

Curriculum Vitae

Personal

Full Name: Hugo Alexandre Teixeira Duarte Ferreira
Place of Birth: Carnaxide – Oeiras **Date of Birth:** 15 June 1978
Nationality: Portuguese
Address: Institute of Biophysics and Biomedical Engineering
Faculty of Sciences of the University of Lisbon
Campo Grande, 1749-016 Lisbon, Portugal
Phone: +351-217500177 **Fax:** +351-217500030 **Mobile:** +351-965088824
E-mail: hhferreira@fc.ul.pt ; hatdferreira@gmail.com
Website: <http://ibeb.fc.ul.pt/> ; <http://hatdferreira.wix.com/bioexmachina>



Contents

1. Professional Experience	2
2. Academic Education.....	3
3. Complementary Education.....	3
4. Other Academic Information, Competences & Interests	6
5. Affiliations	7
6. Honors & Awards.....	8
7. Entrepreneurial Activity	10
8. Teaching and Professional Training.....	11
9. Courses	14
10. Supervisions	20
11. Other supervisions.....	25
12. Jury	28
13. Research Topics	30
14. Team	30
15. Collaborations.....	32
16. Research Grants & Scholarships	33
17. Materials, Applications & Devices.....	34
18. Publications.....	34
19. Conference Proceedings & Other Publications	40
20. Oral Communications	45
21. Poster Communications & Exhibits.....	49
22. Organization of Meetings & Chairs.....	58
23. Editorial Activity	59
24. Faculty Roles.....	59
25. Seminars & Community Outreach	60

1. Professional Experience

December 2011 - present: Assistant Professor at the Faculdade de Ciências, Universidade de Lisboa (FCUL). Coordinator and lecturer of the courses on Nanotechnologies in Biomedicine, Tissue Engineering and Artificial Organs, Medical Robotics, and Neurosciences. Lecturer of the courses of Laboratories of Biomedical Engineering and Medical Physics, Human Physiology, and Seminars and Journal Club, of the Integrated Master on Biomedical Engineering and Biophysics.

December 2011 - Present: **Researcher at Instituto de Biofísica e Engenharia Biomédica (IBEB)-FCUL.** Research topics: Neuroimaging, Person-machine interfaces and Data mining and Classification in Neurosciences

January 2013 – October 2014: Clinical consultant for MRI neurosurgical planning at the Hospital de São José, Centro Hospitalar Lisboa Central, E.P.E.

January-March 2011: Professor of Semiotics Applied to Radiotherapy Planning, Mestrado em Radioterapia, Escola Superior de Tecnologias da Saúde de Lisboa, Instituto Politécnico de Lisboa.

September 2010-December 2011: Invited Assistant Professor and coordinator of the courses on Nanotechnologies in Biomedicine, Tissue Engineering and Artificial Organs, and Medical Robotics. Professor of the courses of Laboratories of Biomedical Engineering and Medical Physics and Human Physiology, Integrated Master on Biomedical Engineering and Biophysics, Faculdade de Ciências, Universidade de Lisboa

May 2010-present: Invited Adjunct Professor and coordinator of the course on **Magnetic Resonance Spectroscopy.** Professor of the courses **Clinical Advances in Radiology, Biological Effects of Radiations, Non-Ionizing Radiations,** Mestrado em Radiações Aplicadas às Tecnologias da Saúde, Escola Superior de Tecnologias da Saúde de Lisboa, Instituto Politécnico de Lisboa.

October 2009-December 2011: Coordinator professor of the course on **Magnetic Resonance and Health Information Systems** and professor of the course on Electronics, Licenciatura em Radiologia, Escola Superior de Saúde Ribeiro Sanches, Universidade Lusófona. Professor of **Magnetic Resonance Imaging: physical principles and advanced applications,** Mestrado em Radiologia, Escola Superior de Saúde Ribeiro Sanches, Universidade Lusófona.

May 2009-December 2011: Post-doctoral researcher, **Instituto de Biofísica e Engenharia Biomédica (IBEB), Faculdade de Ciências da Universidade de Lisboa,** in collaboration with Hospital dos Lusíadas (Hospitais Privados de Portugal).

January 2007-April 2009: Application and Education **Specialist of Computed Tomography and Magnetic Resonance,** Siemens Healthcare, Portugal.

January 2006-December 2006: Founder and chief executive officer of Haloris Nanotecnologias (nanobiotechnology startup).

September 2000-August 2003: Teaching assistant, Physics Department, Instituto Superior Técnico, Universidade Técnica de Lisboa.

2. Academic Education

2012: Integrated Master on Medicine (6-year degree), **Faculdade de Medicina, Universidade de Lisboa**. Master thesis work done under supervision of Prof. Mamede Carvalho, Instituto de Fisiologia, Faculdade de Medicina, Universidade de Lisboa.

2007: PhD in Physics, Instituto Superior Técnico (IST), Universidade Técnica de Lisboa. PhD work done between September 2001 and June 2006 at Instituto de Engenharia de Sistemas e Computadores para os Micro-sistemas e as Nanotecnologias (INESC-MN, supervisor Prof. Paulo Freitas) and at the Biological Engineering Research Group (BERG, co-supervisor Prof. Sampaio Cabral) of the Chemistry Department of IST.

2001: Integrated Master in Physics Engineering (5-year degree), Instituto Superior Técnico, Universidade Técnica de Lisboa. Master thesis work done under supervision of Prof. Paulo Freitas, INESC-MN and IST.

Other Postgraduation studies

2005: Course on Entrepreneurship and Management of Innovation: “Programa Avançado em Empreendedorismo e Gestão da Inovação” (PAEGI) 2nd Edition, organized by the Faculdade de Ciências Económicas e Empresariais da Universidade Católica Portuguesa (CLSBE), Lisboa, 11 March – 14 July 2005.

3. Complementary Education

2015

- Formation Français Médical B2, Julliet 2015, Alliance Française Portugal
- Formation Français Médical B1, Avril 2015, Alliance Française Portugal

2012

- “The Connectome”, Educational Course, 10 June 2012, Organization for Human Brain Mapping, Beijing, China.
- "Neuropsychological rehabilitation in brain injury", Ciclo de Conferências Internacionais em Neuropsicologia, 18 April 2012, Biblioteca João Paulo II, Universidade Católica Portuguesa, Lisboa, Portugal.
- "Role of functional connectivity to investigate neurological disorders: Alzheimer's disease and brain injury", Ciclo de Conferências Internacionais em Neuropsicologia, 29 February 2012, Biblioteca João Paulo II, Universidade Católica Portuguesa

2011

- “Workshop em Estimulação Magnética Transcraniana”, Unidade de Doenças Neuromusculares do Instituto de Medicina Molecular, 14 October 2011, Museu do Oriente, Lisboa, Portugal

2009

- “International Symposium on Cerebral Perfusion Imaging”, 21 March 2009, Hotel Arts Vip Executive, Lisboa, Portugal
- “Clinical Education Program Level 1 in Computed Tomography – Clinical Education Specialist”, Siemens Healthcare, 12 January 2009, virtual training

2008

- “The world of in-vitro diagnostics”, Siemens Healthcare, 15 December 2008, virtual training
- “New concepts in structural and functional neuroimaging – an MIT- Portugal Workshop”, 18-20 July 2008, Centro de Neurociências e Biologia Molecular and IBILI – Faculdade de Medicina da Universidade de Coimbra, Coimbra, Portugal
- “Parallel Imaging: Basic and Advanced Transmission and Reception Concepts”, 25-27 June 2008, European Society for Magnetic Resonance in Medicine and Biology, Instituto Superior Técnico, Lisboa, Portugal
- “Application Specialists Workshop MAGNETOM ESSENZA”, 9-11 June 2008, Siemens AG Healthcare, Erlangen, Germany
- “Clinical Use Cases”, 27 May 2008, Siemens Healthcare, virtual training
- “IDEA Imaging Calculation Programming”, 25-28 February 2008, Siemens Training and Development Center, Cary, North Carolina, United States of America
- “IDEA Sequence Programming”, 18-22 February 2008, Siemens Training and Development Center, Cary, North Carolina, United States of America
- “Multislice CT Basics”, 11-15 February 2008, Siemens Med Forchheim CT, Frocheim, Germany

2007

- “Dual energy”, Siemens Medical Solutions, 6 December 2007, virtual training 2007: “Application Specialists Workshop syngo MR B15”, 10-14 December 2007, Siemens AG Medical Solutions, Erlangen, Germany
- “Advanced Syngo MR Level 2”, 12-15 June 2007, Siemens Training and Development Center, Cary, North Carolina, United States of America
- “Clinical Work-Flow Know-How”, Siemens Medical Solutions, 1 June 2007, virtual training
- “Diagnostic Imaging Level 2 (Market and Product Information)”, 15-25 May 2007, Siemens AG Medical Solutions, Erlangen, Germany
- “Diagnostic Imaging Level 1 (Fundamentals)”, 7-14 May 2007, Siemens AG Medical Solutions, Erlangen, Germany
- “Syngo MR Level 1 Applications Course”, 1-4 May 2007, Siemens Training and Development Center, Cary, North Carolina, United States of America
- “18th Post-graduation course on Ecocardiography/Imagiologia Course for Clinicians 2007”, 22-25 February 2007, Faculdade de Medicina da Universidade de Lisboa, Lisboa, Portugal

2006

- “100º Curso Intensivo de Vinificação”, organized by Estação Vitivinícola da Bairrada, Direcção Regional de Agricultura da Beira Litoral, 4-8 September 2006, Anadia, Portugal.

2005

- Course on Entrepreneurship and Management of Innovation: “Programa Avançado em Empreendedorismo e Gestão da Inovação” (PAEGI) 2nd Edition, organized by the Faculdade de Ciências Económicas e Empresariais da Universidade Católica Portuguesa, Lisboa, 11 March – 14 July 2005.
- Course on “Genética, Genoma e Genómica, da Clínica à Saúde Pública”, organized by the Escola Nacional de Saúde Pública da Universidade Nova de Lisboa and by the Sociedade Portuguesa de Genética Humana, Lisboa, 17 – 19 February 2005.

2004

- Course “VECTORE – Valorização Económica de Ciência e Tecnologia: Organização e Planeamento de Negócios para Novas Empresas”, organized by Programa Green-Wheel, Centro de Estudos em Inovação, Tecnologia e Políticas de Desenvolvimento (IN+), Instituto Superior Técnico, Lisboa, 28 September – 14 December 2004.
- Workshop on “Criação de Empresas com Base Tecnológica – Uma Abordagem Sistémica ao Plano de Negócios”, organized by the Board of European Students of Technology (BEST) – Lisboa, Lisboa, 2 June 2004. Course lectured by Prof. Pedro Mendes, Engineering and Management Department, Instituto Superior Técnico.
- “Workshop for Early Career Researchers”, organized by Science Next Wave, Marie Curie Fellowship Association, Mobisc and ABIC, 28 February 2004.

