participação Portuguesa no 7º Programa Quadro) from the Ministry of Science, Technology and Higher Education (MCTES). This Technical Group (GTA - Grupo Técnico de Apoio) supports GPPQ division on the topics 9 - SPACE and 7.4 - GALILEO (from topic TransportS - including aeronautics) from the 7th European Framework.

Juries and Committees

Committee for the European PhD Distinguished Thesis on Robotics

Committee for Evaluation of George Giralt PhD Award from EURON – European Robotics Network

- Applications for year 2010
- Applications for year 2011
- Applications for year 2012.

PhD Juries

PhD Juries in other Universities

- 21 Niklas Bergstrom, “**Interactive Perception: From Scenes to Objects**”, KTU- Kungl Tekniska Hogskolan, School of Computer Science and Communication, Stockholm, Sweden, 29th October, 2012
- 20 Abdolkarim Pahlani, “**Active Cooperative Perception in Networked Robot Systems**”, IST - Universidade Técnica de Lisboa, 30th of March, 2012
- 19 Tudor Nicosevici, “**Efficient 3D Scene Modeling and Mosaicing**”, University of Girona, Spain, 18 of December, 2009
- 18 Duarte Filipe Duarte Duque “**Previsão e Identificação de Eventos de Quebra de Segurança em Video-Vigilância**”, Escola de Engenharia, Universidade do Minho, Discussion: 16th June 2009
- 17 José Maria Fernandes Vasconcelos, “**Nonlinear Navigation System Design with Application to Autonomous Vehicles**”, IST -Universidade Técnica de Lisboa, November, 2009
- 16 João Luís Araújo Martins Vilaça “**Sistema de Comando e Informação Flexível para Máquinas 3D**”, Escola de Engenharia, Universidade do Minho, Discussion: 24th November 2008
- 15 Ricardo Raposo Oliveira, “**Optimal Multi-Frame Correspondence With Assignment Tensors**”, Instituto Superior Técnico, Universidade Técnica de Lisboa, Discussion: 29th September, 2008
- 14 Caetano Filipe Costa de Noronha Ferreira, “**Autonomous Navigation And Multi-Sensorial Real-Time Localization For A Mobile Robot**”, University of Aveiro, Portugal, September 2008
- 13 José Luís Carrilho Sequeira, “**Localisation d'un robot mobile et reconstruction géométrique de l'environnement**”, Instituto Superior Técnico, Universidade Técnica de Lisboa, Discussion: 20th June, 2008
- 12 António Paulo Duarte Gomes de Abreu, “**Behavior And Navigation in Autonomous Vehicles Based on Fuzzy Models**”, Universidade Nova de Lisboa, Lisboa, Discussion: 4th Março, 2008
- 11 Pedro Nuñez, “**Electronic Technology and Communications**”, Universidade de Málaga, Málaga, Espanha, Discussion: 15th July, 2008
- 10 Alexandra Bento Moutinho, “**Modeling and Nonlinear Control For Airship Autonomous Flight**”, Instituto Superior Técnico, Universidade Técnica de Lisboa, April, 2007, Discussion:

2nd December, 2007

- 9 Rita Maria Mendes de Almeida Correia da Cunha , **“Advanced Motion Control for Autonomous Air Vehicles”**, Instituto Superior Técnico, Universidade Técnica de Lisboa, April, 2007, Discussion: 22th June, 2007
- 8 Francisco José Curado Mendes Teixeira, **“Terrain-Aided Navigation and Geophysical Navigation of Autonomous Underwater Vehicles”**, Instituto Superior Técnico, Universidade Técnica de Lisboa, Discussion: 27th December 2007.
- 7 Luís Miguel Pereira Pina, **“Estimação De Estado De Sistemas Híbridos”**, Instituto Superior Técnico, Universidade Técnica de Lisboa, Discussion: 29th October 2007
- 6 Cédric Michel **“Strategie de Saisie pour une main Robotisee a Caractere Anthropomorphique”** Laboratoire L.I.S.I.F. I., Université Pierre et Marie Curie, Discussion: 7th December 2006
- 5 Rui Paulo Pinto da Rocha, **Building Volumetric Maps with Cooperative Mobile Robots and Useful Information Sharing - A Distributed Control Approach based on Entropy**, University of Porto, Portugal May 2006,
- 4 Rebeca Marfil Robles, **“Tracking Objects With The Bounded Irregular Pyramid”**, Universidade De Malaga, Malaga, Espanha, Fevereiro 2004, Discussion: 28th April, 2006
- 3 Carmen Lourdes De Trazegnies Otero, **“Sistema de Aprendizaje Y Reconocimiento de Objectos 3D A Partir de Imágenes Planas”**, Universidade De Malaga, Malaga, Espanha, Fevereiro 2004, Discussion: 22nd Março, 2004
- 2 Victoria de los Angeles Reyes Cortés Ferreira, **“Identificação de Parâmetros da Dinâmica do Dirigível Aurora AS 800”**, Instituto Superior Técnico, Universidade Técnica de Lisboa, Dezembro, 2003, Discussion: 19th Março, 2004
- 1 Etienne Grossmann, **“Maximum Likelihood 3D Reconstruction From One or More Uncalibrated Views Under Geometric Constraints”**, Instituto Superior Técnico, Universidade Técnica de Lisboa, May, 2002, Discussion: 29th October, 2002

PhD Juries in University of Coimbra

- 8 Hadi Aliakbarpour - **“Exploiting Inertial Planes for Multi-sensor 3D Data Registration”**. PhD thesis, Faculty of Sciences and Technology of the University of Coimbra (FCTUC), November, 2012.
- 7 José Prado - **“A new probabilistic methodology to support an emotive dialog between a human and a robot”**. PhD thesis, Faculty of Sciences and Technology of the University of Coimbra (FCTUC), November, 2012.
- 6 João Filipe Ferreira, **“Bayesian Cognitive Models for 3D Structure and Motion Multimodal Perception”**, PhD thesis, Faculty of Sciences and Technology of the University of Coimbra (FCTUC), July 11th, 2011.
- 5 Luiz Gustavo Mirisola, **Exploiting inertial sensing in mosaicing and aerial visual navigation**, University of Coimbra, Portugal, March 2009
- 4 Jörg Rett, **Robot-Human Interface Using Laban Movement Analysis Inside A Bayesian Framework**, University of Coimbra, Portugal, January 2009
- 3 Rui Bernardes Dias Cortesão, **Desenvolvimento de Novas Metodologias para o**

Mapeamento Multimodal da Mácula (New Methodologies for Multimodal Image Mapping of Eye Macula), University of Coimbra, Portugal, July 2008

- 2 Paulo Jorge Carvalho Menezes, **Multi-Cue Visual Tracking for Human-Robot Interaction**, University of Coimbra, Portugal, January 2007
- 1 Jorge Nuno de Almeida e Sousa Lobo, **Integration of Vision and Inertial Sensing**, University of Coimbra, Portugal, January 2007

Specific Scientific Evaluations

- Evaluation of academic and professional curriculum of applicants for new academic positions - Department of Electrical Engineering and Computers – DEEC-FCT – University of Coimbra.
- Evaluation of academic and professional curriculum of applicants for the position Researcher board for FORTH Foundation for Research and Technology - Hellas (FORTH) at the Institute of Computer Science (ICS).
- Evaluation of academic and professional curriculum of applicants for the position of Director of Research from CNRS – Sophia-Antipolis.

PhD Advisor Committee and PhD Thesis Project Evaluation (After 2007 Bolonha Academic Reform)

These juries correspond to the evaluation of the research plan proposal for a PhD thesis.

- 10 Advisor Committee for PhD candidate Amna Al Dahak Al Shamsi – Computer Engineering Khalifa University (supervisors Mohamed Al Marzouqi and Lakmal Seneviratne).
- 9 Advisor Committee for PhD candidate (Comissão de Acompanhamento de Tese) Francisco Curado Teixeira – DEEC Instituto Superior Técnico (supervisor A. Pascoal).
- 8 Advisor Committee for PhD candidate (Comissão de Acompanhamento de Tese) Abdolkarim Pahlani – DEEC Instituto Superior Técnico (supervisor Pedro Lima).
- 7 Kamrad Khoshhal Roudposhti, “Probabilistic LMA-based Human Behavior Understanding by Conjugation of Frequency and Spatial Domains”, PhD Research Plan, 7th September, 2010, ISR, University of Coimbra, Portugal (www.isr.uc.pt) (www.uc.pt)
- 6 Micael Santos Couceiro, “Multi-Agent Cooperation over Unreliable Mobile Ad-Hoc Communication Networks”, PhD Research Plan, 19th July, 2010, ISR, University of Coimbra, Portugal (www.isr.uc.pt) (www.uc.pt)
- 5 David Bina Siassipour Portugal, “Estudos de Eficiência e Escalabilidade em Cooperação de Multi-Robôs para Vigilância Automática e Inspeção de Infra-estruturas”, PhD Research Plan, 19th July, 2010, ISR, University of Coimbra, Portugal (www.isr.uc.pt) (www.uc.pt)
- 4 Luis Santos, “Comprehensive Human Motion Modeling: Probabilistic Reasoning Based on Laban Movement Analysis”, PhD Research Plan, 15th July, 2010, ISR, University of Coimbra, Portugal (www.isr.uc.pt) (www.uc.pt)
- 3 José Prado, “Bayesian Multimodal Dialog Analysis on an Assistant Robot”, PhD Research Plan, 15th July, 2010, ISR, University of Coimbra, Portugal (www.isr.uc.pt) (www.uc.pt)
- 2 Hadi Aliakbarpour, “A Framework for Multi-modal Data Registration and Data Fusion”, PhD Research Plan, 14th July, 2010, ISR, University of Coimbra, Portugal (www.isr.uc.pt) (www.uc.pt)

- 1 João Silva, "Information fusion and low-level behaviours for multi-robot systems", PhD Research Plan, 13th July, 2010, IEETA, University of Aveiro, Portugal (www.ieeta.pt) (www.ua.pt)

Master Juries (MSc) (Before 2007 Bologna Academic Reform)

The Portuguese Government adopted an academic reform on all Portuguese High Education Degrees after join the Bologna Process (http://en.wikipedia.org/wiki/Bologna_Process). The purpose of the Bologna Process (or Bologna Accords) is to create the European Higher Education Area by making academic degree standards and quality assurance standards more comparable and compatible throughout Europe. The basic framework adopted is of three cycles of higher education qualification. The cycles are defined in terms of qualifications and European Credit Transfer and Accumulation System (ECTS) credits:

- **1st cycle:** typically 180–240 ECTS credits, usually awarding a Bachelor's degree.
- **2nd cycle:** typically 90–120 ECTS credits (a minimum of 60 on 2nd-cycle level). Usually awarding a Master's degree.
- **3rd cycle:** Doctoral degree. ECTS range 180-240 ECTS credits.

The Science and Technology domain these cycle typically take 3, 2, and 3 years respectively, to complete. One academic year corresponds to 60 ECTS-credits that are equivalent to 1,500-1,800 hours of study.

Master Juries (MSc) in other Universities

- 16 Luis Vieira Lima, "**Sistema de Visão Dedicado em Hardware Reconfigurável para Aplicação à Navegação de Sistemas Robóticos Autónomos**", Instituto Superior Técnico (IST), Universidade Técnica de Lisboa (UTL), 8th Janeiro 2010
- 15 Paulo Lilles Jorge Drews Junior, "**Detecção de mudanças e recuperação de formas em mapas 3D baseados em nuvens de pontos** ", Ciências da Computação, Universidade Federal de Minas Gerais (UFMG), 21th December 2009,
- 14 Bruno Miguel Simões Carvalho Cardeira "**Arquitecturas para Navegação Inercial/GPS com Aplicação a Veículos Autónomos**", Instituto Superior Técnico (IST), Universidade Técnica de Lisboa (UTL), 17th March 2009
- 13 André Bianchi de Aguiar Araújo Figueiredo, "**Sistema de Controlo de um Veículo Autónomo Aéreo**", Instituto Superior Técnico (IST), Universidade Técnica de Lisboa (UTL), January 2009
- 12 Alexandre Manuel de Azevedo Maia Ribeiro Fernandes "**Agente de Contexto para Dispositivos Móveis**", Faculdade de Engenharia da Universidade do Porto, Universidade do Porto, 4th March 2009
- 11 João Augusto Pinho da Costa das Neves Viana "**Tecnologias de Apoio à Monitorização de Fluxos de Pessoas e Controlo de Acessos**", Faculdade de Engenharia da Universidade do Porto, Universidade do Porto, 4th March 2009
- 10 Francisco A. Barbosa "**Web Services Integration into a Peer-to-Peer Bit Torrent Client**", Faculdade de Engenharia da Universidade do Porto, Universidade do Porto, 4th March 2009
- 9 Hugo Miguel Gomes da Silva "**Sistema de Visão em Tempo Real para Sistemas Autónomos**", Instituto Superior Técnico (IST), Universidade Técnica de Lisboa (UTL), 20th March 2008
- 8 André Bianchi Aguiar de Araújo Figueiredo "**Sistema de Controlo de um Veículo Autónomo Aéreo**", Instituto Superior Técnico (IST), Universidade Técnica de Lisboa (UTL), 7th February 2008

- 7 Filipe da Cunha e Sá Guerreiro Ramalho "**Modelação de um Veículo Autónomo**", D.E.M. MSc Thesis from Instituto Superior Técnico (IST), Universidade Técnica de Lisboa (UTL), March 2000
- 6 Hugo Veríssimo de Oliveira "**Integração do GPS com Micro Sensores Inerciais e Altitude Barométrica para uma Aeronave Não-Tripulada**", D.E.E.C. MSc Thesis from Instituto Superior Técnico (IST), Universidade Técnica de Lisboa (UTL), 2000
- 5 Vitor Manuel da Silva Costa "**Integração de Comportamentos Visuais em Robótica Móvel**", DEEC MSc Thesis from Instituto Superior Técnico (IST), Universidade Técnica de Lisboa (UTL), 23th February 1999
- 4 Maria Filomena dos Santos Sustelo "**Simulador em Matlab de Algoritmos Paralelos em Arquitecturas Homogéneas e Heterogéneas**", UCEH - Universidade do Algarve, 5th Fevereiro 1999
- 3 Ana Ramada Paiva "**Aquisição de Informação Tridimensional com Luz Estruturada Codificada**", Engineering Faculty (FE), Universidade de Porto (UP), February 1998
- 2 César Augusto Silva "**Estimação de Movimento Próprio de um Observador Monocular**", Instituto Superior Técnico (IST), Universidade Técnica de Lisboa (UTL), February 1997
- 1 "**Invariantes Geométricos em Visão 3D por Computador**", Fernando Pires, Instituto Superior Técnico (IST), Universidade Técnica de Lisboa (UTL), Abril 1994.

