

Curriculum Vitae

May 11, 2016

Contents

1	Personal data	2
2	Qualifications and certifications	2
2.1	Academic qualifications	2
2.2	Vocational teaching certifications	2
3	Memberships	3
4	Present and recent positions	3
5	Other relevant positions and affiliations	3
6	Teaching	3
6.1	Courses taught at the UA	3
6.2	Supervision of MSc dissertations	7
6.3	International student exchange programs	9
6.4	Supervision of 5 th year projects and seminars	10
6.5	Courseware development	10
6.6	Participation in course programmes definition	10
6.7	Dissemination activities	10
7	Main scientific area of research and other areas of interest	11
8	Publications and Communications	11
8.1	Edition of scientific publications	11
8.2	Books, book chapters and special sections	11
8.3	Journal publications	12
8.4	Conference Communications	13
8.5	Publications and communications without peer reviewing	20
8.6	Other publications	20
8.7	Invited papers	21
8.8	Invited talks	21
8.9	Invited Courses	21
8.10	Thesis	21
9	Participation in academic juries and related works	21
9.1	PhD	21
9.2	MSc	22
9.3	Other	25

10 Supervision of PhD and Post-Doc studies	26
10.1 Post-Doc	26
10.2 PhD - Concluded	26
10.3 PhD - Ongoing	26
11 Scientific research projects	26
11.1 Coordination	26
11.2 Researcher	26
11.3 Supervision of research grants	28
11.4 Participation in review pannels of international projects	28
11.5 Participation in review pannels of national projects	28
11.6 Participation in recruitment juries	28
12 Participation in scientific events	28
12.1 Technical Program Comittee	28
12.2 Event organization	32
12.3 Session chair	33
12.4 Panel Member	33
12.5 Participation as a jury member	33
13 Reviewing activity	33
14 Honors and awards	36
15 Foreign languages	36

1 Personal data

Name: Paulo Bacelar Reis Pedreiras

Birth date: January 11, 1967

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Passport number G891294, issued at 26/3/2004, expiration date 26/3/2014

2 Qualifications and certifications

2.1 Academic qualifications

- PhD degree in Electrotechnical Engineering, University of Aveiro, 2003, supervised by Professor Luís Miguel Pinho Almeida and co-supervised by Professor José Alberto Gouveia Fonseca;
- *Licenciatura* degree in Electronics and Telecommunications Engineering, University of Aveiro, 1997.

2.2 Vocational teaching certifications

- Vocational training, by the *Instituto de Emprego e Formação Profissional*, Portuguese Institute for Employment and Vocational Training, Certificate number EDF 4513/98 DC;
- Certified by ExecuTrain, for vocational training.

3 Memberships

- Institute of Electrical and Electronics Engineers (IEEE, M03, SM16), number 41569776;

4 Present and recent positions

- Assistant Professor at the Electronics, Telecommunications and Informatics Department of the University of Aveiro, since November 2008;
- Invited Assistant Professor at the Electronics, Telecommunications and Informatics Department of the University of Aveiro, from October, 2003 to October 2008;
- Invited Teaching Assistant at the Electronics and Telecommunications Department of the University of Aveiro, from February to September 2003;
- Laboratory Assistant at the Electronics and Telecommunications Department of the University of Aveiro, October 2001 to February 2003;
- Informatics Engineer at UNAVE - *Associação para a Formação Profissional e Investigação da Universidade de Aveiro*, from January 1998 to December 1999;
- Electronic and Informatics Engineer at the research department of RIAMolde,Lda, Portugal, from July 1996 to December 1997;
- Informatics Teacher at CESAE - Centro de Serviços e Apoio às Empresas, Portugal (occasional collaboration, 1989 to 1999).

5 Other relevant positions and affiliations

- Coordinator of the Embedded Systems Group/Aveiro of the Telecommunications Institute, since January 2015;
- Researcher, Telecommunications Institute, Aveiro site, since July 2010;
- Member of the Aveiro's Coordination Committee of the University of Aveiro/ Carnegie Mellon University Program, 2008-2011;
- Researcher, Institute of Electronics and Telematics Engineering of Aveiro, from September 2003 to June 2010;

6 Teaching

6.1 Courses taught at the UA

2015/2016

- “Electronics IV”, scientific area of Electrotechnics/Electronics, 4th year of the “Integrated Masters in Electronic Engineering and Telecommunications” course, 2nd semester, 2015/2016. Course coordinator, lectures and laboratory classes;
- “Real-Time Systems”, optional discipline of the 5th year of the “Integrated Masters in Electronic Engineering and Telecommunications” and “Integrated Masters in Computer Engineering and Telematics” courses, Computer Systems thematic option, 1st semester, 2015/2016. Course coordinator, lectures and laboratory classes;
- “Electronics Laboratory”, scientific area of Electrotechnics, 1st year of the “Integrated Masters in Electronic Engineering and Telecommunications” course, 1st semester, 2015/2016. Lectures and laboratory classes;

2014/2015

- “Electronics IV”, scientific area of Electrotechnics/Electronics, 4th year of the “Integrated Masters in Electronic Engineering and Telecommunications” course, 2nd semester, 2014/2015. Course coordinator, lectures and laboratory classes;
- “Real-Time Systems”, optional discipline of the 5th year of the “Integrated Masters in Electronic Engineering and Telecommunications” and “Integrated Masters in Computer Engineering and Telematics” courses, Computer Systems thematic option, 1st semester, 2014/2015. Course coordinator, lectures and laboratory classes;
- “Electronics Laboratory”, scientific area of Electrotechnics, 1st year of the “Integrated Masters in Electronic Engineering and Telecommunications” course, 1st semester, 2014/2015. Lectures and laboratory classes;

2013/2014

- “Microprocessores and Microcontrollers”, Electrical Engineering scientific area, 2nd year of the “licenciatura” degree on Electrical Engineering, 2nd semester, 2013/2014. Course coordinator, lectures and laboratory classes;
- “Electronics IV”, scientific area of Electrotechnics/Electronics, 4th year of the “Integrated Masters in Electronic Engineering and Telecommunications” course, 2nd semester, 2013/2014. Course coordinator, lectures and laboratory classes;
- “Real-Time Systems”, optional discipline of the 5th year of the “Integrated Masters in Electronic Engineering and Telecommunications” and “Integrated Masters in Computer Engineering and Telematics” courses, Computer Systems thematic option, 1st semester, 2013/2014. Course coordinator, lectures and laboratory classes;
- “Electronics Laboratory”, scientific area of Electrotechnics, 1st year of the “Integrated Masters in Electronic Engineering and Telecommunications” course, 1st semester, 2013/2014. Lectures and laboratory classes;

2012/2013

- “Electronics IV”, scientific area of Electrotechnics/Electronics, 4th year of the “Integrated Masters in Electronic Engineering and Telecommunications” course, 2nd semester, 2012/2013. Course coordinator, lectures and laboratory classes;
- “Real-Time Systems”, optional discipline of the 5th year of the “Integrated Masters in Electronic Engineering and Telecommunications” and “Integrated Masters in Computer Engineering and Telematics” courses, Computer Systems thematic option, 1st semester, 2012/2013. Course coordinator, lectures and laboratory classes;
- “Electrical Laboratory Techniques”, scientific area of Electrotechnics, 1st year of the “Integrated Masters in Electronic Engineering and Telecommunications” course, 1st semester, 2012/2013. Laboratory classes;

2011/2012

- “Electronics IV”, scientific area of Electrotechnics/Electronics, 4th year of the “Integrated Masters in Electronic Engineering and Telecommunications” course, 2nd semester, 2011/2012. Course coordinator, lectures and laboratory classes;
- “Electrical Laboratory Techniques”, scientific area of Electrotechnics, 1st year of the “Integrated Masters in Electronic Engineering and Telecommunications” course, 1st semester, 2011/2012. Laboratory classes;
- “Real-Time Systems”, optional discipline of the 5th year of the “Integrated Masters in Electronic Engineering and Telecommunications” and “Integrated Masters in Computer Engineering and Telematics” courses, Computer Systems thematic option, 1st semester, 2011/2012. Course coordinator, lectures and laboratory classes;

- “Embedded Systems Specification, Modeling and Design”, optional discipline of the 5th year of the “Integrated Masters in Electronic Engineering and Telecommunications” and “Integrated Masters in Computer Engineering and Telematics” courses, Programming Science and Technology scientific area, 1st semester, 2011/2012. Course coordinator, lectures and laboratory classes;

2010/2011

- Coordinator of the Seminar course of the joint Doctoral Program in Telecommunications of Universidade do Minho, Universidade de Aveiro and Universidade do Porto (MAP-Tele) ;
- Sabbatical leave.

2009/2010

- “Electronics IV”, scientific area of Electrotechnics/Electronics, 4th year of the “Integrated Masters in Electronic Engineering and Telecommunications” course, 2nd semester, 2009/2010. Course coordinator, lectures and laboratory classes;
- “Electrical Laboratory Techniques”, scientific area of Electrotechnics, 1st year of the “Integrated Masters in Electronic Engineering and Telecommunications” course, 1st semester, 2009/2010. Laboratory classes;
- “Real-Time Systems”, optional discipline of the 5th year of the “Integrated Masters in Electronic Engineering and Telecommunications” and “Integrated Masters in Computer Engineering and Telematics” courses, Computer Systems thematic option, 1st semester, 2009/2010. Course coordinator, lectures and laboratory classes;
- “Embedded Systems Specification, Modeling and Design”, optional discipline of the 5th year of the “Integrated Masters in Electronic Engineering and Telecommunications” and “Integrated Masters in Computer Engineering and Telematics” courses, Programming Science and Technology scientific area, 1st semester, 2009/2010. Course coordinator, lectures and laboratory classes;

2008/2009

- “Electronics IV”, scientific area of Electrotechnics/Electronics, 4th year of the “Integrated Masters in Electronic Engineering and Telecommunications” course, 2nd semester, 2008/2009. Course coordinator, lectures and laboratory classes;
- “Fundamentals of Embedded Systems”, UA/CMU Masters of Science in Information Networking, 1st quadrimester, 2008-2009. Course Instructor at Aveiro;
- “Electrical Laboratory Techniques”, scientific area of Electrotechnics, 1st year of the “Integrated Masters in Electronic Engineering and Telecommunications” course, 1st semester, 2008/2009. Course co-coordinator, lectures and laboratory classes;
- “Real-Time Systems”, optional discipline of the 5th year of the “Integrated Masters in Electronic Engineering and Telecommunications” and “Integrated Masters in Computer Engineering and Telematics” courses, Computer Systems thematic option, 1st semester, 2008/2009. Course co-coordinator, lectures and laboratory classes;
- “Embedded Systems Specification, Modeling and Design”, optional discipline of the 5th year of the “Integrated Masters in Electronic Engineering and Telecommunications” and “Integrated Masters in Computer Engineering and Telematics” courses, Programming Science and Technology scientific area, 1st semester, 2008/2009. Course co-coordinator, lectures and laboratory classes;

2007/2008

- “Computer Architecture II”, scientific areas of Informatics and Computational Systems Architecture, 2nd year of the “Integrated Masters in Electronic Engineering and Telecommunications” and “Integrated Masters in Computer Engineering and Telematics” courses, 2nd semester, 2007/2008. Course co-coordinator, lectures and laboratory classes;