2003

- “5th short course of the Portuguese Biophysical Society: Genomics and Proteomics – Biophysical Perspectives”, organized by the Sociedade Portuguesa de Biofísica, Santarém, 17 – 19 October 2003.
- “2º Encontro de Engenharia Biomédica”, organized by the Instituto Superior Técnico and by the Faculdade de Medicina da Universidade de Lisboa, Lisboa, 1 October 2003.

2002

- “1º Encontro de Engenharia Biomédica”, organized by the Instituto Superior Técnico and by the Faculdade de Medicina da Universidade de Lisboa, Lisboa, 30 October 2002.
- “The MWG International Microarray Workshop”, organized by MWG Genomic Diagnosis, Ebersberg, Germany, 24 September 2002.
- “International School on Quantum Computation and Information”, organized by the Instituto Superior Técnico, 2 – 7 September 2002.

2001

- 2001: “Basic and Middle courses on IDL 5.4”, lectured by Estudio Atlas, S.L., Instituto Superior Técnico, Lisboa, 16 – 19 March 2001.

2000

- Course on “Astrometria com câmaras CCD – uma breve introdução”, organized CENTRA, Instituto Superior Técnico, Lisboa, 17 – 20 October 2000. Course lectured by Dr. André Moitinho.
- BEST – Copenhagen Summer Course 2000: “Microsystems and Nanotechnology”, lectured by Mikroelektronik Centret (MIC), Technical University of Denmark, Lyngby, Denmark, 6 – 19 August 2000. Learning projects: “Investigation of Nanoparticles by Atomic Force Microscopy”, supervised by Prof. Karsten Walzer, and “Carbon Nanotubes as Molecular Wires”, supervised by Prof. Niels Asger Mortensen.
- Summer internship at Grupo de Tecnologia de Estado Sólido, at INESC, Lisboa, August-September 2000. Learning project: study and development of a microchip for transport and detection of magnetic nanoparticles.

1999

- Summer internship at Grupo de Tecnologia de Estado Sólido, at INESC, Lisboa, August-September 1999. Learning project: study and development of a thermocouple-based microchip for application in water heating devices.
- Workshop on “Aplicações da Física em Instrumentação Médica e Biomedicina”, organized by the Faculdade de Ciências e Tecnologia da Universidade Nova de Lisboa, Monte da Caparica, April 1999.

Course on “Introdução à Astronomia e à Astrofísica”, organized by Fundação da Faculdade de Ciências de Lisboa, Lisboa, October 1998 – January 1999. Lectured by Prof. Miguel Moreira.

4. Other Academic Information, Competences & Interests

Doctoral curricular program and essays done

- Biomolecular Engineering. Teachers: Prof.s Álvaro Tavares, Miguel Prazeres and Gabriel Monteiro. Essay: “Rotary Molecular Motors: F1 – ATPase”.
- Functional Genomics and Bioinformatics. Teacher: Prof.a Isabel Sá-Correia. Essay: “Proteomic analysis of the response of *Saccharomyces cerevisiae* to 2,4-dichlorophenoxyacetic acid in the latency and exponential growth phases”.
- Nanotechnologies. Teacher: Prof. João Pedro Conde. Presentations: “Molecular Logic” and “Biomimetic Nanoscale Reactors and Networks”.
- Nanoelectronics. Teacher: Prof. Paulo Freitas. Presentations: “Single Electron Devices” and “Tactile Sensors”.
- Enzymatic Technology. Teacher: Prof. Joaquim Sampaio Cabral. Essay: “Essay on microbioreactors: a miniaturized packed bed reactor”.

Senior student project

- 2001: “Application of Magnetic Recording Technology in New Biochip Development”. Scope: Design and fabrication of a device for transport and detection of magnetic nanoparticles for biological applications. Research Institute: Solid State Technology Group of INESC. Supervisor: Prof. Paulo Freitas.

Projects/Essays done during undergraduate studies

- 2000: “Nano-magnetic particles”. Scope: concept and design of a device for the detection of magnetic nanoparticles. Course: Microtechnologies. Teacher: Prof. Paulo Freitas.
- 2000: “Introduction to Nuclear Magnetic Resonance”. Course: Nuclear Physics. Teacher: Prof.a Lídia Ferreira.
- 2000: “Electroencephalography – Application in Epilepsy”. Course: Biophysics. Teacher: Prof. Eduardo Ducla Soares.
- 2000: “3D Mouse”. Course: Data Acquisition Systems. Teachers: Prof.s Pedro Brogueira e Luís Melo.

Extracurricular Activities

- 2004 – 2006: Director of the Associação de Estudantes Graduados do Instituto Superior Técnico (AEGIST).
- 1998 – 2001: Delegate of Year Class of Licenciatura em Engenharia Física Tecnológica (LEFT).
- 1998 – 2000: Sub-Delegate of LEFT.
- 1999 – 2000: Effective member of the Pedagogic Council of IST
- 2000: Collaborator in the project “Optimization of courses in Licenciatura em Engenharia Física Tecnológica”. Project done with the support from the Serviço de Apoio Pedagógico of IST.
- 1999 – 2000: Fresh Student Mentor of LEFT
- 1999: Collaborator in the organization team of “11a Jobshop de Engenharia”, promoted by the Associação de Estudantes do Instituto Superior Técnico (AEIST), 22 to 26 March 1999.

- 1998 – 1999: Collaborator of the Secção de Informação of Núcleo de Física do Instituto Superior Técnico (NFIST).
- 1998: Collaborator in the “IIIa Semana da Física” organized by NFIST.
- 1998 – 2004: Tutoring service on Maths, Physics, and Chemistry to high-school and college students.

Other Activities

- Musical Education: 2nd degree in Classical Guitar, 5th degree in Musical Education, and choral practice in Escola de Música de Nossa Senhora do Cabo
- Sports: Practice of swimming, gymnastics and Judo (1st Dan) in Sport Algés e Dafundo. Achievements include 1st place national championship.

Languages (conversation, reading and writing)

- English: highly skilled in conversation, reading and writing
- French: medium skilled in conversation and reading, basic skilled in writing
- Spanish: basic skilled in conversation and reading, basic skilled in writing
- Portuguese (native): highly skilled in conversation, reading and writing

Programming Languages

- C/ C++: medium skilled
- Basic: medium skilled
- Java: medium skilled
- Mathematica: medium skilled
- IDL: medium skilled
- Matlab: medium skilled

Project preparation and Intellectual property

- Experience of >10 years preparation of national and international scientific projects as principal investigator or team member and business plans in the scope of entrepreneurial activity
- Experience in assessing, writing and preparation of intellectual property documents

Interests

- Medicine
- Biophysics and Biomedical Engineering/ Magnetic Resonance Imaging Microsystems and Nanotechnologies / Nanobiotechnology and Nanobiomedicine Entrepreneurship /Management of Science and Technology
- Traveling / Meet new people and new cultures

5. Affiliations

2015: Mind-Brain College of the University of Lisbon

2015: Member of the International Society for Magnetic Resonance in Medicine

2014-Present: Ordem dos Médicos

2014-Present: Institute for Systems and Technologies of Information, Control and Communication

2009-Present: Institute of Biophysics and Biomedical Engineering, Faculty of Sciences of the University of Lisbon

2012: Member of the Organization for Human Brain Mapping

2011: Student member of the International Society for Magnetic Resonance in Medicine

2005–2008: Student Member (sponsored) of the American Association for the Advancement of Science (AAAS).

2005–2007: Student Founding Member of the American Academy of Nanomedicine (AANM).

2002–2006: Student Member of the Institute of Electrical and Electronics Engineers (IEEE), including the Magnetics Society and the Engineering in Medicine and Biology Society of the IEEE.

2003–2006: Student Member of the Sociedade Portuguesa de Biofísica.

1999–2000: Student Member of the Associação Portuguesa de Engenheiros Físicos.

6. Honors & Awards

2014

- ISMRM 2014 Magna Cum Laude to L. M. Lacerda, A. Santos-Ribeiro, N. A. da Silva, R. Neto-Henriques, H. A. Ferreira, “Multimodality imaging brain connectivity toolbox”, by International Society for Magnetic Resonance in Medicine (see details in Communications)
- Passaporte para o Empreendedorismo - Projeto EscutaME, by IAPMEI

2013

- Passaporte para o Empreendedorismo - Projeto bioM, by IAPMEI
- Prémio BES Inovação 2013 - Tecnologias da Informação e Serviços, by BES
- Vodafone Mobile Data Challenge 2013 - Projecto bioM, by Vodafone Portugal

2010

- Bursary Award by the Commission of European Affairs – International League Against Epilepsy for the “9th European Congress on Epileptology”, 27 June-1 de July 2010, Rhodes, Greece.

2009

- Travel award by the Fundação Calouste Gulbenkian, for the “28th International Epilepsy Congress”, 28 June-2 July 2009, Budapest, Hungary.

2006

- NEST certificate for new technology-based start-ups, Agência da Inovação (ADI).
- NEOTEC program financial support, Agência de Inovação (ADI)
- 1st Prize in the Concurso Bioempreendedor 2005. Initiative of the Associação Portuguesa de BioIndústrias, of ICEP Portugal (Instituto das Empresas para os Mercados Externos) and Infarmed.

2005

- Finalist in the Concurso Nacional de Inovação BES. Project “MagBiosense” placed between the 5 best projects in the Healthcare sector. Initiative of the Banco Espírito Santo, Fundação Ilídio Pinho and Siemens Portugal.
- Student travel award at the “The 50th Magnetism and Magnetic Materials Conference”, San Jose, California, U.S.A, 30 October – 3 November 2005.
- Finalist in the Concurso Nacional de Empreendedorismo 2005. Project “MagBiosense” within the top 5 Ideas and top 5 Business Plans. Initiative of the Caixa Geral de Depósitos and Universidade Nova de Lisboa.
- 1st Prize in the Concurso de Ideias do Programa Avançado em Empreendedorismo e Gestão da Inovação (PAEGI) of the Faculdade de Ciências Económicas e Empresariais of the Universidade Católica Portuguesa.
- Student travel award at the “The IEEE 2005 International Magnetics Conference”, Nagoya, Japan, 4 - 8 April 2005.
- Technology round of the Berkeley Nano-Opportunity Challenge 2005 – business ideas for the nano generation. Initiative of the Berkeley Nanotechnology Club.

2004

- 3rd Prize in the Great Lakes Entrepreneurs Quest 2004 Fall Edition in the category of New Business Idea at the Nort/West Michigan region.
- 1st Prize at the Business Plan competition in the entrepreneurship course VECTORE – Valorização Económica de Ciência e Tecnologia: Organização e Planeamento de Negócios para Novas Empresas, 2004 edition. Initiative of the Green-Wheel program, Centro de Estudos em Inovação, Tecnologia e Políticas de Desenvolvimento, IN+, Instituto Superior Técnico.