Master Juries (MSc) in University of Coimbra

- 12 Luís Veloso, "**Suporte de Mobilidade para aplicações Multimédia em Redes de acesso Heterogêneas**", Faculdade de Ciências e Tecnologia (FCT), Universidade de Coimbra (UC), Maio 2006
- 11 João Pedro Paiva Alves, "**CyberNav – Navigation System for Mobile Platforms**", Faculdade de Ciências e Tecnologia (FCT), Universidade de Coimbra (UC), February 2005
- 10 João Filipe de Castro Ferreira, "**TELE3D – Scanner for Tridimensional Data Registration from Objects**", Faculdade de Ciências e Tecnologia (FCT), Universidade de Coimbra (UC), January 2005
- 9 Carlos Manuel Cerqueira Simplício, "**Traffic Signs Recognition Using Geometrical Invariants**", Faculdade de Ciências e Tecnologia (FCT), Universidade de Coimbra (UC), May 2003
- 8 Nuno Alexandre Cid Martins, "**Reconstrução tridimensional utilizando luz estruturada**", Faculdade de Ciências e Tecnologia (FCT), Universidade de Coimbra (UC), April 2003
- 7 Jorge Nuno de Almeida e Sousa Lobo, "**Inertial Sensor Data Integration in Computer Vision Systems**", Faculdade de Ciências e Tecnologia (FCT), Universidade de Coimbra (UC), April 2002
- 6 Paulo Jorge Carvalho Menezes, "**Mobile Robot Navigation**", Faculdade de Ciências e Tecnologia (FCT), Universidade de Coimbra (UC), February 2000
- 5 Arlindo Ferreira da Silva "**Redes Programadas Geneticamente: Uma Abordagem Evolucionária à Síntese de Agentes Autónomos**", Faculdade de Ciências e Tecnologia (FCT), Universidade de Coimbra (UC), February 2000
- 4 Verónica Maria Marques do Carreiro Silva Vasconcelos "**Estabilização de Imagens Adquiridas por um Observador Monocular**", Faculdade de Ciências e Tecnologia (FCT), Universidade de Coimbra (UC), 22nd February 1999
- 3 Inácio de Sousa Adelino da Fonseca, "**Técnicas de Visão Aplicadas à Navegação em Robótica Móvel**", Faculdade de Ciências e Tecnologia (FCT), Universidade de Coimbra (UC), May 1998
- 2 Carlos Rodrigues Paredes, "**Fixação Visual – Uma Abordagem Computacional**", Faculdade de Ciências e Tecnologia (FCT), Universidade de Coimbra (UC), Abril 1998
- 1 Luís Dias da Costa "**Contribuição para o Desenvolvimento de um Sistema de Estereovisão para estudo da Retina Humana**", Faculdade de Ciências e Tecnologia (FCT), Universidade de Coimbra (UC), Abril 1996

Master Juries (After 2007 Bolonha Academic Reform)

Master Juries (MSc) in other Universities

- 4 Alexandre Manuel de Azevedo Maia Ribeiro Fernandes, "Mobile Environment Context Agent", MSc Dissertation MIEEC, DEEC, FEUP – University of Porto, Portugal (www.fe.up.pt), 4th of March, 2009
- 3 Francisco Alexandre Teixeira Marques Barbosa, "Integração de Serviços Web com Clientes Peer-to-Peer (p2p)", MSc Dissertation MIEEC, DEEC, FEUP – University of Porto, Portugal (www.fe.up.pt), 4th of March, 2009
- 2 João Augusto Pinho da Costa das Neves Viana, "Tecnologias de Apoio à Monitorização de Fluxos de Pessoas e Controlo de Acessos", MSc Dissertation MIEEC, DEEC, FEUP – University of Porto, Portugal (www.fe.up.pt), 4th of March, 2009
- 1 Luis Saraiva Ribeiro, "Object Recognition for Semantic Robot Vision", MSc Dissertation MIEEC, DEEC, FEUP – University of Aveiro, Portugal (www.ua.pt), Dezembro 2008

Master Juries (MSc) in University of Coimbra

- 10 Marcos Filipe Curado Cordeiro, "Aquisição de dados em Circuitos Trifásicos de Alimentação Industrial", Physics Department - FCT, University of Coimbra, 20th of September, 2010
- 9 Tiago Emanuel de Jesus Elias, "Access Control by Face Recognition (Sistema de controlo de acesso por reconhecimento facial)", DEEC - FCT, University of Coimbra, 10th of September, 2010
- 8 João Maria Duarte Andrade, " DVB-S2 LDPC Codes Decoding on GPUs", DEEC - FCT, University of Coimbra, 19th of July, 2010
- 7 Irina Filomena Fernandes Varela Robalo, " Modulador de Magnitude em DSP ", DEEC - FCT, University of Coimbra, 19th of July, 2010
- 6 João Roupiço Simões Pena dos Reis, "Telemedida de vibrações em estruturas e em galerias subterrâneas", Physics Department - FCT, University of Coimbra, 15th of July, 2010
- 5 João Pedro Rosmaninho Salgado, "Behaviors Detection using Temporal Boost Algorithm", DEEC - FCT, University of Coimbra, 7th of September, 2009
- 4 João Luís Henriques Maia Cordeiro, "Detection and object localization of a visual category in cluttered real-world scenes", DEEC - FCT, University of Coimbra, 7th of September, 2009
- 3 António Manuel Domingos Lopes, "Detecção e Seguimento 3D do foco de Atenção", DEEC - FCT, University of Coimbra, 7th of September, 2009
- 2 Gilberto Gameiro Faria Rodrigues, "Hardware Interface for XPY", DEEC - FCT, University of Coimbra, 7th of September, 2009
- 1 Luis Carlos Vitoria dos Santos, "Interface de Tempo Real para Tele-ecografia", DEEC - FCT, University of Coimbra, 7th of September, 2009

Coordinator Scientific Unit/Group

Jorge Dias have been doing scientific coordination in the Mobile Robotics Laboratory from the Institute of Systems and Robotics – University of Coimbra. The laboratory is supported by robotic's equipment that includes mobile robotic platforms, a camera network system, laser range finder systems, global position systems, sonar range systems, active robotic heads, inertial navigation units, human motion recording system and computing equipment.

This laboratory develops activities for development of artificial perception systems, multi-sensor fusion techniques, robot navigation techniques, multi-robot cooperation and human robot interfaces.

The research group includes three senior researchers that are permanent researchers from the Institute of Systems and Robotics and Auxiliary Professors from DEEC – University of Coimbra: Rui Rocha, Jorge Lobo and Paulo Menezes.

The group's activities are financially supported by projects' grants from European Commission and Portuguese Foundation for Science and Technology (FCT) - MCES (Portuguese Ministry of Science, Technology and Higher Education) and individual scholarships from FCT and MCES. Jorge Dias was been principal investigator from several research projects with 15 of them oriented to applied research in total grant of around 2.5 millions of Euros and 9 projects of technology transfer in a total grant of 1.3 millions of Euros.

Professional Position from Previous of PhD students

- João Filipe de Castro Cardoso Ferreira, "Bayesian Cognitive Models for 3D Structure and Motion Multi-Modal Perception", Faculty of Sciences and Technology of the University of Coimbra (FCTUC), July 11th, 2011 – current position Invited Assistant Professor at DEEC -Faculty of Sciences and Technology of the University of Coimbra (FCTUC).
- Luiz Gustavo Mirisola, thesis "Exploiting inertial sensing in mosaicing and aerial visual navigation", March 2009, current position: Centro de Matemática, Computação e Cognição CMCC, Universidade Federal ABC, Brazil, <http://cmcc.ufabc.edu.br>.
- Jörg Rett, thesis "Robot-Human Interface Using Laban Movement Analysis Inside A Bayesian Framework", January 2009, current position: SAP Research, SAP AG, Darmstadt, www.sap.com.
- Caetano Filipe Costa de Noronha Ferreira, thesis "Autonomous Navigation And Multi-Sensorial Real-Time Localization For A Mobile Robot", September 2008, Hi-TechRoboticsSystemZ, Ltd, Haryana, India, <http://www.hitechroboticsystemz.com>.
- Rui Manuel Dias Cortesão dos Santos Bernardes, thesis "New Methodologies for Multimodal Image Mapping of Eye Macula", July 2008, current position: Assistant Professor from the University of Coimbra and director of the Center of New Technologies for Medicine from the Association for Innovation and Biomedical Research on Light and Image (AIBILI), http://www.uc.pt/en/fmuc/ibili/copy_of_Staff/RuiBernardes.
- Paulo Jorge Carvalho Menezes, thesis "Multi-Cue Visual Tracking for Human-Robot Interaction", January, 2007, current position: Assistant Professor from the University of Coimbra, www.deec.uc.pt/~pm.
- Jorge Nuno de Almeida e Sousa Almada Lobo, thesis "Integration of Vision and Inertial Sensing", January 2007, current position: Assistant Professor from the University of Coimbra, www.deec.uc.pt/~jlobo.
- Rui Paulo Pinto da Rocha, thesis "Building Volumetric Maps with Cooperative Mobile Robots and Useful Information Sharing - A Distributed Control Approach based on Entropy", May 2006, current position: Assistant Professor from the University of Coimbra, www.deec.uc.pt/~rprocha.

Research Grants and Scientific Projects

Since 1993, Jorge Dias was been principal investigator from several research projects with 24 of them oriented to research in total grant of around 3.8 millions of Euros and 11 projects of technology transfer in a total grant of 1.9 millions of Euros.

He was coordinator of 4 inter-exchange projects of scientific cooperation and managing a total of 16 000 Euros.

		TOTAL	
FCTUC/ISR		International Scientific Project	10
		National Project	10
		International Inter-exchange & Cooperation	4
	Budget	International Scientific Project	2 542 562,00€
		National Project	1 267 201,00€
		International Inter-exchange & Cooperation	16 000,00€
External (IPN)			
		Int Coop Projects with Companies & Institutions	3
		Coop Projects Portuguese Companies & Institutions	6
		Technology Transfer Contracts	2
	Budget	Int Coop Projects with Companies & Institutions	603 882,00€
		Coop Projects Portuguese Companies & Institutions	1 201 167,00€
		Technology Transfer Contracts	100 000,00€
Total		5 730 812,00€	

International Projects - Principal Investigator/Coordinator from the Portuguese team

9

Project Name: (Co-LIVING) Virtual Collaborative Social Living Community for Elderly

Ref.: AAL/0011/2009
Collaborative project funded by the European Commission within the Programme Ambient Assistive Living (AAL).

Summary:

The main goal of the proposed project is the development of an ICT-based Virtual Collaborative Social Living Community for Elderly (Co-LIVING) people, aiming to stimulate and prolong their independent and active living in an outward environment through an advancement in elderly people social interaction, contributing thus positively to their wellbeing. Co-LIVING is based on an innovative Social Community network (SoCo-net), integrating different mobile wireless ICT based services addressing the elderly social interaction context categories of Care and Wellness, Guidance and Mobility monitoring.

Budget: € 182.212,00

The aim of choosing the specific target group is to prevent, or reduce the risk, that these people are spending most of their time at home as they get older for a variety of accumulated (physical, psychological, psycho-social and cultural) reasons. Two well selected use cases, where elderly people can live with the greatest possible independence and activity are considered in Co-LIVING: a Living Village and the (physical) neighborhood of their home environment in a local community. Two pilots, in the Netherlands and Norway, representing the two different use cases, will be carried out in which the Co-LIVING solution will be assessed and validated by considering its social, economical and psychological dimensions.

Web Page: <http://www.project-coliving.eu>

Duration: 24 months

Partners:

- Orbis Medical & Care Group ORBIS
- Royal Philips Electronics
- SINTEF
- University of Cyprus
- Instituto Pedro Nunes
- Inova+, S.A
- Andago (SME).
- Citard (SME).
- Municipality of Trondheim.

Starting Date: October 2011

Sponsors:

Seventh Framework Programme – People Program, European Commission

8

Project Name: FP7 People Program (IAPP) - Project "SOCIAL ROBOT - Virtual Collaborative Social Living Community for Elderly"

ISR-UC Coordination

Ref.: 258870 Collaborative project funded by the European Commission within the Seventh Framework Programme FP7, by People Programme, Industry-Academia Partnerships and Pathways (IAPP).

Budget: € 1.039.198,00€, (UC €230.029,00).

Summary:

The Social Robot Project aims to provide an answer to the demographic change challenge, through knowledge transfer and the creation of strategic synergies between the project's participating academia and industry regarding the development of an integrated Social Robotics system (SocialRobot) for "Ageing Well".

The work focuses on bringing together the Robotic and Computer Science fields by integrating state of the art Robotic and Virtual Social Care Communities technologies and services to provide solutions to key issues of relevance for improved independent living and quality of life of elderly people and efficiency of care.

The major challenges to be addressed in the project include the adaptation

of state of the art robotic mobile platforms and their integration with a virtual collaborative social network to provide: i) Detection of individual needs and requirements related to ageing (e.g. physical mobility limitations or/and cognitive decline), and provision of support through timely involvement of care teams, consisting of different groups of people (family members, neighbours, friends) that collaborate dynamically and virtually; means independently of time and their physical locations; behaviour analysis to adapt social relationships and contexts of the elderly people as they age; ii) Navigate indoors and unstructured environments and provide affective and empathetic user-robotic interaction, taking into account the capabilities of and acceptance by elderly users.

Web Page: <http://paloma.isr.uc.pt/projects/socialrobot/>

Partners:

- University of Coimbra – Instituto de Sistemas e Robótica – PT
- University of Cyprus, CY
- CITARD, CY
- IdMind, PT

Sponsors:

Seventh Framework Programme – People Program, European Commission

Duration: 48 months

Starting Date: October 2011

7

Project Name: Handle - Developmental Pathway towards Autonomy and Dexterity in Robot In-Hand Manipulation

Ref.: 231640-7th Framework Programme – Priority 2 – Information Society Technologies
Budget: € 621.000

Summary:

The HANDLE project aims at understanding how humans perform the manipulation of objects in order to replicate grasping and skilled in-hand movements with an anthropomorphic artificial hand, and thereby move robot grippers from current best practice towards more autonomous, natural and effective articulated hands. This project will focus on technological developments and, in addition, research fundamental multidisciplinary research aspects in order to endow the proposed robotic hand with advanced perception capabilities, high level feedback control and elements of intelligence that allow recognition of objects and context, reasoning about actions and a high degree of recovery from failure during the execution of dexterous tasks.

Web Page: <http://paloma.isr.uc.pt/handle/>

Duration: 48 months

Partners:

- University Pierre et Marie Curie – Paris, FR
- Shadow Robot Company LTD, UK
- Universidad Carlos III de Madrid, SP
- Faculdade de Ciências e Tecnologia da Universidade de Coimbra – Instituto de Sistemas e Robótica, PT
- King's College of London, UK
- Oerebro University, SW
- Universitaet Hamburg, GER
- Commissariat à l'Energie Atomique, FR
- Instituto Superior Técnico – Universidade Técnica de Lisboa, PT

Sponsors:

Seventh Framework Programme – European Commission

Starting Date: February 2009

6

Project Name: PROMETHEUS- Prediction and interpretation of human behaviour based on probabilistic structures and heterogeneous sensors

Ref.: Seventh Framework Programme Theme ICT-1.2.1-GA: 214901
Budget: € 285.960

Summary:

The project intends to establish a link between fundamental sensing tasks and automated cognition processes that concern the understanding a short-term prediction of human behaviour as well as complex human interaction. The analysis of human behaviour in unrestricted environments, including localization and tracking of multiple people and recognition of their activities, currently constitutes a topic of intensive research in the signal processing and computer vision communities. This research is driven by different important applications, including unattended surveillance and intelligent space monitoring.

The overall goal of the project is the development of principled methods to link fundamental sensing tasks using multiple modalities, and automated cognition regarding the understanding of human behaviour in complex indoor environments, at both individual and collective levels. Given the two above principles, the consortium will conduct research on three core scientific and technological objectives:

- 1) Sensor modeling and information fusion from multiple, heterogeneous perceptual modalities
- 2) Modeling, localization, and tracking of multiple people
- 3) Modeling, recognition, and short-term prediction of continuous complex human behavior

Web Page: <http://paloma.isr.uc.pt/projects/prometheus>

Partners:

- Swedish Defence Research Agency – FOI – Sweden
- ProBayes SAS - France, Speech & Language Technology group, University of Patras – Greece
- MARAC Electronics, S.A – Greece
- Technische Universitaet Muenchen - Germany
- Institute for Human-Machine Communications – Germany
- Technical Educational Institute of Crete – Greece
- Faculdade de Ciências e Tecnologia da Universidade de Coimbra, Portugal

Sponsors:

Seventh Framework Programme – European Commission

Duration: 36 months

Starting Date: August 2008

5 **Project Name: IRPS – Intelligent Robotic Porter System**

Summary:

The purpose of the project is to provide mobile robotics platforms with advanced mapping and navigation systems based on a very accurate positioning and 3D measurement technology.

The 3D measurement technology, named LIMS (LIDAR Imaging and Measurement System) is based on an innovative concept of real time measurement of position in presence of sparse regular objects.

The measurement technology principles based on three eye-safe laser systems were originated in IAILahav and are patent pending.

Project goals:

The main objective of the project is to develop and integrate an accurate 3D sensing system as a modular component for robotics platforms, enabling fast dense mapping of large areas, populated with sparse objects. The project will develop and demonstrate the LIMS on high demanding application as an Intelligent Robotic Porter System (IRPS) to help porting & guiding the public in airport areas.

Web Page: <http://www.irps-project.net/>

Partners:

- Industrial Research Institute for Automation and Measurements, Poland (PIAP)
- Scisys, United Kingdom
- Israeli Aerospace Industries, Israel
- Parallel Geometry Inc, Canada
- ANA-Aeroportos de Portugal, SA, Portugal
- CCIT- Toulouse-Blagnac Airport, France
- Institute Systems and Robotics – University of Coimbra -Portugal

Sponsors:

Sixth Framework Programme – European Commission

Ref.:FP6-IST-045048

Budget: € 415.000

Duration: 48 months

Starting Date: January 2007

4 **Project Name: BACS – Bayesian Approach to Cognitive Systems**

Summary:

In this project we investigate and apply Bayesian models and approaches in order to develop artificial cognitive systems that can carry out complex tasks in real world environments. We will take inspiration from the brains of mammals including humans and apply our findings to the developments of cognitive systems.

