

Curriculum Vitae



Personal Information

Name **Couceiro, Micael Santos**
Address Coimbra, Portugal
Phone (+ 351) ***** Webpages <http://www.isec.pt/~michael>
E-mail micaelcouceiro@gmail.com <http://www.isr.uc.pt/~micaelcouceiro/>
https://www.researchgate.net/profile/Micael_Couceiro/
Nationality Portuguese
Date of birth 17/04/1984
Gender Male

Occupational field **Electrical and Computer Engineering**

Work experience

Date 01/01/2014 →
Occupation or position held Project Manager and Researcher (CEO)
Main activities and responsibilities

- Preparation of proposals for national and international funding
- Research and technological development in the many fields of engineering, including robotics and automation, as well as all components within human society, namely the quality of life, sports and health
- Consulting, outsourcing and training services related to the aforementioned areas

Name and address of employer Ingeniarius, Lda.
Type of business or sector Engineering sector / Technological development
Address Mealhada, Portugal
Date 01/04/2011 – 31/12/2013
Occupation or position held Researcher (General Coordinator)
Main activities and responsibilities

- Research in Mobile Robotics and Biomimetics
- Revise scientific works submitted to top conferences and journals in multidisciplinary fields (e.g. robotics, automation, electronics, applied mathematics, sports sciences)
- Supervision of B.Sc. and M.Sc. students in Electrical and Biomedical Engineering
- Supervision of B.Sc. and M.Sc. students Scholarships in the industry

Name and address of employer Engineering Institute of Coimbra (ISEC) / RoboCorp
Type of business or sector Superior institute of engineering and applied research
Address Coimbra, Portugal
Date 01/08/2009 →
Occupation or position held Researcher

Main activities and responsibilities	<ul style="list-style-type: none"> • Research in Multi-Robot Systems and Swarm Robotics • Revise scientific works submitted to top conferences and journals in robotics • Ph.D. Scholarship granted by the Portuguese Foundation for Science and Technology (FCT), under the FCT reference SFRH/BD /73382/2010 (August 2011 to April 2014) • Member of the CHOPIN R&D project funded by the COMPETE program from the Portuguese Foundation for Science and Technology (FCT), under the contract number FCOMP-01-0124-FEDER-020377, with the FCT reference PTDC/EEA-CRO/119000/2010
Name and address of employer	Institute of Systems and Robotics (ISR) / University of Coimbra (UC)
Type of business or sector	Faculty of sciences and technology
Address	Coimbra, Portugal
Date	25/04/2013 – 28/06/2013
Occupation or position held	Invited Researcher
Main activities and responsibilities	<ul style="list-style-type: none"> • Research in Evolutionary Robotics • Application of Computer Software Engineering (extending Webots/e-pucks cross-compatibility) • Member of the Organization Committee of the 23rd IEEE International Symposium on Robot and Human Interactive Communication (IEEE RO-MAN 2014)
Name and address of employer	Heriot Watt University / Robotics Lab
Type of business or sector	School of Mathematical and Computer Sciences
Address	Edinburgh, United Kingdom
Date	16/07/2012 – 27/07/2012
Occupation or position held	Lecturer and Organizer
Main activities and responsibilities	<ul style="list-style-type: none"> • Lecturer and organizer of a professional course in Robotics “ISEC Summer School 2012” - Provide high school students with the opportunity to learn how to build and program mobile robots
Name and address of employer	Engineering Institute of Coimbra (ISEC)
Type of business or sector	Superior institute of engineering
Address	Coimbra, Portugal
Date	01/10/2010 – 31/07/2011
Occupation or position held	Invited Lecturer
Main activities and responsibilities	<ul style="list-style-type: none"> • Lecturer of Robotics (CET Automation, Robotics and Industrial Control) • Lecturer of Microcontrollers (CET Automation, Robotics and Industrial Control) • Lecturer of Digital Systems (B.Sc. in Electrical Engineering)
Name and address of employer	Engineering Institute of Coimbra (ISEC)
Type of business or sector	Superior institute of engineering
Address	Coimbra, Portugal
Date	19/09/2011 – 23/09/2011
Occupation or position held	Lecturer and Organizer
Main activities and responsibilities	<ul style="list-style-type: none"> • Lecturer and organizer of a professional course in Industrial Automation - Provide BS.c. students with the opportunity to learn how to write GRAFCET and Ladder diagrams to program PLCs
Name and address of employer	Engineering Institute of Coimbra (ISEC)
Type of business or sector	Superior institute of engineering
Address	Coimbra, Portugal
Date	18/07/2011 – 30/07/2011
Occupation or position held	Lecturer and Organizer
Main activities and responsibilities	<ul style="list-style-type: none"> • Lecturer and organizer of a professional course in Robotics “ISEC Summer School 2011” - Provide high school students with the opportunity to learn how to build and program mobile robots
Name and address of employer	Engineering Institute of Coimbra (ISEC)
Type of business or sector	Superior institute of engineering
Address	Coimbra, Portugal

Date 05/03/2011 – 18/06/2011
 Occupation or position held Lecturer and Organizer
 Main activities and responsibilities • Lecturer and organizer of a professional course in Robotics “ISEC Weekend School 2011” - Provide high school students with the opportunity to learn how to build and program mobile robots
 Name and address of employer Engineering Institute of Coimbra (ISEC)
 Type of business or sector Superior institute of engineering
 Address Coimbra, Portugal