2003

- Prémio 3M à Inovação 2003 – Área das Ciências da Vida, given by 3M Portugal and Universidade Técnica de Lisboa.
- Programa Gulbenkian de Estímulo à Investigação 2003 – Área das Nanotecnologias, given by Fundação Calouste Gulbenkian.
- Best poster prize “A biochip based on the magnetoresistive effect: Detection of hybridisation of cystic fibrosis related oligonucleotide sequences” at the “Bioeng’2003 – 7th Portuguese Conference on Biomedical Engineering”, given by Instituto de Biofísica e Engenharia Biomédica, Sociedade Portuguesa de Engenharia Biomédica and Faculdade de Ciências da Universidade de Lisboa.

2002

- Prémio Professor Luís Vidigal 2000/2001, given by the Departamento de Engenharia Electrotécnica e de Computadores of Instituto Superior Técnico, the Departamento de Engenharia Informática of IST and Instituto de Engenharia de Sistemas e Computadores.
- Bolsa e Diploma de Mérito 2000/2001, given by the Universidade Técnica de Lisboa.

Other students and collaborators honors & awards are highlighted in bold under the communications section.

7. Entrepreneurial Activity

2013-Present: Entrepreneurial activity on-going with several inventions communicated to the board of the faculty regarding biomedical devices and applications, and several participations in entrepreneurship competitions.

2006-2007: Founder, President and Chief-Executive Officer of Haloris – Nanotechnologies, a company whose focus was the development of biosensors for the agribusiness and healthcare sectors. It also offers services in surface chemistry, assay development and consulting on nano and biotechnologies.

2004-2006: Development of the entrepreneurial project MagBiosense: development, fabrication and commercialization of biochips and bio-sensors for diagnostics of genetic diseases and detection of pathogenic microorganisms.

2006

- Presentation of the entrepreneurial project “MagBiosense”. Scope: “Colóquio – Valorização Económica da Ciência”, within “I Feira do Conhecimento e da Inovação”. Organization: Universidade Técnica de Lisboa and Associação Industrial Portuguesa. Centro de Congressos de Lisboa, Lisboa, 29 March 2006.
- Presentation of the entrepreneurial project “MagBiosense”. Scope: delegates from the IC2 Institute and from the University of Texas at Austin. Organization: Centre for Innovation, Technology and Policy Research (IN+) of IST. Instituto Superior Técnico, Lisboa, 23 March 2006.

2005

- Presentation of the entrepreneurial project “MagBiosense”. Scope: “Concurso de Ideias do Programa Avançado em Empreendedorismo e Gestão da Inovação (PAEGI)”. Organization: Faculdade de Ciências Económicas e Empresariais of the Universidade Católica Portuguesa (FCEE-UCP). FCEE-UCP, Lisboa, 28 July 2005.
- Presentation of the entrepreneurial project “MagBiosense”. Scope: “Concurso Nacional de Empreendedorismo 2005”. Organization: Caixa Geral de Depósitos and Universidade Nova de Lisboa. Culturgest, Lisboa, 7 July 2005.
- Presentation of the entrepreneurial project “MagBiosense”. Scope: “Dia do Empresário – Dia Europeu do Empreendedor”. Organization: Associação Industrial Portuguesa (AIP), Lisbon, Ambelis and Câmara Municipal de Lisboa. Centro de Congressos de Lisboa, Lisboa, 29 June 2005.
- Presentation of the entrepreneurial project “MagBiosense”. Scope: “VIII Jornadas Tecnológicas de Engenharia Química 2005 – Inovação e Competitividade em Engenharia”. Organization: Students of the 4th year of Engenharia Química of the Faculdade de Ciência e Tecnologia, Universidade Nova de Lisboa. Grande Auditório da FCT-UNL, Monte da Caparica, 11 and 12 April 2005.
- Presentation of the entrepreneurial project “MagBiosense”. Scope: partners of the Atlantic Network for Business Innovation and Technology Transfer (Atlantech). Organization: Centro Promotor de Inovação e Negócios (CPIN) and IN+. Instituto Superior Técnico, Lisboa, 7 March 2005.

2004

- Presentation of the entrepreneurial project “MagBiosense”. Scope: VectorE Course 2004 Edition. Organization: IN+. Instituto Superior Técnico, Lisboa, 21 December 2004.

8. Teaching & Professional Training

Faculty of Sciences, University of Lisbon

2014-2015: Assistant Professor

Coordinator:

1. Neurosciences (6 ECTS) Integrated Master of Biomedical Engineering and Biophysics, 2nd cycle, 1st Semester
2. Nanotechnologies in Biomedicine (3 ECTS) Integrated Master of Biomedical Engineering and Biophysics, 2nd cycle, 1st Semester
3. Tissue Engineering and Artificial Organs (3 ECTS) Integrated Master of Biomedical Engineering and Biophysics, 2nd cycle, 2nd Semester
4. Medical Robotics (3 ECTS) Integrated Master of Biomedical Engineering and Biophysics, 2nd cycle, 2nd Semester

Lecturer:

- Medical Equipments I (Lab classes) Integrated Master of Biomedical Engineering and Biophysics, 2nd cycle, 2nd Semester
- Laboratories of Biomedical Engineering and Medical Physics (Lab classes) Integrated Master of Biomedical Engineering and Biophysics, 1st cycle, 1st Semester
- Seminars+Journal Club (theoretical) Integrated Master of Biomedical Engineering and Biophysics, 2nd cycle, 2nd Semester
- Human Physiology (Lab and theoretical classes) Integrated Master of Biomedical Engineering and Biophysics, 2nd cycle, 2nd Semester

2013-2014: Assistant Professor

Coordinator:

- Nanotechnologies in Biomedicine (3 ECTS) Integrated Master of Biomedical Engineering and Biophysics, 2nd cycle, 1st Semester
- Tissue Engineering and Artificial Organs (3 ECTS) Integrated Master of Biomedical Engineering and Biophysics, 2nd cycle, 2nd Semester
- Medical Robotics (3 ECTS) Integrated Master of Biomedical Engineering and Biophysics, 2nd cycle, 2nd Semester

Lecturer:

- Laboratories of Biomedical Engineering and Medical Physics (Lab classes) Integrated Master of Biomedical Engineering and Biophysics, 1st cycle, 2nd Semester
- Seminars+Journal Club (theoretical) Integrated Master of Biomedical Engineering and Biophysics, 2nd cycle, 2nd Semester
- Human Physiology (Lab and theoretical classes) Integrated Master of Biomedical Engineering and Biophysics, 2nd cycle, 2nd Semester
- Physics III Bachelor in Physics and in Physics Engineering (Lab classes), 1st cycle, 2nd Semester

- Experimental Physics (Lab classes), Informatics Engineering, 1st cycle, 1st Semester

2012-2013: Assistant Professor

Coordinator:

- Neurosciences (6 ECTS) Integrated Master of Biomedical Engineering and Biophysics, 2nd cycle, 1st Semester
- Nanotechnologies in Biomedicine (3 ECTS) Integrated Master of Biomedical Engineering and Biophysics, 2nd cycle, 1st Semester
- Tissue Engineering and Artificial Organs (3 ECTS) Integrated Master of Biomedical Engineering and Biophysics, 2nd cycle, 2nd Semester
- Medical Robotics (3 ECTS) Integrated Master of Biomedical Engineering and Biophysics, 2nd cycle, 2nd Semester

Lecturer:

- Laboratories of Biomedical Engineering and Medical Physics (Lab classes) Integrated Master of Biomedical Engineering and Biophysics, 1st cycle, 2nd Semester
- Human Physiology (Lab and theoretical classes) Integrated Master of Biomedical Engineering and Biophysics, 2nd cycle, 2nd Semester
- Experimental Physics (Lab classes), Informatics Engineering, 1st cycle, 1st Semester

2011-2012: Invited Assistant Professor / Assistant Professor

Coordinator:

- Nanotechnologies in Biomedicine (3 ECTS) Integrated Master of Biomedical Engineering and Biophysics, 2nd cycle, 1st Semester
- Tissue Engineering and Artificial Organs (3 ECTS) Integrated Master of Biomedical Engineering and Biophysics, 2nd cycle, 2nd Semester
- Medical Robotics (3 ECTS) Integrated Master of Biomedical Engineering and Biophysics, 2nd cycle, 2nd Semester

Lecturer:

- Human Physiology (Lab and theoretical classes) Integrated Master of Biomedical Engineering and Biophysics, 2nd cycle, 2nd Semester
- Laboratories of Biomedical Engineering and Medical Physics (Lab classes) Integrated Master of Biomedical Engineering and Biophysics, 1st cycle, 2nd Semester

2010-2011: Invited Assistant Professor

Coordinator:

- Nanotechnologies in Biomedicine (3 ECTS) Integrated Master of Biomedical Engineering and Biophysics, 2nd cycle, 1st Semester
- Tissue Engineering and Artificial Organs (3 ECTS) Integrated Master of Biomedical Engineering and Biophysics, 2nd cycle, 2nd Semester
- Medical Robotics (3 ECTS) Integrated Master of Biomedical Engineering and Biophysics, 2nd cycle, 2nd Semester
- Biostatrad - Abordagem Prática à Bioestatística para Técnicos de Radiologia, Curso de Formação Profissional, 1-8 October 2011 (12h).
Estatística Descritiva
Teoria da Decisão

Testes de Hipóteses Paramétricos e Não-Paramétricos incluindo: t-student, ANOVA, Qui-quadrado, teste de Fisher, teste de Mann-Whitney e de Kruskal-Wallis
Análise de Correlação de Pearson e de Spearman
Características dos testes de diagnóstico (sensibilidade, especificidade, VPP, VPN, precisão) e Receiver Operating Curves

Lecturer:

- Human Physiology (Lab and theoretical classes) Integrated Master of Biomedical Engineering and Biophysics, 2nd cycle, 2nd Semester

Faculty of Medicine, University of Lisbon

- Brain Connectivity, Master in Cognitive Science (December 2013, 2014)

Lisbon School of Health Technology, Polytechnic Institute of Lisbon

2010-2015: Invited Adjunct Professor

- Coordinator: Magnetic Resonance Spectroscopy, Master of Radiations Applied to Health Technologies - 5th Edition, 2015 (30h)
- Coordinator: Magnetic Resonance Spectroscopy, Master of Radiations Applied to Health Technologies - 4th Edition, 2013 (30h)
- Lecturer: Non-Ionizing Radiations, Master of Radiations Applied to Health Technologies - 4th Edition, 2013 (4h)
- Coordinator: Magnetic Resonance Spectroscopy, Master of Radiations Applied to Health Technologies - 3th Edition, 2012 (24h)
- Coordinator: Magnetic Resonance Spectroscopy, Master of Radiations Applied to Health Technologies - 2nd Edition, 2011 (24h)
- Lecturer: Clinical Advances in Radiology, Master of Radiations Applied to Health Technologies - 2nd Edition, 2011 (16h)
- Lecturer: Biological Effects of Radiations, Master of Radiations Applied to Health Technologies - 2nd Edition, 2011 (4h)
- Lecturer: Semiotics Applied to Radiotherapy Planning, Master of Radiotherapy - 1st Edition, 2011 (15h)
- Coordinator: Magnetic Resonance Spectroscopy, Master of Radiations Applied to Health Technologies - 1st Edition, 2010 (24h)

Universidade Atlântica

- Espectroscopia por Ressonância Magnética, Curso de Ressonância Magnética do Cérebro, Curso de Formação Profissional, 11-26 November 2011 (4h)

Escola Superior de Saúde Ribeiro Sanches, Universidade Lusófona de Lisboa

October 2009- December 2011: Invited Assistant Professor

- Coordinator: Instrumentation II: Magnetic Resonance Imaging and Health Information Systems, Licenciatura em Radiologia, 1st semester (2h T + 2h L)

- Lecturer: Electrónica Geral (Lab classes), Licenciatura em Radiologia, 2nd semester (2h L)

November-December 2011: **Mestrado de Radiologia e Imagiologia:**

- Física em Tomografia Computorizada (2h)
- Evolução Tecnológica em Tomografia Computorizada (4h)
- Física e Evolução Tecnológica em Ressonância Magnética (3h30)

Instituto Superior Técnico, University of Lisbon

2000 – 2003: Teaching Assistant

- Física I of the Licenciatura em Engenharia Electrotécnica e de Computadores (LEEC) in the 2nd Semester of 2002/2003.
- Física II of the Licenciatura em Engenharia Informática e de Computadores (LEIC – TagusPark) in the 1st Semester of 2002/2003.
- Física I of the LEEC in the 2nd Semester of 2001/2002.
- Física II of the Licenciatura em Engenharia Civil (LEC) and of the Licenciatura em Engenharia do Território (LET) in the 1st Semester of 2001/2002.
- Física I of the LEEC in the 2nd Semester of 2000/2001.