Web Page: <http://paloma.isr.uc.pt/bacs/>

Partners:

- Institute National de Recherche en Informatique et en Automatique

Ref.: 027140 - Integrated Project
- FP6-IST

Budget: € 437.000

Duration: 48 months

Starting Date: January 2006

- Centre National de la Recherche Scientifique
- Max-Planck-Gesellschaft zur Förderung der Wissenschaften e.v.
- Fondation de L'Institut Dalle Molle D'Intelligence Artificielle Perception
- Les Hopitaux Universitaires de Genève
- Faculdade de Ciências e Tecnologia Universidade de Coimbra
- Probayes
- Bluebotics SA
- Electricité de France Service National
- Institute Systems and Robotics – University of Coimbra

Sponsors:

Sixth Framework Programme – European Commission

- | | | |
|---|---|---|
| 3 | Project Name:
Visual Perception System for a Social Robot (VISOR) | Ref.:NA

Budget: € 70.000

Duration: 12 months
Starting Date: September 2005 |
| | Summary:
This project is a Topical Research Studies (TRS), and his main goal is to generate in-depth knowledge of the visual human oriented perception system for a social robot. This is a fundamental key in the development of a socially interactive robot. If most human-oriented perception is based on passive sensing (artificial vision and auditory), the vision system is the responsible of solve the problems of identifying faces, measuring head and hands poses, capturing human motion, recognizing gestures and reading facial expressions to emulate human social perception. This information permit that the robot be able to identify who the human is, what the human is doing, how the human is doing it and even to imitate the human motion.
Web Page: http://www.grupoisis.uma.es/visor/
Partners: <ul style="list-style-type: none"> - Ingeniería de Sistemas Integrados - Departamento de Tecnología Electrónica Universidad de Málaga (Spain) - Institute Systems and Robotics – FCT- UC Sponsors:
EUropean RObotics research Network - EURON | |
| 2 | Project Name:
EURON - European Robotics Research Network | Ref.:CEC/DGIS/Cont.No IST-
2000-26048
Budget: € 17.000

Duration: 12 months
Starting Date: December 2000 |
| | Summary:
This project aims to achieve and maintain a European network of excellence in the area of robotics with the objectives of coordinating the research, teaching, education and collaboration between academia and industry, the level of Europe. The major objective of the project is to catalyze the development of robotics, so that Europe play a world stage in this field.
Web Page: http://paloma.isr.uc.pt/projects/euron/
Partners: <ul style="list-style-type: none"> - 100 Institutions in Europe - Institute Systems and Robotics – FCT- UC Sponsors:
EUropean RObotics research Network - EURON | |
| 1 | Project Name: NATO Science for Stability | Ref.: NATO/ Science for Stability
Program/ PO-ROBOT/93-99
Budget: 25.000 Contos

Duration: 36 months
Starting Date: May 1993 |
| | Summary:
The pole of Coimbra Institute of Systems and Robotics used to project NATO Science for Stability - PO-ROBOT had the responsibility to coordinate the team during the second phase of the project. The project involved teams of poles of Lisbon (IST-UNL) and Porto (FEUP) of the Institute for Systems and Robotics. In the first phase of this project were developed the techniques necessary to manufacture, in Portugal, a mobile robot. In the second phase have been developed techniques for performing a mobile robot with some degree of autonomy (automatic path planning and ability to avoid obstacles) to operate in industrial environment.
Web Page: http://www.isr.uc.pt/~paulo/POROBOT/
Partners: <ul style="list-style-type: none"> - Institute Systems and Robotics – IST-UTL - Institute Systems and Robotics – FCT- UC - Institute Systems and Robotics – FE-UP | |

Sponsors:
NATO / Science for Stability Program / PO-ROBOT / 93-99

National Projects - Principal Investigator from the Portuguese team

9

Project Name: TICE.Healthy

Ref.:

Summary:

The project "TICE.Healthy, it fits in " Generations" of the regulation of the System of Incentives for Research and Technological Development (RTD), and is one of the anchor projects inserted in the pole TICE.PT - Pole of Competitiveness and Technology from Portugal.

Budget:

€ 409.766 (UC) +
€ 385.690 (IPN)

Aims to provide health services in the market focused on the user, using for that the internet infrastructure and thereby converging to the availability of such solutions on the market. To do this, planned the development of a platform of products and services for the Health and Quality of Life, serving as a catalyst and facilitator incorporating companies and other external to the project, and to create services that use this as support Internet infrastructure policy.

Web Page:

http://mrl.isr.uc.pt/?w=project_information&ID=53 (UC)
<http://tice.healthy.ipn.pt> (IPN)

Duration: 36 months

Partners:

- HIS - e-Health Innovation Systems, Lda
- Instituto Pedro Nunes
- Universidade de Coimbra
- Meticube - Sistemas de Informação, Comunicação e Multimédia, Lda
- INOVAMAIS Serviços de Consultadoria em Inovação Tecnológica, S.A.
- Universidade de Aveiro
- I.Zone Knowledge Systems
- Blueworks - Medical Expert Diagnosis, Lda
- MediaPrimer - Tecnologias e Sistemas Multimédia, Lda
- Instituto de Telecomunicações
- Plux, Wireless Biosignals, S.A.
- TEGIS - Tecnologias e Gestão da Informação em Saúde, Lda
- Maisis - Information Systems, Lda
- Faculdade de Engenharia da Universidade do Porto
- First Solutions, S.A.
- Take The Wind, Lda.
- Biosurfit, S.A.
- CRIAVISION, Lda
- Universidade do Minho
- Exatronic - Engenharia Electrónica, Lda
- Universidade da Beira Interior
- Sinfic - Sistemas de Informação Industriais e Consultoria, S.A.
- INOV INESC INOVAÇÃO - Instituto de Novas Tecnologias

Starting Date: January 2012

Sponsors:

QREN – COMPETE Portuguese Agency for Development with Support from European Commission

8

Project Name:

Structure-function imaging for quantitative phenotyping of retinal degenerations

Ref.: POSI/EEA-SRI/60716/2004

Summary:

Following previous work on the field of medical imaging on the topic of ophthalmology, new opportunities and needs for data integration have emerged. The topic is now broader and follows the global

Budget: € 96.000

direction of modern medicine. This multidisciplinary project aims to understand how patterns of degeneration in the adult human retina are related to the organization of its functional mosaics. It is important to establish new quantitative strategies that can explore structure-function relations in the retina, which may help clarify why retinal degenerations exhibit considerable inter and intra-familial variation in their expression. The goal is to better understand the normal function of different retinal pathways and apply this knowledge to the improvement of quantitative phenotyping. This is only possible by taking into consideration the possibility of data integration, i.e., by merging information from the structure and function, and therefore a new toolbox will have to be provided to the medical community.

Web Page: <http://paloma.isr.uc.pt/mrl/projects/>

Partners:

Associação para a Investigação Biomédica e Inovação em Luz e Imagem (AIBILI)

Faculty of Medicine of University of Coimbra (FM/UC)

Research unit – Instituto Biomédico de Investigação de Luz e Imagem (IBILI/FM/UC)

Host institution – Instituto Biomédico de Investigação de Luz e Imagem (IBILI/FM/UC)

Institute Systems and Robotics – University of Coimbra

Sponsors:

Portuguese Foundation for Science and Technology (FCT) - MCES (Portuguese Ministry of Science, Technology and Higher Education)

Duration: 36 months

Starting Date: January 2004

7

Project Name: RAC Robótica Académica de Coimbra

Summary:

Construction of robots for teams of students to participate in football competitions in robotic Small Size League RoboCup competition.

Web Page: <http://paloma.isr.uc.pt/rac/>

Partners:

Institute Systems and Robotics – FCT- UC

Sponsors:

Portuguese Foundation for Science and Technology (FCT) - MCES (Portuguese Ministry of Science, Technology and Higher Education)

Ref.:

POSI/ROBO/43890/2002

Budget: € 18.000

Duration: 18 months

Starting Date: October 2002

6

Project Name:

Multi-Modality Medical Image Registration for Eye Diagnosis

Summary:

Diabetic retinopathy is the leading cause of legal blindness in developed countries. Vision of the retina is necessary to correlate several additional tests such as fluorescein angiography, fluorescein angiography-based scanning laser ophthalmoscope confocals; measures of circulatory flow in the retina, and measures of leakage of fluorescein to the vitreous. To apply this concept of the daily clinical practice, the record of how involved will be automatic and must take into account differences in scale, resolution, distortions, rotations, translations, etc. The methods of registration can be classified as based on features and intensities. In the first case, the method is based on the targeting of homologous features in both images. In the second case, the record is based on the intensities of the images. It searches in the area of processing up to a measure for a criterion for evaluating the similarity between images, which is similarly classified as: relationships of identity, relations of affinity, functional relationships, and relationship statistics.

Ref.:

POSI/SRI/45151/2002

Budget: € 77.298

A physical model is established to incorporate the process knowledge of the structures to be measured/displayed. As in the case of a retinography the light is collected from a given depth of the retina (variable from point to point), the information collected from the same retinal flow with measures of the effect of Doppler optical take into account information from depths different given the co-focal system. The physical model created should contain not only the physical characteristics of the human eye, but their statistical properties.

Web Page:

<http://paloma.isr.uc.pt/mrl/projects/cprojects/>

Partners:

Associação para a Investigação Biomédica e Inovação em Luz e Imagem – AIBILI

Institute Systems and Robotics – FCT- UC

Sponsors:

Portuguese Foundation for Science and Technology (FCT) - MCES (Portuguese Ministry of Science, Technology and Higher Education)

Duration: 36 months

Starting date: February 2002

5

Project Name:

TELE 3D Um Scanner 3D para tele-colaboração

Summary:

Achieving a new technology for the human interaction with the computer based on the disparity maps obtained by video images and applications of tele-collaboration and tele-manipulation.

Web Page: <http://paloma.isr.uc.pt/Tele3DWeb/>

Partners:

HUC – Hospitais da Universidade de Coimbra

Institute Systems and Robotics – FCT- UC

Sponsors:

Portuguese Foundation for Science and Technology (FCT) - MCES (Portuguese Ministry of Science, Technology and Higher Education)

Ref.: FCT – MCT – CERN/P/EEI/40121/2000

Budget: 4.800 Contos

Duration: 24 months

Starting date: July 2000

4

Project Name:

Advanced System for Traffic Surveillance

Summary:

Development of a system of automatic monitoring of traffic with the ability to learn by observation, the rules used by drivers in control of their vehicles. The system should be able to evaluate the performance of a driver for their peers and identify the reasons for discrepancies that might arise.

Web Page: <http://paloma.isr.uc.pt/webdocs/ats.htm>

Partners:

Institute Systems and Robotics – FCT- UC

Sponsors:

Portuguese Foundation for Science and Technology (FCT) - MCES (Portuguese Ministry of Science, Technology and Higher Education)

Ref.: FCT–MCT–PRAXIS/EEI/11218/1998

Budget: 9.662 Contos

Duration: 36 months

Starting Date: October 1998

3

Project Name:

Recovering Three-dimensional Structure of Human Coroid

Summary:

Conducted within the scientific exchange with the Institute for Biomedical Research of Light and Image, University of Coimbra. The main objective of the project is the development of a computerized image analysis system for the study of choroidal circulation. A three-dimensional visualization of stereo images obtained from indocyanine green angiography, performed with a

Ref.: FCT – MCT – PECS/C/SAU/205/95

Budget: 4.500 Contos

video-angiography system, will be performed.

Software to be developed will allow a three-dimensional visualization of the human choroidal circulation, the identification of the choriocapillaris structure and an extraction of choriocapillaris hemodynamic data from indocyanine green angiograms.

Web Page: <http://paloma.isr.uc.pt/mrl/projects/cprojects/>

Partners:

AIBILI- Associação para a Investigação Biomédica e Inovação em Luz e Imagem

Institute Systems and Robotics – FCT- UC

Sponsors:

Portuguese Foundation for Science and Technology JNICT (FCT)

Duration: 36 months

Starting

Date:

December 1995

2

Project Name:

SIRMA - Sistema Inercial para Robótica Móvel Autónoma

Summary:

Held at the Institute for Systems and Robotics University of Coimbra. Within the modern methods of production are the flexible production processes that normally involve the use of manipulators, mobile robots and AGV's. Currently most cases using mobile robots and AGV's are based on systems that run sequences previously programmed with a limited degree of interaction with the environment. This type of approach presents the problem of programming the devices to meet the geometry of the site. In applications where there is a site known geometry is necessary that the robot has the ability to locate and perception for proper navigation. This type of applications to be implemented independently, involve the use of sensors for proper execution of movements. Using the information provided by inertial sensors such as accelerometers or gyroscopes, it is possible to construct an inertial navigation system based on direct measures made with the sensor and inside the vehicle. These systems have interesting properties because the measures taken are independent of information about where the vehicle is, how to contact the wheels with the ground and do not use measures on the radiant energy of the place or emit energy to carry out measures. Such a system can be easily used in other applications involving measures of speed or acceleration of a body in motion.

Web Page: <http://paloma.isr.uc.pt/mrl/projects/cprojects/>

Partners:

Institute Systems and Robotics – FCT- UC

Sponsors:

Portuguese Foundation for Science and Technology (FCT)- MCES (Portuguese Ministry of Science, Technology and Higher Education)

Ref.: FCT-

PBICT/C/TPR/2545/95

Budget: 4.500 Contos

Duration: 36 months

Starting

Date:

November 1995

1

Project Name:

Tri-Dimensional Scanning of the Human Retina - Quantification of vascular Central Area

Summary:

Due to sabbatical leave of the investigator in charge, Prof. Helder Araújo, was the manager in the last year of the project. The project was conducted within the scientific exchange with the Institute for Biomedical Research of Light and Image, University of Coimbra - 1992. The project has the objective to develop a system of direct purchase and processing of computerized image of the central avascular area (AAC) of the human retina in fluorescein angiography, to quantify the retinal macular ischaemia.

Web Page: <http://paloma.isr.uc.pt/mrl/projects/cprojects/>

Ref.: FCT – MCT –

PBCI/C/SAU/1576/92

Budget: 7.500 Contos

Duration: 36 months

Partners:

AIBILI- Associação para a Investigação Biomédica e Inovação em
Luz e Imagem

Institute Systems and Robotics – FCT – UC

Sponsors:

Portuguese Foundation for Science and Technology (FCT)-MCES
(Portuguese Ministry of Science, Technology and Higher Education)

Starting

November 1992

Date:

Principal Investigator of the Cooperation and Exchange Projects

- | | | |
|---|---|---|
| 5 | <p>APSUBA - Active Perception for Scene Understanding and Behaviour Analysis (APSUBA): An application for Social Robotic</p> <p>Summary:
 Active Perception for Scene Understanding and Behaviour Analysis (APSUBA): An application for Social Robotic.
 The aim of the presented project is to develop an active perception system of the environment, acting as an agent inside a heterogeneous sensor network, for scene understanding and behaviour analysis. The proposed perception system is composed of two different mechanisms: an active visual perception system and a metric perception system acting inside a network of heterogeneous sensor such as 3D laser scanner, Inertial Measurement Unit (IMU) and camera. Both two systems will be calibrated. The sensorial fusion allows detecting the regions of interest using active vision (e.g. changes in the scene, human-robot interaction, human/robot motion, etc). Metric information will be used for later segmentation and 3D modelled stages. Moreover, data fusion will be applied for both heterogeneous sensor calibration and perception. Finally, the models will be used for scene recognition and behaviour understanding. In order to obtain the relevant elements in the scene, a perception-based grouping process will be employed, which is performed by a hierarchical irregular pyramid. Using the information given by the visual mechanism, the metric perception system will provide 3D information of the interest sector, through developing a multi-layer homography-based reconstruction approach. The segmentation in large datasets will be achieved using clusters provided by Gaussian Mixture Models (GMM). These segments will be modelled using high level geometric features (superquadric surfaces), which will be used for the last stage of the system: scene understanding and behaviour analysis using Bayesian rules.</p> <p>The proposed project will provide contributions in different topics like mobile-structure sensor network, heterogeneous sensor calibration, localization, scene recognition, 3D reconstruction, active perception, sensorial fusion or human behaviour understanding. The results of this project are also interesting in other research fields (e.g. smart environment).</p> <p>Starting Date: 2011</p> <p>Partners:</p> <ul style="list-style-type: none"> - Institute Systems and Robotics – FCT- UC - Ingenieria de Sistemas Integrados - Málaga University - University of Estramadura, Spain <p>Sponsors:</p> | <p>CRUP n.º E-8/08</p> <p>Exchanges:NA</p> <p>Duration: 24 months</p> |
| 4 | <p>Project Name: Scientific and Technical Cooperation Portugal – Málaga</p> <p>Summary:
 The collaboration between the ISR-Institute of Systems and Robotics and ISIS-Ingenieria de Sistemas Integrados, involves the development of Visual-based interface for robots and intelligent environments project.</p> <p>This project will permit to establish an open forum of discussion between two research teams. The main objective of this project will be to establish a scenario where two research groups can discuss and analyse the development of a visual based interface for human computer interaction. A goal for interface developers</p> | <p>CRUP n.º E-8/08</p> <p>Exchanges:NA</p> |

should be the creation of interfaces that are “humane”. The high level image processing has two main goals, the first is related to estimation of the human movements, and the second is the recognition of objects in the environment.

Starting Date: 2008

Duration: 12 months

Partners:

- Ingenieria de Sistemas Integrados - Málaga University
- Institute Systems and Robotics – FCT- UC

Sponsors:

CRUP

3 Project Name: Scientific and Technical Cooperation Portugal – Brasil

Summary:

Exchanges:NA

This co-operation project "Architectures of Information Systems and Autonomy in Robotic Air - SISROB," comes from the junction of several additional contexts and multidisciplinary common in Brazil and Portugal, a collaboration initiated in 1998 and which remains active and productive since then. In this context, involving the ISR / UC, IDMEC / IST, DRVC / CenPRA and DCC / UFMG, this project aims to support, for the next biennium, joint actions of research and scientific and technological development, training and guidance of students cross the undergraduate and graduate level. The main objective is joint development of capabilities that allow for autonomous operation of robotic aerial vehicles, particularly for robotic airships, to conduct inspection missions of air and environmental monitoring. The platforms in the air DIVA, AURORA, and SiDeVAAN form the basis for the development, implementation and testing in this work plan. Considering the scope and complexity of topics, which are located on the border of the state of the art in the world, and the goals of implementation and experimental validation, it is now a posteriori continuity of cooperation, through request for renewal or new submissions bodies to promote the two countries.