Date 19/07/2010 – 30/07/2010
 Occupation or position held Lecturer and Organizer
 Main activities and responsibilities • Lecturer and organizer of a professional course in Robotics “ISEC Summer School 2010” - Provide high school students with the opportunity to learn how to build and program mobile robots, promoting industrial visits
 Name and address of employer Engineering Institute of Coimbra (ISEC) / Technological Center of Ceramics and Glass (CTCV)
 Type of business or sector Superior institute of engineering and industrial instruction unit
 Address Coimbra, Portugal

Date 01/03/2010 – 31/07/2010
 Occupation or position held Invited Lecturer
 Main activities and responsibilities • Lecturer of Digital Systems (BS.c. in Electrical Engineering)
 Name and address of employer Engineering Institute of Coimbra (ISEC)
 Type of business or sector Superior institute of engineering
 Address Coimbra, Portugal

Date 02/03/2009 – 31/12/2010
 Occupation or position held Instructor and Organizer
 Main activities and responsibilities • Instructor and organizer of the “Pense Indústria” initiative - Provide high school students with the opportunity to learn robotics, CNC Design, CAD, prototyping, nanotechnology, aerodynamics, Information Systems, Energy and others.
 Name and address of employer Technological Center of Ceramics and Glass (CTCV)
 Type of business or sector Education
 Address Center region of Portugal

Date 13/01/2009 – 17/04/2009
 Occupation or position held Invited Lecturer
 Main activities and responsibilities • Lecturer of Industrial Automation (CET Automation)
 Name and address of employer Engineering Institute of Coimbra (ISEC)
 Type of business or sector Superior institute of engineering
 Address Coimbra, Portugal

Date 08/01/2009 – 07/07/2009
 Occupation or position held Research Fellowship
 Main activities and responsibilities • Development of new technologies to Intelligent Transportation Systems (ITS) - Full development of both hardware and firmware for the control of autonomous vehicles
 Name and address of employer Pedro Nunes Institute (IPN)
 Type of business or sector Research institute of science and technology
 Address Coimbra, Portugal

Date 01/01/2008 – 01/02/2009
 Occupation or position held Tutor

Main activities and responsibilities	• Tutoring engineering disciplines - C/C++ Programming, Microcontrollers, MatLab, Signal Processing and Digital Systems.
Name and address of employer	educa.plenitus
Type of business or sector	Center of tutoring and instruction
Address	Coimbra, Portugal
Date	07/05/2003 – 17/11/2003
Occupation or position held	Machine Operator
Main activities and responsibilities	• Manufacturing and quality control of gearboxes
Name and address of employer	RENAULT, CACIA Lda.
Type of business or sector	Automobile sector
Address	Aveiro, Portugal

Education and training

Date	01/09/2010 – 10/04/2014
Title of qualification awarded	Ph.D. on Electrical and Computer Engineering (<i>Thesis</i>)
Principal subjects / occupational skills covered	• Thesis: Evolutionary Robot Swarms Under Real-World Constraints
Name and type of organisation providing education and training	Institute of Systems and Robotics (ISR) / University of Coimbra (UC)
Level in national or international classification	“Distinction and honors, by unanimity.”
Date	01/09/2009 – 01/09/2010
Title of qualification awarded	Ph.D. in Electrical and Computer Engineering (<i>Curricular component</i>)
Principal subjects / occupational skills covered	<ul style="list-style-type: none"> • Multi-Robot Systems (score: 18/20) • Intelligent Control (score: 17/20) • Cognitive Vision (score: 19/20) • Computational Techniques of Estimation, Detection and Identification (score: 19/20)
Name and type of organisation providing education and training	Institute of Systems and Robotics (ISR) / University of Coimbra (UC)
Date	01/09/2009 – 01/03/2010
Title of qualification awarded	Initial Teacher Training
Name and type of organisation providing education and training	Technological Center of Ceramics and Glass (CTCV)
Level in national or international classification	96/100
Date	01/08/2008 – 01/04/2010
Title of qualification awarded	M.Sc. in Automation and Communications in Energy Systems, Specialization in Industrial Systems
Principal subjects / occupational skills covered	<ul style="list-style-type: none"> • Thesis: Development and Control of Biologically Inspired Flying Robots (score: 19/20) • Domotics (score: 18/20)
Name and type of organisation providing education and training	Engineering Institute of Coimbra (ISEC)
Level in national or international classification	18/20
Date	01/09/2006 – 01/07/2008
Title of qualification awarded	Habilitation (Licenciatura) in Electrical Engineering, Automation and Communications

Principal subjects / occupational skills covered

- Project: Simulation and Implementation of a Robotic Bird (SIRB) (score: 19/20)
- Digital Control (score: 19/20)
- Electronics Complements (score: 19/20)

Name and type of organisation providing education and training

Engineering Institute of Coimbra (ISEC)

Level in national or international classification

17/20

Date

01/09/2002 – 01/07/2006

Title of qualification awarded

B.Sc. in Electrical Engineering, Automation

Principal subjects / occupational skills covered

- Project: Human Head Simulator (HHSim) (score: 18/20)

Name and type of organisation providing education and training

Engineering Institute of Coimbra (ISEC)

Level in national or international classification

15/20

Date

01/02/2006 – 01/07/2006

Title of qualification awarded

CS-PLC1 – GRAFCET and Ladder programming

Principal subjects / occupational skills covered

- Automation and Robotics

Name and type of organisation providing education and training

Engineering Institute of Coimbra (ISEC)

Level in national or international classification

15/20

Personal skills and competences

Mother tongue

Portuguese

Other languages

Self-assessment

European level (*)