Física Experimental of the LEIC – TagusPark, in the 1st Semestre of 2000/2001

9. Courses

Description of the courses I coordinate and for which I prepared the courses' programmes and contents. Also, you can find described other courses which I innovated.

Courses of the Integrated Master in Biomedical Engineering and Biophysics, Faculty of Sciences of the University of Lisbon

At the Faculty of Sciences of the University of Lisbon I kickstarted three novel courses: Nanotechnologies in Biomedicine; Tissue Engineering and Biomedical Engineering; and Medical Robotics. Later on, I started also coordinating the course on Neurosciences. I designed the contents of all these courses in such a way that they could open up novel perspectives to the biomedical engineering and biophysics students. I showed them fields of knowledge that they were not, typically, exposed to before during the course, or at least I made them look at these fields from a brand new perspective (e.g Neurosciences). Also, these courses tell a story and are seamlessly intertwined, such that student are endowed with an holistic view of biomedical engineering by the end of the year. The classes are typically expositive and students actively participate in the discussion of the classes' themes; in fact, they often bring a recent news report and/or questions to be discussed. Since these courses are highly multidisciplinary, in a single class we can discuss from qubits to conscioussness. In fact, in one class I demonstrate how the full digital content of the internet could be fitted in a 6-pack! Finally, the contents and evaluation of these courses are evolving each year, based on student feedback and also on the everyday scientific and technological developments. Therefore, the traditional bibliography is typically slower to keep up than what we discuss in classes, and as such we resource the most up-to-date to engaging digital media and content. Also, whenever possible we have lecturing guests and visits to labs of the specialties.

Finally, in the last few years all classes have been given in english as we have been having a number of foreign (ERAMUS) students.

Nanotechnologies in Biomedicine (2T) ([presentation teaser](#))

In this course we go 101 with nanotechnology and we discover that it is not as recent as we might expect. The [1959 Feynman's lecture](#) was a prophetic (which is cause and which is effect ?) view of the world below. In classes, we see today were Feynman's vision has led us, in particular in the field of biomedicine, and we compare the today's achievements to another hallmark of nanomedicine history: the 1966's movie the "The fantastic voyage". Small is beautiful that is the philosophy!

In this course students have had a focus on nanomedicine-related companies in one year and on another on microfluidics and nanorobotics. In yet another year, the evaluation included the interviewing of scientists working in nanomedicine, and more recently included the development of a "nano"-project which could involve modelling or the fabrication of a device (a group of students developed an [acetone biosensor](#) based on TiO₂ nanoparticles with the support of Killian Lobato, FCUL).

Finally, the evaluation also included [Nanophysics exercises](#) which I think are really fun! Unlike traditional exercises you do not find all the information you need to solve them in the statement, also they may not be an exact answer! That puzzles the students, but actually is what we find in real life!

The course themes are the following (and here is the [sinopsys](#)):

5. Bottom-up and Top-down approaches
6. Physics at the nanoscale: forces; nanoparticles, carbon nanotubes, nanowires and Qdots; micro and nanofluidics; nanodevices: sensors and actuators
7. Micro and nanofabrication techniques: materials; deposition; etching; lithography; molding; casting; genetically-inspired fabrication
8. Nanoscale Measurement techniques including SEM, TEM, AFM.
9. Cellular and molecular biology in nanomedicine: structural and functional molecules; membranes; cytoskeleton; channels; molecular machines; organelles; cells and viruses
10. Chemical synthesis and surface functionalization: surface chemistry; self-assembly; molecular imprinting; Pen-spotting
11. Applications: pharmaceutical formulas (viruses; liposomes, nanocapsules, nanoparticles, dendrimers); therapeutical approaches (antisense DNA, RNAi, CORMs; nanoparticles for hyperthermia); diagnostics (biosensors and biochips; microarrays); systems (microreactors; lab-on-a-chip devices; nanobots)
12. Nanotoxicity and safety; Ethics in nanomedicine

Tissue Engineering and Artificial Organs (2T) ([presentation teaser](#), includes as evaluation the short film presentation!)

In this course we span both the concepts and applications of tissue engineering and artificial organs. I also cover in this course the topic of Synthetic Biology, which I believe is a hot topic in research and will have a world transforming role in the future. Also, this topic is not covered elsewhere during the Master's course. Here is an example of a [synthetic biology](#)

[exercise](#) with application in the biomedical field. A great thing that we did was to have as evaluation a short movie concerning the themes of this course. I recommend you see the Zhayedan Project in the [Videos](#) page: really great! Finally, following the trends, last year I implemented in the course a 3D Printing exercise, as I believe that ever more we will have this technology in clinical practice! It has also been featured in Grays Anatomy! See here [an example](#).

The course themes are the following (and the synopsis can be found [here](#))

- Introduction to Tissue Engineering and Artificial Organs
- Arts and Literature perspective
- Tissue Engineering
 - Cell sources, cell culture, cell reprogramming and differentiation
 - Scaffolds and biomaterials
 - Production/Bioreactors
 - Bioprinting
 - Applications: skin; cartilage; tendons, ligaments and bone; pancreas; liver; kidney; cardiovascular system; nerves
- Synthetic Biology: concepts
- Artificial Organs
 - Concepts and applications: kidney; heart; lung; liver; pancreas; skin; voice box; uterus
- Ethical perspectives

Medical Robotics (2T) ([presentation teaser](#) from the first Medical Robotics course with a special opening screen music theme)

In this course I also wanted to take students further, so we covered the topics on medical robotics but also on human-computer interfaces and physiological computing. Additionally, inspired by a course I add during my physics engineering course (Sistemas de Aquisição de Dados, by Pedro Brogueira and Luis Melo) here I was able to implement a quite practical and hands-on course. At my student days, myself and two colleagues (Luís Cardoso and Ricardo Ferreira) built from scratch a 3D mouse with 6-degrees of freedom and we played [Descent 3D](#) with it! That was a thrilling sensation to have your ideas turning into something tangible. Additionally, I carried that feeling during my PhD at INESC-MN during which I designed, fabricated, surface-treated, bio-functionallized sensors and chips, designed and built hardware and programmed data acquisition software, analysed and interpreted data, well everything you can think of. So, in this course I wanted students to have the same feeling of bringing something to real life, either it be software applications or hardware!

Worth to mention that some of the works developed in this course were already presented, published and/or communicated as inventions and presented to investors!

The course themes are the following (here is the [synopsys](#)):

- Introduction to Medical Robotics
- Applications of Medical Robotics
- Surgical Robotics
- Biomimetics, exoskeletons, assistive technology and nanobots!
- Robot design, machine-learning and artificial intelligence
- Bionic senses and sensorial substitution

- Human-machine interfaces and physiological computing.
- Virtual and Augmented Reality
- Cybernetics and brain-computer interfaces
- Brain, the final frontier: brain as a device, simulated brain e brain-based devices
- Augmentation, transhumanism and singularity

In the restructuring of the Integrated Master in Biomedical Engineering and Biophysics that will be set in pace next semestre (see [Faculty Roles](#)) this course on Medical Robotics will evolve towards the course on Biomedical Engineering Innovation Lab, which will broaden the range of topics to encompass the possibility of development of devices and applications in fields other than medical robotics and human-computer interfaces. This novel course will also have 6 ECTS instead of the current 3 ECTS in order to translate a bolder ambition of the outputs of the course. Here is the [synopsis](#) of the course I prepared.

Neurosciences (3T + 2TP) ([presentation teaser](#))

When I started coordinating the course on Neurosciences I changed the approach to the contents, in order to provide a vision of neurosciences distinct from the traditional one more often based on biology/biophysics. In this course I especially flavored the approach of the engineer and of the IT scientist: the view of the brain as the most wonderful and intricate machine. The perception of existence and of life seem to the best of our knowledge originate from an ensemble of atoms and molecules organized in cells and tissues. How is consciousness emerging from this arrangement ? Our better in IT terms: how is software emerging from hardware ? What is really curious about brain and actually life is that function seem to derived/be encoded in structure be it atoms, molecules, cells, tissues or organism. Moreover, function then transforms structure via the process of evolution. Over the eons, a cycle of structure influences function influences structure has given rise to life and to thinking machines (bio ex machina). If we think about its complexity, the Brain is indeed the final frontier to be conquered!

Additionally, I introduced the practical classes. Given by background as a medical doctor and as a neuroscientist where we train the clinical neurological examination, we perform a personality assessment using neuropsychological tests and we discuss personality disorders. Given by work as a neuroscientist in medical imaging we learn how to use various neuromaging software as SPM, FSL and Diffusion Toolkit.

Finally, I introduced the mini-projects in neurosciences which may be driven by senior researchers (e.g. from IBEB) or driven by students themselves. This mini-projects are typically related to neuroimaging but also to brain-computer interfaces and other neurology-related electrophysiological signals (e.g. electromyography). Some of these projects have been presented in conferences of the specialty and have led to publications!

Here below are the themes lately covered in theoretical and practical classes, and here is the [synopsys](#).

Theoretical classes:

- The evolution of the nervous system: from communication between cells in colonies to the advent of the human brain.
- Neurons and the structural organization of brain: biology and similarities with information and communication technologies
- Conectivity and complexity: functional segregation and integration

- Brain development and ageing
- Brain functions: consciousness, emotion, sleep, pain, memory, language, learning, rehabilitation, decision
- Neuropsychiatric disorders (clinical lectures by guests) which may include: neuro-trauma, stroke, dementia, movement disorders, neuromuscular disorders, demyelinating disorders, epilepsy, migraines, infectious diseases, tumors, childhood and adolescence disorders, addiction, schizophrenia/psychosis, humor disorders, anxiety disorders, personality disorders, etc.
- Advanced topics: neuromarketing; neuromorphic computing

The theoretical-practical component is organized according to the main themes:

- Clinical assessments: demonstration and training
- Experimental neurosciences: bench-top lab study of the central nervous system
- Person-machine interfaces and brain-computer interfaces
- Post-processing of medical imaging data including the software tools: SPM, FSL and tractography post-processing.