Starting Date: April 2007

Duration: 24 months

Partners:

- IDMEC/IST – Instituto de Engenharia Mecânica do Instituto Superior Técnico
- DRVC/CenPRA – Centro de Pesquisas Renato Archer - Campinas
- DCC/UFMG – Laboratório de Visão Computacional e Robótica do Departamento de Ciência da Computação da Universidade Federal de Minas Gerais
- Institute Systems and Robotics – FCT- UC

Sponsors:

GRICES Program – Ministry of Science, Technology and Higher Education (MCTES)

2 Project Name: Scientific and Technical Cooperation Portugal – France

Summary:

Exchanges number:NA

Vision-based Human-Robot Interaction. The large scale development of a new generation of robots (humanoid, pet animals or assistants) to share our daily lives and our environment requires the formulation of new paradigms of human-robot interaction. This interaction poses several problems that must be considered carefully, not only at the technical level but also psychological and social.

The aim is the joint development partners for a navigation system with a natural interface.

Starting Date: 2006

Duration: 12 months

Partners:

- LAAS - Laboratoire Automatic et Systèmes - Université Paul Sabatier
- Institute Systems and Robotics – FCT- UC

Sponsors:

GRICES Program – Ministry of Science, Technology and Higher Education (MCTES)

1

Project Name: Scientific and Technical Cooperation Portugal – France

Summary:

NA

Exchanges number:NA

Starting Date: NA

Duration: NA

Partners:

- LAAS Laboratoire Automatic et Systèmes - Université Paul Sabatier
- Institute Systems and Robotics – FCT- UC

Sponsors:

GRICES Program – Ministry of Science, Technology and Higher Education (MCTES)

Researcher from the Projects

- 12 **Project Name: PATH-4RCOOP - Path Planning For Human And Robotic Teams Cooperation For Navigation And Situation Awareness In Hostile Environments And Catastrophic Incidents** Ref.:
 Budget: AED 175,000
- Summary:
 This project will investigate the development of path planning strategies for cooperation between autonomous UGV and human observers teams, to carry out missions with stealth behavior. Covertness can be from both land and sky observers (e.g. military aircrafts). The project will investigate path-planning techniques to improve cooperative activities between UGVs and human teams. Working with cooperative UGVs would require developing navigation and communication strategies to succeed in the covert mission. One aim could be to minimize the exposure of all team members to gain more environmental knowledge. Other aim is to determine the minimum number of UGVs required to achieve a specific mission. Multi-UGV Systems have great potential as regards parallelism, efficiency and robustness in tasks distributed in space or too complex to be accomplished by a single UGV [Pa98]. These benefits hinge on suitable human-robot team organization and planning to achieve coordination and cooperation, which requires efficient sharing of information. These systems will be very useful on assisting humans in distributed activities in hazardous scenarios [MuBu05], by extending human perception and local intervention with the set of distributed sensors and actuators. This project aims at exploiting this human-robot symbiosis to support human-robot teams for small-scale search and surveillance missions in urban catastrophic incidents and critical infrastructures, an application domain with an unquestionable beneficial impact in Abu Dhabi, the Abu Dhabi 2030 plan and the UAE region.
- Web Page: - Duration: 12 months
- Partners: Starting Date: January 2012
- Sponsors: Khalifa University Internal Research Fund (KUIRF)
- 11 **Project Name: TICE.Mobility** Ref.:
 Budget: € 511.533 (UC) + € 366.192 (IPN)
- Summary:
 The project's mission involves exploring new, more efficient and comprehensive solutions for urban transportation, through the use of communication and information technologies (CIT) to make it possible to integrate the various available solutions, in an ecological, energy-efficient way with better quality for users, in combination and cooperation with other domestic initiatives.
- Web Page: <http://tice.mobilidade.ipn.pt> Duration: 36 months
- Partners: Starting Date: January 2012
- Metcube - Sistemas de Informação, Comunicação e Multimédia, Lda
 - Universidade de Coimbra
 - Instituto Pedro Nunes
 - MOVE MILE, S.A.
 - OPT- Optimização e Planeamento de Transportes, S.A.
 - Media Primer - Tecnologias e Sistemas Multimédia, Lda
 - AMI-Tecnologias para Transportes, S.A.
 - CCG - Centro de Computação Gráfica
 - Ubiwhere, Lda
 - Ponto C - Desenvolvimento de Sistemas de Informação, Lda
 - MICRO I/O - Serviços de Electrónica, Lda
 - Universidade de Aveiro
 - Faculdade de Engenharia da Universidade do Porto
 - INEGI - Instituto de Engenharia Mecânica e Gestão Industrial
 - WIZDEE - Sistemas de Gestão de Conhecimento, Lda
 - PROCESS.NET - Sistemas de Informação, Lda

- INOV INESC INOVAÇÃO - Instituto de Novas Tecnologias
- INESC Porto - Instituto de Engenharia de Sistemas e Computadores do Porto
- Universidade do Minho
- AMBISIG - Ambiente e Sistemas de Informação Geográfica, S.A.
- ISA - Intelligent Sensing Anywhere
- SMARTMOVE - Serviços de Mobilidade, S.A.
- I2S Informática - Sistemas e Serviços, S.A.
- Critical Software, S.A.
- EFACEC Engenharia e Sistemas, S.A.
- CEIIA - Centro para a Excelência e Inovação na Indústria Automóvel
- Inteli - Inteligência em Inovação - Centro de Inovação
- Monitar, Lda

Sponsors:

QREN – COMPETE Portuguese Agency for Development with Support from European Commission

11

Project Name: Modern-MOBility, Development and Energy use Reduction

Ref.: 219041-FP7-SST-2007-TREN-1_28June
Budget: € 159.300

Summary:

The project outlines a bold package of integrated measures in all the cities of the Consortium, and cover all the areas required by the Civitas + Programme. The project shows ambitious goals which will have a substantial impact on the state of the mobility in the cities and a good visibility at the European level, mixing measures with large scale application actions based in existing and commercially available technologies, and measures with more advanced trials and methodologies. The project has common main targets: · To increase the quality and the effectiveness of the public transport system (from the environmental and from the service point of view), increasing the number of users · To limit the waste of energy and to support the diffusion of the use of clean fuels among the citizens · To support the effort of improvement of public transport through a series of measure capable of limiting the circulation of private cars · To give value at alternative “sweet” mobility modes improving safety and liveability for their users. · To lower the number of accidents on the roads. · To increase the technological endowment of the cities as a support to more and more intelligent mobility management policies and as a service to citizens. · To diffuse as much as possible the culture of an environmental sustainable mobility among citizens and to increase the social awareness of the vital importance of these themes. The project has 49 different measures within 5 middle-size cities: Craiova (Project Coordinator) (Rumania), Brescia (Italy), Vitoria Gasteiz (Spain), Coimbra (Portugal), and Ostrava (Czech Republic) and 24 partners with all the Municipalities and local P T Companies. Another crucial target is to assess a wide communication and debate among the cities at the level of political decision makers and important stakeholders, and a strong cooperation among scientists and technicians of the European team to circulate experiences and best practice.

Web Page: <http://www.modern.ipacv.ro/>

Partners:

- PRIMARIA MUNICIPIULUI CRAIOVA – Romania
- REGIA AUTONOMA DE TRANSPORT CRAIOVA, Romania
- SC IPA SA - R&D, Engineering and Manufacturing for Automation Equipments and Systems, Romania
- Comune di Brescia, Italy
- Brescia Mobilità S.p.A., Italy
- Brescia Trasporti S.p.A., Italy
- Università degli Studi di Brescia – DICATA, Italy
- Ayuntamiento de Vitoria-Gasteiz, Spain
- Transportes Urbanos de Vitoria-Gasteiz, S.A., Spain
- Centro de Estudios Ambientales, Vitoria-Gasteiz, Spain
- ENTE VASCO DE LA ENERGÍA, Bilbao, Spain
- Real Automovil Club Vasco Navarro, San Sebastian, Spain
- Câmara Municipal de Coimbra, Portugal

Duration: 48 months
Starting Date: October 2008

- Serviços Municipalizados de Transportes Urbanos de Coimbra, Portugal
- Universidade de Coimbra, Portugal
- Critical Software, S.A., Portugal
- Prodeso-Ensino Profissional, Lda, Portugal
- PERFORM ENERGIA Lda., Portugal
- Magistrat mesta Ostravy, Czech Republic
- Ostravske komunikace, a.s., Czech Republic
- Dopravní podnik Ostrava, a.s., Czech Republic
- Vysoka skola banska – Technicka univerzita Ostrava, Czech Republic
- Istituto di Studi per l'Integrazione dei Sistemi, Italy
- Mo.Ve Mobility Venice AISBL, Belgium

Sponsors:

Seventh Framework Programme – European Commission

10 Project Name: Modern-MObility, Development and Energy use Reduction

Ref.: 219041-FP7-SST-2007-TREN-1_28June
Budget: € 159.300

Summary:

The project outlines a bold package of integrated measures in all the cities of the Consortium, and cover all the areas required by the Civitas + Programme. The project shows ambitious goals which will have a substantial impact on the state of the mobility in the cities and a good visibility at the European level, mixing measures with large scale application actions based in existing and commercially available technologies, and measures with more advanced trials and methodologies. The project has common main targets: · To increase the quality and the effectiveness of the public transport system (from the environmental and from the service point of view), increasing the number of users · To limit the waste of energy and to support the diffusion of the use of clean fuels among the citizens · To support the effort of improvement of public transport through a series of measure capable of limiting the circulation of private cars · To give value at alternative “sweet” mobility modes improving safety and liveability for their users. · To lower the number of accidents on the roads. · To increase the technological endowment of the cities as a support to more and more intelligent mobility management policies and as a service to citizens. · To diffuse as much as possible the culture of an environmental sustainable mobility among citizens and to increase the social awareness of the vital importance of these themes. The project has 49 different measures within 5 middle-size cities: Craiova (Project Coordinator) (Romania), Brescia (Italy), Vitoria Gasteiz (Spain), Coimbra (Portugal), and Ostrava (Czech Republic) and 24 partners with all the Municipalities and local P T Companies. Another crucial target is to assess a wide communication and debate among the cities at the level of political decision makers and important stakeholders, and a strong cooperation among scientists and technicians of the European team to circulate experiences and best practice.

Web Page: <http://www.modern.ipacv.ro/>

Partners:

- PRIMARIA MUNICIPIULUI CRAIOVA – Romania
- REGIA AUTONOMA DE TRANSPORT CRAIOVA, Romania
- SC IPA SA - R&D, Engineering and Manufacturing for Automation Equipments and Systems, Romania
- Comune di Brescia, Italy
- Brescia Mobilità S.p.A., Italy
- Brescia Trasporti S.p.A., Italy
- Università degli Studi di Brescia – DICATA, Italy
- Ayuntamiento de Vitoria-Gasteiz, Spain
- Transportes Urbanos de Vitoria-Gasteiz, S.A., Spain
- Centro de Estudios Ambientales, Vitoria-Gasteiz, Spain
- ENTE VASCO DE LA ENERGÍA, Bilbao, Spain
- Real Automovil Club Vasco Navarro, San Sebastian, Spain
- Câmara Municipal de Coimbra, Portugal
- Serviços Municipalizados de Transportes Urbanos de Coimbra, Portugal
- Universidade de Coimbra, Portugal
- Critical Software, S.A., Portugal
- Prodeso-Ensino Profissional, Lda, Portugal

Duration: 48 months
Starting Date: October 2008

- PERFORM ENERGIA Lda., Portugal
- Magistrat mesta Ostravy, Czech Republic
- Ostravske komunikace, a.s., Czech Republic
- Dopravní podnik Ostrava, a.s., Czech Republic
- Vysoka skola banska – Technicka univerzita Ostrava, Czech Republic
- Istituto di Studi per l'Integrazione dei Sistemi, Italy
- Mo.Ve Mobility Venice AISBL, Belgium

Sponsors:

Seventh Framework Programme – European Commission

- | | | |
|---|--|---|
| 9 | <p>Project Name:
 DIVA – Dirigível Instrumentado para Vigilância Aérea</p> <p>Summary:
 This project aims to develop an autonomous airship for surveillance operations.</p> <p>Web Page: http://paloma.isr.uc.pt/projects/diva/</p> <p>Partners:</p> <ul style="list-style-type: none"> - IDMEC/IST – Instituto de Engenharia Mecânica do Instituto Superior Técnico - University of Minho - ISR – Instituto de Sistemas e Robótica – FCT-UC <p>Sponsors:
 Portuguese Foundation for Science and Technology (FCT) -
 Ministry of Science, Technology and Higher Education (MCTES)
 Air Liquide</p> | <p>Ref.:
 POSI/SRI/45040/2002
 Budget: € 60.222</p> <p>Duration: 36 months
 Starting Date:
 September 2002</p> |
| 8 | <p>Project Name: ESPRIT Basic Research Action</p> <p>Summary:
 Field of vision for three-dimensional applications in robotics and in which were studied technical integration of three-dimensional information in robotics.</p> <p>Web Page:
 http://paloma.isr.uc.pt/mrl/projects/cprojects/</p> <p>Partners:
 Institute Systems and Robotics – FCT- UC</p> <p>Sponsors:
 ESPRIT – co-funded within the Leonardo da Vinci Programme
 Multilateral Projects on the Transfer of Innovation, European Commission</p> | <p>Ref.: 3278
 Budget: NA</p> <p>Duration: NA
 Starting date: NA</p> |
| 7 | <p>Project Name: ESPRIT Exploratory Action</p> <p>Summary:
 Area Multi-Sensory. In which we studied aspects of integration of multi-sensory information.</p> <p>Web Page: http://paloma.isr.uc.pt/mrl/projects/cprojects/</p> <p>Partners:
 Institute Systems and Robotics – FCT- UC</p> <p>Sponsors:
 ESPRIT – co-funded within the Leonardo da Vinci Programme
 Multilateral Projects on the Transfer of Innovation, European Commission</p> | <p>Ref.: 5673
 Budget: NA</p> <p>Duration: NA
 Starting Date: NA</p> |
| 6 | <p>Project Name: FSAR- Fusão Sensorial Para Aplicações de Robótica</p> <p>Summary:
 Development of techniques for combination of sensory information to applications of robotics.</p> <p>Web Page: http://paloma.isr.uc.pt/mrl/projects/cprojects/</p> <p>Partners:</p> <ul style="list-style-type: none"> - Institute Systems and Robotics – FCT- UC | <p>Ref.: NA
 Budget: NA</p> <p>Duration: NA
 Starting Date: NA</p> |

Sponsors:

National Board of Scientific and Technological Research (JNICT)
Portuguese Ministry of Science, Technology and Higher Education
(MCTES)

- | | | |
|---|--|--|
| 5 | Project Name: VARMA - Visão Activa para Robótica Móvel Autónoma (Projecto STRIDE) | Ref.: NA |
| | Summary:
Development of a vision system able to control the position of sensors in space and the vision based on principles of active vision.
Web Page: http://paloma.isr.uc.pt/mrl/projects/cprojects/
http://paloma.isr.uc.pt/mrl/projects/cprojects/
Partners:
- Institute Systems and Robotics – FCT- UC | Budget: NA

Duration: NA

Starting Date: NA |
| | Sponsors:
Innovation Support Program (1993 -1996) (STRIDE) - Portuguese Ministry of Science, Technology and Higher Education (MCTES) | |
| 4 | Project Name:
CROM - Célula Robótica de Montagem (Projecto STRIDE) | Ref.: NA |
| | Summary:
Development of a distributed processing structure of multi-sensory (including vision) for control of a flexible assembly cell.
Web Page:
http://paloma.isr.uc.pt/mrl/projects/cprojects/
Partners:
- Institute Systems and Robotics – FCT- UC | Budget: NA

Duration: NA

Starting Date: NA |
| | Sponsors:
Innovation Support Program (1993 -1996) (STRIDE) - Portuguese Ministry of Science, Technology and Higher Education (MCTES) | |
| 3 | Project Name:
ARMMA-Autonomous Robotics Methodologies for Multidisciplinary Applications | Ref.:
PRAXIS/3/3.1/TR/23/94 |
| | Summary:
In this project intended to develop general techniques for use of robotics in different types of applications
Web page: http://paloma.isr.uc.pt/mrl/projects/cprojects/
Partners:
- Instituto de Sistemas e Robótica – FCT - UC | Budget: 15.000 contos

Duration: 36 months
Starting Date: January 1994 |
| | Sponsors:
National Board of Scientific and Technological Research (JNICT)
Portuguese Ministry of Science, Technology and Higher Education (MCTES) | |
| 2 | Project Name: SIVA – System for Active Surveillance | Ref.:
PRAXIS/2/2.1/TPAR/2074/95 |
| | Summary:
Development of an autonomous system able to perform surveillance tasks in a structured environment. The system as a whole is made up of several mobile platforms. Each platform is equipped with a vision system, odometry and wireless Ethernet. The environment map is known "a priori" and both natural and artificial landmarks are used for localization.
Web Page:
http://paloma.isr.uc.pt/mrl/projects/cprojects/projectinformation.php?ID=33
Partners:
- Instituto de Sistemas e Robótica – FCT – UC | Budget: 6.750 Contos

Duration: 36 months

Starting Date: January 1995 |

Sponsors:

PRAXIS XXI Program – Portuguese Ministry of Science,
Technology and Higher Education (MCTES)

1

Project Name: Multi-Modality Maps for Mobile Robotics

Ref.:NA

Budget: 6.240 contos

Summary:

This project aims to develop algorithms for fusion of information obtained by sensors in motion. These sensors are carried on mobile platforms and interior of buildings.