	Understanding				Speaking				Writing	
	Listening		Reading		Spoken interaction		Spoken production		Written production	
English	B2	Independent user	C1	Proficient user	C1	Proficient user	C1	Proficient user	C1	Proficient user
French	B2	Independent user	C1	Proficient user	B2	Independent user	B2	Independent user	B2	Independent user

(*) [Common European Framework of Reference \(CEF\) level](#)

Social skills and competences

- Able to work cooperatively
- Self-motivated
- Understands conflict management
- Attentive to detail
- Able to work under tight deadlines
- Able to network effectively

Organizational skills and competences

- Multi-tasking capability to work on various projects at the same time
- Analytical thinking necessary to analyze a situation and come forward with a logical solution
- Good communication and teamwork skills
- Necessary decision-making
- Natural leadership ability

- Mastery of Windows solutions (Operating System, Office, ...)
 - Mastery of software for identification, control and simulation (MatLab and Simulink)
 - Mastery of C, C++, Delphi and VHDL
 - Mastery of PLC programming Omron and Siemens (Grafcet and Ladder)
 - Mastery of Microcontrollers, Arduino, PICs e FPGAs
 - Good knowledge of Linux Operating System
 - Good knowledge of graphical applications (Adobe Creative Suite, Movie Maker, Pinnacle Studio)
 - Good knowledge of technical design (AutoCad, SolidWorks, OrCad)
 - Good knowledge of Assembly and Java
 - Good knowledge of implementing local networks
- Technical skills and competences
- Casual music (play guitar, write music)
 - Casual drawing
- Artistic skills and competences
- Casual sports (football, fitness, ...)
 - Knowledge on the game industry as a regular consumer and also as a casual developer (DarkBasic)
 - Knowledge on the film industry as a regular consumer
- Other skills and competences
- Private vehicle (B)
- Driver's License

Other Activities

Date	Description	Organizer
2013	Presentation of the paper " <i>The CHOPIN project: Cooperation between Human and rObotic teams in catastroPhic INcidents</i> " in the IEEE International Symposium on Safety, Security, and Rescue Robotics (SSRR'2013), Linköping, Sweden.	IEEE
2013	Presentation of the paper " <i>Multi-Sensor Fusion and Classification with Mobile Robots for Situation Awareness in Urban Search and Rescue using ROS</i> " in the IEEE International Symposium on Safety, Security, and Rescue Robotics (SSRR'2013), Linköping, Sweden.	IEEE
2013	Presentation of the paper " <i>From the individual to the collective analysis at the football game</i> " in the Mathematical Methods in Engineering International Symposium (MME'2013), Porto, Portugal.	Engineering Institute of Porto
2013	Presentation of the paper " <i>Fault-Tolerance Assessment of a Darwinian Swarm Exploration Algorithm under Communication Constraints</i> " in the IEEE International Conference on Robotics and Automation (ICRA'2013), Karlsruhe, Germany.	IEEE
2013	Presentation of the paper " <i>A Collective Robotic Architecture in Search and Rescue Scenarios</i> " in the ACM 28th Symposium on Applied Computing (SAC'2013), Coimbra, Portugal.	ACM Engineering Institute of Coimbra Institute of Systems and Robotics
2012	Presentation of the paper " <i>Multi-Robot Foraging based on Darwin's Survival of the Fittest</i> " in the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS'2012), Algarve, Portugal.	IEEE / RSJ Institute of Systems and Robotics
2012	Presentation of the paper " <i>Extending the fractional order Darwinian particle swarm optimization to segmentation of hyperspectral images</i> " in the SPIE Image and Signal Processing for Remote Sensing, Edinburgh, United Kingdom.	SPIE
2012	Presentation of the paper " <i>Introducing the Fractional Order Robotic Darwinian PSO</i> " in the 9th International Conference on Mathematical Problems in Engineering, Aerospace and Sciences (ICNPAA'2012), Vienna, Austria.	Vienna University of Technology