Medical Equipment I (2 TP)

Last semester I picked up the practical classes of this course and gave it a spin! I showed students novel means to innovate on biomedical equipment design by deconstructing the reasoning behind needs and technology and by showcasing them recently developed biomedical devices. Also we saw "novel" methods of fabrication and the DIY, Maker, and Open philosophies. The tools of today, including 3D printing, laser cutting. How to finance the product development resourcing to crowdfunding platforms. The evaluation of the practical component was the presentation of a [Indiegogo](#) page about the biomedical device the students designed during the semester. I believe some of the concepts do really have potential (take a look at the [example](#)). Below you will find how were the classes organized.

- Class 1: Presentation of the practical classes of the course on Medical Equipment I.
- Class 2: Medical equipment: design principles. Needs and technology.
- Class 3: Medical equipment: design principles. Qualcomm Tricorder X-prize - part I
- Class 4: Medical equipment: design principles. Qualcomm Tricorder X-prize - part II
- Class 5: Medical equipment: design principles. Qualcomm Tricorder X-prize - part III
- Class 6: Student presentations of their designs and discussion - part I
- Class 7: Biomedical devices for the consumer market: Scanadu, Fitbit, Vital Jacket, wearables for health.
- Class 8: Biomedical devices for the consumer market: Nymi, Bitalino, Neurosky, Emotiv, Muse, Myo.
- Class 9: Biomedical devices for the consumer market: Neurophone, Kinect, LeapMotion, Eyetribe, Mobile apps.
- Class 10: Student presentations of their designs and discussion - part II
- Class 11: DIY and Maker movements. Tools: 3D Scanning, Laser Cutter, 3D Printer, CNC, Arduino. Open Hardware and Open Software.
- Class 12: Crowdfunding and crowdsourcing.
- Class 13: Student presentations of their designs and discussion - part III (final).
- Class 14: Sum up and closing of the course.

Magnetic Resonance Spectroscopy (26T + 4L)

This course is designed as advanced Magnetic Resonance Imaging course for radiographers and others from similar fields. It covers both basic and advanced concepts in Magnetic Resonance Spectroscopy (MRS), as well as technical aspects regarding data acquisition and post-processing. Clinical applications in brain, breast, prostate and others are discussed. The course also includes a laboratory class for MRS data processing and interpretation.

The course planning is the following:

- Class 1: Introduction to Magnetic Resonance Spectroscopy (MRS)
- Class 2: Principles of MRS, including chemical shift, J coupling, dipole-dipole coupling, sequences, spectrum, quality parameters
- Class 3: Data acquisition and post-processing, including application of time and frequency domain algorithms, quantification
- Class 4: Lab class on data processing and interpretation
- Class 5: Spectroscopy at 3T and ultra-high fields
- Class 6: Applications: Neuro, Breast and Prostate
- Class 7: Multinuclear spectroscopy, including Nuclear Overhauser Effect, and Decoupling
- Class 8: Advanced Techniques, including 2D localization, and Spectral Editing
- Class 9: Student presentations
- Class 10: Examination

Escola Superior de Saúde Ribeiro Sanches (ERISA), Universidade Lusófona de Lisboa

Instrumentation II: Magnetic Resonance Imaging and Health Information Systems (2T + 2L)

When, I started at ERISA this course was already running. Nonetheless, I newly prepared all the contents of the course. In particular, I introduced for the first time most of the contents in English (the classes were in Portuguese, though) in order to better prepare students for going abroad. The bet paid off and today I have a number of former students in the UK working and having success. Also, I created a comprehensive and challenging program for the "Lab" classes.

Theoretical classes

MAGNETIC RESONANCE IMAGING (MRI)

Principles of MRI

- Introduction
- The proton in the magnetic field
- Relaxation time
- Pulse sequences (Spin echo, Gradient echo, others)
- Fast imaging acquisition techniques
- From MRI signal to image

MRI scanners

- MRI scanner "zoology" and economics
- Magnets
- Gradient coil systems
- Radiofrequency coil systems
- Receiver coil systems
- Computing platforms and electronic cabinets
- Ultra-high fields

Applications

- Clinical examination procedures
- Routine examinations
- Advances applications
- Post-processing special topics
- Research and the future of MRI

HEALTH INFORMATION SYSTEMS (HIS)

- Radiology Information Systems (RIS)
- Hospital Information Systems (HIS)
- DICOM standard and HL7 Protocol
- Image digitizing systems
- Digital acquisition
- Picture archive and communication systems (PACS)
- Digital storing solutions
- Visualization/diagnostic consoles
- Optimization of workflows in Radiology
- Teleradiology and Telemedicine
- Electronic Patient Records (EPR)
- Health management systems

Laboratory classes

[Lab manual and worksheets](#)

10. Supervisions

Presently supervising 5 PhD theses and co-supervising other 2 PhD theses.

Presently supervising and co-supervising other 16 MSc theses.

Supervised or co-supervised 39 MSc theses since 2011.

PhD theses

2014-present: "Brain language connectivity analysis and intraoperative neurophysiologic techniques in eloquent brain areas low-grade gliomas", João Leote, Doutoramento em Engenharia Biomédica, Faculdade de Ciências da Universidade de Lisboa.

2014-present: "Multimodal Imaging Genetics of Alzheimer's Disease", Filipa Lucena, Doutoramento em Engenharia Biomédica, Faculdade de Ciências da Universidade de Lisboa.

2014-present: "Kinetic and connectivity analysis of brain tumors using PET/MRI data", Tânia Vaz, Doutoramento em Engenharia Biomédica, Faculdade de Ciências da Universidade de Lisboa.

2014-present: "Investigation of magnetic resonance imaging techniques in the study of prostate cancer in the face of negative biopsy: can MRI replace PCA3 test?", Nuno Adubeiro, Doutoramento em Ciências Biomédicas, Instituto de Ciências Biomédicas Abel Salazar. (co-supervisor)

2013-present: "Investigation of brain connectivity changes due to the use of brain-computer interfaces (BCI) and of methods to improve user-BCI adaptation", Ricardo Maximiano, Doutoramento em Engenharia Biomédica, Faculdade de Ciências da Universidade de Lisboa.

2013-present: "Diffusion weighted imaging of breast tumors", Filipa Borlinhas, Doutoramento em Engenharia Biomédica, Faculdade de Ciências da Universidade de Lisboa

2013-present: "Microcirculation assessment using laser doppler flowmetry and advanced data analysis", Henrique Silva, Doutoramento em Ciências da Saúde, Universidade de Alcalá e Universidade Lusófona (co-supervisor)

Master theses in Biomedical Engineering (& Biophysics)

2015

- Patrícia Alexandra Afonso Zoio, "[Modeling and design of an electromagnetic actuation system for the manipulation of microrobots in blood vessels](#)", Master thesis in Biomedical Engineering and Biophysics, Faculty of Sciences, University of Lisbon, 2015. (jury member)
- Carolina Bértolo, "[Dispositivo para monitorização em tempo real da síntese e da hipertermia mediada por nanopartículas de ouro](#)", Master thesis in Biomedical Engineering and Biophysics, Faculty of Sciences, University of Lisbon, 2015.
- André João de Jesus Sousa Ticló, "Análise da evolução da conectividade estrutural em doentes de Parkinson", Master thesis in Biomedical Engineering, Faculty of Sciences and Technology, New University of Lisbon, 2015.

2014

- Joana Paula Fontinha de Brito, "[Dynamic functional connectivity of BOLD fMRI signal during both rest and task execution states](#)", Master thesis in Biomedical Engineering and Biophysics, Faculty of Sciences, University of Lisbon, 2014.
- Vânia Sofia Santos Tavares, "[Epileptogenic focus localization and complexity analysis of its BOLD signal](#)", Master thesis in Biomedical Engineering and Biophysics, Faculty of Sciences, University of Lisbon, 2014.

- Frederico Ribeiro da Silva Severo, "[A 31P MR spectroscopy study on rat models of liver disease](#)", Master thesis in Biomedical Engineering and Biophysics, Faculty of Sciences, University of Lisbon, 2014.
- Danielle Ferreira Baptista, "[Tailoring crimp patterns on electrospun fibers by using thermal shrinkage](#)", Master thesis in Biomedical Engineering and Biophysics, Faculty of Sciences, University of Lisbon, 2014. (jury member)
- Ana Rita Estevão Rocha, "[Drug delivery of methyl-carboxilated 5-fluorouracil by means of human serum albumin microcarriers](#)", Master thesis in Biomedical Engineering and Biophysics, Faculty of Sciences, University of Lisbon, 2014.
- José Gregório Gonçalves Oliveira, "[Colete inteligente para contenção e monitorização electrocardiográfica pós cirurgia cardíaca](#)", Master thesis in Biomedical Engineering and Biophysics, Faculty of Sciences, University of Lisbon, 2014. (jury member)
- Andreia Isabel Cândido e Silva, "[Nanotopographic device for neural subtypes segregation](#)", Master thesis in Biomedical Engineering and Biophysics, Faculty of Sciences, University of Lisbon, 2014. (jury member)
- Miguel João Marques Barreiros, "[Development of a rapid prototyping method for hard polymer microfluidic systems tested through iterative design of a PCR chamber chip](#)", Master thesis in Biomedical Engineering and Biophysics, Faculty of Sciences, University of Lisbon, 2014. (jury member)
- Ricardo Filipe Henriques Ribeiro, "[Desenvolvimento de uma interface de visualização de conectividade cerebral usando realidade virtual e controlo por gestos](#)", Master thesis in Biomedical Engineering, Faculty of Sciences and Technology, New University of Lisbon, 2014. (jury member)
- Inês Gomes Sá Neiva, "[Desenvolvimento de um tradutor de Língua Gestual Portuguesa](#)", Master thesis in Biomedical Engineering, Faculty of Sciences and Technology, New University of Lisbon, 2014. (jury member)
- Vanessa Sofia Gomes Leitão, "[Imagem por curtose de difusão em doenças neurodegenerativas](#)", Master thesis in Biomedical Engineering, Faculty of Sciences and Technology, New University of Lisbon, 2014.
- André Ricardo Cabral Queirós, "[Plataforma smartphone para biossensores de espectroscopia de infravermelho próximo](#)", Master thesis in Biomedical Engineering, Faculty of Sciences and Technology, New University of Lisbon, 2014. (jury member)

2013

- João Marcos Silva Sousa, "[Análise da conectividade estrutural na doença de Parkinson](#)", Master thesis in Biomedical Engineering, Faculty of Sciences and Technology, New University of Lisbon, 2013. (jury member)
- Fábio André Barbosa Nascimento, "[Desenvolvimento de interface pessoa-máquina para geração de sensações tácteis](#)", Master thesis in Biomedical Engineering, Faculty of Sciences and Technology, New University of Lisbon, 2013. (jury member)

- César Augusto Cardoso Rodrigues, "[Touchless autopsy report](#)", Master thesis in Biomedical Engineering, Faculty of Sciences and Technology, New University of Lisbon, 2013. (jury member)
- André Francisco Oliveira Girão, "[Selective functionalization of electrospun fibres](#)", Master thesis in Biomedical Engineering and Biophysics, Faculty of Sciences, University of Lisbon, 2013.
- João Pedro Alves Martins, "[Design and fabrication by inkjet printing of electrodes for electromyography](#)", Master thesis in Biomedical Engineering and Biophysics, Faculty of Sciences, University of Lisbon, 2013.
- Tiago João dos Santos Fernandes Ferro, "[Isolation, characterization and Ex-Vivo expansion of human synovial tissue derived-mesenchymal stem/stromal cells](#)", Master thesis in Biomedical Engineering and Biophysics, Faculty of Sciences, University of Lisbon, 2013.