Web Page: <http://paloma.isr.uc.pt/mrl/projects/cprojects/>

Duration: 24 months

Partners:

Starting Date: NA

- Instituto de Sistemas e Robótica – FCT - UC

Sponsors:

PRAXIS XXI Program – Portuguese Ministry of Science,
Technology and Higher Education (MCTES)

Professional Awards, Honours and Licensures

IEEE Senior Member

IEEE - Institute of Electrical and Electronics Engineers (www.ieee.org) - the world's largest professional association for the advancement of technology.

"Best Paper Award"

H. Aliakbarpour, J. Dias - "IMU-aided 3D Reconstruction based on Multiple Virtual Planes." - DICTA'10, International Conference on Digital Image Computing: Techniques and Applications - Australian Pattern Recognition and Computer Vision Society Conference, IEEE Computer Society Press, 1-3 December 2010, Sydney, Australia.

"Best Paper Award"

Rett, J., **Dias**, J.: Autonomous Robot Navigation - A study using Optical Flow and log-polar image representation. In: Proceedings of the Colloquium of Automation, Salzhausen 2003/2004. (2004) -

Demonstrators & Pilots

A more complete and updated information on last Demonstrators and Pilots is available at web link http://media.isr.uc.pt/demos/index.php?option=com_content&view=article&id=52&Itemid=63 . From these Web links is possible to download articles or access to multi-media files.

Large Public Demonstrators & Pilots

Environment Friendly Transporation – Rovisco Pais Hospital

TVI

http://media.isr.uc.pt/demos/index.php?option=com_hwdvideoshare&task=viewvideo&Itemid=58&video_id=76

TVI24

http://media.isr.uc.pt/demos/index.php?option=com_hwdvideoshare&task=viewvideo&Itemid=58&video_id=75

Personal Rapid Transit - Test Activities

http://media.isr.uc.pt/demos/index.php?option=com_hwdvideoshare&task=viewvideo&Itemid=58&video_id=79

Sic Noticias

http://media.isr.uc.pt/demos/index.php?option=com_hwdvideoshare&task=viewvideo&Itemid=58&video_id=80

Read the full article at

http://media.isr.uc.pt/demos/index.php?option=com_content&view=article&id=53:cybercar-intelligent-transport-vehicle&catid=43:large-public-demonstrators-a-pilots&Itemid=64

HANDLE Project – Nas mãos do Futuro

Exame Informatica

http://media.isr.uc.pt/demos/index.php?option=com_docman&task=doc_view&gid=56&tmpl=component&format=raw&Itemid=60

Exame Informatica - Vídeo (Portuguese Audio)

http://media.isr.uc.pt/demos/index.php?option=com_hwdvideoshare&task=viewvideo&Itemid=58&video_id=74

HANDLE Project – Mão Robótica

Ciencia Hoje

http://media.isr.uc.pt/demos/index.php?option=com_docman&task=doc_download&gid=33&Itemid=60

Coimbra Digital

http://media.isr.uc.pt/demos/index.php?option=com_docman&task=doc_download&gid=34&Itemid=60

Correio Da Manhã

http://media.isr.uc.pt/demos/index.php?option=com_docman&task=doc_download&gid=35&Itemid=60

Correio Da Manhã

http://media.isr.uc.pt/demos/index.php?option=com_docman&task=doc_download&gid=36&Itemid=60

DC - Manchete

http://media.isr.uc.pt/demos/index.php?option=com_docman&task=doc_download&gid=37&Itemid=60

Destak

http://media.isr.uc.pt/demos/index.php?option=com_docman&task=doc_download&gid=38&Itemid=60

Diario Digital

http://media.isr.uc.pt/demos/index.php?option=com_docman&task=doc_download&gid=39&Itemid=60

Diario Dos Acores

http://media.isr.uc.pt/demos/index.php?option=com_docman&task=doc_download&gid=40&Itemid=60

Diario Dos Acores

http://media.isr.uc.pt/demos/index.php?option=com_docman&task=doc_download&gid=41&Itemid=60

DN

http://media.isr.uc.pt/demos/index.php?option=com_docman&task=doc_download&gid=42&Itemid=60

Forum Auto Hoje

http://media.isr.uc.pt/demos/index.php?option=com_docman&task=doc_download&gid=43&Itemid=60

I Online

http://media.isr.uc.pt/demos/index.php?option=com_docman&task=doc_download&gid=45&Itemid=60

Inovacao E Marketing

http://media.isr.uc.pt/demos/index.php?option=com_docman&task=doc_download&gid=44&Itemid=60

Jornal Leiria

http://media.isr.uc.pt/demos/index.php?option=com_docman&task=doc_download&gid=46&Itemid=60

Metro

http://media.isr.uc.pt/demos/index.php?option=com_docman&task=doc_download&gid=47&Itemid=60

Mundo Português

http://media.isr.uc.pt/demos/index.php?option=com_docman&task=doc_download&gid=48&Itemid=60

Oje

http://media.isr.uc.pt/demos/index.php?option=com_docman&task=doc_download&gid=49&Itemid=60

Portugal Diario

http://media.isr.uc.pt/demos/index.php?option=com_docman&task=doc_download&gid=50&Itemid=60

Site Brasileiro

http://media.isr.uc.pt/demos/index.php?option=com_docman&task=doc_download&gid=51&Itemid=60

Terra Nostra

http://media.isr.uc.pt/demos/index.php?option=com_docman&task=doc_download&gid=52&Itemid=60

TSF Online

http://media.isr.uc.pt/demos/index.php?option=com_docman&task=doc_download&gid=53&Itemid=60

TVI 24

http://media.isr.uc.pt/demos/index.php?option=com_docman&task=doc_download&gid=54&Itemid=60

Visao

http://media.isr.uc.pt/demos/index.php?option=com_docman&task=doc_download&gid=55&Itemid=60

RTPN – Vídeo (Portuguese Audio)

http://media.isr.uc.pt/demos/index.php?option=com_hwdvideoshare&task=viewvideo&Itemid=58&video_id=70

SIC Noticias – Vídeo (Portuguese Audio)

http://media.isr.uc.pt/demos/index.php?option=com_hwdvideoshare&task=viewvideo&Itemid=58&video_id=72

**IRPS Project – Expresso TV
(Portuguese Audio)****Expresso TV**

http://media.isr.uc.pt/demos/index.php?option=com_hwdvideoshare&task=viewvideo&Itemid=58&video_id=2

BACS Project - Brain Interface - Computer: FCTUC and Swiss Hospital make Pioneer Experience**DN**

http://media.isr.uc.pt/demos/index.php?option=com_docman&task=doc_view&gid=58&tmpl=compone

nt&format=raw&Itemid=60

JN

http://media.isr.uc.pt/demos/index.php?option=com_docman&task=doc_view&gid=57&tmpl=component&format=raw&Itemid=60

Antena 1

http://media.isr.uc.pt/demos/images/antena1_robo_cerebro.mp3

TVI

http://media.isr.uc.pt/demos/index.php?option=com_hwdvideoshare&task=viewvideo&Itemid=58&video_id=81

Read the full article at

http://media.isr.uc.pt/demos/index.php?option=com_content&view=article&id=54:brain-interface-computer-fctuc-and-swiss-hospital-make-pioneer-experience&catid=43:large-public-demonstrators-a-pilots&Itemid=64

Demonstrators & Pilots Targeting Research Community & Companies

Smart Room – Moven Suit Demonstration

An actor does simple tasks inside the smart room and all the Moven Suite is used to capture all of his movements. The data captured can later be used and viewed like in this video.

http://media.isr.uc.pt/demos/index.php?option=com_hwdvideoshare&task=viewvideo&Itemid=58&video_id=26

Smart Room – Moven Suit Demonstration with Top Camera

An actor does simple tasks inside the smart room and all his actions are recorded by several cameras. This video shows the top left camera of the smart room.

http://media.isr.uc.pt/demos/index.php?option=com_hwdvideoshare&task=viewvideo&Itemid=58&video_id=22

HANDLE – Polhemous Demonstration

Demonstration video of the usage and features of the Polhemous Liberty.

http://media.isr.uc.pt/demos/index.php?option=com_hwdvideoshare&task=viewvideo&Itemid=58&video_id=68

HANDLE – Instrumented Rubik Cube Demonstration

Demonstration video of the usage and features of instrumented Rubik cube.

http://media.isr.uc.pt/demos/index.php?option=com_hwdvideoshare&task=viewvideo&Itemid=58&video_id=67

HANDLE – Eye Tracker Demonstration

Demonstration video of the usage and features of the Eye Tracker.

http://media.isr.uc.pt/demos/index.php?option=com_hwdvideoshare&task=viewvideo&Itemid=58&video_id=69

IRPS – 3D TSLAM Demonstration

Demonstration of 3D TSLAM mapping.

http://media.isr.uc.pt/demos/index.php?option=com_hwdvideoshare&task=viewvideo&Itemid=58&video_id=39

IRPS – Navigation Demonstration

Demonstration of a robot navigating autonomously during tests.

http://media.isr.uc.pt/demos/index.php?option=com_hwdvideoshare&task=viewvideo&Itemid=58&video_id=21

IRPS - 3D TSLAM Mapping

Demonstration of 3D TSLAM mapping.

http://media.isr.uc.pt/demos/index.php?option=com_hwdvideoshare&task=viewvideo&Itemid=58&video_id=29

IRPS – Faro Testing Site

Tests performed at Faro Airport.

http://media.isr.uc.pt/demos/index.php?option=com_hwdvideoshare&task=viewvideo&Itemid=58&video_id=31

IRPS – Faro Testing Site

Tests performed at Faro Airport.

http://media.isr.uc.pt/demos/index.php?option=com_hwdvideoshare&task=viewvideo&Itemid=58&video_id=32

BACS – Human Robot Interaction by Gesture

Video describing Human Robot Interaction using gestures.

http://media.isr.uc.pt/demos/index.php?option=com_hwdvideoshare&task=viewvideo&Itemid=58&video_id=46

BACS – Brain Computer Interface from HUG

A researcher at the Hospital / University of Geneva, with a device (comprised of electrodes) in the head and in front of a computer controls a small robot at the Laboratory of the Institute for Systems and Robotics (FCTUC).

http://media.isr.uc.pt/demos/index.php?option=com_hwdvideoshare&task=viewvideo&Itemid=58&video_id=43

BACS – Binaural System Calibration

Demonstration of the calibration process of a binaural System.

http://media.isr.uc.pt/demos/index.php?option=com_hwdvideoshare&task=viewvideo&Itemid=58&video_id=45

BACS – Binaural System - Sound source detection

Demonstration of sound source detection in a binaural system.

http://media.isr.uc.pt/demos/index.php?option=com_hwdvideoshare&task=viewvideo&Itemid=58&video_id=47

BACS – Auditory Saliency IMPEP2 Demonstration

Demonstration of sound source detection using IMPEP2

http://media.isr.uc.pt/demos/index.php?option=com_hwdvideoshare&task=viewvideo&Itemid=58&video_id=48

BACS – Scout controlled by BRAIN

A researcher at the Hospital / University of Geneva, with a device (comprised of electrodes) in the head and in front of a computer controls a small robot at the Laboratory of the Institute for Systems and Robotics (FCTUC).

http://media.isr.uc.pt/demos/index.php?option=com_hwdvideoshare&task=viewvideo&Itemid=58&video_id=49

BACS – Gaze Control Testing Demonstration

http://media.isr.uc.pt/demos/index.php?option=com_hwdvideoshare&task=viewvideo&Itemid=58&video_id=52

BACS – University of Coimbra and Hug cooperation

Presentation video of collaboration project between FCTUC and HUG.

http://media.isr.uc.pt/demos/index.php?option=com_hwdvideoshare&task=viewvideo&Itemid=58&video_id=55

Face Orientation Detection by Symmetry Analysis

Demonstration of Face Orientation detection using Symetry Analysis

http://media.isr.uc.pt/demos/index.php?option=com_hwdvideoshare&task=viewvideo&Itemid=58&video_id=58

SOPHIE – Social Robotic Platform for Human Interactive Experimentation

Demonstration of movement and interaction with SOHPIE, a social robot, at MRL.

http://media.isr.uc.pt/demos/index.php?option=com_hwdvideoshare&task=viewvideo&Itemid=58&video_id=59

Realtime BVM IMPEP Demonstration

Demonstration of real-time construction of Bayesian Volumetric Map (BVM) using the IMPEP platform.

http://media.isr.uc.pt/demos/index.php?option=com_hwdvideoshare&task=viewvideo&Itemid=58&video_id=63

TEACHING & TRAINING

Jorge Dias has experience on teaching since 1984. Since then he have been providing courses on Electrical Engineering, Computer Science Engineering and Biomedical Engineering Degrees Programs. Some of these courses were newly designed and adapted to training students from Coimbra University and Khalifa University.

		COURSES			Electrical Eng. & Computers Biomedical Engineering Informatics Engineering		
Khalifa University	Ethics in Engineering	X	X		Ugrad (#4 yrs)		
	Feedback Control Systems	X			Ugrad (#4 yrs)		
					Ugrad (#4 yrs)		
After Academic Reform 2007	Autonomous Robotic Systems (14 weeks)	X	X		PhD (#3 yrs)		
	Analysis & Processing of Images and 3D Biosignals (14 weeks)	X	X		PhD (#3 yrs)		
	Computer Vision and Biological Perception (14 weeks)		X		MSc (#2 yrs)		
	Biosignal Analysis & Processing (14 weeks)		X		MSc (#2 yrs)		
	Project of Digital Systems (14 weeks)	X			MSc (#2 yrs)		
	Microprocessor Systems (14 weeks)	X		X	Lic (#3 yrs)		
Before Academic Reform 2007 for integration on European Higher Education Area	Autonomous Robotic Systems (14 weeks)	X			MSc (#2 yrs)		
	Volumetric Image Analysis (14 weeks)	X			MSc (#2 yrs)		
	Automation and Robotics Technology (14 weeks)	X			MSc (#2 yrs)		
	Methods for Flexible Automation (14 weeks)	X			MSc (#2 yrs)		
	Computational Vision (14 weeks)			X	MSc (#2 yrs)		
	Image and Informatics (14 weeks)		X		MSc (#2 yrs)		
	Industrial Automation and Robotics (28 weeks)	X			Lic (#5 yrs)		
	Digital Systems (28 weeks)	X			Lic (#5 yrs)		
	Systems Theory (28 weeks)	X			Lic (#5 yrs)		
	Electrical Machines (28 weeks)	X			Lic (#5 yrs)		
	High-Power Electrical Networks (28 weeks)	X			Lic (#5 yrs)		
	Computer Vision (14 weeks)	X		X	Lic (#5 yrs)		
	Digital Electronics (14 weeks)	X			Lic (#5 yrs)		
	Project of Digital Systems (14 weeks)	X			Lic (#5 yrs)		
	Computer Technologies (14 weeks)	X			Lic (#5 yrs)		
	Informatics Technology (28 weeks)			X	Lic (#5 yrs)		
	Microprocessor Systems (28 weeks)	X		X	Lic (#5 yrs)		
	Computer Vision and Biological Perception (14 weeks)		X		Lic (#5 yrs)		
	Signal and Systems (14 weeks)		X		Lic (#5 yrs)		
	Thesis Project and Dissertation (28 weeks)	X			Lic (#5 yrs)		

Jorge Dias created new courses after the academic reform on all Portuguese universities after the adoption of Academic Reform named "Bologna Process" (http://en.wikipedia.org/wiki/Bologna_Process) by the Portuguese Government. The purpose of the Bologna Process (or Bologna Accords) is to create the European Higher Education Area by making academic degree standards and quality assurance standards more comparable and compatible throughout Europe. It is named after the place it was proposed, the University of Bologna in the Italian city of Bologna, with the signing in 1999 of the Bologna declaration by

Ministers of Education from 29 European countries. This was opened up to other countries signatory to the European Cultural Convention of the Council of Europe.

The Bologna Process currently has 47 participating countries, whereas there are only 27 Member States of the European Union. While the European Commission is an important contributor to the Bologna Process, the Lisbon Recognition Convention was actually prepared by the Council of Europe and members of the Europe Region of UNESCO.

The basic framework adopted is of three cycles of higher education qualification. The cycles are defined in terms of qualifications and European Credit Transfer and Accumulation System (ECTS) credits:

- **1st cycle:** typically 180–240 ECTS credits, usually awarding a Bachelor's degree.
- **2nd cycle:** typically 90–120 ECTS credits (a minimum of 60 on 2nd-cycle level). Usually awarding a Master's degree.
- **3rd cycle:** Doctoral degree. ECTS range 180-240 ECTS credits.