2012	Presentation of the paper " <i>Small and Compact Mobile Robots - Surveying and Comparing Platforms</i> " in the International Conference Automatics'2012, FA, Anniversary conference "50 Years Education in Automatics, Sozopol, Bulgaria.	Sofia Faculty of Automatics
2012	Speaker in the keynote session " <i>RoboCorp –Multidisciplinary Research</i> " in the Feira de Engenharia de Coimbra (FENGE'2012), Coimbra, Portugal.	Student Union of the Engineering Institute of Coimbra RoboCorp
2012	Presentation of the work " <i>MRS Over Unreliable MANETs</i> " in the MRL First Annual Workshop, Aldeia do Sol, Mortágua, Portugal.	Mobile Robotics Laboratory Institute of Systems and Robotics
2011	Presentation of the paper " <i>Statistical Significance Analysis of the R-DPSO - Towards an Understanding of the Relationship Between the Population of Robots and the Maximum Communication Distance</i> " in the International Symposium on Computational Intelligence for Engineering Systems (ISCIES'2011), Coimbra, Portugal.	Engineering Institute of Coimbra
2011	Presentation of the paper " <i>Cooperative Transportation of an Object based on Fractional Order Controllers</i> " in the Fractional Signals and Systems International Symposium (FSS'2011), Coimbra, Portugal.	Engineering Institute of Coimbra
2011	Presentation of the paper " <i>Fractional Order Darwinian Particle Swarm Optimization</i> " no Fractional Signals and Systems International Symposium (FSS'2011), Coimbra, Portugal.	Engineering Institute of Coimbra
2011	Speaker in the debate " <i>Sports Engineering – Why? Why? How?</i> " in the Feira de Engenharia de Coimbra (FENGE'2011), Coimbra, Portugal.	Student Union of the Engineering Institute of Coimbra RoboCorp
2011	Speaker in the debate " <i>Engineering in the Past and the Present</i> " na Feira de Engenharia de Coimbra (FENGE'2011), Coimbra, Portugal.	Student Union of the Engineering Institute of Coimbra RoboCorp
2011	Speaker in the keynote session " <i>ISEC Summer & Weekend School</i> " in the Feira de Engenharia de Coimbra (FENGE'2011), Coimbra, Portugal.	Student Union of the Engineering Institute of Coimbra RoboCorp
2011	Speaker in the keynote session " <i>Robotics at ISEC</i> " in the Feira de Engenharia de Coimbra (FENGE'2011), Coimbra, Portugal.	Student Union of the Engineering Institute of Coimbra RoboCorp
2010	Presentation of the paper " <i>The Concept of Robot Society: Evidence Taken From Multi-Robot SLAM</i> " in the Mathematical Methods in Engineering International Symposium (MME'10), Coimbra, Portugal.	Engineering Institute of Coimbra
2010	Invited speaker in the International Symposium in Motor Learning and Control in Tennis, Coimbra, Portugal.	Coimbra College of Education
2010	Participation in the short course " <i>Chaos Theory applied to human movement – Non-linear methods for movement analyses</i> ", Coimbra, Portugal.	Coimbra College of Education
2009	Presentation of the project " <i>Control of a robotic dragonfly</i> " in the 4 th Workshop Applications of Computational Intelligence, Coimbra, Portugal.	IEEE Engineering Institute of Coimbra
2009	Presentation of the project " <i>Human motor behavior and engineering: Contributions and interactions in the study of putt</i> " in the 4 th Workshop Applications of Computational Intelligence, Coimbra, Portugal.	IEEE Engineering Institute of Coimbra

2009	Presentation of the project “Robots can also fly!” in the regional initiative Ao Encontro da Engenharia, Coimbra, Portugal.	Engineering Institute of Coimbra
2008	Presentation of the project “Simulation and Implementation of a Robotic Bird” in the initiative SaberFazer@ISEC, Coimbra, Portugal.	Engineering Institute of Coimbra
2008	Demonstration of the project “ <i>Robotic Application for Multiplayer Online Game</i> ” in the 8 th Portuguese Conference On Automatic Control, Controlo 2008, Trás-os-Montes e Alto Douro, Portugal.	University of Trás-os-Montes e Alto Douro Portuguese Association of Automatic Control
2008	Demonstration of the project “ <i>HoRoISEC: Hockey with Robots</i> ” in the Feira de Engenharia de Coimbra (FENGE’2008), Coimbra, Portugal.	Student Union of the Engineering Institute of Coimbra
2008	Demonstration of the project “ <i>HoRoISEC: Hockey with Robots</i> ” in high school education, Portugal.	Engineering Institute of Coimbra High School of Avelar Brotero Pedro Hispano Institute High School of Mira High School Álvaro Viana de Lemos High School of Lousã
2007	Demonstration of the project “ <i>HoRoISEC: Hockey with Robots</i> ” in the initiative “Ao Encontro da Engenharia”, Coimbra, Portugal.	Engineering Institute of Coimbra
2007	Demonstration of the project “ <i>HoRoISEC: Hockey with Robots</i> ” in the 2 nd Workshop of Applications of Computational Intelligence, Coimbra, Portugal.	IEEE Engineering Institute of Coimbra
2007	Demonstration of the project “ <i>HoRoISEC: Hockey with Robots</i> ” in the 2 nd International Conference on Electrical Engineering, Coimbra, Portugal.	Engineering Institute of Coimbra
2006	Demonstration of the project “ <i>Human Head Simulator (HHSim)</i> ” in the 1 ^o Encontro Jovens Engenheiros Técnicos da Região Centro, Coimbra, Portugal.	Engineering Institute of Coimbra National Association of Technical Engineers
2006	Demonstration of the project “ <i>Human Head Simulator (HHSim)</i> ” in the initiative SaberFazer@ISEC, Coimbra, Portugal.	Engineering Institute of Coimbra

Additional Information

Publications  ISI Thomson Reuters  SCOPUS Elsevier

Conference

1. Ricardo Belli, José Gama, António Figueiredo, Carlos Gonçalves, Vasco Vaz, **Micael S. Couceiro** & Gonçalo Dias. “Network interaction and team performance: an exploratory approach with Soccer”, 6th International Conference of Latvian Academy of Sport Education: Theory and Practice in Sport Science, Latvia, Riga, March 27, 2014.
2. Rui P. Rocha, David Portugal, **Micael S. Couceiro**, Filipe Araújo, Paulo Menezes & Jorge Lobo. “The CHOPIN project: Cooperation between Human and rObotic teams in catastroPhic INcidents”, SSRR2013 - IEEE International Symposium on Safety, Security, and Rescue Robotics, October 21-26, Linköping, Sweden, 2013.
3. Nuno L. Ferreira, **Micael S. Couceiro**, Andre Araújo & Rui P. Rocha. “Multi-Sensor Fusion and Classification with Mobile Robots for Situation Awareness in Urban Search and Rescue using ROS”, SSRR2013 - IEEE International Symposium on Safety, Security, and Rescue Robotics, October 21-26, Linköping, Sweden, 2013.
4. David Portugal, **Micael S. Couceiro** & Rui P. Rocha. “Applying Bayesian Learning to Multi-Robot Patrol”, SSRR2013 - IEEE International Symposium on Safety, Security, and Rescue Robotics, October 21-26, Linköping, Sweden, 2013.