- “Fundamentals of Embedded Systems”, UA/CMU Masters of Science in Information Networking, 1st quadrimester, 2007-2008. Course Instructor at Aveiro;
- “Electrical Laboratory Techniques”, scientific area of Electrotechnics, 1st year of the “Integrated Masters in Electronic Engineering and Telecommunications” course, 1st semester, 2007/2008. Course co-coordinator, lectures and laboratory classes;
- “Real-Time Systems”, optional discipline of the 5th year of the “Integrated Masters in Electronic Engineering and Telecommunications” and “Integrated Masters in Computer Engineering and Telematics” courses, Computer Systems thematic option, 1st semester, 2007/2008. Course co-coordinator, lectures and laboratory classes;

2006/2007

- “Interfaces and Peripherals”, scientific area of Informatics and Computer Systems Architecture, 3rd year of the “Electronic Engineering and Telecommunications” and “Electronics and Computer Science Teacher Training” courses, 2nd semester. Course co-coordinator, lectures and lab classes;
- “Electrical Laboratory Techniques”, scientific area of Electrotechnics, 1st year of the “Integrated Masters in Electronic Engineering and Telecommunications” course, 1st semester, 2006/2007. Laboratory classes;
- “Real-Time Systems”, optional discipline of the 5th year of the “Electronic Engineering and Telecommunications” and “Computer Engineering and Telematics” courses, Electronics, Multimedia and Telecommunications thematic options, 1st semester, 2006/2007. Course coordinator, lectures and laboratory classes;

2005/2006

- “Interfaces and Peripherals”, scientific area of Informatics and Computer Systems Architecture, 3rd year of the “Electronic Engineering and Telecommunications” and “Electronics and Computer Science Teacher Training” courses, 2nd semester. Course co-coordinator, lectures and lab classes;
- “Communication Networks in Industrial Environments”, optional discipline of the 5th year of the “Electronic Engineering and Telecommunications” course, Automation and Computer Technology thematic options, 1st semester, 2005/2006. Course co-coordinator, lectures and lab classes;
- “Real-Time Systems”, optional discipline of the 5th year of the “Electronic Engineering and Telecommunications” and “Computer Engineering and Telematics” courses, Electronics, Multimedia and Telecommunications thematic options, 1st semester, 2005/2006. Course co-coordinator, lectures and lab classes;
- “Computer Architecture I”, scientific area of Informatics and Computer Systems Architecture, 3rd year of the “Electronic Engineering and Telecommunications”, “Computer Engineering and Telematics” and “Electronics and Computer Science Teacher Training” courses, 1st semester, 2005/2006, lab classes;

2004/2005

- “Interfaces and Peripherals”, scientific area of Informatics and Computer Systems Architecture, 3rd year of the “Electronic Engineering and Telecommunications” and “Electronics and Computer Science Teacher Training” courses, 2nd semester, 2004/2005. Laboratory classes;
- “Real-Time Systems”, optional discipline of the 5th year of the “Electronic Engineering and Telecommunications” and “Computer Engineering and Telematics” courses, Electronics, Multimedia and Telecommunications thematic options, 1st semester, 2004/2005. Laboratory classes;
- “Science and Engineering Applications”, scientific area of Programming Science and Technology, University of Aveiro, 1st semester, 2004/2005. Laboratory classes;

2003/2004

- “Interfaces and Peripherals”, scientific area of Informatics and Computer Systems Architecture, 3rd year of the “Electronic Engineering and Telecommunications” and “Electronics and Computer Science Teacher Training” courses, 2nd semester, 2003/2004. Laboratory classes;
- “Real-Time Systems”, optional discipline of the 5th year of the “Electronic Engineering and Telecommunications” and “Computer Engineering and Telematics” courses, Electronics, Multimedia and Telecommunications thematic options, 1st semester, 2003/2004. Laboratory classes;
- “Science and Engineering Applications”, scientific area of Programming Science and Technology, University of Aveiro, 1st semester, 2003/2004. Laboratory classes;

2003/2002

- “Communication Networks in Industrial Environments”, optional discipline of the 5th year of the “Electronic Engineering and Telecommunications” course, Automation and Computer Technology thematic option, 2nd semester, 2002/2003. Laboratory classes;
- “Interfaces and Peripherals”, scientific area of Informatics and Computer Systems Architecture, 3rd year of the “Electronic Engineering and Telecommunications” and “Electronics and Computer Science Teacher Training” courses, 2nd semester, 2002/2003. Laboratory classes;
- “Introduction to the Information and Communication Technologies”, scientific area of Informatics, University of Aveiro, 1st semester, 2002/2003. Laboratory classes;

2001/2002

- “Introduction to C programming”, scientific area of Informatics, University of Aveiro, 2nd semester, 2001/2002. Laboratory classes;
- “Introduction to the Information and Communication Technologies”, scientific area of Informatics, University of Aveiro, 1st semester, 2001/2002. Laboratory classes.

6.2 Supervision of MSc dissertations

1. “Hardware-assisted Clock Synchronization in CAN Networks”, Samuel Madaíl. Supervised by Paulo Pedreiras and Arnaldo Oliveira, DETI, University of Aveiro. September 2007/July 2008;
2. “Real-time Information System for vehicle-road communication”, André Costa. Supervised by Paulo Pedreiras and José Alberto Fonseca, DETI, University of Aveiro. September 2007/July 2008;
3. “Extension of a streaming framework for preemptive schedulers”, Emanuel Miranda, DETI, University of Aveiro, in cooperation with NXP Semiconductors, Eindhoven, Netherlands. September 2007/January 2009;
4. “Distributed Control of Mechatronic Platforms”, Nuno Figueiredo. Supervised by Paulo Pedreiras and Luis Almeida, DETI, University of Aveiro. September 2007/July 2008;
5. “FPGA-based Ethernet Sniffer for Real-Time Networks”, João Faria. Supervised by Arnaldo Martins and Paulo Pedreiras, DETI, University of Aveiro. September 2007/July 2008; “Desenvolvimento de interfaces gráficas para recolha de sinais analógicos e digitais e controlo de processos baseado em *Linux embedded*”.
6. “Caracterização Experimental de comunicações PowerLine em Automóveis”, Pedro Silva. Supervised by Luis Almeida and Paulo Pedreiras, DETI, University of Aveiro. September 2008/July 2009;
7. “Mobile Robot Navigation Based on Ad-hoc RF Communication”. Luis Filipe Oliveira. Supervised by Luis Almeida and Paulo Pedreiras, DETI, University of Aveiro. September 2008/November 2009;

8. “Implementação e testes de robustez do protocolo tempo-real FTT-CAN”, Tiago Gonçalves. Supervised by Paulo Pedreiras (DETI) and Valter Silva (ESTGA), University of Aveiro. September 2009/Dezember 2010;
9. “Real-Time Communication Stack for an Industrial Video Camera”, Fábio Amado. Supervised by Paulo Pedreiras DETI, University of Aveiro, in cooperation with RIAMolde, Lda. September 2009/Dezember 2010;
10. “Gigabit Ethernet Hardware Sniffer for Real-Time Systems”, José Daniel Costa Varela. Supervised by Arnaldo Oliveira and Paulo Pedreiras, DETI, University of Aveiro. September 2009/December 2011;
11. “High-performance FPGA link for FTT-based Ethernet Switches”, Luis Moutinho. Supervised by Arnaldo Oliveira and Paulo Pedreiras, DETI, University of Aveiro. September 2009/December 2010;
12. “Distributed Control of a Robotic Arm”, Ricardo Jorge de Sousa Rodrigues. Supervised by Paulo Pedreiras and Filipe Silva, DETI, University of Aveiro. September 2010/December 2011;
13. “Linux-based real-time control system”, Jorge Azevedo. Supervised by Alexandre Mota and Paulo Pedreiras, DETI, University of Aveiro. November 2010/December 2011;
14. “Suporte MSRP para HardQoS switch”, Luis Nobrega. Supervised by Paulo Pedreiras and Pedro Gonçalves, DETI, University of Aveiro. September 2011/December 2012;
15. “Monitorização fina do consumo de energia elétrica usando redes de sensores sem fios”, César Gomes. Supervised by Paulo Pedreiras and Alexandre Mota, DETI, University of Aveiro. September 2011/December 2012;
16. “Fixed Priority Schedulers on a hard-real time Baseband Multiprocessor”, Ricardo Almeida. Supervised by Paulo Pedreiras, DETI, University of Aveiro, in cooperation with ST-Ericsson,Eindhoven, Holland. September 2011/December 2012;
17. “Controlador Adaptativo baseado em Xenomai”, Diego Mendes. Supervised by Alexandre Mota and Paulo Pedreiras, DETI, University of Aveiro. September 2011/December 2012;
18. “Switch Ethernet Distribuido para Sistemas Embutidos”, Ricardo Ribeiro. Supervised by Arnaldo Oliveira and Paulo Pedreiras, DETI, University of Aveiro. September 2011/July 2012;
19. “Sistema de Apontamento Programado para Antena Parabólica”, João de Moraes Sarmiento Matos (#mec 38425) . Supervised by Armando Rocha and Paulo Pedreiras, DETI, University of Aveiro. September 2012 / December 2013 ;
20. “Controlador e device drivers para caldeiras a pellets”, Nuno Miguel Falcao de Moura. Supervised by Paulo Pedreiras (DETI) and Joaquim Ferreira (ESTGA), University of Aveiro. September 2012 / December 2013 ;
21. “Demonstrador para Switch Ethernet Tempo-Real”, Ivo Alexandre Costa Alves Angélico. Supervised by Paulo Pedreiras (DETI) and Joaquim Ferreira (ESTGA), University of Aveiro. September 2012/ December 2013;
22. “Implementação em FPGA de um Switch Ethernet Distribuído para Sistemas Embutidos”, Michael Conceição Costa. Supervised by Arnaldo Oliveira and Paulo Pedreiras, DETI, University of Aveiro. September 2012 / December 2013 ;
23. “Fixed Priority Schedulers on a hard-real time Baseband Multiprocessor: LTE Transceiver Modeling”, Joao Pedro Nogueira Bastos. Supervised by Paulo Pedreiras (DETI) e Orlando Moreira (ST Ericsson, Holanda). Set 2012/Dec. 2013;
24. “Metodologias de desenvolvimento de sistemas embedded”, Hugo Rafael Mendes Tavares. Supervised by Pedro Fonseca and Paulo Pedreiras, DETI, University of Aveiro. September 2012/December 2013;