For the Science and Technology domain these cycles take 3, 2, and 3 years respectively, to complete. One academic year corresponds to 60 ECTS-credits that are equivalent to 1,500-1,800 hours of study.

PhD Courses (3rd Cycle) - After 2007

Jorge Dias provided courses for **Doctoral** studies on **Electrical and Computers Engineering (DEEC)** from the Department of Electrical and Computers Engineering (DEEC) and **Biomedical Engineering (MBE)** from Faculty of Sciences and Technology (FCT) from University of Coimbra (UC):

- **Autonomous Robotic Systems (Sistemas Robóticos Autónomos)**
Duration (14 weeks)
Academic Year (2007/2008) (2008/2009) (2009/2010) (2010/2011)
- **Analysis & Processing of Images and 3D Biosignals (Processamento e Análise de Imagens e de Biosinais Tridimensionais)**
Duration (14 weeks)
Academic Year (2007/2008) (2008/2009) (2009/2010) (2010/2011)

MSc Courses (2nd Cycle) - After 2007

Jorge Dias provided a course for **Master** studies on **Electrical Engineering and Computers (MEEC)** from Faculty of Sciences and Technology (FCT) from University of Coimbra (UC):

- **Project of Digital Systems (Projecto de Sistemas Digitais)**
Duration (14 weeks)
Academic Year (2009/2010) (2010/2011)

Jorge Dias provided a course for **Master** studies on **Biomedical Engineering (MBE)** from Faculty of Sciences and Technology (FCT) from University of Coimbra (UC):

- **Computer Vision and Biological Perception (Visão Computacional e Percepção Biológica)**
Duration (14 weeks)
Academic Year (2007/2008) (2008/2009)
(50% of the course in cooperation with Prof Miguel Castelo Branco from Faculty of Medicine)
- **BioSignals Analysis and Processing (Análise e Processamento de BioSinais)**
Duration (14 weeks)
Academic Year (2007/2008) (2008/2009)

Undergraduation Courses (1st Cycle) - After 2007

Jorge Dias provided a course for studies on **Electrical Engineering and Computers (LEEC)** from the Department of Electrical Engineering and Computers (DEEC) from Faculty of Sciences and Technology (FCT) from University of Coimbra (UC):

- **Microprocessor Systems (Sistemas de Microprocessadores)**
Duration (14 weeks)
Academic Year (2007/2008) (2008/2009) (2009/2010)

Jorge Dias provided a course for studies on **Electrical Engineering (EE)**, **Mechanical Engineering (ME)**, **Aeronautic Engineering (AE)**, from the College of Engineering from Khalifa University – Abu Dhabi - UAE:

- **Feedback Control Systems**
Duration (14 weeks)
Academic Year (2011/2012)

Jorge Dias provided a course for undergraduation studies on from the College of Engineering from Khalifa University – Abu Dhabi - UAE:

- **Engineering Ethics**

- Duration (14 weeks)
 - Academic Year (2011/2012)

Master Degree Program (2 years) - Before 2007

This Master level (MSc) before the academic reform of 2007 (Bologna Process) corresponds to a two years degree program after a five years of studies from the Electrical Engineering Degree Program.

Jorge Dias provided the following courses for the **Master** studies as two years degree programme on **Electrical Engineering and Computers** from the Department of Electrical Engineering and Computers (DEEC) from Faculty of Sciences and Technology (FCT) from University of Coimbra (UC):

- **Autonomous Robotic Systems (Sistemas Robóticos Autónomos)**
Duration (14 weeks)
Academic Year (1999/2001) (2001/2002) (2002/2003) (2003/2004) (2004/2005)
(2005/2006) (2006/2007)
- **Volumetric Image Analysis (Análise de Imagens Volumétricas)**
Duration (14 weeks)
Academic Year (2002/2003) (2003/2004) (2004/2005) (2005/2006) (2006/2007)
- **Automation and Robotics Technology (Tecnologia de Automação e Robótica)**
Duration (14 weeks)
Academic Year (1996/1997) (1997/1998) (1998/1999)
These courses were in cooperation with colleagues Aníbal Traça, Helder Araújo, Urbano Nunes and Manuel Crisóstomo from FCT-UC.
- **Methods for Flexible Automation (Métodos em Sistemas e Automatizados de Produção)**
Duration (14 weeks)
Academic Year (1996/1997) (1997/1998)
These courses were in cooperation with colleagues Aníbal Traça, Helder Araújo, Urbano Nunes and Manuel Crisóstomo from FCT-UC.

Jorge Dias provided a course for the **Master** studies on **Informatics Engineering** of the Department of Informatics Engineering (DEI) from the Faculty of Sciences and Technology (FCT) from the University of Coimbra (UC) with the following courses:

- **Computational Vision (Visão Computacional)**
Duration (14 weeks)
Academic Year (1996/1997) (1997/1998) (1998/1999)
Courses in cooperation with colleague Helder Araújo from FCT-UC.

Jorge Dias provided a course for **Master** studies on **Sciences of Vision** from the Faculty of Medicine from the University of Coimbra with the course:

- **Image and Informatics (Imagem e Informática)**
Duration (14 weeks)
Academic Year (1996/1997) (1997/1998)
Courses in cooperation with colleague Helder Araújo from FCT-UC.

Engineering Degree Program (5 years)- Before 2007

This Engineering Degree Program is a program of five years studies provided by the Portuguese Universities. It was the first level of studies on High Education before the academic reform of 2007 (Bologna Process) corresponds to program after 12 years of studies.

Jorge Dias provided a course for the **Electrical Engineering and Computers** from the Department of Electrical Engineering and Computers (DEEC) from Faculty of Sciences and Technology (FCT) University of Coimbra (UC):

- **Microprocessor Systems (Sistemas de Microprocessadores)**
Duration (14 weeks)
Academic Year (1994/1995) (1998/1999) (1999/2000) (2000/2001) (2001/2002)
(2002/2003) (2003/2004) (2004/2005) (2006/2007)
- **Project and Dissertation (Projectos e Dissertação)**
Duration (28 weeks)
Academic Year (1984/1985) (1987/1988) (1988/1989) (1992/1993) (1993/1994)
(1994/1995) (1995/1996) (1996/1997) (1997/1998) (1998/1999)
(1999/2000) (2000/2001) (2001/2002) (2002/2003) (2003/2004)
(2004/2005) (2006/2007)
- **Project of Digital Systems (Projecto de Sistemas Digitais)**
Duration (14 weeks)
Academic Year (2004/2005) (2003/2004) (2002/2003) (2001/2002) (2000/2001)
(1999/2000) (1998/1999)
- **Computer Technologies (Tecnologia de Computadores)**
Duration (14 weeks)
Academic Year (2002/2003) (2001/2002) (2000/2001) (1999/2000) (1998/1999)
- **Digital Electronics (Electrónica Digital)**
Duration (14 weeks)
Academic Year (2002/2003) (2001/2002)
- **Computer Vision (Visão por Computador)**
Duration (14 weeks)
Academic Year (1995/1996) (1996/1997) (1997/1998) (1998/1999) (1999/2000)
(2000/2001) (2001/2002)
In co-operation with Prof Helder Araujo. Together with the Informatics Engineering course for academic years (1995/1996) (1996/1997) (1997/1998) (1998/1999).
- **Informatics Technology (Tecnologia da Informática)**
Duration (28 weeks)
Academic Year (1995/1996) (1996/1997) (1997/1998)
- **Industrial Automation and Robotics (Automação Industrial e Robótica)**
Duration (28 weeks)
Academic Year (1986/1987) (1987/1988) (1988/1989)
Responsible by the module Robotics and Manipulators Programming ("Robótica e Programação de Manipuladores"). These courses were in cooperation with colleagues Aníbal Traça, Helder Araújo, Urbano Nunes and Manuel Crisóstomo from FCT-UC .

Jorge Dias provided a course for the degree **Biomedical Engineering** from Faculty of Sciences and Technology (FCT) from University of Coimbra (UC):

- **Signal and Systems (Sinais e Sistemas)**
Duration (14 weeks)
Academic Year (2005/2006) (2006/2007)
- **Computer Vision and Biological Perception (Visão Computacional e Percepção Biológica)**
Duration (14 weeks)
Academic Year (2005/2006) (2006/2007)
(50% of the course in co-operation with Prof Miguel Castelo Branco from Faculty of Medicine)

Tutorial classes and laboratorial courses for the degree of **Electrical Engineering and Computers (5 years)** from the Department of Electrical Engineering and Computers (DEEC) from Faculty of Sciences and Technology (FCT) from University of Coimbra (UC):

- **Microprocessor Systems (Sistemas de Microprocessadores)**
Duration (28 weeks)
Academic Year (1987/1988) (1994/1995)
- **Informatics Technology (Tecnologia da Informática)**
Duration (28 weeks)
Academic Year (1992/1993) (1993/1994) (1995/1996) (1996/1997) (1997/1998)
- **Computers Technology (Tecnologia dos Computadores)**
Duration (14 weeks)
Academic Year (2000/2001)
- **Digital Electronics (Electrónica Digital)**
Duration (14 weeks)
Academic Year (2001/2002)
- **Computer Vision (Visão por Computador)**
Duration (14 weeks)
Academic Year (1995/1996) (1996/1997) (1997/1998)
- **High-Power Electrical Networks (Complementos de Técnicas de C. Fortes)**
Duration (28 weeks)
Academic Year (1984/1985) (1985/1986)
- **Electrical Machines (Máquinas Eléctricas)**
Duration (28 weeks)
Academic Year (1984/1985)
- **Systems Theory (Teoria dos Sistemas)**
Duration (28 weeks)
Academic Year (1986/1987)
- **Digital Systems (Sistemas Digitais)**
Duration (28 weeks)
Academic Year (1986/1987) (1988/1989) (1992/1993)
- **Industrial Automation and Robotics (Automação Industrial e Robótica)**
Duration (28 weeks)
Academic Year (1987/1988) (1988/1989)

Advanced Courses at other Universities and International Summer Schools

- 6 **Programas De Doctorado (2008), Temas En Robótica Autónoma Móvil, Universidad Malaga, SPAIN**
(http://www.deec.uc.pt/~jorge/in_out/UMA_Course/UMA_Course2008.htm).
- 5 **IURS-2007 Summer-School on Assistive Robots – 7th International UJI Robotics School**, September, 24-28, 2007, Bonaire Hotel, Benicàssim, SPAIN
(<http://www.euron.org/activities/schools/07.html>).
- 4 **IURS-2006 Summer School on Humanoid Robots - 6th International UJI Robotics School**, September, 18-22, 2006, Bonaire Hotel, Benicàssim, SPAIN
(<http://www.robot.uji.es/research/events/iurs06/>).
- 3 **Programas De Doctorado (2006), Temas En Robótica Autónoma Móvil, Universidad Malaga, SPAIN**
(www.deec.uc.pt/~jorge/in_out/UMA_Course/UMA_Course.htm)
- 2 **IURS-2004, 4th International UJI Robotics Summer School, “Mobile Manipulators”, New Trends & Applications**, September, 13-17, 2004, Benicàssim, Spain
(<http://www.euron.org/activities/schools/04.html>).
- 1 **Computer Vision Course** in the 1th International Automation Summer School, organized by the “Transilvania” University of Brasov and University of Bremen, July 19th, August 13th, 2004, Brasov, Romania.

Monograph and Class Notes

Jorge Dias, since 1984, wrote monographs and class notes in Portuguese and English for his courses. Every academic year these notes are reviewed, updated and adjusted to adapt to the students background and improve the learning process. Some of the of theses notes are public free and available through the personal web page (www.deec.uc.pt/~jorge) or information system from University of Coimbra (<https://woc.uc.pt/deec/>) . Some examples of public domain documents are:

- 7 **Tutorial on “Probabilistic Approaches for Artificial Robotic Perception”, at the IASTED International Conference on Robotics and Applications (RA 2010). This conference will be held Nov 01, 2010 to Nov 03, 2010 in Cambridge, Massachusetts, USA** (<http://www.iasted.org/conferences/session-706.html>).
- 6 **Tutorial on “Integration of Vision and Inertial Sensors”, RSS 2008 Robotics Science and Systems Conference, ETH Zurich, Switzerland, June 25-27, 2008** (<http://robotics.ethz.ch/rss/tutorials.shtml#integration>).
- 5 **Tutorial on - "Integration of Vision and Inertial Sensors" - The 12th IASTED Int. Conf. on Robotics and Applications, Honolulu, USA, August 2006** (www.deec.uc.pt/~jorge/in_out/RA2006/CD-ROM/).
- 4 **"Projecto de Sistemas Digitais" – 2005-2006 (1st edition)**
(http://www2.deec.uc.pt/~jorge/aulas/aulas_psd/WWWWorkflow_PSD.htm).
- 3 **"Sistemas de Microprocessadores" – 2005-2006 (1st edition)**
(http://www2.deec.uc.pt/~jorge/aulas/aulas_smp/WWWWorkflow_SMP.htm).
- 2 **"Computational vision and Biological Perception - (Biomedical Engineering/Engenharia Biomédica " – 2006-2007 (1st edition)**
(http://www2.deec.uc.pt/~jorge/aulas/aulas_vcpb_engbio/0WWWWorkflow_VCPBEngBio.htm)
- 1 **"Sinais e Sistemas" – 2007-2008 (1st edition)**
(http://www2.deec.uc.pt/~jorge/aulas/aulas_smp/WWWWorkflow_SMP.htm).

A more complete set of Monographs or Class Notes are available at (www.deec.uc.pt) or (<http://paloma.isr.uc.pt/jdias>).

Mentor of Postdoctoral Fellows

Jorge Dias has been mentoring Postdoctoral Fellows at the University of Coimbra - Faculty of Science and Technology (FCT) and Khalifa University (UAE)

- | | | |
|---|-----------|---|
| 5 | Name: | Dr. Dongming Gan, Mechanical Engineering, Division of Engineering, King's College London, UK |
| | Activity: | Postdoctoral Fellow from Robotic Institute, Khalifa University, Abu Dhabi, UAE |
| | Date: | July 2011- December 2012 |
| 4 | Name: | Dr. Rosana Isabel Matuk Herrera, Department of Computer Science
Faculty of Exact and Natural Sciences, Universidad de Buenos Aires - Argentina |
| | Activity: | Postdoctoral Fellow from Mobile Robotics Laboratory, ISR-University of Coimbra, PT (European Project HANDLE) |
| | Date: | Jan 2010 - Jan 2011 |
| 3 | Name: | Dr Christophorus, doctorate in Computing Sciences by Cyprus University |
| | Activity: | Postdoctoral Fellow from Mobile Robotics Laboratory, ISR-University of Coimbra, PT (European Project Social Robot) |
| | Date: | July-Dec 2011 |
| 2 | Name: | Dr Eleni Christodoulou, doctorate in Computing Sciences by Cyprus University |
| | Activity: | Postdoctoral Fellow from Mobile Robotics Laboratory, ISR-University of Coimbra, PT (European Project IRPS and European Project Social Robot) |
| | Date: | 2010 and July-Dec 2011 |
| 1 | Name: | Dr. João Filipe Ferreira, doctorate in Electrical Engineering and Computers by University of Coimbra |
| | Activity: | Postdoctoral Fellow from Mobile Robotics Laboratory, ISR-University of Coimbra, PT (European Project HANDLE) |
| | Date: | 2010 |

Supervision of PhD Thesis

Jorge Dias has been supervisor of PhD students from the University of Coimbra - Faculty of Science and Technology (FCT) and co-supervisor of students from Faculty of Medicine (UC).

Jorge Dias has been co-supervisor of PhD students from other Universities such as:

- Faculty of Engineering from University of Porto (UP),
- University of Aveiro (UA),
- Khalifa University (UAE).