5. Orlando Fernandes, Gonçalo Dias, **Micael S. Couceiro**, Filipe M. Clemente, Fernando M. L. Martins, J. Miguel A. Luz, Carlos M. Figueiredo & Rui Mendes. "New Technologies to the Study the Golf Putting", International Congress on Sports Science Research and Technology Support (icSPORTS13), pp. 185-191, September 20-22, Vilamoura, Portugal, 2013.  
6. Fernando M. L. Martins, Filipe M. Clemente & **Micael S. Couceiro**. "From the individual to the collective analysis at the football game", MME'13 - Mathematical Methods in Engineering, July 22-26, Porto, Portugal, 2013.
7. Pedram Ghamisi, **Micael S. Couceiro**, Mathieu Fauvel & Jon Atli Benediktsson. "Spectral-Spatial Classification based on Integrated Segmentation", IEEE International Geoscience and Remote Sensing Symposium - Building a Sustainable Earth through Remote Sensing - IGARSS'2013, July 21-26, Melbourne, Australia, 2013.  
8. **Micael S. Couceiro**, Rui P. Rocha, Nuno M. F. Ferreira & Patricia A. Vargas. "Darwinian Robotic Swarms for Exploration with Minimal Communication", IEEE Congress on Evolutionary Computation (CEC'2013), Special Session on Evolutionary Robotics, June 20-23, Cancún, Mexico, 2013.  
9. **Micael S. Couceiro**, Rui P. Rocha & Nuno M. F. Ferreira. "Fault-Tolerance Assessment of a Darwinian Swarm Exploration Algorithm under Communication Constraints", ICRA'13 - IEEE International Conference on Robotics and Automation, May 6-10, Karlsruhe, Germany, 2013.  
10. **Micael S. Couceiro**, Carlos M. Figueiredo, David Portugal, Rui P. Rocha & Nuno M. F. Ferreira. "Initial Deployment of a Robotic Team - A Hierarchical Approach Under Communication Constraints Verified on Low-Cost Platforms", IROS'12 - IEEE/RSJ International Conference on Intelligent Robots and Systems, October 7-12, Vilamoura, Portugal, 2012.  
11. **Micael S. Couceiro**, Rui P. Rocha, Carlos M. Figueiredo, J. Miguel A. Luz & N. M. Fonseca Ferreira. "Multi-Robot Foraging based on Darwin's Survival of the Fittest", IROS'12 - IEEE/RSJ International Conference on Intelligent Robots and Systems, October 7-12, Vilamoura, Portugal, 2012.  
12. Pedram Ghamisi, **Micael S. Couceiro**, Jon Atli Benediktsson. "Extending the fractional order Darwinian particle swarm optimization to segmentation of hyperspectral images", Proceedings of the SPIE - Image and Signal Processing for Remote Sensing, Edinburgh United Kingdom, September 24 - 27, 2012.  
13. **Micael S. Couceiro**, Fernando M. L. Martins, Rui P. Rocha & Nuno M. F. Ferreira. "Introducing the Fractional Order Robotic Darwinian PSO", Proceedings of the 9th International Conference on Mathematical Problems in Engineering, Aerospace and Sciences - ICNPAA'2012, Vienna University of Technology, Austria, July 10-14, 2012.  
14. Pedram Ghamisi, **Micael S. Couceiro**, Nuno M. F. Ferreira, Lalit Kumar, "An Efficient Method for Segmentation of Remote Sensing Images Based on Darwinian Particle Swarm Optimization". In Proceedings of the IEEE International Geoscience and Remote Sensing Symposium – Remote Sensing for a Dynamic Earth (IGARSS'2012), Munich, Germany, July 22-27, 2012.  
15. Rui Mendes, Gonçalo Dias, **Micael S. Couceiro**, Carlos M. Figueiredo, Miguel Luz, Filipe Clemente, Fernando Martins, Pedro Mendes. "Dynamical Systems Theory in the golf putting performance" 17th Congress on the European College of Sport Science, July 4-7, Bruges, Belgium, 2012. 
16. Rui Mendes, Pedro C. Mendes, J. P. Fuentes, Fernando Martins, Filipe Clemente, Carlos M. Figueiredo, **Micael S. Couceiro**, Gonçalo Dias. "Tennis serve toss variability under the constraint of artificial cross wind" 17th Congress on the European College of Sport Science, July 4-7, Bruges, Belgium, 2012. 
17. Fábio J. Costa, Samuel Pereira, Ana Rosmaninho, **Micael S. Couceiro**, Carlos M. Figueiredo, Victor Santos & N. M. Fonseca Ferreira. "Low-Cost Access Management System in an Educational Environment", EDUTE'12 - 8th WSEAS International Conference on Educational Technologies, July 1-3, Porto, Portugal, 2012. 
18. André Araújo, David Portugal, **Micael S. Couceiro**, Carlos Figueiredo and Rui P. Rocha, "TRAXBOT: Assembling and Programming of a Mobile Robotic Platform". In Proceedings of the 4th International Conference on Agents and Artificial Intelligence (ICAART'2012), Vilamoura, Algarve, Portugal, February 6-8, 2012. 
19. **Micael S. Couceiro**, Rui P. Rocha and Nuno M. F. Ferreira. "Ensuring Ad Hoc Connectivity in Distributed Search with Robotic Darwinian Particle Swarms". IEEE International Symposium on Safety, Security, and Rescue Robotics, SSRR'2011, Kyoto, Japan, 2011.
20. **Micael S. Couceiro**, Rui P. Rocha and Nuno M. F. Ferreira. "A Novel Multi-Robot Exploration Approach based on Particle Swarm Optimization Algorithms". IEEE International Symposium on Safety, Security, and Rescue Robotics, SSRR'2011, Kyoto, Japan, 2011.
21. **Micael S. Couceiro**, Nuno M. F. Ferreira and J. A. Tenreiro Machado. "Fractional Order Darwinian Particle Swarm Optimization". 3th Symposium on Fractional Signals and Systems, FSS'2011, Coimbra, Portugal, 2011.
22. **Micael S. Couceiro**, Gonçalo Dias, Fernando M. L. Martins and J. Miguel A. Luz. "Towards a Correction Metric to the Putting Lip-out". 3th Symposium on Fractional Signals and Systems, FSS'2011, Coimbra, Portugal, 2011.