25. “Implementation of Fixed Priority Schedulers on a hard-real time Baseband Multiprocessor”, Jesse Wade Brandao. Supervised by Paulo Pedreiras (DETI) and Orlando Moreira (ST Ericsson, Holanda). Sept. 2013/Dec. 2014;
26. “Porting GNU binutils for the EVP DSP”, Joao Pires. Supervised by Paulo Pedreiras (DETI) and Orlando Moreira (ST Ericsson, Holanda). Sept. 2013/Jul. 2014;
27. “Controlador e device drivers para seguidor solar de 2 eixos”, Renato Lopes. Supervised by Paulo Pedreiras (DETI) and Valter Silva (ESTGA). Sept. 2013/Dec. 2014;
28. “Desenvolvimento de controlador e software de parametrizacao para caldeiras a pellets”, Tome Matos. Supervised by Paulo Pedreiras (DETI) and Valter Silva (ESTGA). Sept. 2013/Dec. 2014;
29. “Raspberry Pi - based Real-Time Controller”, Tiago Silva Lopes. Supervised by Alexandre Mota (DETI) and Paulo Pedreiras (DETI). Set. 2013/Dec. 2015;
30. “Sistema de localização para colmeias”, Nuno Oliveira. Supervised by Paulo Pedreiras (DETI) and Valter Silva (ESTGA). Set. 2014/Jul. 2015
31. “Logger solar independente de inversor”, Pedro Freire. Supervised by Paulo Pedreiras (DETI) and Valter Silva (ESTGA). Set. 2014/Jul. 2015
32. “Protocolo de comunicações sem-fios em malha para redes de iluminação pública”, Ana Santos. Supervised by Paulo Pedreiras (DETI) and Paulo Bartolomeu (Globaltronic, Electrónica e Telecomunicações, SA). Set. 2014/Dec. 2015;
33. “Demonstrador para rede tempo-real HaRTES”, Hugo Araújo. Supervised by Paulo Pedreiras (DETI) and Valter Silva (ESTGA). Set. 2014/Dec. 2015;
34. “Utilização de sondas lambda em caldeiras de biomassa”, David Poceiro. Supervised by Paulo Pedreiras (DETI) and Paulo Afonso (ESTGA). Set. 2014/Dec. 2015;
35. “Reserva de Recursos para redes tempo real”, Diogo Branco. Supervised by Paulo Pedreiras (DETI) and Pedro Gonçalves (ESTGA). Set. 2014/Dec. 2015;
36. “Controlo e Monitorização de Sistemas Hidropónicos”, Pedro Mourão, Supervised by Alexandre Mota and Paulo Pedreiras. Set. 2014/—
37. “Logger solar com controlo de producao”, Antonio Xavier Soares (#59306). Supervised by Paulo Pedreiras (DETI) and Valter Silva (ESTGA). Set. 2015/—
38. “Sistema de localizacao para colmeias”, Daniel David (#46882). Supervised by Paulo Pedreiras (DETI) and Valter Silva (ESTGA). Set. 2015/—
39. “Controlador de Tempo-Real baseado em MATLAB e Raspberry Pi”, Pedro Goncalves (#59302). Supervised by Alexandre Mota (DETI) and Paulo Pedreiras (DETI). Set. 2015/—
40. “Real-Time Contract-Java”, Raquel Correia (#64223). Supervised by Miguel Oliveira e Silva (DETI) and Paulo Pedreiras (DETI). Set. 2015/—
41. “Sistema de controlo de rebanhos”, Miguel Madail (#65276). Supervised by Paulo Pedreiras (DETI) and Pedro Gonçalves (ESTGA). Set. 2015/—

6.3 International student exchange programs

- “Saving Energy in Embedded Control Systems with the Dual-Rate Switching Control Approach”, Erasmus project, Adrian Dudau, Poland. From Mars 28,2009 to June 28, 2009;
- “Wireless Network Modeling”, IAESTE training program, Andreas Pfäffli, October 5 to December 23, 2009;
- “Control mechatronic setups upgrade”, IAESTE training program, Montree Methakajonkul, September 14 to November 13, 2009;
- “PC-based slow-signaling visualization tool”, IAESTE training program, Preawnet Dhanakoses, September 1 to November 30, 2009.

6.4 Supervision of 5th year projects and seminars

2006/2007

- “Supervision of the freezer networks”, Hugo Matos, DETI, University of Aveiro, in cooperation with “Modelo-Continente” Informatics Department;
- “Improvements to the Mechatronic Platforms for Control Experiences”, Tiago Roque, DETI, University of Aveiro;
- “Hardware support for dynamic priority scheduling in CAN networks”, Luis Vieira, DETI, University of Aveiro;

2005/2006

- “Mobile Robotics in a Didactic Perspective”, Paula Carneiro and Helder Oliveira, DETI, University of Aveiro (Seminar);
- “Integration of an FTT-CAN protocol stack in an ARPA-MIPS integrated system”, Gonçalo Gaspar, DETI, University of Aveiro;

2003/2004:

- “Simulation of FTT protocols with QoS guarantees”, José Lopes and Hugo Pinto, DETI, University of Aveiro;
- “Wireless communication infrastructure for mobile autonomous agents”, Jorge Andrade and Nuno Ferreira, DETI, University of Aveiro;
- “Building Mechatronic Platforms for Control Experiences”, Marcio Neves, Marco Leonor, DETI, University of Aveiro;
- “DE.SI.RE.3 - DEMonstrador de Sistema Industrial distribuído controlado REMotamente (Remotely controlled distributed industrial system demonstrator) - FTT-CAN integration”, Gonçalo Ribeiro and Nuno Soutinho, DETI, University of Aveiro.

6.5 Courseware development

- Collaboration in the definition of the program and development of teaching materials for the “Embedded Systems Specification, Modeling and Design” course, optional discipline of the 5th year of the “Integrated Masters in Electronic Engineering and Telecommunications” and “Integrated Masters in Computer Engineering and Telematics” programs - September 2008;
- Collaboration in the development of teaching materials for the “Communication Networks in Industrial Environments”, optional discipline of the 5th year of the “Electronic Engineering and Telecommunications” program - September 2005.

6.6 Participation in course programmes definition

- Member of the Observation Committee of the MIEET course, 2013;

6.7 Dissemination activities

- Visits to highschools to disseminate the DETI (May 2013, Sever do Vouga);
- Science and Technology Open Week 2008, organization of the “Mechatronic Platforms” activity, Nov. 24-29, University of Aveiro;
- Science and Technology Open Week 2007, organization of the “Mechatronic Platforms” activity, Nov. 19-24, University of Aveiro;
- Science and Technology Open Week 2004, organization of the “Real-Time Systems Laboratory” activity, Nov. 22-27, University of Aveiro.

7 Main scientific area of research and other areas of interest

The main research interests are in the area of Distributed Real-Time Systems (DRTSs), with particular focus on the real-time aspects of the communication infrastructure and execution platform, involving aspects such as traffic scheduling, real-time Medium Access Control techniques, task scheduling and real-time operating systems. Particular attention is given to supporting the combination operational flexibility with timeliness guarantees in such DRTSs, in order to build dynamically reconfigurable systems, possibly with dynamic Quality-of-Service management and with guaranteed stable behavior.

Other fields of interest are related with the utilization of wireless technologies for soft real-time applications; autonomous mobile robotics, in what concerns internal hardware/software control architectures; and Teaching of Electronics and Computer Science, mainly by means of students' competitions and other hands-on activities.

8 Publications and Communications

8.1 Edition of scientific publications

1. Guest editor of the IEEE Transactions on Industrial Informatics Special Section on Communication in Automation, 2015;
2. Paulo Pedreiras, Insik Shin (eds). SIGBED Review, Volume 10, Number 1, February 2013 Special Issue on the 4th Workshop on Adaptive and Reconfigurable Embedded Systems (APRES 2012);
3. L. Almeida, P. Pedreiras (eds.). Seção Especial: Sistemas de Tempo-Real, uma Abordagem Prática. *Electrónica e Telecomunicações* 4(2), ISSN: 1645-0493, Jan. 2004.