20	Title:	Knowledge Semantic Maps (KSM) for Collaborative Teamwork between Robots and Humans
	Student:	Hend Al Tair (Khalifa University)
	Supervisors:	Jorge Manuel Miranda Dias and Mahmoud Al-Qutayri
	Defense:	PhD studies in progress and started on September 2012
19	Title:	Indoor Exploration Using a μUAV and a Spherical Geometry Based Visual System
	Student:	Tiago Docilio Caldeira (FCT-UC)
	Supervisors:	Jorge Manuel Miranda Dias
	Defense:	PhD studies in progress and started on September 2012
18	Title:	Cloud Robotics: Towards Context Aware Robotic Networks
	Student:	João Manuel Leitão Quintas (FCT-UC) (part-time)
	Supervisors:	Jorge Manuel Miranda Dias and Paulo Carvalho Menezes
	Defense:	PhD studies in progress and started on September 2011
17	Title:	Development of Techniques for Multimodal Object Exploration
	Student:	Ricardo Martins (FCT-UC)
	Supervisors:	Jorge Manuel Miranda Dias and Miguel de Sá e Sousa Castelo-Branco
	Defense:	PhD studies in progress and started on September 2010
16	Title:	Augmented reality framework for socialization between elderly people
	Student:	Luis Almeida (FCT-UC)
	Supervisors:	Jorge Manuel Miranda Dias and Paulo Carvalho Menezes
	Defense:	PhD studies in progress and started on September 2010
15	Title:	Comprehensive Human Motion Modeling: Probabilistic Reasoning Based on Laban Movement Analysis
	Student:	Luis Carlos Santos (FCT-UC)
	Supervisor:	Jorge Manuel Miranda Dias
	Defense:	PhD studies in progress and started on January 2009
14	Title:	Probabilistic LMA-based Human Behavior Understanding by Conjugation of Frequency and Spatial Domains
	Student:	Kamrad Khoshhal Roudposhti (FCT-UC)
	Supervisor:	Jorge Manuel Miranda Dias
	Defense:	PhD studies in progress and started on January 2009
13	Title:	A Framework for Multi-modal Data Registration and Data Fusion
	Student:	Hadi Aliakbarpour (FCT-UC)
	Supervisor:	Jorge Manuel Miranda Dias
	Defense:	PhD studies in progress and started on October 2007
12	Title:	Bayesian Multimodal Dialog Analysis on an Assistant Robot
	Student:	José Augusto Soares Prado (FCT-UC)
	Supervisor:	Jorge Manuel Miranda Dias
	Defense:	PhD studies in progress and started on October 2007
11	Title:	Interface Homem-Robot: Sistema de Reconhecimento de Expressões Faciais para Robôs Sociais (Recognition of Human Facial Expressions for Human - Robot Interface)
	Student:	Carlos Manuel Cerqueira Simplício (FCT-UC)

- Supervisor: Jorge Manuel Miranda Dias
Defense: PhD studies in progress and started on March 2007
- 10 Title: **Robot-Programming & Learning By Imitation Using Vision**
Student: Diego Resende Faria (FCT-UC)
Supervisor: Jorge Manuel Miranda Dias
Defense: PhD studies in progress and started on December 2006
- 9 Title: **Neurociência cognitiva e mapeamento da conectividade funcional com imagens fMRI e sinais EEG (Cognitive Functional Mapping by using fMRI images and EEG Signals)**
Student: José Eduardo Figueiredo Lima Rebola (Faculty of Medicine)
Supervisors: Jorge Manuel Miranda Dias and Miguel Castelo Branco (Faculty of Medicine)
Defense: PhD studies in progress and started on December 2006
- 8 Title: **Bayesian Cognitive Models for 3D Structure and Motion Multi-Modal Perception**
Student: João Filipe de Castro Cardoso Ferreira (FCT-UC)
Supervisors: Jorge Manuel Miranda Dias Miguel Castelo Branco (Faculty of Medicine)
Defense: PhD studies in progress and started on October 2005
- 7 Title: **Exploiting inertial sensing in mosaicing and aerial visual navigation**
Student: Luiz Gustavo Mirisola (FCT-UC)
Supervisor: Jorge Manuel Miranda Dias
Defense: **March, 2009**
- 6 Title: **Robot-Human Interface Using Laban Movement Analysis Inside A Bayesian Framework**
Student: Jörg Rett (FCT-UC)
Supervisor: Jorge Manuel Miranda Dias
Defense: **January, 2009**
- 5 Title: **Autonomous Navigation And Multi-Sensorial Real-Time Localization For A Mobile Robot**
Student: Caetano Filipe Costa de Noronha Ferreira (Univ. Aveiro)
Supervisor: Jorge Manuel Miranda Dias and Vitor Santos (DEM-Univ. Aveiro)
Defense: **September, 2008**
- 4 Title: **Desenvolvimento de Novas Metodologias para o Mapeamento Multimodal da Mácula (New Methodologies for Multimodal Image Mapping of Eye Macula)**
Student: Rui Bernardes Dias Cortesão (Faculty of Medicine)
Supervisor: Jorge Manuel Miranda Dias and José Guilherme Fernandes da Cunha-Vaz (Faculty of Medicine)
Defense: **July, 2008**
- 3 Title: **Multi-Cue Visual Tracking for Human-Robot Interaction,**
Student: Paulo Jorge Carvalho Menezes (FCT-UC)
Supervisor: Jorge Manuel Miranda Dias
Defense: **January, 2007**
- 2 Title: **Integration of Vision and Inertial Sensing**
Student: Jorge Nuno de Almeida e Sousa Lobo (FCT-UC)
Supervisor: Jorge Manuel Miranda Dias
Defense: **January, 2007**
- 1 Title: **Building Volumetric Maps with Cooperative Mobile Robots and Useful Information Sharing - A Distributed Control Approach based on Entropy**
Student: Rui Paulo Pinto da Rocha (FEUP- University of Porto)
Supervisor: Jorge Manuel Miranda Dias and Adriano Carvalho (FE-UP)
Defense: **May, 2006**

Supervision of Master Thesis (MSc) - Before Academic Reform 2007

- 8 Title: **CyberNav – Navigation System for Mobile Platforms**
Student: João Pedro Paiva Alves
Supervisor: Jorge Manuel Miranda Dias (FCTUC)
Defense: **February 2005**
- 7 Title: **TELE3D – Scanner for Tridimensional Data Registration from Objects**
Student: João Filipe de Castro Ferreira
Supervisors: Jorge Manuel Miranda Dias (FCTUC)
Defense: **January 2005**
- 6 Title: **Traffic Signs Recognition Using Geometrical Invariants**
Student: Carlos Manuel Cerqueira Simplicio
Supervisor: Jorge Manuel Miranda Dias
Defense: **May 2003**
- 5 Title: **Reconstrução tridimensional utilizando luz estruturada**
Student: Nuno Alexandre Cid Martins
Supervisor: Jorge Manuel Miranda Dias (FCTUC)
Defense: **April 2003**
- 4 Title: **Inertial Sensor Data Integration in Computer Vision Systems**
Student: Jorge Nuno de Almeida e Sousa Lobo.
Supervisor: Jorge Manuel Miranda Dias (FCTUC)
Defense: **April 2002**
- 3 Title: **Mobile Robot Navigation**
Student: Paulo Jorge Carvalho Menezes
Supervisor: Jorge Manuel Miranda Dias & Anibal Traça de Almeida
Defense: **February 2000**
- 2 Title: **Técnicas de Visão Aplicadas à Navegação em Robótica Móvel**
Student: Inácio de Sousa Adelino da Fonseca
Supervisor: Jorge Manuel Miranda Dias (FCTUC)
Defense: **May 1998**
- 1 Title: **Fixação Visual – Uma Abordagem Computacional**
Student: Carlos Rodrigues Paredes
Supervisor: Jorge Manuel Miranda Dias
Defense: **Abril 1998**

Some of these thesis are available at (<http://paloma.isr.uc.pt/jdias>).

Supervision of Project and Dissertation Thesis – Before Academic Reform 2007

The Electrical Engineering and Computers Degree Program from the Department of Electrical Engineering and Computers from FCT – University of Coimbra had a course named Project and Dissertation thesis. This course is very intense in activities and during the course the students usually designed and developed a prototype of an innovative concept in the area of Electrical Engineering and Computers. The majority of these projects are developed with a team of 1- 3 students that co-operate as a team. The finalization corresponds to the implementation of a prototype (hardware/software) or a research study that provides the proof the validity of the concept. The activities are developed along 24 weeks and usually were extended to a full year.

Jorge Dias supervised teams of students along 17 years in an average of 3 projects by year. This corresponds to more than 50 Project and Dissertation Thesis with correspondent orientation and supervision of more than 130 students, in total.

EXTENSION OF ACTIVITIES TO SOCIETY

Jorge Dias has been active on technology & knowledge transfer between the University of Coimbra and the society, through the Instituto Pedro Nunes (IPN) and IPN-Incubator, both institutions with close interaction with University of Coimbra.

- Vice-President of IPN – Instituto Pedro Nunes (for technology transfer) since June 2008 www.ipn.pt
- Vice-President of IPN INCUBADORA (companies incubator) since June 2008 www.ipn-incubadora.pt

Technology & Knowledge Transfer Unit – Instituto Pedro Nunes

Since **June 2008** Jorge Dias his Vice-President from the technology transfer institute **Instituto Pedro Nunes (IPN)**(www.ipn.pt) and Vice-President from the companies incubator **IPN-INCUBADORA** (www.ipn-incubadora.pt). These two organizations aim to promote spin-off companies and entrepreneurship in Portugal. These two institutions have a non-profit and public utility role status.

IPN has six RTD laboratories, a department for specialized training and a department for project and intellectual property management. The RTD laboratories are six:

- LABGEO – Geotechnical Laboratory;
- LABPHARM – Laboratory for Pharmaceutical Sciences;
- LAS - Laboratory for Automation and Systems;
- LEC - Laboratory for Electroanalysis and Corrosion;
- LED&MAT - Laboratory for Wear, Testing and Materials;
- LIS - Laboratory for Informatics and Systems;

The laboratories are in close connection with the business incubator unit IPN-INCUBADORA (www.ipn-incubadora.pt).

Coordinator of Unit/Group

Jorge Dias is director of LAS - Laboratory for Systems and Automation (<http://las.ipn.pt>) and coordinates its activities since December 2001. LAS it is an organic unit with autonomy inside the IPN. IPNlas is one of the first laboratories of IPN, where projects are developed in partnership with companies, the community and public domain entities. This laboratory answers to concrete subjects and find solutions to problems on different subjects such as: Automation, Sensor Networks, Robotics, Image Analysis, Instrumentation (including Medical Imaging and Instrumentation). IPNlas activities are consequence from the collaboration with Department of Electrical Engineering and Computers (DEEC) and the Institute of Systems and Robotics (ISR), from the University of Coimbra.

The laboratory LAS is responsible for activities of technology transfer, consultancy and incentive for foundation of spin-offs companies.

Jorge Dias he is in charge to supervise and coordinate the activities of the LAS, which it has the mission of technology transfer, and promotion of innovative technologies in the society. The activities include initiatives on the human mobility and transports based on robotized technologies, distributed sensing for surveillance, energy, and industrial monitoring. New technologies and devices for the health sector are currently being developed. The laboratory is also responsible for training engineers for project and product development activities.

Technology Transfer Contracts

Jorge Dias was directly involved in the following technology transfer contracts:

2

Name: TT ISA (iTHcontrol)

Summary:

The iTHcontrol (Temperature and Humidity Intelligent Control System) is an innovative system for monitoring and register, the temperature and humidity, for applications of transportation and storage of sensible products. Some companies need to guarantee the quality and the freshness of their products and their services. Monitoring the temperature and the humidity along the cycle of life of a product is the objective to reach, since it guarantees to the final consumer a product with quality. Some of the most usual application are the cool and congealed alimentary products (vegetal, fruit, desserts, fish and meat), pharmaceutical products (reacting, vaccines, etc.), chemical products, clinical analyses, units of blood, products in accordance to HACCP (Hazard Analysis and Critical Points Control). Some iTHcontrol system advantages are based on the low cost, easiness of installation (it does not need linking handles), unique number of identification, resistant (impact, water, dirtiness, magnetic fields), usability (without maintenance for more than 10 years), temperatures (from -40°C to 125°C), support for TCP/IP and SQL Database, accessible in any Web browser and it does not need electric energy.

Web Page:

Partners:

- ISA

Budget: 50.000€

Duration: 2 months

Starting Date: 9-8-2010

1

Name: TT Critical Move

Summary:

The Intelligent Transport System (ITS) developed by IPNIas, use electric vehicles built with leading edge technology, designed to be easily used for small trips at low speed in urban or private environments, to complement regular public transports. The vehicle exclusive feature is its autonomy; it is a vehicle without a driver, fully automated.

This driverless solution is also silent and zero emission, therefore contributing to a healthier quality of life. It has the possibility to use solar energy, being activated only when it is called to service (demand response), avoiding an unnecessary waste of energy.

Special highlights are its user friendly features, which includes bi-directional communication with the user. Moreover, this vehicle has the ability to adjust the position in which the vehicle stops according to the users' needs.

Web Page:

Partners:

- Critical Move

Budget: 50.000€

Duration: 4 months

Starting Date: ending 2010

International Cooperation Projects with Companies & Institutions

- 3 **Project Name: Co-Living - Virtual Collaborative Social Living Community for Elderly** Ref.: aal-2009-2-097

Summary:

The main goal of the proposed project is the development of an ICT-based Virtual Collaborative Social Living Community for Elderly (Co-LIVING) people, aiming to stimulate and prolong their independent and active living in an outward environment through an advancement in elderly people social interaction, contributing thus positively to their wellbeing. Co-LIVING is based on an innovative Social Community network (SoCo-net), integrating different mobile wireless ICT based services addressing the elderly social interaction context categories of Care & Wellness, Guidance and Mobility monitoring. The solution will utilize and scale up the successfully developed FP6 mPower open source middleware platform (<http://sourceforge.net/projects/free-mpower/>) to be applicable to the elderly social community interaction field achieving thus the expected Co-LIVING time-to-market perspective of 2 to 3 years after the project end. Co-LIVING target group is the big group of healthy elderly or with light physical or psychological health problems who are self-supporting, able to move around, and can still contribute actively. They find pleasure in getting help or stimulation to be active in an outward environment. The aim of choosing the specific target group is to prevent, or reduce the risk, that these people are spending most of their time at home as they get older for a variety of accumulated (physical, psychological, psycho-social and cultural) reasons. Two well selected use cases, where elderly people can live with the greatest possible independence and activity are considered in Co-LIVING: a Living Village and the (physical) neighborhood of their home environment in a local community. Two pilots, in the Netherlands and Norway, representing the two different use cases, will be carried out in which the Co-LIVING solution will be assessed and validated by considering its social, economical and psychological dimensions.

Web Page:

Partners:

- Orbis Medical & Care Group
- Philips Electronics Nederland B.V.
- University of Cyprus
- Stiftelsen SINTEF
- Instituto Pedro Nunes – Associação para a Inovação e Desenvolvimento em Ciência e Tecnologia
- Inovamais S.A.
- Citard Services LTD
- Andago Ingeniería S.L.
- Trondheim Kommune

Sponsors:

AAL-Ambient Assisted Living – Joint Programme – European Commission

Sponsors:

Seventh Framework Programme – European Commission

Budget: € **380.208**

Duration: 36 months

Starting Date: October 2010

- 2 **Project Name: N4C** Ref.: 223994

Summary:

Leveraging diverse technologies in a coherent future Internet test bed is difficult. Extending the reach of such a test bed to people living in remote areas, that have special complex requirements, adds to the challenge. The target of the N4C project is the deployment and testing of ubiquitous and pervasive networking for

Budget: € 145.600

communications challenged communities in a manner consistent with an overall vision for a future Internet that can encompass not just users and applications in well connected regions, but that can also reach out to rural areas. To achieve this goal N4C will make opportunistic use a range of communications access methods, but with a special focus on the presently evolving Delay and Disruption Tolerant Networking (DTN) architecture and related technologies that have mainly been developed by the Internet Research Task Force (IRTF) DTN community. DTN technology will be used to meet some specific goals for future Internet scenarios like methods of delivering information on global warming in almost inaccessible areas and providing means for including remote populations in future Internet society thus contributing to EC objectives eInclusion and Broadband for all. A set of initial applications with specialized software and hardware will be tested in Sápmi/Lapland in northern Sweden where a nomadic way of life is common and in Kocevje region in Slovenia. This will evolve into an on-going test bed for applications providing communications in challenged areas. The intent is that N4C will become an extension of a more general federated future Internet test bed for use in more traditionally connected regions. N4C will demonstrate sustainable business models for deployment of its outcomes. The impetus of working together in the FP7 framework will significantly improve the utility of the results by ensuring that they are applicable to several differing scenarios and assist with the goal of giving European leadership in the standardization of DTN technology.

Web Page: www.n4c.eu/

Duration: 36 months

Partners:

- Albentia Systems S.A.
- Folly Consulting
- Intel Performance Learning Solutions Limited
- ITTI Sp. z o.o.
- Luleå University of Technology
- MEIS storitve za okolje d.o.o.
- Northern Research Institute Tromsø AS
- Power Lake AB
- Tannak AB
- Universidad Politécnica de Madrid

Sponsors:

Sixth Framework Programme – European Commission

Starting Date: May 2008

1 Project Name: CyberMove

Ref.: CyberMove – EVK4–2001 – 00050 /Shared Cost RTD Environment and Sustainable Development Programme– EC Budget: € 77.974

Summary:

Achieving a new technology for transportation with electric vehicles and promoting their use in urban areas.

Web Page: <http://paloma.isr.uc.pt/CyberMove/>

Duration: 36 months

Partners:

Starting Date: December 2001

- INRIA, France
- Centro Ricerche Fiat, Italy
- Frog Navigation Systems (FNS), the Netherlands
- YME, Yamaha Motor Europe N.V., the Netherlands
- GEA - Groupe d'Etudes en Amenagement, Switzerland
- RUF, Denmark

- Robosoft SA, France
- CN Serpentine SA, Switzerland
- University of Bristol, Advanced Transport Research Centre, United Kingdom
- TNO, Netherlands
- TRG - Transportation Research Group, University of Southampton, United Kingdom
- TRI – Transportation Research Institute, Technion, Israel Institute of Technology
- IPN - Instituto Pedro Nunes, University of Coimbra, Portugal
- DITS - Dipartimento Idraulica Trasporti e Strade, University of Roma, "La Sapienza", Italy
- Institute Systems and Robotics – FCT- UC

Sponsors:

Fiveth Framework Programme – European Commission

Cooperation Projects with Portuguese Companies & Institutions

4 Project Name: InovWine

Ref.: NA

Summary:

The project InovWine aims to increase the overall competitiveness of the wine sector through the development of new products and services to the row of the wine and vineyard.