2012

- Ana Sofia Arrojado Barbosa, "[O processo de colocação no mercado de um equipamento de imagiologia: registo, marketing, proposta, instalação, aplicações e manutenção](#)", Master thesis in Biomedical Engineering and Biophysics, Faculty of Sciences, University of Lisbon, 2012. (jury member)
- Catarina Alexandra de Sousa Neves, "[Qualidade em saúde: otimização de sistemas de informação](#)", Master thesis in Biomedical Engineering and Biophysics, Faculty of Sciences, University of Lisbon, 2012. (jury member)
- André de Albuquerque Rino Loureiro de Amorim, "[Study of the influence of a DC electric field on the development of the embryo of the nematode Caenorhabditis elegans](#)", Master thesis in Biomedical Engineering and Biophysics, Faculty of Sciences, University of Lisbon, 2012. (jury member)
- Ana Catarina Valente Ferreira, "[Predicting muscle fibre type composition through joint mechanics](#)", Master thesis in Biomedical Engineering and Biophysics, Faculty of Sciences, University of Lisbon, 2012. (jury member)
- Rafael Neto Henriques, "[Diffusion kurtosis imaging of the healthy human brain](#)", Master thesis in Biomedical Engineering and Biophysics, Faculty of Sciences, University of Lisbon, 2012. (jury member)
- Luís Miguel Rosa Sousa Prado de Lacerda, "[HARDI Methods: tractography reconstructions and automatic parcellation of brain connectivity](#)", Master thesis in Biomedical Engineering and Biophysics, Faculty of Sciences, University of Lisbon, 2012. (jury member)

Master theses in Radiology

2015

- António Pedro Magalhães Ferreira, "Transcranial Magnetic Resonance guided Focused Ultrasound – Neurosurgery applications", Mestrado em Radiações Aplicadas às

Tecnologias da Saúde, Escola Superior de Tecnologia da Saúde de Lisboa, Instituto Politécnico de Lisboa, 2015. (jury member)

- João Daniel Santo Casimiro, "Exposição ocupacional a campos electromagnéticos em ressonância magnética", Mestrado em Radiações Aplicadas às Tecnologias da Saúde, Escola Superior de Tecnologia da Saúde de Lisboa, Instituto Politécnico de Lisboa, 2015. (jury member)

2014

- Catarina Andrade Teles de Viterbo, "[Avaliação por fMRI do córtex visual, motor e auditivo através de estimulação sensoriomotora e sonora em desportistas invisuais e desportistas sem deficiência visual](#)", Mestrado em Radiações Aplicadas às Tecnologias da Saúde, Escola Superior de Tecnologia da Saúde de Lisboa, Instituto Politécnico de Lisboa, 2014. (jury member)
- Mafalda Geraldo Ferreira Amaro Peres, "[Mapeamento das regiões cerebrais associadas ao engano](#)", Mestrado em Radiações Aplicadas às Tecnologias da Saúde, Escola Superior de Tecnologia da Saúde de Lisboa, Instituto Politécnico de Lisboa, 2014. (jury member)
- Nuno Miguel Paiva Martins, "Estudo cinético da coluna lombar por ressonância magnética: comportamento da morfologia do canal vertebral lombar na patologia do canal estenótico com os membros inferiores em flexão e extensão", Mestrado em Radiações Aplicadas às Tecnologias da Saúde, Escola Superior de Tecnologia da Saúde de Lisboa, Instituto Politécnico de Lisboa, 2014. (jury member)

2013

- Regina Rosa, "[Análise quantitativa da saturação de gordura em ressonância magnética mamária: comparação das técnicas SPAIR e DIXON](#)", Mestrado em Radiações Aplicadas às Tecnologias da Saúde, Escola Superior de Tecnologia da Saúde de Lisboa, Instituto Politécnico de Lisboa, 2013. (jury member)
- Ana Marta Moreira Sarmiento, "Utilidade dos parâmetros de difusão e perfusão com contraste por ressonância magnética no diagnóstico diferencial de lesões de doentes submetidas a quimioterapia neoadjuvante: estudo de casos", Mestrado em Radiações Aplicadas às Tecnologias da Saúde, Escola Superior de Tecnologia da Saúde de Lisboa, Instituto Politécnico de Lisboa, 2013. (jury member)

2012

- Ana Catarina Costeira Borralho, "[Avaliação de dados funcionais em repouso do cérebro normal: causalidade de Granger](#)", Mestrado em Radiações Aplicadas às Tecnologias da Saúde, Escola Superior de Tecnologia da Saúde de Lisboa, Instituto Politécnico de Lisboa, 2012. (jury member)
- Sandra Cristina Jorge da Silva, "[Caracterização de regiões encefálicas no cérebro normal por tensor de difusão e aplicação à epilepsia pós-traumática](#)", Mestrado em Radiações Aplicadas às Tecnologias da Saúde, Escola Superior de Tecnologia da Saúde de Lisboa, Instituto Politécnico de Lisboa, 2012. (jury member)
- Carmen Sofia dos Santos Ferra, "[Conectividade estrutural do cérebro](#)", Mestrado em Radiações Aplicadas às Tecnologias da Saúde, Escola Superior de Tecnologia da Saúde de Lisboa, Instituto Politécnico de Lisboa, 2012. (jury member)

- Filipa Borlinhas, "[Quantificação da difusão na ressonância magnética da mama: ADC e Kurtosis](#)", Mestrado em Radiações Aplicadas às Tecnologias da Saúde, Escola Superior de Tecnologia da Saúde de Lisboa, Instituto Politécnico de Lisboa, 2012. (jury member)

Master theses in Product Design

2013

- Marta Sofia Santos Ribeiro, "[Iluminação emocional, percepção visual e bem-estar - design de iluminação para aplicação em espaços de saúde](#)", Mestrado em Design de Produto, Faculdade de Arquitectura da Universidade de Lisboa, 2013. (jury member)

11. Other Supervisions

Bachelor theses

2014

- "Analysis of ECG signal for video gaming control", Adam Chec, Bachelor thesis in Biomedical Engineering, Lodz University of Technology (co-supervision)

2012

- "Espectroscopia na caracterização de gliomas em pediatria", António Pedro Magalhães Ferreira, Bachelor thesis in Radiology, Universidade Atlântica.
- "Avaliação multiparamétrica de tumores da próstata: espectroscopia, difusão e perfusão", Ana Teresa Varandas, Diana Esteves, Marina Matos e Rui Campos, Bachelor thesis in Radiology, Escola Superior de Saúde Ribeiro Sanches, Universidade Lusófona.

2011

- "Caracterização metabólica do cérebro por espectroscopia em ressonância magnética", Soraia Sousa, Dário Prudêncio, Bruno Sardinha e André Marques, Bachelor thesis in Radiology, Escola Superior de Saúde Ribeiro Sanches, Universidade Lusófona.

Research internships/scholarships

2015

- "Study of brain connectivity in Parkinson's Disease patients", Mateusz Marynowski, Internship, Instituto de Biofísica e Engenharia Biomédica, Faculdade de Ciências da Universidade de Lisboa.
- "Analysis of DTI and DKI metrics", Karolina Elsner, Internship, Instituto de Biofísica e Engenharia Biomédica, Faculdade de Ciências da Universidade de Lisboa.
- "Self hand-rehabilitation system based on wearable technology", Rastislav Lipovsky, Internship, Instituto de Biofísica e Engenharia Biomédica, Faculdade de Ciências da Universidade de Lisboa.

2014

- "Physiological computing gaming: Use of electrocardiogram as an input for video gaming", Adam Chec, Instituto de Biofísica e Engenharia Biomédica, Faculdade de Ciências da Universidade de Lisboa.
- "Avaliação da complexidade de sinais BOLD em epilepsia", Vânia Tavares, Instituto de Biofísica e Engenharia Biomédica, Faculdade de Ciências da Universidade de Lisboa (Bolsa PTDC/SAU-ENB/120718/2010).
- "Conectividade dinâmica", Joana Brito, Instituto de Biofísica e Engenharia Biomédica, Faculdade de Ciências da Universidade de Lisboa (Bolsa PTDC/SAU-ENB/120718/2010).
- "Análise de conectividade cerebral usando imagem multimodal", Ana Carina Mendes, Instituto de Biofísica e Engenharia Biomédica, Faculdade de Ciências da Universidade de Lisboa (Bolsa PTDC/SAU-ENB/120718/2010).
- "Análise de Conectividade em Epilepsia", Nivaldo Pereira, Instituto de Biofísica e Engenharia Biomédica, Faculdade de Ciências da Universidade de Lisboa (Bolsa PTDC/SAU-ENB/120718/2010).
- "Ferramenta de Conectividade Cerebral a partir de Imagem Multimodal", Francisco Fernandes, Instituto de Biofísica e Engenharia Biomédica, Faculdade de Ciências da Universidade de Lisboa (Bolsa PTDC/SAU-ENB/120718/2010).
- "Classificação de Dados de Conectividade e Complexidade Cerebral", Ricardo Maximiano, Instituto de Biofísica e Engenharia Biomédica, Faculdade de Ciências da Universidade de Lisboa (Bolsa PTDC/SAU-ENB/120718/2010).

2013-2014

- "Physiological Computing: desenvolvimento de uma aplicação para ouvir música de acordo com estados emocionais", Inês Cruz, Instituto de Biofísica e Engenharia Biomédica, Faculdade de Ciências da Universidade de Lisboa (Bolsa Fundação Amadeu Dias - Universidade de Lisboa).

2013

- "Estudo dos valores de curtose de difusão na substância cinzenta com base em modelos multi-compartimentais", David Sousa, Bachelor project in Physics, Faculdade de Ciências da Universidade de Lisboa.
- "Characterization of gray matter in the limbic system", Ana Carina Pereira Mendes, Estágio 3º ano Mestrado integrado em Engenharia Biomédica e Biofísica, Faculdade de Ciências da Universidade de Lisboa.
- "Desenvolvimento de software de visualização de imagem médica", Gustavo Ribeiro, Estágio 3º ano Mestrado integrado em Engenharia Biomédica e Biofísica, Faculdade de Ciências da Universidade de Lisboa.
- "Electromiógrafo: princípios de design e desenvolvimento de um protótipo", Rui Santos, Estágio 3º ano Mestrado integrado em Engenharia Biomédica e Biofísica, Faculdade de Ciências da Universidade de Lisboa.