8.2 Books, book chapters and special sections

1. Silva., L., Pedreiras, P., Alam, M., Ferreira, J. "STDMA-based Scheduling Algorithm for Infrastructured Vehicular Networks", Book Chapter of "Intelligent Transportation Systems", Studies in Systems, Decision and Control 52, M. Alam et al. (eds.), Springer International Publishing Switzerland 2016, DOI 10.1007/978-3-319-28183-4_4
2. Pedreiras, P., Schoenegger, S., Seno, L., Vitturi, S. "Ethernet Powelink". Book chapter of The Industrial Electronics Handbook, Second Edition, Editor(s): Bodgan Wilamowski, Auburn University, Alabama, USA ; J. David Irwin, Auburn University, Alabama, USA. ISBN: 9781439802892, February 28, 2011.
3. Neves, A., Azevedo, J. et al. "CAMBADA soccer team: from robot architecture to multiagent coordination". Book chapter of "Robot Soccer", Published by In-Tech, edited by Vladan Papić, ISBN 978-953-307-036-0, January 2010;
4. Pedreiras, P., Almeida, L. "Task Management for Soft Real-Time Applications Based on General Purpose Operating Systems". Book chapter on "Soccer Robotics", edited by Pedro Lima, In-Tech Education and Publishing, Vienna, Austria , ISBN 978-3-902613-21-9, Dec. 2007;
5. Almeida, L., Pedreiras, P., Ferreira, J., Calha, M., Fonseca, J., Marau, R., Silva, V., Martins, E. "Online QoS Adaptation with the Flexible Time-Triggered (FTT) Communication Paradigm". Book chapter on the Handbook of Real-Time and Embedded Systems, Ed.s Insup Lee, Joseph Y-T Leung, Sang H. Son. Chapman & Hall / CRC. ISBN 978-1-58488-678-5, 2007;
6. Pedreiras, P., Teixeira, F., Ferreira, N., Almeida, L., Pinho, A., Santos, F. "A Real-Time Framework for the Vision Subsystem in Autonomous Mobile Robots". Book chapter on ARS Vision Systems Book, Edited by Goro Obinata and Ashish Dutta, ISBN 978-3-902613-01-1, 2007
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85. Antunes, A.; Pedreiras, P.; Mota, A.M. "Adapting the Sampling Period of a Real-time Adaptive Distributed Controller to the Bus Load". 10th IEEE Conference on Emerging Technologies and Factory Automation, 2005. ETFA 2005. Volume 1, 19-22 Sept. 2005 Page(s):1081 - 1084 ;
86. Ferreira, J., Almeida, L., Fonseca, J. Pedreiras, P., Santos, M. "On the dependability and flexibility of CAN and CAN based protocols". VII Workshop de Tempo Real, Fortaleza, Brazil. 13 May 2005;
87. Ruas, M., Silva, C., Pedreiras, P., Almeida, L., Pinho, A. "Robotic Football Player Simulator Using Synthesized Images". Robotica 2005 scientific event. Coimbra, Portugal, Apr. 29 to May 1 2005;
88. F. Santos, Almeida, L., Pedreiras, P. "An Adaptive TDMA Protocol for Soft Real-Time Wireless Communication Among Mobile Computing Agents". WACERTS 2004, Workshop on Architectures for Cooperative Embedded Real-Time Systems. Lisboa, Portugal, 5-8 Dez. 2004;
89. L. Almeida, F. Santos, T. Facchinetti, P. Pedreiras, L. Seabra Lopes. "Coordinating distributed autonomous agents with a real-time database: The CAMBADA project". ISCIS'04, 19th International Symposium on Computer and Information Sciences. 27-29 October 2004, Kemer - Antalya, Turkey;
90. L. Almeida, Pedreiras, P., "Scheduling within temporal partitions: response-time analysis and server design", 4th ACM International Conference on Embedded Software (EMSOFT 2004), Pisa, Italy, September 27-29, 2004;
91. P. Pedreiras, L. Almeida, "Message routing in multi-segment FTT networks: The Isochronous Approach". Workshop on Parallel and Distributed Real-Time Systems (WPDRTS). Santa Fe, New Mexico, USA. 26-27 April, 2004;
92. L. Almeida, P. Pedreiras, "Minimizing the end-to-end latency in multi-segment time-triggered networks", 11th IFAC Symposium on Information Control Problems in Manufacturing, Salvador, Brasil April 5-7th, 2004;
93. J. Ferreira, L. Almeida, E. Martins, P. Pedreiras, J.A. Fonseca, "Enforcing Consistency of Communication Requirements Updates in FTT-CAN", Workshop on Dependable Embedded Systems, SRDS2003, The 22nd Symposium on Reliable Distributed Systems, Florence, Italy, 6-8 October, 2003.
94. P. Pedreiras, R. Leite, L. Almeida, "Characterizing the Real-Time Behavior of Prioritized Switched Ethernet", Proceedings of 2nd International Workshop on Real-Time LANs in the Internet Age (RTLIA'03). Oporto, Portugal. July, 1 2003.
95. P. Pedreiras, L. Almeida, "The Flexible Time-Triggered paradigm: an approach to QoS management in distributed real-time systems". Workshop on Parallel and Distributed Real-Time Systems (WPDRTS) 2003. Nice, France. April 22-23, 2003;
96. J. Ferreira, L. Almeida, E. Martins, P. Pedreiras, J. A. Fonseca. "Components to Enforce Fail-Silent Behavior in Dynamic Master-Slave Systems". 5th IFAC International Symposium on Intelligent Components and Instruments for Control Applications (SICICA'03), Aveiro, Portugal, 2003;
97. F. Carreiro, J. A. Fonseca, P. Pedreiras. "Virtual Token-Passing Ethernet-VTPE". 5th IFAC International Conference on Fieldbus Systems and their Applications (FET'03), Aveiro, Portugal, 2003;
98. E. Martins, J. Ferreira, L. Almeida, P. Pedreiras, J.A. Fonseca. "An Approach to the Synchronization of Backup Masters in Dynamic Master-Slave Systems", Proceedings of Work in Progress Session of RTSS'2002 - The 23rd IEEE International Real-Time Systems Symposium, December 3-5, 2002, Austin, USA;
99. J. Fonseca, J. Ferreira, M. Calha, P. Pedreiras, L. Almeida. "Issues on Task Dispatching and Master Replication in FTT-CAN". Proceedings of IEEE AFRICON 2002, South Africa, Oct/2002;
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101. J. Ferreira, P. Pedreiras, L. Almeida and J. Fonseca. "Achieving Fault-Tolerance in FTT-CAN". Proceedings of the 4th IEEE International Workshop on Factory Communication Systems (WFCS'02), pp. 125-132. Vasteras, Sweden, Aug/2002;
102. P. Pedreiras, L. Almeida and P. Gai. "The FTT-Ethernet protocol: Merging flexibility, timeliness and efficiency". Proceedings of the 14th Euromicro Conference on Real-Time Systems, Vienna, Austria, Jun/2002;
103. P. Pedreiras, L. Almeida. "Flexibility, Timeliness and Efficiency in Ethernet". Proceedings of the 1st International Workshop on Real-Time LANs in the Internet Age (RTLIA2002). Vienna, Jun/2002;
104. P. Pedreiras, L. Almeida, "Flexible Scheduling on Controller Area Network". Proceedings of RTS'2002- 10eme Conference Internationale Sur Les Systemes Temps Reel, Paris, France, March/2002;
105. P. Pedreiras, L. Almeida, "A Practical Approach to EDF Scheduling on Controller Area Network". Proceedings of IEEE/IEE Real-Time Embedded Systems Workshop, London, Dec/2001;
106. P. Pedreiras, L. Almeida, "Asynchronous Communication on FTT-CAN: experimental results". Proceedings of FeT'2001 - 4th FeT IFAC Conference, Nancy, France, Nov/2001;
107. J. Ferreira, P. Pedreiras, L. Almeida, J. A. Fonseca, "FTT-CAN Error Confinement". Proceedings of FeT'2001 - 4th FeT IFAC Conference, Nancy, France, Nov/2001;
108. L. Almeida, J.A. Fonseca, A. Mota, P. Fonseca, E. Martins, P. Pedreiras, J. Ferreira and F. Coutinho. "Flexibility, Timeliness and Efficiency in Fieldbus Systems: The DISCO Project". Proceedings ETFA'01 - IEEE Conf. on Emerging Technologies for Factory Automation, Juan-Les-Pins, France, Oct. 2001;
109. P. Pedreiras, L. Almeida, J. A. Fonseca, "Improving the Responsiveness of the Synchronous Messaging System In FTT-CAN". Proceedings of DCCS 2000, Sydney, Australia, Dec/2000.
110. P. Pedreiras, L. Almeida, "Combining event-triggered and time-triggered traffic in FTT-Can: analysis of the asynchronous messaging system". Proceedings of WFCS 2000, Porto, Set/2000;
111. J. Fonseca, E. Martins, L. Almeida, P. Pedreiras, P. Neves, "Flexible Time-Triggered Protocol for CAN - New Scheduling and Dispatching Solutions". Proceedings of ICC 2000, New Orleans, USA, Jun/2000.

8.5 Publications and communications without peer reviewing

- J. Faria, A. Oliveira, P. Pedreiras, R. Santos. "FPGA-based Ethernet Sniffer for Real-Time Networks". Revista do DETUA, Vol. 4, Number 4, Setembro 2008;
- P. Pedreiras, L. Almeida, J. A. Fonseca, "A Proposal To Improve The Responsiveness Of The Synchronous Messaging System In FTT-CAN". Revista do DETUA, Vol. 3, Number 2, October 2000;
- E. Martins, P. Pedreiras, "JERRY: A Jolly Electric Robot, Yo!". Revista do DETUA, Vol. 2, Number 5, September 1999.

8.6 Other publications

- P. Pedreiras. Session rapport on "Industrial Communication and Vertical Integration Issues". Proceedings of the 2nd International Workshop on Real-Time LANs in the Internet Age (RTLIA2003). Oporto, Portugal, July/2003;
- P. Pedreiras. Session rapport on "New Communication Paradigms". Proceedings of the 1st International Workshop on Real-Time LANs in the Internet Age (RTLIA2002). Vienna, Jun/2002.

8.7 Invited papers

- Luís Almeida, Paulo Pedreiras, Ricardo Marau, Luis Silva, Mohammad Ashjaei, Moris Behnam, Thomas Nolte, Julian Proenza, Manuel Barranco, David Gessner, Guillermo Rodriguez-Navas, Alberto Ballesteros, Sinisa Derasevic. “Recent Developments in FTT-SE”. The 1st Workshop on Real-Time Ethernet, in conjunction with the RTSS 2013, Vancouver (Dec 3, 2013).

8.8 Invited talks

- P. Pedreiras. “Real-Time ETHERnet: past, present and future”. ECE Back to Basics Colloquium (PhD program), Engineering Faculty of the University of Porto. October 10th, 2012
- P. Pedreiras, R. Santos, L. Almeida, R. Marau, T. Nolte, M. Behnam. “Flexible Real-Time Communication over Switched Ethernet”. NERES2011, FEUP, Oporto, November 10-11, 2011
- P. Pedreiras. “Flexible Real-Time Communication over Switched Ethernet”. TTA-Group Open Forum "Deterministic Unified Networking: Time-Triggered Communication and Ethernet Convergence" November 4, 2010 - Forth Worth, TX
- Paulo Pedreiras. “The FTT-Ethernet Protocol: A Platform to Support Dynamic Quality of Service Guarantees”. Lecture at the “Instituto de Engenharia Electrónica e Telemática de Aveiro”. University of Aveiro, Portugal. October 8, 2003.
- José Alberto G. Fonseca, Paulo Pedreiras. “Fieldbuses in real-time distributed embedded systems”. 2nd International Workshop on Embedded Systems, Internet Programming and Industrial IT. Kiel, Germany, 20-22 August, 2003.
- Luís Almeida, Pedro Fonseca, José Luís Azevedo, Paulo Pedreiras. “The Micro-Rato Contest: A popular approach to improve self-study in electronics and computer science”. 2nd International Workshop on Embedded Systems, Internet Programming and Industrial IT. Kiel, Germany, 20-22 August, 2003.

8.9 Invited Courses

- ARTIST Graduate Course on Embedded Control Systems 2009, “Medium access control techniques” and “Protocol Stacks” modules, June 11, Pisa, Italy (<http://www.artist-embedded.org/artist/ARTIST-Embedded-Control-2009.html>);
- L. Almeida, P. Pedreiras, R. Marau. “Real-Time Networks for Control Systems”, ARTIST2 1st European Laboratory on Real-Time and Control for Embedded Systems, Pisa, Italy, 4 hours lectures, 4 hours lab, 13 July 2006.

8.10 Thesis

- Paulo Pedreiras, “Supporting Flexible Real-Time Communication on Distributed Systems”, PhD thesis, University of Aveiro, June 2003.

9 Participation in academic jurys and related works

9.1 PhD

- Jury member, PhD Thesis “Framework for the development of Parallel and Distributed Real-Time Embedded Systems”, by Ricardo Garibay-Martinez, under the supervision of Prof. Luís Miguel Pinho and Prof. Luis Nogueira, CISTER Research Center, IPP, February 16, 2016;
- Jury member, PhD Thesis Research Plan, “Dynamic Deterministic Communications over Heterogeneous Networks”, by Luis Emanuel Moutinho Silva, under the supervision of Prof. Paulo Pedreiras (DETI/UA) and Luís Miguel Pinho de Almeida (FEUP, UP). Aveiro, Portugal, July 8, 2015;

- Jury member, PhD thesis “Real-Time Communication Support in IEEE 802.11s Wireless Mesh Networks”, by Carlos Manuel Dias Viegas, under supervision of Prof. Francisco Vasques and Prof. Paulo Portugal, Faculty of Engineering of the University of Oporto, Portugal. July 14, 2015;
- Jury member, PhD thesis “RT-WiFi: Um Mecanismo para Comunicação de Tempo-Real em Redes IEEE 802.11 Infraestruturadas”, by Robson Costa, under supervision of Prof. Paulo Portugal, FEUP, and Ricardo Moraes, Universidade Federal de São Paulo, Brazil, 13-11-2013;
- Jury member, PhD Thesis Research Plan, “Framework for the development of Parallel and Distributed Real-Time Embedded Systems”, by Ricardo Garibay-Martinez, under the supervision of Prof. Luís Miguel Pinho and co-supervision of Prof. Luis Nogueira, CISTER Research Center Polytechnic Institute of Porto Porto, Portugal, July 18, 2013;
- Jury member, PhD Thesis Research Plan, “RT-WiFi: Um Mecanismo para Comunicação de Tempo-Real em Redes IEEE 802.11 Infraestruturadas”, by Robson Costa, under supervision of Prof. Paulo Portugal, FEUP, December 21, 2011;
- Substitute juri member, PhD thesis, “Improving Error Containment and Reliability of Communication Subsystems Based on Controller Area Network (CAN) by Means of Adequate Star Topologies”, by Manuel Alejandro Barranco Gonzalez, under supervision of Prof. Julian Proenza Arenas and Luis Miguel Pinho de Almeida, Universitat de Les Illes Balears, Spain , April 29th 2010
- Jury member, PhD thesis, “Algoritmos de controlo distribuído em sistemas baseados em microprocessador”, by Ana Antunes, supervised by Prof. Alexandre Mota, University of Aveiro, Portugal. September 11th 2008.
- Jury member, PhD thesis, “Using the Ethernet Protocol for Real-Time Communications in Embedded Systems”, by Francisco Borges Carreiro, supervised by Prof. José Alberto Fonseca, University of Aveiro, Portugal. January 29th 2008.
- Jury member, PhD thesis, "Supporting Real-Time Communication in CSMA-Based Networks: The VTP-CSMA Virtual Token Passing Approach", by Ricardo Alexandre Reinaldo de Moraes, supervised by Professor Francisco Vasques and Professor Paulo Portugal, University of Porto, Faculty of Engineering. July 2007. Porto, Portugal;
- Rapporteur, PhD thesis, “New Control Distributed System for Avionics. Functional Aspects“, by Carlos Ceferino Insaurralde, at the “Universidad Complutense de Madrid - Facultad de Ciencias Físicas”, 2007;