23. Carlos M. Figueiredo, **Micael S. Couceiro**, Nuno M. F. Ferreira and J. A. Tenreiro Machado. "Cooperative Transportation of an Object based on Fractional Order Controllers". 3th Symposium on Fractional Signals and Systems, FSS'2011, Coimbra, Portugal, 2011.
24. Gonçalo Dias, **Micael S. Couceiro**, Carlos M. Figueiredo, J. Miguel A. Luz, Rui Mendes. "On a Ball's Trajectory Model for Putting's Evaluation". International Symposium on Computational Intelligence for Engineering Systems, ISCIES'2011, Coimbra, Portugal, 2011.
25. J. Miguel A. Luz, **Micael S. Couceiro**, David Portugal, Rui P. Rocha, Hélder Araújo, Gonçalo Dias. "Comparison of Classification Methods for Golf Putting Performance Analysis". International Symposium on Computational Intelligence for Engineering Systems, ISCIES'2011, Coimbra, Portugal, 2011.
26. **Micael S. Couceiro**, Nuno M. F. Ferreira, Rui P. Rocha, Fernando M. L. Martins, Filipe Clemente. "Statistical Significance Analysis of the R-DPSO - Towards an Understanding of the Relationship Between the Population of Robots and the Maximum Communication Distance". International Symposium on Computational Intelligence for Engineering Systems, ISCIES'2011, Coimbra, Portugal, 2011.
27. Rui Mendes, Gonçalo Dias, **Micael S. Couceiro**, J. Miguel A. Luz, & Carlos M. Figueiredo. "Golf putting - Procedures and data analysis". In N. Tim Cable & K. George (Eds.). Book of abstracts. 14Th. Annual Congress of the European College of Sport Science (pp-326). Liverpool. United Kingdom, ISBN 978-09568903-0-6, 2011. [ISI](#)
28. **Micael S. Couceiro**, Nuno M. F. Ferreira, Rui Rocha. "O Conceito da Sociedade Robótica – Evidências Extraídas a Partir de GridSLAM Cooperativo em Player/Stage". 6º Congresso Luso-Moçambicano de Engenharia, CLME'2011. Maputo, Moçambique, 29 August - 02 September, 2011.
29. **Micael S. Couceiro**, Nuno M. F. Ferreira, Rui Rocha. "Multi-Robot Exploration based on Swarm Optimization Algorithms". 7th European Nonlinear Dynamics Conference ENOC'2011. Rome, Italy, 24-29 July, 2011.
30. Pedro Mendes, Fernando Martins, A. M. Facas Vicente, **Micael S. Couceiro**, Rui Mendes, João Trovão. "Análise às variáveis de produto na execução do serviço de ténis sob o efeito de um escoamento aerodinâmico induzido (vento artificial)". 4.º Congresso Nacional de Biomecânica. Quinta-das-lágrimas. Coimbra, 4-5 February de 2011.
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36. **Micael S. Couceiro**, Andria R. Lopes, N. M. Fonseca Ferreira, Anabela G. Ferreira, Rui Rocha. "The Concept of Robot Society: Evidence Taken From Multi-Robot SLAM". Mathematical Methods in Engineering International Symposium, MME'10, Coimbra, 2010. [ISI](#)
37. Pedro C. Mendes, J. Miguel A. Luz, **Micael S. Couceiro**, Pedro Iglésias, Almerindo Ferreira, João Sismeiro, Rui Mendes and Juan P. Fuentes. "Analysis of the Wind Influence in Tennis Serve". Mathematical Methods in Engineering International Symposium, MME'10, Coimbra, 2010. [ISI](#)
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39. Carlos M. Figueiredo, **Micael S. Couceiro**, N. M. Fonseca Ferreira, J.A. Tenreiro Machado. "Fractional-Order Control of Cooperative Robots". 4th Workshop de Robótica Aplicada e Automação, Robocontrol'10, Brazil, 2010.
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41. **Micael S. Couceiro**, Carlos M. Figueiredo, N. M. Fonseca Ferreira, J. A. Tenreiro Machado. "Electric Vehicle Drive System with Adaptive PID Control", The 29th IASTED International Conference on Modelling, Identification and Control, MIC2010, February 15 – 17, 2010. [ISI](#) [SCOPUS](#)

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45. **Micael S. Couceiro**, Rui Mendes, N. M. Fonseca Ferreira, J. A. Tenreiro Machado. "Control Optimization of a Robotic Bird", European Workshop on Movement Science, EWOMS '09, Lisbon, Portugal, 2009. [ISI](#)
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48. **Micael S. Couceiro**, Carlos M. Figueiredo, J. Miguel Luz, C. Lebres and N. M. Fonseca Ferreira. "Robotic Application for Multiplayer Online Game", 8th Portuguese Conference On Automatic Control, Controlo 2008, UTAD, Vila Real, Portugal, 2008. [ISI](#)
49. **Micael S. Couceiro**, Carlos M. Figueiredo, J. Miguel Luz, Daniel D. Bastos Nuno F. Paiva, Ricardo P. Faria, C Lebres, J. Carvalho and N. M. Fonseca Ferreira. "HoRoISEC: Hockey with Robots", 2nd International Conference on Electrical Engineering, ISEC, Coimbra, Portugal, 2007. [ISI](#)
50. Verónica Vasconcelos, Inácio Fonseca, **Micael S. Couceiro**, Carlos M. Figueiredo. "Web Controlled Educational Robots", XCLEEE - 10th Portuguese-Spanish Congress in Electrical Engineering, Funchal, Ilha da Madeira, 2007.