- "Development of a BCI Application Using Neurosky Mindband and Lego Mindstorms", Diogo Duarte, Estágio 3º ano Mestrado integrado em Engenharia Biomédica e Biofísica, Faculdade de Ciências da Universidade de Lisboa.
- 2013: "Conectividade Anatômica", André Santos Ribeiro, Instituto de Biofísica e Engenharia Biomédica, Faculdade de Ciências da Universidade de Lisboa (Bolsa PTDC/SAU-ENB/120718/2010).

2012-2013

- "Tractografia obtida a partir de dados de tensor de curvatura de difusão", Rafael Neto Henriques, Instituto de Biofísica e Engenharia Biomédica, Faculdade de Ciências da Universidade de Lisboa (Bolsa PTDC/SAU-ENB/120718/2010)
- "Interface músculo-computador", Ricardo Santos, Instituto de Biofísica e Engenharia Biomédica, Faculdade de Ciências da Universidade de Lisboa (Bolsa Fundação Amadeu Dias - Universidade de Lisboa)
- "Conectividade estrutural do cérebro", Luís Lacerda, Instituto de Biofísica e Engenharia Biomédica, Faculdade de Ciências da Universidade de Lisboa (Bolsa PTDC/SAU-ENB/120718/2010)
- "Brain-computer interface e machine-learning", Ricardo Maximiano, Instituto de Biofísica e Engenharia Biomédica, Faculdade de Ciências da Universidade de Lisboa (Bolsa PEst-OE/SAU/UI0645/2011)

2012

- "Tele-controlo da imagem médica: interpretação de padrões cerebrais e reconhecimento de movimento à distância", Nuno André da Silva, Instituto de Biofísica e Engenharia Biomédica, Faculdade de Ciências da Universidade de Lisboa (Bolsa PEst-OE/SAU/UI0645/2011)
- "Plataforma smartphone como interface para biosensores", André Ribeiro, Instituto de Biofísica e Engenharia Biomédica, Faculdade de Ciências da Universidade de Lisboa (Bolsa PEst-OE/SAU/UI0645/2011)
- "Fractal analysis of Laser Doppler Flowmetry of human skin microcirculation", Catarina Fernandes, Internship, Instituto de Biofísica e Engenharia Biomédica, Faculdade de Ciências da Universidade de Lisboa

2011

- "Wavelet analysis of BOLD signals", Ângelo Dias, Internship, Instituto de Biofísica e Engenharia Biomédica, Faculdade de Ciências da Universidade de Lisboa
- "Evaluation of connectivity dynamics of resting-state networks using independent component analysis", Márcia Santos, Internship, Instituto de Biofísica e Engenharia Biomédica, Faculdade de Ciências da Universidade de Lisboa
- "Multi-scale entropy analysis of BOLD signals", Ana Rocha, Estágio 3º ano Mestrado integrado em Engenharia Biomédica e Biofísica, Faculdade de Ciências da Universidade de Lisboa.

2010

- “Diffusion Kurtosis Imaging”, Luís Lacerda, Estágio 3º ano Mestrado integrado em Engenharia Biomédica e Biofísica, Faculdade de Ciências da Universidade de Lisboa.

2009-2010

- “Voxel based morphometry of the thalamus in temporal lobe epilepsy”, Catarina Rua, Instituto de Biofísica e Engenharia Biomédica, Faculdade de Ciências da Universidade de Lisboa (Bolsa de Iniciação à Investigação)

12. Jury

For participation in the jury as supervisor please see section entitled Supervisions.

PhD Theses

- Maria Luísa Gomes Pinto Nogueira, "Caracterização de lesões mamárias por RM 3T - aplicação da técnica de difusão", PhD thesis in Biomedicine, Faculty of Medicine, University of Porto, 2015 (as examiner, still to be defended).

Master Theses in Biomedical Engineering

- Joana Ministro dos Santos Caldas Pereira, "[Goal-directed reaching arm movements: an EEG study](#)", Master thesis in Biomedical Engineering and Biophysics, Faculty of Sciences, University of Lisbon, 2015. (as examiner)
- Melissa Raquel da Silva Botelho, "[Improving resolution for the Siemens 3T MR-BrainPET](#)", Master thesis in Biomedical Engineering and Biophysics, Faculty of Sciences, University of Lisbon, 2015. (as examiner)
- Carla Alexandra Gonçalves Semedo, "[Partial volume correction using bimodal contrast agents in PET-MRI](#)", Master thesis in Biomedical Engineering and Biophysics, Faculty of Sciences, University of Lisbon, 2014. (as examiner)
- Filipa da Conceição dos Santos Rodrigues, "[Diagnosis of Alzheimer's disease from 3D images of the brain along time](#)", Master thesis in Biomedical Engineering and Biophysics, Faculty of Sciences, University of Lisbon, 2014. (as examiner)
- Ana Carolina Correia da Silva Pádua, "[Projecto de um bio-reactor para cultura celular em membranas tubulares](#)", Master thesis in Biomedical Engineering, Faculty of Sciences and Technology, New University of Lisbon, 2014. (as examiner)
- Luís Guilherme Lobo Oliveira, "[Desenvolvimento de modelos numéricos da zona axilar a utilizar em imagem por micro-ondas como complemento ao diagnóstico do cancro da mama](#)", Master thesis in Biomedical Engineering and Biophysics, Faculty of Sciences, University of Lisbon, 2014. (as president of the jury)
- Catarina Correia de Freitas, "[Methodological study on diffusion tensor indices in MS: analysis, challenges and outcomes](#)", Master thesis in Biomedical Engineering and Biophysics, Faculty of Sciences, University of Lisbon, 2013. (as president of the jury)

- Ana Filipa Canha Figueira, "[Human brain networks: an investigation on cortical thickness, resting-state fMRI and structural connectivity as assessed by tractography](#)", Master thesis in Biomedical Engineering and Biophysics, Faculty of Sciences, University of Lisbon, 2013. (as examiner)
- Ana Rita Santos Leal, "[Optimization of Brain-Computer Interfaces using electric stimulation to modulate neuroplasticity](#)", Master thesis in Biomedical Engineering, Instituto Superior Técnico, University of Lisbon, 2013. (as examiner)
- Catarina Dinis Fernandes, "[Resting state fMRI experimental and analytical methodology: a functional connectivity analysis](#)", Master thesis in Biomedical Engineering and Biophysics, Faculty of Sciences, University of Lisbon, 2013. (as examiner)
- Nuno André Inácio Rodrigues da Silva, "[On the use of image derived input function for quantitative PET imaging with a simultaneous measuring MR-BrainPET](#)", Master thesis in Biomedical Engineering and Biophysics, Faculty of Sciences, University of Lisbon, 2012. (as examiner)

Master Theses in Radiology

- Vera Lúcia Dias Coutinho, “Prevenção da nefropatia induzida por contraste em exames de tomografia computadorizada”, Master thesis in Radiology and Imagiology, Escola Superior de Saúde Ribeiro Sanches, Universidade Lusófona, 2014. (as examiner)

Equivalency for Speciality

- Ana Maria Pimenta Moreira do Espírito Santo, Title for Specialist in Health Sciences, Universidade Lusófona. (as examiner)

Scholarship applications

- Evaluation of applications for Master's scholarship "Tractografia cerebral em epilepsia" no âmbito do projeto/instituição de I&D “Neuroimagem dinâmica em epilepsia”/Instituto de Biofísica e Engenharia Biomédica, referência PTDC/SAU-ENB/112294/2009, , financiado por fundos nacionais através da FCT/MEC (PIDDAC) no âmbito do programa Programa em Todos os Domínios Científicos
- Evaluation of applications for scholarships in the scope of the project Avaliação multi-paramétrica da conectividade do sistema límbico em doentes com epilepsia pós-traumática”, PTDC/SAU-ENB/120718/2010, financiado por fundos nacionais através da FCT/MEC (PIDDAC) no âmbito do programa Programa em Todos os Domínios Científicos (see list under the Other Supervisions' section)

Evaluation of Project Applications

2015: Evaluator and Rapporteur for COST

13. Research Topics

Please see personal webpage for additional visual description of past and present research topics (as far as I can already make them public):

<http://hatdferreira.wix.com/bioexmachina#!project/cngp>

Present Research Topics

Multimodal Imaging: brain connectivity analysis including T1-weighted and diffusion tensor and kurtosis imaging, functional MRI (blood-oxygen level dependent - BOLD), and positron-emission tomography (PET); Diffusion Kurtosis Imaging (DKI); Head, Breast and Prostate diffusion for oncology;

MRI and Nanomedicine/Tissue Engineering: molecular imaging and cell tracking; MRI nanorobotics for hyperthermia and drug delivery; MRI and Tissue Engineering; smart polymers;

Human-Computer Interfaces and Physiological Computing, including Brain-Computer Interfaces (BCI) and assessment of microvascular physiology as a source of information for Physiological Computing.

Data Mining and Classification: use of machine-learning algorithms for studying large neuroimaging and electroencephalography datasets for earlier diagnosis. (started 2015, as part following my roadmap for research medical imaging and biosignals)

Potential future topic - magnetoresistive neuromorphic chips: The idea is to use magnetoresistive sensors to mimitize/replicate the structural and functional organization of a brain network. Here, knowledge drawn from present research on brain connectivity and neuro-data mining and classification will be combined with past PhD research on magnetoresistive sensors and biochips.