9.2 MSc

- Jury president, MSc thesis “Controlo de Velocidade e Posição de um Motor DC por Realimentação de Estados”, Cláudio Filipe Miranda dos Santos, Integrated Masters in Electronics and Telecommunications Engineering, University of Aveiro, supervised by Prof. Dr. Alexandre Manuel Moutela Nunes da Mota and By Msc. António Luis Tenedorio Pereira, 2016;
- Jury president, MSc thesis "eCall++: Chamadas de Emergência Rodoviárias Melhoradas", by Jon Blancou Gaztañaga, Integrated Masters in Electronics and Telecommunications Engineering, University of Aveiro, supervised by Joaquim José de Castro Ferreira, University of Aveiro, May 20, 2016;
- Oponent, MSc Thesis “Ambiente de desenvolvimento integrado para programação IEC 61131-3”, by Filipe Rafael dos Santos Ribeiro, supervised by Prof. Mário Jorge Rodrigues de Sousa, FEUP, Porto, February 19 2016;
- Oponent, MSc thesis "KhronoSim – CRITICAL Software: Desenvolvimento de plataforma de testes para sistemas críticos", by Catarina Acciaioli Mendes Horta Santos, supervised by Prof. Mário Jorge Rodrigues de Sousa (FEUP) and Eng. Alexandre Esper (CRITICAL Software), FEUP, Porto, February 19 2016;

- Jury president, MSc thesis "Monitorização e Controlo Remoto de Estações de Medição da Qualidade do Ar", by Pedro Filipe Melo Angelo, Integrated Masters in Electronics and Telecommunications Engineering, University of Aveiro, supervised by Alexandre Manuel Moutela Nunes da Mota, University of Aveiro, and Pedro Rebelo, Micro I/O Serviços de Electrónica, Lda;
- Jury president, MSc thesis, "Localização RF em Espaços Interiores", by Miguel Lopes Mestre, Integrated Masters in Electronics and Telecommunications Engineering, University of Aveiro, supervised by Alexandre Manuel Moutela Nunes da Mota, University of Aveiro, and Pedro Rebelo, Micro I/O Serviços de Electrónica, Lda;
- Jury member, MSc thesis, "Sistema de Monitorização para Colmeias", by Nuno Ricardo Mendes Oliveira, Integrated Masters in Electronics and Telecommunications Engineering, University of Aveiro, supervised by Paulo Bacelar Reis Pedreiras and Valter Filipe Silva, University of Aveiro. July 20, 2015;
- Oponent, MSc thesis, "SCADA in Android", by Rafael Pisco, supervised by Mário Jorge Rodrigues de Sousa, Faculty of Engineering of the University of Porto, July 14, 2015;
- Oponent, MSc thesis, "Low Energy Communication Network For Control And Supervision Of Hydroponic Farms", by João Raúl Rodrigues da Silva Lima, supervised by Mário Jorge Rodrigues de Sousa and Carlos Resende, Faculty of Engineering of the University of Porto, July 14, 2015;
- Jury president, MSc thesis, "Sensores Passivos para Agricultura", by Hugo Filipe Texugo Lopes, Integrated Masters in Electronics and Telecommunications Engineering, University of Aveiro, supervised by Nuno Miguel Gonçalves Borges de Carvalho, University of Aveiro;
- Jury president, MSc thesis, "Práticas Ágeis no Desenvolvimento de Sistemas Embutidos", by Tiago Fernando Alves de Freitas, Integrated Masters in Electronics and Telecommunications Engineering, University of Aveiro, supervised by Pedro Nicolau Faria da Fonseca and Ilídio Fernando Castro Oliveira, University of Aveiro;
- Jury president, MSc thesis, "Desenvolvimento de uma Bancada de Testes para Motores Eléctricos", by Claudio Daniel Valente Franco, Integrated Masters in Electronics and Telecommunications Engineering, University of Aveiro, supervised by Rui Manuel Escadas Ramos Martins, University of Aveiro, Jan/2015;
- Jury president, MSc thesis, "Scooter Elétrica - Implementação de um Controlador para Motores BLDC", by Jorge David Ferreira da Costa, Integrated Masters in Electronics and Telecommunications Engineering, University of Aveiro, supervised by Ernesto Fernando Ventura Martins and Rui Manuel Escadas Ramos Martins, University of Aveiro, Dec/2014;
- Jury president, MSc thesis, "Projecto e Construção de um Sistema de Gestão de uma Bateria com Carregamento Rápido", by Diogo Franco Avelar, Integrated Masters in Electronics and Telecommunications Engineering, University of Aveiro, supervised by Rui Manuel Escadas Ramos Martins and Ernesto Fernando Ventura Martins, Dec/2014;
- Supervisor, MSc thesis, "Controlador e device drivers para seguidor solar de 2 eixos", by Renato Filipe Ribeiro Lopes, Integrated Masters in Electronics and Telecommunications Engineering, University of Aveiro, supervised by Paulo Bacelar Reis Pedreiras and Valter Filipe Castela Silva, University of Aveiro, Dec/2014;
- Oponent, MSc thesis, "Impressora 3D com LinuxCNC", by João Filipe Oliveira Gonçalves, supervised by Mário Rodrigues de Sousa, FEUP, 29/Sept/2014;
- Oponent, MSc thesis, "Task Management With a Real-Time Operating System for an Automated Vehicle", by Ana Rita Fernandes Lobo Pereira, supervised by Luís Pinho de Almeida, FEUP, 29/Sept/2014;
- Jury president, MSc thesis, "Técnicas de Localização Fina de Veículos por Rádio Frequência", by Samuel Rocha Neves Pinto Moreira, Integrated Masters in Electronics and Telecommunications Engineering, University of Aveiro, supervised by Jose Alberto Gouveia Fonseca and Rui Manuel Escadas Ramos Martins, University of Aveiro, Jul/2014;

- Jury president, MSc thesis, “Sistema de Localização Fina para Ambientes Interiores”, by Rui Pedro Lebreiro Gomes, Integrated Masters in Electronics and Telecommunications Engineering, University of Aveiro, supervised by Rui Manuel Escadas Ramos Martins and Jose Alberto Gouveia Fonseca, University of Aveiro, Jul/2014;
- Jury president, MSc thesis, “Sistema de Controlo e Gestao de Tiro Desportivo”, by Hugo Miguel Baptista Loureiro, Integrated Masters in Electronics and Telecommunications Engineering, University of Aveiro, supervised by Ernesto Fernando Ventura Martins, University of Aveiro;
- Jury president, MSc thesis, “Interface Homem-Maquina para Aplicacoes de Automacao Residencial”, by Paulo Sergio Nunes Lopes. Integrated Masters in Electronics and Telecommunications Engineering, University of Aveiro, supervised by Professor Doutor Alexandre Manuel Moutela Nunes da Mota, University of Aveiro;
- Jury president, MSc thesis “Candeeiro de Secretaria Inteligente”, by Miguel Cardoso Seabra, Integrated Masters in Electronics and Telecommunications Engineering, University of Aveiro, supervised by Rui Manuel Escadas Ramos Martins, University of Aveiro;
- Jury president, MSc thesis “Sistema de Iluminacao Publica Autonomo com Regulacao do Fluxo Luminoso”, by Daniel Antonio da Costa Dinis, Integrated Masters in Electronics and Telecommunications Engineering, University of Aveiro, supervised by Alexandre Manuel Moutela Nunes da Mota, University of Aveiro;
- Jury president, MSc thesis, “Gateway de Ethernet ZigBee”, by Nuno Jose Coelho Almeida, Integrated Masters in Electronics and Telecommunications Engineering, University of Aveiro, supervised by Pedro Alexandre de Sousa Goncalves and Joao Paulo Silva Barraca;
- Jury president, MSc thesis, “Comunicacoes Veiculares Multiprotocolo Nao IP”, by Paulo Jorge Henriques de Sousa, Integrated Masters in Electronics and Telecommunications Engineering, University of Aveiro, supervised by Joao Paulo Silva Barraca and Joaquim Jose de Castro Ferreira;
- Jury president, MSc thesis, “Sincronizacao de Relogios em Redes LowPAN”, by Joao Filipe Pereira dos Reis, Integrated Masters in Electronics and Telecommunications Engineering, University of Aveiro, supervised by Nuno Miguel Goncalves Borges de Carvalho and by Jose Manuel Neto Vieira. Jul/2013
- Jury member, MSc thesis, “Auto-sincronização em sistemas de controlo distribuídos”, by Miguel Alberto Ribeiro de Freitas Rodas, supervised by Prof. Doutor Luis Almeida, from University of Porto, Faculty of Engineering. 27/Mar/2013
- Jury member, MSc thesis, “Rede de Sensores Sem Fios para Veículo Frigorífico e/ou Industria Alimentar”, by Vasco Sotomaior, supervised by Prof. Doutor Luis Almeida, from University of Porto, Faculty of Engineering. 27/Mar/2013
- Jury member, MSc thesis, “Sistema de Vídeo Vigilância sobre Ethernet com Qualidade de Serviço dinâmica”, by João Pedro Ramos Reis, supervised by Prof. Doutor Luis Almeida, from University of Porto, Faculty of Engineering. 7/Mar/2013
- Jury member, MSc thesis, “Desenvolvimento de um sistema SCADA para uma CPV”, by Jaime André Alves Leonor Lima, supervised by Prof. Doutor Adriano da Silva Carvalho, from University of Porto, Faculty of Engineering and co-supervised by Eng. José Carlos Amador, Martifer. 7/Mar/2013.
- Jury president, MSc thesis, “Concepção, Integração e Avaliação de Sensores e Actuadores numa WSA”, by Tiago Lindeza, supervised by Prof. José Alberto Fonseca, University of Aveiro. Jul/2012, Aveiro, Portugal
- Jury president, MSc thesis, “Switches Auto-configuráveis”, by João Lopes, supervised by Prof. André Zúquete and Prof. Susana Sargento, University of Aveiro. Jul/2012, Aveiro, Portugal
- Jury president, MSc thesis, “Sistema de Diagnóstico OBD2/EOBD para viaturas automóveis”, by Hugo Ricardo da Conceição Cunha, supervised by Prof. Doutor António Ferreira Pereira De Melo, from the University of Aveiro, Aveiro. December 16th, 2011. Aveiro, Portugal