Journal

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2. **Micael S. Couceiro**, Fernando M. L. Martins, Rui P. Rocha & Nuno M. F. Ferreira. "Mechanism and Convergence Analysis of a Multi-Robot Swarm Approach Based on Natural Selection". Journal of Intelligent & Robotic Systems, 2014 (In Press). [ISI](#) [SCOPUS](#)
3. **Micael S. Couceiro**, David Portugal, Rui P. Rocha & N. M. Fonseca Ferreira. "Marsupial Teams of Robots: Deployment of Miniature Robots for Swarm Exploration under Communication Constraints", Robotica, Cambridge University Press, 2014 (In Press) [ISI](#) [SCOPUS](#)
4. **Micael S. Couceiro**, Amadeu Fernandes, Rui P. Rocha & N. M. Fonseca Ferreira. "Understanding the Communication Complexity of the Robotic Darwinian PSO", Robotica, Cambridge University Press, 2014 (In Press). [ISI](#) [SCOPUS](#)
5. **Micael S. Couceiro**, Patricia A. Vargas, Rui P. Rocha & Nuno M. F. Ferreira. "Benchmark of Swarm Robotics Distributed Techniques in a Search Task", Robotics and Autonomous Systems, 2014 (In Press). [ISI](#) [SCOPUS](#)
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32. **Micael S. Couceiro**, J. Miguel A. Luz, Carlos M. Figueiredo & N. M. Fonseca Ferreira. "Modeling and Control of Biologically Inspired Flying Robots", *Robotica*, Volume 30, Issue 1, pp. 107-121, Cambridge University Press, 2012. 
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4. Filipe Clemente, **Micael S. Couceiro**, Fernando M. L. Martins & Rui Mendes. "Estudo da dinâmica interpessoal em futebolistas sub-12: análise da distância e velocidade efectiva", In R. Mendes, J. Barreiros & O. Vasconcelos (Eds.), *Estudos em Desenvolvimento Motor da Criança V*, pp. 20-25, Escola Superior de Educação de Coimbra, Área Científica de Educação Física e Desporto, ISBN: 978-972-95072-9-8, 2012.
5. Filipe Clemente, **Micael S. Couceiro**, Fernando M. L. Martins & Rui Mendes. "Estudo do posicionamento angular e ocupação espacial na dinâmica interpessoal de futebolistas sub-12", In R. Mendes, J. Barreiros, & O. Vasconcelos (Eds.), *Estudos em Desenvolvimento Motor da Criança V*, pp. 26-31, Escola Superior de Educação de Coimbra, Área Científica de Educação Física e Desporto, ISBN: 978-972-95072-9-8, 2012.
6. **Micael S. Couceiro**, Fernando M. L. Martins, Filipe Clemente, Rui P. Rocha & Nuno M. F. Ferreira. "Towards a Further Understanding of the Robotic Darwinian PSO", *Computational Intelligence and Decision Making - Trends and Applications, From Intelligent Systems, Control and Automation: Science and Engineering Bookseries*, Springer Verlag, pp. 13-22, 2012.
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8. Gonçalo Dias, Rui Mendes, **Micael S. Couceiro**, Carlos M. Figueiredo & J. Miguel A. Luz. "On a Ball's Trajectory Model for Putting's Evaluation", *Computational Intelligence and Decision Making - Trends and Applications, From Intelligent Systems, Control and Automation: Science and Engineering Bookseries*, Springer Verlag, pp. 81-88, 2012.
9. **Micael S. Couceiro**, Carlos M. Figueiredo, Gonçalo Dias, Sara M. Machado & N. M. Fonseca Ferreira. "Design of a Golf Putting Pneumatic Mechanism - Integer vs Fractional Order PID", *PID Controller Design Approaches - Theory, Tuning and Application to Frontier Areas*, pp. 53-70, InTech Open Access Publisher, 2012.
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Magazine

1. Filipe Clemente, **Micael S. Couceiro**, Fernando M. L. Martins, Gonçalo Dias & Rui Mendes. "Análise da ocupação espacial de futebolistas sub-12 na sub-fase de jogo 1x1 com guarda-redes", *Boletim SPEF*, 36, pp. 41-47. [ISSN 1646-8775], 2012.

2. Gonçalo Dias, Rui Mendes, J. Miguel A. Luz, **Micael S. Couceiro**, & Carlos M. Figueiredo. "Procedimentos e análise de dados aplicados ao estudo do putting". Boletim do SPEF, 35, 4: 47-58, ISSN 1646-8775, 2010.
3. **Micael S. Couceiro**, Carlos M. Figueiredo, J. Miguel Luz, N. M. Fonseca Ferreira. "OKISEC: Multiplayer Online Robohockey", Elektor, issue 388, 2009.