It is intended specifically:

- Develop a system for genotyping, selection and certification based on molecular methods.
- Implement a control system and remote monitoring of biotic and abiotic factors associated with the vine which will feed a system of risk detection, warning and prevention of plant diseases.
- Create a collection of wine yeast adapted to regional conditions and market requirements and develop a device for monitoring their dynamics during fermentation.

It is hoped that this project will maximize the effective transfer of technology between research institutions and business associates, contributing to a better utilization of natural resources in the region and leading to the development of new technologies in the future, will underpin the international competitiveness sector.

Web Page: <http://las.ipn.pt/>

Partners:

- Adega Cooperativa de Cantanhede, CRL
- Biocant - Associação de Transferência de Tecnologia
- Viveiros Vitícolas Pierre Boyer, Lda
- IPN – Instituto Pedro Nunes

Sponsors:

QREN – National Strategic Reference Framework (Portugal 2007-2013)

Budget: € 170.424

Duration: 36 months

Starting Date: January 2010

3 Project Name: AirMonitor

Ref.: 3390

Summary:

It is intended to monitor air quality in buildings, hospitals, production units with specific restrictions on the level of air quality, among others.

Web Page: <http://las.ipn.pt/>

Partners:

- QUANTIFIC - Instrumentação Científica, Lda
- IPN - Instituto Pedro Nunes

Sponsors: QREN – National Strategic Reference Framework (Portugal 2007-2013)

Budget: € 49.700

Duration: 24 months

Starting Date: September 2008

2 Project Name: FireTrack

Ref.: 3477

Summary:

The aim of the project is to develop a system for detecting fires in buildings or other infrastructure that are near wooded areas, through the use of wireless networks, to ensure a quick 1st intervention.

Web Page: <http://las.ipn.pt/>

Partners:

- ADAI - Associação para o Desenvolvimento da Aerodinâmica Industrial
- ISA - Intelligent Sensing Anywhere, S.A.
- MediaPrimer - Tecnologias e Sistemas Multimédia, Lda

Budget: € 150.861

Duration: 36 months

Starting Date: October 2008

- IPN - Instituto Pedro Nunes
Sponsors: QREN - QREN – National Strategic Reference
Framework (Portugal 2007-2013)

1 Project Name: EasyLaser3D

Ref.: 3411

Summary:

Budget: € 78.300

Development and testing of mechanical 3D laser scanning.

Web Page: <http://las.ipn.pt/>

Duration: 27 months

Partners:

Starting Date: September
2008

- CRIAVISION, Lda

- IPN – Instituto Pedro Nunes

Sponsors: QREN – National Strategic Reference Framework
(Portugal 2007-2013)

Spin-Off Companies

Jorge Dias, through the Laboratory of Automatics and Systems (LAS) and research activities at Institute of Systems and Robotics (ISR), **supported the genesis** of the following **spin-off** companies:

- **Critical Move:** (<http://www.critical-move.com>) main activities concentrated on supporting for mobility on cities by using robotic technologies developed by projects in that topic;
- **Critical Health:** (<http://www.critical-health.com>) main activities concentrated instruments and systems for health sector through research in a PhD which results contributed for a device for medical image registration for eye diagnosis of diabetic retinopathy (Retmarker: <http://www.retmarker.com>).

Consulting and Technical Support for Companies & Institutions

The activities of IPNl as includes consulting and technical support for companies & Institutions:

- 23 Critical Move, S.A. (<http://www.critical-move.com/>)
- 22 Mobipeople, Lda.(<http://www.mobipeople.pt/>)
- 21 ISA- Intelligent Sensing Anywhere, S.A. (<http://www.isasensing.com/>)
- 20 PLURAL - COOPERATIVA FARMACÊUTICA, CRL (<http://www.plural.pt/>)
- 19 QUANTIFIC - Instrumentação Científica, Lda. (<http://www.quantific.pt/>)
- 18 MediaPrimer - Tecnologias e Sistemas Multimédia, Lda. (<http://novo.mediaprimer.pt/pt/>)
- 17 CRIAVISION, Lda.(<http://www.criavision.pt/>)
- 16 Câmara Municipal de Penela (<http://www.cm-penela.pt/>)
- 15 Câmara Municipal de Coimbra (<http://www.cm-coimbra.pt/>)
- 14 ArteScan, Lda. (<http://www.artescan.net/>)
- 13 Adega Cooperativa de Cantanhede, CRL (<http://www.cantanhede.com/>)
- 12 Biocant - Associação de Transferência de Tecnologia (<http://www.biocant.pt/>)
- 11 Viveiros Vitícolas Pierre Boyer, Lda (NA)
- 10 Ardaco a.s. (<http://www.ardaco.com/>)
- 9 Cogent Technology Ltd (<http://www.cogent-technology.co.uk/>)
- 8 Iacobucci S.p.a. (<http://www.iacobuccigroup.com/>)
- 7 MAPLE FLEET SERVICES (<http://www.maplefleetservices.co.uk/>)
- 6 Transguard Group LLC (<http://www.transguardgroup.com/>)
- 5 Albentia Systems S.A. (<http://www.albentia.com/EN/index.php>)
- 4 Intel Performance Learning Solutions Limited (<http://www.ist-world.org/>)
- 3 ITTI Sp. z o.o. (<http://www.itti.com.pl/>)
- 2 MEIS storitve za okolje d.o.o. (<http://www.meis.si/en/>)
- 1 Tannak AB (NA)

Courses for Long Life Training

- 2 Jorge Dias was organizer and teacher in a course for Engineering Systems for the eHealth sector: Images and Information Systems. The course was for young Engineers and was in IPN- Instituto Pedro Nunes, during September 2003.
- 1 A course on New Developments on Robotics and Automation (Atualização em Robótica e Automatização) with a module on technologies for advanced mobile robots. The course was for Electrical Engineers with support of Instituto Pedro Nunes (Coimbra) – March 1999.

Scientific Divulcation and Publications

- 11 Invited Talk with a talk on concept “Living Lab: a new concept for regional development” (Living Lab: um novo conceito de inovação territorial), Fórum de Desenvolvimento Económico Novembro 2010, (www.cm-penela.pt)
- 10 Editorial in the Portuguese Journal ROBOTICA, n 79, “Why society must be aware to invention? What is the role of I&D institutions on the generation of innovation (Porque deve a sociedade estar atenta à invenção? Qual é o papel das instituições de I&D na geração de inovação?)” , by Jorge M. Miranda Dias, Vicepresidente do Instituto Pedro Nunes
- 9 Rádio Interview on RUC – Rádio Universidade de Coimbra (University of Coimbra Rádio) on the “Research in University of Coimbra”, 2 of June, 2010 (20h00-22h00).
- 8 Invited Talk “Robotics & Simulation” (Robótica e Simulação)” in the discussion panel on “Robotics & Cinema (Robótica e Cinema)”, Evento FANTASPORTO 2010, 23 of February, 2010
- 7 Invited Talk DoCEIS'10 – Doctoral Conference on Computing, Electrical and Industrial Systems. Lisbon, February, 2010 with the talk “Why my PhD dissertation is so important? Why the society is keeping an eye on my invention?”, 23 of February, 2010
- 6 Invited Talk with a talk on “Impact of new technologies and the discover in school mission (Implicações e transformações das novas tecnologias e da descoberta na missão da escola)”, on Colégio de São Teotónio, Coimbra, Portugal, 18 February, 2010.
- 5 Invited Talk with a talk on “Impact of new technologies on Mobility”, CIVITAS MODERN Project, Vitoria Gasteiz (Spain), 22 September 2009, Scientific Guidance Comity
- 4 Invited Talk with a talk on Innovation Days 2009 about “Impact of new technologies for mobility – a robotics perspective”, 4ª Jornadas de Inovação, 18 - 20 June, 2009, FIL – Feira das Indústrias de Lisboa, Parque das Nações, Lisbon, Portugal.
- 3 Invited Talk with a talk on “The role of IPN in the development of Coimbra region”, 6th of September, 2009, For the Mayor of Lund City and Official Representatives of Lund Community Region (Sweden), Coimbra, Portugal.
- 2 Organizer of workshop on “New Transportation and Mobility Trends for Cities (Transporte para as Cidades do Futuro)” in 5 Junho, 2002, Auditorium from IPN - Instituto Pedro Nunes, Coimbra, Portugal
- 1 Organizer of workshop on “Informatics for Hospitals and Health Institutions (Informática para Unidades Hospitalares)” in July, 2002, Auditorium from IPN - Instituto Pedro Nunes, Coimbra, Portugal

UNIVERSITY GOVERNMENT & MANAGEMENT

President of Scientific Council

Jorge Dias was elected as President of Scientific Council from the Electrical and Computers Engineering Department from University of Coimbra (www.deec.uc.pt) from December 2005 until March 2008. The main task of Jorge Dias during this period it was to reforms on all the degree programs in the Department –in the Doctoral, Master and Engineering Degree levels. Jorge Dias coordinated this reform, helping to establish new courses after the academic reform on all Portuguese universities after the adoption of Bologna Process (http://en.wikipedia.org/wiki/Bologna_Process) by the Portuguese Government.

He was responsible for the coordination and organization of new curricula for 1st, 2nd and 3rd level, (BSc, MSc and PhD respectively) for the studies in the Department. This initiative derived from the academic reformulation during the academic year of 2007/2008 (“Bologna Reform”) applied in courses of University of Coimbra.

The 4 Degree Programs created:

- 3rd level (PhD): Doctoral studies on Electrical Engineering and Computers (DEEC);
- 2nd level (MSc): Master studies on Technologies for Visual Information (MTIV)
- 2nd level (Msc): Master studies on Electrical Engineering and Computers (MEEC);
- 1st level (BSc): Basic studies on Electrical Engineering and Computers (LEEC).

Member of Scientific Council of Department

- Elected Member of Scientific Council of Department from the Electrical and Computers Engineering Department from University of Coimbra (www.deec.uc.pt) since 30th September 2009.

Degree Program Coordination

- Deputy from DEEC for the 3rd cycle for Doctoral degree in Biomedical Engineering Doctoral Program (<http://www.uc.pt/ftuc/Ensino/cursos/Doutoramentos/PDEB>).

Responsible of Laboratories

Jorge Dias is responsible by the management of the following Didactic Laboratories:

- Responsible since 1998 by **Digital Systems Laboratory** (Laboratório de Sistemas Digitais) (<https://woc.uc.pt/deec/genericpages/showgenericpage.do?idgenericpage=55>)
- Responsible since 1998 by **Networks and Computer Systems Laboratory** (Laboratório de Sistemas e Redes de Computadores) (<https://woc.uc.pt/deec/genericpages/showgenericpage.do?idgenerisrc.htmlage=56>)

In March 2008, Jorge Dias prepared a proposal for new equipment for the **Digital Systems Laboratory** to a private Bank (www.bpi.pt) . In May 2008 the Laboratory received a set of new equipment to support the courses and training in the laboratory.

CONCLUSIONS

Jorge Dias has a Ph.D. on Electrical Engineering by the University of Coimbra, specialization in Control and Instrumentation. Jorge Dias award an Associated Professor position at the University of Coimbra and have been researching in the Institute of Systems and Robotics (ISR) (www.isr.uc.pt) from the University of Coimbra (UC) (www.uc.pt).

Jorge Dias, since 1984, researches and teaches in the area of Computer Vision and Robotics and has contributions in the area with several publications that include 41 publications in international journals, 2 books in press, 15 books chapters, and 247 articles in international conferences with referee.

Since 1993, Jorge Dias was been principal investigator from several research projects with 24 of them oriented to research in total grant of around 3.8 millions of Euros and 11 projects of technology transfer in a total grant of 1.9 millions of Euros.

Along these years Jorge Dias had been very active professionally and his activities included teaching and training. Jorge Dias was responsible by the coordination and teaching of more then 28 courses for Electrical and Computer Engineering degrees, Biomedical Engineering degrees and Informatics Engineering degrees at PhD and Master level. Jorge Dias was been responsible for the supervision of students of 10 PhD thesis all them them finalized. Before the Academic Reform of 2007 (European Higher Education Area) Jorge Dias was been responsible by supervision of 8 Master thesis (duration of two years after engineering graduation) and more then 50 Electrical & Computers Engineering Dissertations (one year duration) for the course of Electrical and Computers Engineering Degree with five years duration.

The research activities of Jorge Dias have been concentrated in the Mobile Robotics Laboratory from Instituto of Systems and Robotics. The Institute of Systems and Robotics from University of Coimbra was awarded the outstanding grade "Excellent" as a result of the last R&D Portuguese Unit Evaluation, being the only Electrical and Computer Engineering unit (among a total of 25 nationwide) to receive such a distinction.

Under Jorge Dias's coordination, the Mobile Robotics Laboratory have been involved in over a dozen international projects, CyberMove - Cybernetic Transportation Systems for the Cities of Tomorrow (EC-RTD Project, EVK4 – 2001), VISOR - Visual Perception System for a Social Robot (EURON-European Robotics Research Network) , IRPS - Intelligent Robotic Porter System (EU-IRPS FP6-IST-45048) , BACS - Bayesian Approach to Cognitive Systems (FP6-IST-027140), PROMETHEUS - Prediction and interpretation of human behaviour based on probabilistic structures and heterogeneous sensors (FP7 - 214901) and HANDLE - Developmental pathway towards autonomy and dexterity in robot in-hand manipulation (FP7-2008– 231640), Social Robot (FP7 Marie Curie - 285870) and in over 25 national projects: CHOPIN - Cooperation between Human and rObotic teams in catastroPhic Incidents, TICE Mobilidade, TICE Healthy, DIVA – Dirigível Instrumentado para Vigilância Aérea.

Jorge Dias, have been active in technology transfer activities through the Laboratory of Automatics and Systems (LAS) (<http://las.ipn.pt>) from the Instituto Pedro Nunes (IPN) (www.ipn.pt). He is coordinator of the Laboratory of Systems and Automation (LAS), which is a technology, transfer laboratory with a formal link with from University of Coimbra. Jorge Dias was Vice-President from the Instituto Pedro Nunes (IPN) before joining Khalifa University at 2011 on a leave of absence from University of Coimbra. He supported the genesis of two spin-off companies.

A summary of Jorge Dias's positions and responsibilities:

- *Since July 2011, Jorge Dias is on leave of absence from UC and acting as Associate Professor from ECE/Robotics at Khalifa University (UAE) at Abu Dhabi. The activities include the cooperation for academic curriculum development of ECE Department, setup the Robotics Institute and Khalifa University, mentoring of young faculty and research staff, promote research activities on robotics.*
- Associated Professor (tenure position) from the Department of Electrical Engineering and Computers (DEEC) from University of Coimbra (UC) – since 2000.
- Coordinator of MRL Mobile Robotics Laboratory from the ISR– UC <http://mrl.isr.uc.pt>.
- Chair of Scientific Council of Department of Electrical Engineering and Computers (DEEC-UC) between Dec. 2005 and March 2008. www.deec.uc.pt.
- Associated Professor from the (DEEC) (tenure position) – University of Coimbra (UC)

- Director of LAS-Lab. for Systems and Automation from IPN – Inst. Pedro Nunes (UC) <http://las.ipn.pt> since December 2001.
- Vice-President of IPN – Institute Pedro Nunes (for technology transfer) since June 2008 – June 2011(www.ipn.pt)
- Vice-President of IPN INCUBADORA (spin-off incubator) since June 2008 – June 2011 www.ipn-incubadora.pt
- Senior Member of IEEE - Institute of Electrical and Electronics Engineers (www.ieee.org) - the world's largest professional association for the advancement of technology.
- President of IEEE Portuguese Chapter for IEEE-RAS (Robotics and Automation Society) (<http://ieee-ras.isr.uc.pt>) - 2009
- Vice-President of IPN INCUBADORA (companies incubator) since June 2008 www.ipn-incubadora.pt
- Member of Programme Board for HUMAN SPACEFLIGHT, MICROGRAVITY AND EXPLORATION representing the Portuguese Delegation to ESA – European Space Agency (<http://www.esa.int>) from Portuguese Foundation for Science and Technology, Ministry of Education and Science (<http://www.fct.pt/apoios/cooptrans/espaco/index.phtml.en>) – since November 2012
- Senior Member of IEEE - Institute of Electrical and Electronics Engineers (www.ieee.org) - the world's largest professional association for the advancement of technology.
- President of IEEE Portuguese Chapter for IEEE-RAS (Robotics and Automation Society) (<http://ieee-ras.isr.uc.pt>) - 2009 – October 2012
- Member from the Advisor Board from Portuguese Electrical Vehicle Association - APVE (<http://www.apve.pt>) since December 2012

END