- Jury member, MSc thesis, "Driver de rede para sistemas distribuidos tempo-real", by Rui Duarte Teixeira Henriques, supervised by Prof. Doutor Luis Almeida and co-supervised by Doutor Ricardo Marau, from University of Porto, Faculty of Engineering. July 13th, 2011. Porto, Portugal
- Jury member, MSc thesis, "Aplicações da rede HomePlug para suporte de aplicações industriais", by João Pedro Gonçalves Lemos, supervised by Prof. Doutor Paulo José Portugal, from University of Porto, Faculty of Engineering. July 13th, 2011. Porto, Portugal
- Jury member, MSc thesis, "Rede de sensores sem fios para veículo frigorífico e/ou indústria alimentar" (Wireless Sensor Network for refrigerated vehicle and/or food industry), by André Soares Oliveira Leite, supervised by Prof. Doutor Luis Almeida and Prof. Doutor Paulo Portugal, both from University of Porto, Faculty of Engineering, and proposed by Eng. Vitor Sova, from FoodInTech company. July 26th, 2010. Porto, Portugal
- Jury member, MSc thesis, "Avaliação do Desempenho de Técnicas de Localização Relativa de Robôs Móveis Baseada no RSS em Ambientes Interiores" (Performance Assessment of Mobile Robots Indoor Localisation Techniques Based on RSS), by Ana Cristina Carvalho da Ponte, supervised by Prof. Doutor Paulo Gomes Mendes Moreira and by Prof. Doutor Luis Almeida, both from University of Porto, Faculty of Engineering. July 26th, 2010. Porto, Portugal
- Jury member, MSc thesis, "Arquitecturas de Comunicação Industriais para Suporte a Sistemas Computacionais Móveis" (*Industrial Communication Architectures for Mobile Computational Systems* Support), by Veríssimo Manuel Brandão Lima Santos, supervised by Prof. Doutor Luís Miguel Pinho and Prof. Doutor Pedro Ferreira Souto, University of Porto, Faculty of Engineering. December 28th 2007. Porto, Portugal.

9.3 Other

- Jury member, thematic project in Electronics and Digital Systems, Electrical Engineering Course, Politechnic Institute of Agueda, "Radiation Detector", by N. Tendeiro, F. Flores, D. Barbosa, C. Ramos, supervised by Prof. Paulo Afonso, February 4 2013;
- Jury member, thematic project in Electronics and Digital Systems, Electrical Engineering Course, Politechnic Institute of Agueda, "Electric grid frequencimeter", by A. Marcos, C. Matos, N. Gamelas, R. Oliveira, T. Santos, supervised by Prof. Paulo Afonso, January 28-29 2013;
- Jury member, thematic project in Electronics and Digital Systems, Electrical Engineering Course, Politechnic Institute of Agueda, "Macro-particle accelerator", by A. Santos, C. Rodrigues, C. Miranda, G. Farias, R. Cândido, supervised by Prof. Paulo Afonso, January 28-29 2013;
- Jury member, thematic project in Electronics and Digital Systems, Electrical Engineering Course, Politechnic Institute of Agueda, "Traffic lights system", by B. Rocha, D. Pereira, F. Santos, J. Tavares, M. Ferreira, supervised by Prof. Margarida Urbano, January 28-29 2013;
- Jury member, thematic project in Electronics and Digital Systems, Electrical Engineering Course, Politechnic Institute of Agueda, "Parking lot management system", by A. Cardoso, J. Lima, R. Magalhães, R. Pinto, supervised by Prof. Margarida Urbano, January 28-29 2013;
- Jury member, thematic project in Electronics and Digital Systems, Electrical Engineering Course, Politechnic Institute of Agueda, "Lifter", by J. Branco, M. Antunes, R. Resende, S. Santos, supervised by Prof. Margarida Urbano, January 28-29 2013;
- Jury member, thematic project in Electronics and Digital Systems, Electrical Engineering Course, Politechnic Institute of Agueda, "Vending Machine", by C. Amorim, D. Pinheiro, F. Ferreira, J. Neto, R. Santos, supervised by Prof. Margarida Urbano, January 28-29 2013;
- Jury member, thematic projects in Electronics and Analog Systems of the Politechnic Institute of Agueda, 4 projects, January 31 2011;
- Jury member, thematic projects in Electronics and Analog Systems of the Politechnic Institute of Agueda, 4 projects, February 01 2011;

- Jury member (substitute), public examination of teaching and technical-scientific skills (“Provas públicas de competência pedagógica e técnico-científica”) of Fernanda de Madureira Coutinho, Polytechnic Institute of Coimbra, January 2012.

10 Supervision of PhD and Post-Doc studies

10.1 Post-Doc

- Ricardo Sousa, April/2014 to March/2015, “Server-based Real-Time Ethernet Communication Architecture for Cyber-Physical Systems”, IT/Aveiro;

10.2 PhD - Concluded

- On the Application of Optimal Control Techniques in Lossy Fieldbuses. Milton Armando Cunguara, University of Aveiro, Portugal. 1.Oct.2009 to 18.Feb.2014. Supervised by Tomás Oliveira e Silva (DETI, IEETA, University of Aveiro) and Paulo Pedreiras (DETI, IT, University of Aveiro);
- Enhanced Ethernet Switching Technology for Adaptive Hard Real-Time Applications. Rui Gabriel Viegas dos Santos, University of Aveiro, Portugal. 1/November/2006 to 12/Jul/2011. Supervised by Luis Almeida (FEUP, UP) and Paulo Pedreiras (DETI,UA);
- Real-Time Communications over Switched Ethernet Supporting Dynamic QoS Management. Ricardo Roberto Duarte Marau, University of Aveiro, Portugal, 1.Jan.2005 to 13.Nov.2009. Supervised by Luis Almeida (FEUP, UP) and Paulo Pedreiras (DETI,UA);

10.3 PhD - Ongoing

- Luís Emanuel Moutinho Silva, DETI/IT,UA, Aveiro, Portugal. Topic: Dynamic and Adaptive Resource Reservation in Complex Distributed Systems. Started in September/2015, expected completion during the second semester of 2018. Supervised by Paulo Pedreiras (DETI/IT,UA) and Luis Almeida (IT,FEUP).
- António Luís Ferreira Marques, ISEC, Coimbra, Portugal. Topic: Developing Safety Critical Applications based on the Flexible Time-Triggered Paradigm. Started in September/2008, expected completion during the second semester of 2012. Supervised by Luis Almeida (FEUP) and Paulo Pedreiras (DETI/IT,UA).

11 Scientific research projects

11.1 Coordination

- **Serv-CPS** - Server-based Real-Time Ethernet Communication Architecture for Cyber-Physical Systems (PTDC/EEA-AUT/122362/2010), supported by the Portuguese Government Foundation *Fundação para a Ciência e Tecnologia*. From Feb 2012 to Jan 2015 (36 months). Total funding of 119876 EUR. Principal Investigator.
- **HaRTES** - Hard Real-Time Ethernet Switching (PTDC/EEA-ACR/73307/2006), supported by the Portuguese Government Foundation *Fundação para a Ciência e Tecnologia*. From Jan 2009 to Dec. 2011 (36 months, concluded). Total funding of 90K EUR. Principal Investigator.

11.2 Researcher

- **ISCI** - “Intelligent Cooperative Sensing for Improved traffic efficiency” (FP7-ICT-2011-8, Project reference: 317671), funded by the European Union, 7th framework program ICT (ICT-8-6.7 - Cooperative systems for energy efficient and sustainable mobility). From 1/11/2012 to 15/04/2015. Total funding: 2,919,000 EUR;

- **FT4FTT-ETHERNET** - “MECANISMOS DE TOLERANCIA A FALLOS PARA SISTEMAS EMPOTRADOS DISTRIBUIDOS” (DPI2011-22992), funded by the Spanish Government - “Ministerio de Economía y Competitividad”. Started 1-1-2012.
- **PRODUTECH-PSI** - “NOVOS PRODUTOS E SERVIÇOS PARA A INDÚSTRIA TRANSFORMADORA”, funded by the “Sistema de Incentivos à I&DT”, integrated in the “Programa Operacional Temático Factores de Competitividade”, supported apoiado by the FEDER program in the scope of the “Quadro de Referência Estratégico Nacional”. Total funding: 7.460.018,84 EUR. University of Aveiro funding:82.200,00EUR. Researcher.
- **PRODUTECH-PTI** - “PRODUTECH-PTI: NOVOS PROCESSOS E TECNOLOGIAS INOVADORES PARA A FILEIRA DAS TECNOLOGIAS DE PRODUÇÃO”, funded by the “Sistema de Incentivos à I&DT”, integrated in the “Programa Operacional Temático Factores de Competitividade”, supported apoiado by the FEDER program in the scope of the “Quadro de Referência Estratégico Nacional”. Total funding: 7.395.213,26EUR. University of Aveiro funding: 335,194.58 EUR. May/2011 to Apr/2014. Researcher.
- **iLAND** - mIddLewAre for deterministic dynamically reconfigurable Networked embedded systems (ARTEMIS/2008/100026), supported by the European Commission. From 1/3/2009 to 29/2/2012. Total funding 282.636,90EUR. Investigator.
- **DHT-Mesh** - DHT-based services for increasing the Scalability of Highly available Wireless Mesh Networks (PTDC/EEA-TEL/104185/2008). Supported by the Portuguese Government Foundation *Fundação para a Ciência e Tecnologia*. From Jan 2011 to Dec. 2013. Total funding of 147048K EUR.
- **ACORD** – Adaptative Coordination of Robotic Teams (PTDC/EIA/70695/2006), supported by the Portuguese Government Foundation *Fundação para a Ciência e Tecnologia*. From Jan 2007 to Dec. 2009. Total funding of 95K EUR.
- **WiRia** - Project developed in the “Rede de Competência em Telecomunicações e Tecnologias de Informação”, sponsored by the Portuguese Innovation Agency. Started Apr. 2007 - Sept. 2008. Total funding of 50K EUR.
- **ARTISTDesign** - Network of Excellence on Embedded Systems Design, 2008-2011, proposal number IST-2008-214373, supported by the European Commission;
- **ARTIST2** - Network of Excellence on Embedded Systems Design, 2004-2008, proposal number IST-004527, supported by the European Commission. Funding: global 6.5M EUR, local 100k EUR;
- **ARTIST** - Advanced Real-Time Systems, carried between Apr. 2002 and Mar. 2006, proposal number IST-2001-34820, supported by the European Commission. Global funding, 3.9M EUR; local funding 80k;
- **DISCO** - Distributed Embeddable Systems for Control Applications, carried between Sept. 2000 and Aug. 2003, proposal number PCTI/1999/SRI/34244, supported by the Portuguese Government Foundation *Fundação para a Ciência e Tecnologia*. Global funding 65k EUR; local funding 50k EUR.
- **CIDER** - Communication Infrastructure for Dependable and Evolvable Real-Time Systems, carried between Oct. 2000 and Apr. 2003, proposal number POSI/1999/ CHS/33139, supported by the Portuguese Government Foundation *Fundação para a Ciência e Tecnologia*. Global funding 42k5 EUR; local funding 8k5 EUR.
- **CAMBADA** - Cooperative Autonomous Mobile robots Based on Advanced Distributed Architecture, carried 2003 and 2005, supported by the Portuguese Government Foundation *Fundação para a Ciência e Tecnologia* (POSI/ROBO/43908/2002). Total funding of 68K EUR.