Supervision

Co-Supervisor of the B.Sc. Thesis in Biomedical Engineering, Engineering Institute of Coimbra, of the students Jessica Vital and Nuno Rodrigues, "*RIA (Fase 1) Extensão Sensorial da Plataforma NAO*", 2013

Co-Supervisor of the B.Sc. Thesis in Biomedical Engineering, Engineering Institute of Coimbra, of the students Daniela Maria Frazão Costa and Marta Ventura e Costa, "*Nano-robôs móveis cooperativos em ambiente virtual V-REP*", 2013

Co-Supervisor of the B.Sc. Thesis in Biomedical Engineering, Engineering Institute of Coimbra, of the students Ana Sofia Barbosa and Ivo Sousa, "*Desenvolvimento de uma mão robótica com ligas de memória de forma*", 2013

Co-Supervisor of the M.Sc. Thesis in Electrical and Computer Engineering, University of Coimbra, of the student Nuno Filipe Loureiro Ferreira, "*Environmental Monitoring and Context Recognition with Cooperative Mobile Robots in Catastrophic Incidents*", 2013

Co-Supervisor of the M.Sc. Thesis in Electrical and Computer Engineering, University of Coimbra, of the student Gonçalo Nuno dos Santos Augusto, "*RobotTeamSim – 3D Visualization of Cooperative Mobile Robot Missions in Gazebo Virtual Environment*", 2013

Co-Supervisor of the M.Sc. Thesis in Electrical and Computer Engineering, University of Coimbra, of the student Amadeu Socorro Lopes Fernandes, "*WirelessTeams - Comparison of Wireless Technologies in Teams of Mobile Robots*", 2012

Co-Supervisor of the M.Sc. Thesis in Electrical and Computer Engineering, University of Coimbra, of the student Walter Miani, "*Arduino programming using Matlab and Simulink*", 2012

Co-Supervisor of the M.Sc. Thesis in Electrical and Computer Engineering, University of Coimbra, of the student André Gonçalves Araújo, "*ROSint: Control and Integration of a Mobile Robot in ROS Architecture*", 2012

Organization

Organizing Committee in the 2014 IEEE Congress on Evolutionary Computation (CEC'2014).

Exhibition Chair in the 23rd IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN 2014)

Member of the Organizing Committee in the 12th International Conference on Intelligent Systems Design and Applications (ISDA'2012)

Voluntary member of the Organizing Committee in the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS'2012)

Chair in the international conference in Fractional Signals and Systems (FSS'2011)

Organizer of the event "*RoboCorp @ FENGE*" in the Feira de Engenharia de Coimbra (FENGE'2011)

Member of the Organizing Committee in the international conference on Mathematical Methods in Engineering (MME'2010)

Researcher

RoboticsLab, School of Mathematical and Computer Sciences, Heriot-Watt University, United Kingdom, 2013

Institute of Systems and Robotics (ISR), Faculty of Sciences and Technology, University of Coimbra, Portugal, 2009

Collaborator

Scientific Research Group in Egypt (SRGE), Faculty of Computers & Information, Cairo University, Egypt, 2013

Research Centre for Sport and Physical Activity (CIDAF), Faculty of Sports and Physical Education, University of Coimbra, Portugal, 2012

Associations

IEEE Student Member, 2011

Development

Co-Developer of a low-cost control and management system implemented in the Engineering Institute of Coimbra and in the Coimbra College of Education, 2013.

<http://www.wseas.us/e-library/conferences/2012/Porto/EDUTE/EDUTE-22.pdf>

Co-Developer of the robotic platforms *StingBot*, 2012.

<http://www2.isr.uc.pt/~aaraujo/doc/StingBot%20-%20Technical%20Manual.pdf>

Co-Developer of the robotic platforms *TraxBot*, 2012.

<http://www2.isr.uc.pt/~aaraujo/doc/TraxBot%20-%20Technical%20Manual.pdf>

Developer of a multi-robot simulator in MatLab, *MRSim*, 2012.

<http://www.mathworks.com/matlabcentral/fileexchange/38409-mrsim-multi-robot-simulator-v1-0>

Developer of the low-cost robotic platform *eSwarBot*, 2011.

http://www.aicit.org/IJREA/ppl/001_IJREA1-027004.pdf

Developer of a script for optimization problems using the Fractional Order Darwinian Particle Swarm Optimization (FODPSO) in MatLab, 2011.

<http://www.mathworks.com/matlabcentral/fileexchange/33758-fractional-order-darwinian-particle-swarm-optimization>

Developer of image segmentation techniques inspired in Particle Swarm Optimization (PSO) approaches in MatLab, 2010.

<http://www.mathworks.com/matlabcentral/fileexchange/29517-segmentation>

Developer of a script for optimization problems using the Particle Swarm Optimization (PSO) in MatLab, 2010.

<http://www.mathworks.com/matlabcentral/fileexchange/29519-pso>

Developer of a PID fractional order controller block in Simulink, 2010.

<http://www2.isec.pt/~michael/contributions/FOPID/FO-PID.zip>

Developer of a PID fractional order controller library in Arduino, 2010.

<http://www2.isec.pt/~michael/contributions/FOPID/FOPID.zip>

Developer of the "*iShotGun*" project proposed by the Intelligent Sensing Anywhere company (ISA), 2008.

Awards

Invited as one of the best university finalists in Portugal to participate in the "*Programa Contacto SONAE 2006*".

Awarded with a Merit Scholarship from the Polytechnic Institute of Coimbra in 2007/2008.

Awarded with a Merit Scholarship from the Polytechnic Institute of Coimbra in 2006/2007.

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