11.3 Supervision of research grants

- Daniel António da Costa Dinis, ICSI project, March/2013-July/2013

11.4 Participation in review pannels of international projects

- DAGGERS - Data Aggregation in Embedded Real-Time Database Systems, submitted to “The Knowledge Foundation”, Mäster Samuelsgatan 60 S-111 21, Stockholm, Sweden. Sept/2013;

11.5 Participation in review pannels of national projects

- AeroIES - Integração Avançada de Estruturas e Sistemas, AICEP, SII&DT Co-promocao AAC 07/SI/2015, Sept/2015;

11.6 Participation in recruitment juries

- Member of the selection board of research grant Ref 678/2016, in the scope of the project “Portuguese C-ITS Corridor”, funded by “Brisa Inovação e Tecnologia”, Mar/2016;
- Member of the selection board of research grant Ref 565/14, in the scope of project FP7 project ICSI - Cooperative Intelligent Sensing for Improved traffic efficiency, Oct/2014;
- Member of the selection board of research grant Ref^a 525/2014, in the scope of project SI IDT n^o 07/SI/2012, Portugal, Jun/2014;
- Member of the selection board of research grant Ref^a 537/2014, in the scope of project ADI/38937, Portugal, Aug/2014;
- Member of the selection board of research grant Ref^a 536/2014, in the scope of project ADI/38937, Portugal, Aug/2014;

12 Participation in scientific events

12.1 Technical Program Comittee

- Member of the technical program committee of the "Communications Systems for Industrial and Factory Automation" Track, in the 42nd Annual Conference of the IEEE Industrial Electronics Society (IECON 2016), Florence, Italy, October 23-27, 2016;
- Member of the technical program committee of the NTMS Workshop on Wireless Sensor Networks: Architectures, Deployments, and Trends (WSN-ADT) 2016, in conjunction with NTMS'2016, Larnaca, Cyprus from 21-23 November 2016;
- Member of the Program Committee, “INForum - Simpósio de Informática”, “Comunicações e Redes de Computadores” track, Lisbon, Portugal, Sept. 8,9 2016;
- Member of the Program Committee, “INForum - Simpósio de Informática”, “Sistemas Embebidos e de Tempo Real” track, Lisbon, Portugal, Sept. 8,9 2016;
- Member of the Program Committee of the "Industry 4.0 in Food and Agriculture sector" Workshop, part of the 18th International Conference on Interoperability for Enterprise Systems and Applications (I-ESA 2016), Guimarães, Portugal, March 29-30 2016;
- Member of the Program Committee of the 21st IEEE International Conference on Emerging Technologies and Factory Automation (ETFA 2016), Track 3 - Real-Time and (Networked) Embedded Systems (RTNES), Sep. 6-9, 2016, Berlin;
- Member of the Program Committee of the 11th IEEE International Symposium on Industrial Embedded Systems (SIES'16), May 23-25 in Krakow, Poland;
- Member of the Program Committee of the “14a Conferência sobre Redes de Computadores”, CRC2015, Nov. 19-20, Evora, Portugal;

- Member of the Program Committee of the “Embedded and Real-Time Systems” track of INForum 2015;
- Member of the Program Committee of the 3rd Conference on Electronics Telecommunications and Computers (CETC 2016), Feb. 2016, Lisbon, Portugal;
- Member of the technical program committee of the NTMS Workshop on Wireless Sensor Networks: Architectures, Deployments, and Trends (WSN-ADT) 2015, in conjunction with NTMS’2015, 26-29 July 2015, Paris, France;
- Member of the technical program committee of the 7th Workshop on Adaptive and Reconfigurable Embedded Systems, organized in conjunction with CPSWeek 2015, Seattle, WA, USA, April 13, 2015;
- Member of the technical program committee of the Work-in-Progress Session of the 20th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA 2015 WiP);
- Member of the technical program committee of the "Industrial Communication Systems" track of the 20th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA 2015);
- Member of the Program Committee of the 10th IEEE International Symposium on Industrial Embedded Systems (SIES’15), June 2015, Siegen, Germany;
- Member of the technical program committee of the IV Simpósio Brasileiro de Engenharia de Sistemas Computacionais, 3-7 Nov. 2014, Universidade Federal do Amazonas - Manaus/AM (SBESC 2014) ;
- Member of the Program Committee of the “Embedded and Real-Time Systems” track of INForum 2014;
- Member of the Technical Program Committee of the 6th Workshop on Adaptive and Reconfigurable Embedded Systems (APRES 2014), Berlin, April 14, 2014;
- Member of the Program Committee of the 9th IEEE International Symposium on Industrial Embedded Systems (SIES’14), Pisa, Italy, June 18 to 20, 2014;
- Member of the technical program committee of the Work-In-Progress Session of the 19th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA WiP 2014);
- Member of the technical program committee of the "Real-Time and Networked Embedded Systems" track of the 19th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA 2014);
- Member of the technical program committee of the "Industrial Communication Systems" track of the 19th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA 2014);
- Member of the technical program committee of the 10th IEEE International Workshop on Factory Communication Systems (WFCS 2014);
- Member of the technical program committee of the Work-in-Progress Session of the 10th IEEE International Workshop on Factory Communication Systems (WFCS 2014 WiP);
- Member of the technical program committee of the NTMS Workshop on Wireless Sensor Networks: Architectures, Deployments, and Trends (WSN-ADT’2014), Dubai- UAE from 30 March to 2 April 2014, in conjunction with NTMS’2014;
- Member of the technical program committee of the III Simpósio Brasileiro de Engenharia de Sistemas Computacionais, 4 a 8 de novembro de 2013 - Universidade Federal Fluminense - Niterói/RJ (SBESC 2013);
- Member of the technical program committee of the Work-In-Progress Session of the 18th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA WiP 2013);

- Member of the technical program committee of the "Industrial Communication Systems" track of the 18th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA 2013);
- Member of the Program Committee of the "13a Conferência sobre Redes de Computadores", November 14, 15 2013, Leiria, Portugal;
- Member of the Program Committee of the "Embedded and Real-Time Systems" track of INForum 2013;
- Member of the Program Committee of the 8th IEEE International Symposium on Industrial Embedded Systems (SIES'13), Porto, Portugal, June 19 to 21 2013;
- Member of the technical program committee of the "Workshop de Sistemas Operacionais" (WSO'2012), part of the "Simpósio Brasileiro de Engenharia de Sistemas Computacionais", November 5-9, Natal/RN, Brazil;
- Member of the technical program committee of the 7th IEEE International Symposium on Industrial Embedded Systems Work-in-Progress 2012 (SIES2012 WiP) ;
- Member of the technical program committee of the 7th IEEE International Symposium on Industrial Embedded Systems 2012 (SIES2012) ;
- Member of the technical program committee of the Work-In-Progress Session of the 17th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA 2012 WiP 2012);
- Member of the technical program committee of the "Industrial Communication Systems" track of the 17th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA 2012);
- Member of the technical program committee of the Workshop on Wireless Sensor Networks: Architectures, Deployments, and Trends (WSN-ADT) 2011, Turkey 09-10 May 2012, in conjunction with NTMS'2012.
- Member of the technical program committee of the WiP - Industry Practice - Workshops of the 16th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA-WiP 2011);
- Member of the technical program committee of the "Workshop de Sistemas Operacionais" (WSO'2011), part of the "Simpósio Brasileiro de Engenharia de Sistemas Computacionais", November 7-11, Florianópolis, Brazil;
- Member of the technical program committee of the 32nd IEEE Real-Time Systems Symposium (RTSS 2011), November 29 - December 2, 2011, in Vienna, Austria.
- Member of the technical program committee of the 3rd Workshop on Adaptive and Reconfigurable Embedded Systems (APRES 2011), part of the Cyber-Physical Systems Week 2011;
- Member of the technical program committee of the Real-Time and (Networked) Embedded Systems" track of the 16th IEEE International Conference on Emerging Technologies and Factory Automation (RTNES 2011);
- Member of the technical program committee of the IEEE Symposium on Industrial Embedded Systems 2011 (SIES2011) ;
- Member of the technical program committee of the IEEE Symposium on Industrial Embedded Systems 2011 Work-inProgress Session (SIES2011 WiP) ;
- Member of the technical program committee of the 4th IFIP International Conference on New Technologies, Mobility and Security (NTMS 2011), February 2011, Paris., France;
- Member of the technical program committee of the 6th International Symposium on Wireless Sensor Network Technologies and Applications for Smart Space (WTA 2010);

- Member of the technical program committee of the “VII Workshop de Sistemas Operacionais (WSO’2010)” (Brazil);
- Member of the technical program committee of the IEEE Symposium on Industrial Embedded Systems (SIES) 2010;
- Member of the technical program committee of the Real-Time and (Networked) Embedded Systems" track of the 15th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA 2010);
- Member of the technical program committee of the 5th International Symposium on Smart Home (SH 2010) (held in conjunction with FutureTech 2010);
- Member of the technical program committee of the Workshop on Adaptive and Reconfigurable Embedded Systems (APRES 2009) (satellite event of RTAS 2009);
- Member of the technical program committee of the 4th International Symposium on Smart Home (SH-09);
- Member of the technical program committee of the IEEE Symposium on Industrial Embedded Systems (SIES) 2009;
- Member of the technical program committee of the “VI Workshop de Sistemas Operacionais (WSO’2009)” (Brazil);
- Member of the technical program committee of the Real-Time and (Networked) Embedded Systems" track of the 14th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA 2009);
- Member of the technical program committee of the 3rd International Symposium on Smart Home (SH-08);
- Member of the technical program committee of the WiP session of the 7th IEEE International Workshop on Factory Communication Systems (WFCS08)
- Member of the technical program committee of the 2008 Conference on Future Generation Communication and Networking (FGCN 2008);
- Member of the technical program committee of the Real-Time and (Networked) Embedded Systems" track of the 13rd IEEE International Conference on Emerging Technologies and Factory Automation (ETFA 2008);
- Member of the technical program committee of the “V Workshop de Sistemas Operacionais (WSO’2008)” (Brazil);
- Member of the technical program committee of the Workshop on Adaptive and Reconfigurable Embedded Systems (APRES 2008) (satellite event of RTAS 2008);
- Member of the technical program committee of the 16th International Workshop on Parallel and Distributed Real-Time Systems (WPDRTS 2008);
- Member of the technical program committee of the IEEE Third International Symposium on Industrial Embedded Systems (SIES’2008);
- Member of the technical program committee of the 2007 Conference on Future Generation Communication and Networking (FGCN 2007);
- Member of the technical program committee of the 2nd International Workshop on Smart Home (IWSH-07);
- Member of the technical program committee of the Real-Time and (Networked) Embedded Systems" track of the 12nd IEEE International Conference on Emerging Technologies and Factory Automation (ETFA 2007);

- Member of the technical program committee of the 15th International Workshop on Parallel and Distributed Real-Time Systems (WPDRTS 2007);
- Member of the program committee of the 14th International Workshop on Parallel and Distributed Real-Time Systems (WPDRTS 2006);
- Member of the program committee of the Real-Time and (Networked) Embedded Systems track of 10th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA 2005);
- Member of the program committee of RTN 2004, the 16th Euromicro Conference on Real-Time Systems satellite workshop on Real-Time Networks.

12.2 Event organization

- Member of the Steering Committee of the 13th IEEE International Workshop on Factory Communication Systems (WFCS2017);
- Technical Program Co-Chair of the 1st EAI International Conference on Future Intelligent Vehicular Technologies (Future 5V 2016), September 15–16, 2016, Porto, Portugal;
- General Co-Chair of the 12th IEEE International World Conference on Factory Communication Systems (WFCS2016);
- Technical Program Co-Chair of the 11th IEEE International World Conference on Factory Communication Systems (WFCS2015);
- Member of the local organization committee of the “12^a Conferência sobre Redes de Computadores” CRC 2012, Aveiro, Portugal, 15-16 November 2012;
- Co-chair of the 4th Workshop on Adaptive and Reconfigurable Embedded Systems (APRES 2012), 16-19 April 2012, Beijing, China;
- Work-in-Progress Co-Chair of the 9th IEEE International Workshop on Factory Communication Systems (WFCS2012), May 21-24, 2012 Lemgo/Detmold, Germany;
- Co-organizer of the “Networks for Real-Time Embedded Systems 2011” (NERES 2011), November 10-11, 2011 University of Porto, Portugal;
- Member of the local organization committee of the “CyberRescue@RTSS2009” competition, organized in the scope of the RTSS - IEEE Real-Time Systems Symposium 2009, Washington DC, 01-04/12/2009;
- Member of the local organization committee of the “CiberMouse@RTSS2008” competition, organized in the scope of the 29th IEEE Real-Time Systems Symposium (RTSS’08);
- Member of the local organization committee of the “CiberMouse@RTSS2007” competition, organized in the scope of the 28th IEEE Real-Time Systems Symposium (RTSS’07);
- Co-organizer of the ARTIST 2 Workshop in Flexible systems, Aveiro, March 2007
- Member of the local organization committee of the “CiberMouse@RTSS2006” competition, organized in the scope of the 27th IEEE Real-Time Systems Symposium (RTSS’06);
- Member of the local organization committee of the 3rd International Workshop on Embedded Systems, Internet Programming and Industrial IT, held at the University of Aveiro, October 16-17 2004;
- Member of the local organization committee of the 5th IFAC International Conference on Fieldbus Systems and their Applications (FET’03), carried at the University of Aveiro, July 7-9 2003;
- Member of the local organization committee of the 5th IFAC International Symposium on Intelligent Components and Instruments for Control Applications (SICICA’03), carried at the University of Aveiro, July 9-11 2003.

12.3 Session chair

- Session Chair of the of the “Wireless Networks for Automation System” session of the 10th IEEE International Workshop on Factory Communication Systems (WFCS2014);
- Session Chair of ETFA 2013 WiP - IEEE International Conference on Emerging Technology & Factory Automation, Cagliari, Italy, 10-13 September 2013;

12.4 Panel Member

- Member of the panel on “Communications in Avionics”, part of the program of the 10th IEEE International Workshop on Factory Communication Systems (WFCS 2014);

12.5 Participation as a jury member

- Member of the jury of the Micro-Mouse robotics competition (Concurso Micro-Rato), University of Aveiro, May. 2009
- Member of the jury of the Micro-Mouse robotics competition (Concurso Micro-Rato), University of Aveiro, Apr. 2008
- Member of the jury of the Micro-Mouse robotics competition (Concurso Micro-Rato), University of Aveiro, Apr. 2003

13 Reviewing activity

- Elsevier Journal of Systems Architecture (Mar/2016)
- 31st ACM/SIGAPP Symposium on Applied Computing, Pisa, Italy April 4-8, 2016;
- Springer Real-Time Systems journal (Out/2015);
- 2015 IEEE 18th International Conference on Intelligent Transportation Systems (ITSC 2015);
- IEEE Transactions on Industrial Informatics (Apr/2015)
- Springer Real-Time Systems journal (Feb/2015)
- IEEE Transactions on Industrial Informatics (Set/2014)
- Springer Real-Time Systems Journal (Jul/2014)
- IEEE Transactions on Industrial Informatics (Jun/2014)
- 20th IEEE International Conference on Embedded and Real-Time Computing Systems and Applications (RTCSA 2014)
- IEEE Transactions on Industrial Informatics (Apr/2014)
- Elsevier Journal of Systems Architecture (Mar/2014)
- Springer Real-Time Systems Journal (Feb/2014)
- IEEE Transactions on Embedded Computing Systems, Dec/2013
- IEEE Transactions on Industrial Informatics, Nov/2013
- Journal of Systems Architecture, Elsevier, Aug/2013
- IEEE Transactions on Industrial Informatics, Jul/2013
- StudECE2013, 2nd PhD. Students Conference in Electrical and Computer Engineering
- 39th Annual Conference of the IEEE Industrial Electronics Society (IECON'13)

- IEEE Transactions on Industrial Informatics, Apr/2013
- Journal of Systems Architecture, Elsevier, Apr/2013
- 22nd IEEE International Symposium on Industrial Electronics (ISIE 2013)
- Design, Automation and Test in Europe 2012 (DATE12)
- “12^a Conferência sobre Redes de Computadores” (CRC 2012)
- 38th Annual Conference of the IEEE Industrial Electronics Society (IECON’12)
- Springer Real-Time Systems Journal (January, June, July, October 2012)
- 18th IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS 2012)
- 37th Annual Conference of the IEEE Industrial Electronics Society (IECON’11)
- International Conference on Embedded Software (EMSOFT 2011)
- Textile Research Journal, March 2011
- 9th IEEE International Conference on Industrial Informatics (INDIN’2011)
- IEEE Transactions on Industrial Informatics (Jan/2011, Feb/2011, May/2011, Jul/2011)
- ACM/IEEE Second International Conference on Cyber-Physical Systems (ICCPS 2011)
- 17th IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS 2011)
- Design, Automation and Test in Europe 2011 (DATE11)
- 14th International Conference On Principles Of Distributed Systems (OPODIS’10)
- Journal of Systems Architecture, Elsevier, July/2010
- Workshop on Adaptive Resource Management (WARM 2010), associated with CPSWEEK 2010
- 8th IEEE International Conference on Industrial Informatics (INDIN’2010)
- 16th IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS 2010)
- Design, Automation and Test in Europe 2010 (DATE10)
- Springer Real-Time Systems Journal (Nov and Dec 2009)
- 2nd Workshop on Compositional Theory and Technology for Real-Time Embedded Systems (Co-located with RTSS 2009)
- IEEE Transactions on Industrial Informatics (Feb/2009, Apr/2009, May/2009, Aug/2009)
- 21th Euromicro Conference on Real-Time Systems (ECRTS’09)
- 15th IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS 2009)
- Design, Automation and Test in Europe 2009 (DATE09)
- IEEE Transactions on Industrial Informatics (Nov/2008)
- Communications in Computer and Information Science, Springer, (CCIS, Nov/2008)
- IEEE Transactions on Industrial Informatics (Set/2008)
- Springer Real-Time Systems Journal (Aug 2008)
- 29th IEEE Real-Time Systems Symposium (RTSS’08)
- IEEE Transactions on Industrial Informatics (Jun/2008)

- 27th International Symposium on Reliable Distributed Systems (IEEE SRDS 2008)
- 20th Euromicro Conference on Real-Time Systems (ECRTS'08)
- IEEE International Conference on Sensor Networks, Ubiquitous, and Trustworthy Computing (SUTCO8)
- Design, Automation and Test in Europe (DATE08)
- 7th IFAC International Conference on Fieldbuses and nETworks in industrial and embedded systems (FET'07)
- IEEE Second International Symposium on Industrial Embedded Systems - SIES'2007
- IEEE Transactions on Industrial Informatics (2007)
- 5th IEEE International Conference on Industrial Informatics (INDIN07)
- 15th International Workshop on Parallel and Distributed Real-Time Systems (WPDRTS 2007)
- IEEE Transactions on Computers (2006)
- IEEE Transactions on Industrial Informatics (2006)
- 32nd Annual Conference of the IEEE Industrial Electronics Society (IECON'06)
- 10th annual RoboCup International Symposium (RoboCup'06)
- 14th International Workshop on Parallel and Distributed Real-Time Systems (WPDRTS 2006)
- 6th IEEE International Workshop on Factory Communication Systems (WFCS'06);
- 12th IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS 2006)
- 9th International Conference on Principles of Distributed Systems December 12–14, 2005, Pisa, Italy (OPODIS 2005)
- IEEE International Conference on Emerging Technologies and Factory Automation (ETF A 2005)
- VII Workshop de Tempo Real 2005 (2005 WTR)
- 17th Euromicro Conference on Real-Time Systems (ECRTS'05);
- IEEE Transactions on Industrial Informatics, Special Section on Factory Communication Systems (Jan/2005)
- IEICE Transactions on Information and Systems (Mar/2005 Edition)
- 25th IEEE International Real-Time System Symposium (RTSS'04);
- 4th ACM International Conference on Embedded Software (EMSOFT 2004)
- 16th Euromicro Conference on Real-Time Systems satellite workshop on Real-Time Networks (RTN 2004);
- 5th IEEE International Workshop on Factory Communication Systems (WFCS'04);
- 10th IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS 2004)
- Workshop de Tempo Real (WTR2004) / 22^o Simpósio Brasileiro de Redes de Computadores (SBRC2004)
- 5th IFAC/EURON Symposium on Intelligent Autonomous Vehicles (IAV2004)
- 11th IFAC Symposium on Information Control Problems in Manufacturing (INCOM'04)
- 16th Euromicro Conference on Real-Time Systems (ECRTS'04);

- 11th IFAC Symposium on Information Control Problems in Manufacturing (IECOM'04)
- 12st RTS Embedded Systems (RTS'04);
- 15th Euromicro Conference on Real-Time Systems (ECRTS'03);
- 5th IFAC International Conference on Fieldbus Systems and their Applications (FET'03);
- 11st RTS Embedded Systems (RTS'03);
- 23rd IEEE International Real-Time System Symposium (RTSS'02);
- 4th IEEE International Workshop on Factory Communication Systems (WFCS'02);
- 14th Euromicro Conference on Real-Time Systems (ECRTS'02);
- 4th IFAC Conference on Fieldbus Technology (FET'01);
- 13rd Euromicro Conference on Real-Time Systems (ERTS'01);
- 22nd IEEE Real Time System Symposium (RTSS'01);
- 8th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA'01).

14 Honors and awards

- Winner of the 2015 Edition of the "IDEAS CONTEST FOR ELECTRONIC PRODUCTS", promoted by Bresimar Automação, Aveiro, Portugal, with the project "Applying Estimation Techniques to the TekOn Sensors", authored by Diogo Andril da Silva Branco (DETI/UA/IT) and supervised by Paulo Pedreiras (DETI/UA/IT);
- Winner of the Open Mind ESEGUR 2014 - Innovation on the Security Sector award, "IstreamS: Intelligent stream management for Security applications", by Tiago Silva (FEUP/IT) and Reanto Lopes (DETI/UA/IT), supervised by Luis Almeida (FEUP/IT) and Paulo Pedreiras (DETI/UA/IT);
- **Best paper award:** A. Antunes, P. Pedreiras, L. Almeida, A. Mota. Dynamic Rate Adaptation in Distributed Computer Control Systems. ANIPLA 2006 – International Congress of the Italian National Association for Automation, Rome, Italy, 13-15 November, 2006;
- Member of the ROBOCUP Middle-Size robotic team CAMBADA, champions of the Portuguese MSL league in 2007-2011 and winners of the RoboCup World Championship in 2008.

15 Foreign languages

- Portuguese - mother tongue;
- English - fluent;
- French - basic.