14. Team

PhD students

- Filipa Borlinhas, *Breast imaging* (joint supervision with Raquel Conceição, Oxford and IBEB)
- Ricardo Maximiano, *Brain-computer interfaces, Machine-learning* (joint supervision with Mamede Carvalho, IMM)
- Tânia Vaz, *PET-MRI kinetics and connectivity* (joint supervision with Nuno Matela, IBEB)
- Filipa Lucena, *Imaging genetics connectivity in Alzheimer's Disease* (joint supervision with Nuno Matela, IBEB)
- João Leote, *Diffusion, language and surgical planning* (joint supervision with Rita Nunes)
- Henrique Silva, *Microvascular research* (supervisor Luís Monteiro Rodrigues, CBIOS)
- Nuno Adubeiro, *Prostate MRI*, (supervisor José Maria LaFuente, ICBAS)

Graduated researchers

- Vânia Tavares, *Neuroimaging, Physiological computing/Human-computer Interfaces*
- Joana Brito, *Neuroimaging, Physiological computing/Human-computer Interfaces*
- Rogério Normand, *Electroencephalography, Machine-learning*
- Rafael Neto Henriques, *Diffusion kurtosis imaging*, @ [MRC-CBU](#)
- Luís Miguel Lacerda, *Multimodal brain connectivity*, @ [King's College London](#)
- André Santos Ribeiro, *Multimodal brain connectivity*, @ [Imperial College London](#)

Master thesis students

- Rui Pinto, *Brain-computer interfaces for neuro-rehabilitation* (joint supervision with Hugo Gamboa, FCT-UNL)
- Filipe Rodrigues, *Gesture controlled interface, haptics and Virtual Reality*
- João Sousa, *Immersion room for psychiatric studies*
- Francisco Pinto, *Muscle-compute interface for neuro-rehabilitation*
- Jorge Dias, *Neurofeedback and Virtual Reality*
- Marcelo Costa, *Electromyography and haptics device*
- Ana Rita Moital, *Electromyography-controlled exoskeleton* (supervisor Sanja Dogramadzi, Bristol Robotics Laboratory)
- Marco Miguel, *Haptic device* (joint supervision with José Luís Ferreira, GREAT)
- Raquel Almeida, *Neuroimaging classification* (joint supervision with Carla Quintão, IBEB)
- Inês Branco, *Development of a sports gear* (joint supervision with Daniel Vale, Swift Hockey)
- Ricardo Loução, *Diffusion kurtosis tractography-based structural connectivity* (joint supervision with Rita Nunes, IBEB)
- Ana Carina Mendes, *PET-MRI brain connectivity in patients with brain tumors* (joint supervision with Ana-Maria Oros-Peusquens, INM-4, FZJ)
- Tiago Constantino, *Multimodal connectivity of Parkinson's Disease patients*
- Nivaldo Pereira, *Pre-surgical planning MRI* (joint supervision with Luís Cerqueira, Hospital de São José)
- Tiago Martins, *Simulation of gold nanoparticle-mediated hyperthermia via use of a NIR laser* (joint supervision with João Coelho, IBEB)
- Rita Gigante, *Magnetic + polycaprolactone "smart" polymers for biomedical applications* (joint supervision with Liliana Ferreira, BioISI)

Bachelor thesis students

- Karoline Elsner, *Study of diffusion kurtosis imaging metrics*
- Paulo Costa, *Brain-computer interfaces and robotics*
- Tiago Castanheira, *Multimodal brain connectivity* (supervisor Diana Prata IMM)

Other research internships

- David Sousa, *Diffusion kurtosis imaging modelling and Monte-Carlo simulation, distributed computing*
- Rastislav Lipovsky, *Muscle-computer interface, robotic glove and gamming application for neuro-rehabilitation*

IBEB collaborators

- Rita Nunes
- Alexandre Andrade
- Raquel Conceição
- Nuno Matela
- Matilde Pato
- Ricardo Salvador
- João Coelho
- Pedro Almeida
- Pedro Miranda

External collaborators (others not yet mentioned above or in institutional collaborations)

- José Paulo Santos, INEB, *Consumer neuroscience*
- Joana Ramalho, returning now to Portugal, *Pre-surgical planning using RSNs, Vascular MRI*

***See team members for brain connectivity research project [here](#).**

15. Collaborations

Please see: <http://hatdferreira.wix.com/bioexmachina#!collaborations/cn6t>

Industrial Collaborations

- Plux
- CrowdProcess
- Swift Hockey Technology
- Museum of Universal Values

International R&D Institutions

- MRC Cognition and Brain Sciences Unit, United Kingdom
- Institute of Neuroscience and Medicine, Medical Imaging Physics (INM-4), Forschungszentrum Jülich, Germany
- Institute of Knowledge Discovery (BCI-Lab), Technical University of Graz, Austria
- Department of Neuroimaging, Institute of Psychiatry, Psychology and Neuroscience, King's College London, United Kingdom
- Division of Brain Sciences, Centre for NeuroPsychoPharmacology, Imperial College London

National R&D Institutions

- Centre for Rapid and Sustainable Product Development, Polytechnic Institute of Leiria
- Magnetic Nanosystems Group, Biosystems & Integrative Sciences Institute, FCUL
- Agents and Systems Modelling, Biosystems & Integrative Sciences Institute, FCUL
- Large-Scale Informatics System Laboratory, FCUL
- Organic Electronics Group, Instituto de Telecomunicações, IST, UL

- Laboratory of Mind-Matter Interaction with Therapeutic Intention, Faculty of Medicine, UL
- CBIOS, Universidade Lusófona

Clinical Institutions

- Serviço de Neurofisiologia, Hospital Júlio de Matos, Centro Hospitalar Psiquiátrico de Lisboa
- Serviço de Imagiologia, Hospital de Santa Maria, Centro Hospitalar Lisboa Norte
- Serviço de Neurorradiologia, Hospital de São José, Centro Hospitalar Lisboa Central
- Serviço de Radiologia, Instituto Português de Oncologia de Lisboa
- Departamento de Radiologia, Hospital de São João
- Serviço de Imagiologia, Hospital da Luz

16. Research Grants & Scholarships

On-going Projects

- National Project PTDC/BBB-BMD/0611/2012: "A novel approach for tumoral targeted phototherapy: focusing light through scattering" (team member)

Finished Projects

- National Project PTDC/SAU-ENB/120718/2010: "[Comprehensive multi-parametric analysis of the limbic system connectivity in post-traumatic epilepsy patients](#)" (**principal investigator**). € 95,959.00
- Entrepreneurial Project Haloris Nanotecnologias (manager and **principal investigator**).
- European project NMP4-CT-2005-016833: "Development of a complete integrated SNP analysis system" (team member).
- European project NMP-2004-IST-NMP-2-17210: "BIOMAGSENS: ultra sensitive magnetic sensors for medical applications" (team member).
- National project POSC/EEA-ESE/58523/2004: "Magnetoresistive Biochip Microarray Platform for Biomolecular Recognition" (team member).
- Programa Gulbenkian de Estímulo à Investigação 2003 - Área das Nanotecnologias (**principal investigator**).
- Programa Gulbenkian de Estímulo à Investigação 2003 - Área da Escassez e Qualidade da Água (team member).
- European project QLK3-CT-2001-01982: "Novel genechip technology for simplified detection of molecularly heterogeneous genetic diseases: Detection of cystic fibrosis as a model" (team member).
- National project POCTI/BIO/34459/99: "Detection of Biomolecular Recognition in Nanometer Sized Volumes using Magnetoresistive Sensor Arrays" (team member).

Individual Research Grants

- Post-doctoral research scholarship Fundação para a Ciência e Tecnologia SFRH/ BPD/ 44806/ 2008 (May 2009-December 2011).
- Research scholarship INESC – Microsistemas e Nanotecnologias (January - June 2006).
- PhD scholarship Fundação para a Ciência e Tecnologia SFRH/ BD/ 5031/ 2001 (January 2002 - December 2005).

- Scholarship EU Access to Research Infrastructures Scheme (RIMDAC). Scope: internship in National Microelectronics Research Centre (NMRC), Ireland (6 - 18 December 2002).
- Professional internship POCTI in the Solid State Technology Group of INESC (March - September 2001)
- Summer internship in the Solid State Technology Group of INESC (August - September 2000).

Summer internship in the Solid State Technology Group of INESC (August - September 1999).

17. Materials, Applications & Devices

I have developed/coordinated/collaborated in the development of various materials, software applications and devices, including software toolbox, experimental apparatus and human-computer interfaces.

Please see <http://hatdferreira.wix.com/bioexmachina#!devicesapps/c5rk> and <http://hatdferreira.wix.com/bioexmachina#!video/c7c3>

18. Publications

Resume of Publications & Communications

2 patents + 1 patent request
 3 theses
 7 book chapters + 1 accepted
 30 papers in international peer-reviewed journals
 52 papers in international conference proceedings + 1 accepted
 9 papers in national peer-reviewed journals + 1 accepted
 10 invited talks in international scientific meetings
 49 regular talks in international scientific meetings
 110 poster presentations and exhibits in international and national scientific meetings

Scholar google profile:

<http://scholar.google.pt/citations?user=92iIVdsAAAAJ&hl=en&oi=sra>

(total citations 1571 as of 1 August 2015)

(journal impact factors – JIF – from [Thomson Reuters Report 2014](#))

Theses

2012

- H. A. Ferreira, “Use of brain-computer interfaces in amyotrophic lateral sclerosis: an update”, [Master in Medicine thesis](#), Faculdade de Medicina, Universidade de Lisboa, 4 May 2012.

2007

- H. A. Ferreira, "Magnetoresistive biochips: detection of biomolecular recognition and on-chip transport of magnetically labeled biomolecules", [PhD thesis in Physics](#), Instituto Superior Técnico, Universidade Técnica de Lisboa, 2 July 2007.

2001

- H. Ferreira, "Application of Magnetic Reading Technology in New Biochip Development", [Licenciatura thesis in Physics Engineering](#), Instituto Superior Técnico, Universidade Técnica de Lisboa, July 2001.

Teaching Essays

2013

- H. A. Ferreira, "[Introdução à Ressonância Magnética Nuclear - 2ª Edição](#)", Edição do Autor, September 2009.

Patents

2014

- R. N. Henriques, M. M. Correia, R. G. Nunes, H. A. Ferreira, SISTEMA E MÉTODO PARA DETERMINAÇÃO DE MÉTRICAS E FIBRAS COM BASE EM IMAGEM POR CURTOSE DE DIFUSÃO, INPI 20141000078147 PPP, 6 October 2014.

2005

- "A BIO-ELECTRONIC DEVICE", D. L. Graham, H. A. Ferreira, N. Feliciano, P. P. Freitas, P. Galvin, IE 2004/0559, 20 August 2004.

2004

- "A BIOELECTRONIC DEVICE", D. L. Graham, H. A. Ferreira, N. Feliciano, P. P. Freitas, P. Galvin, PCT/IB2005/052702, 16 August 2005.

Book Chapters

Accepted

- H. Silva, H. Ferreira, J. Bujan and L. M. Rodrigues, "Studying the oscillatory components of the human skin microcirculation", in *Measuring the Skin*, Springer, accepted.

2014

- "Basic Principles of PC MRA and MRV", H. A. Ferreira, J. Ramalho, in *Vascular Imaging of the Central Nervous System: Physical Principles, Clinical Applications and Emerging Techniques*, M. Castillo and J. Ramalho, Eds. Wiley-BlackWell, New York, March 2014. ISBN: 978-1-118-18875-0, pp. 127-136
- "Basic Principles of TOF MRA and MRV", H. A. Ferreira, J. Ramalho, in *Vascular Imaging of the Central Nervous System: Physical Principles, Clinical Applications and Emerging Techniques*, M. Castillo and J. Ramalho, Eds. Wiley-BlackWell, New York, March 2014. ISBN: 978-1-118-18875-0, pp. 137-145.
- Ana Priscila Alves, João Martins, Hugo Plácido da Silva, André Lourenço, Ana Fred, Hugo Ferreira, "Paper-Based Inkjet Electrodes", in H. P. da Silva, A. Holzinger, S. Fairclough, D. Majoe (Eds), *Physiological Computing Systems, Lecture Notes in Computer Science*, Springer-Verlag, Berlin, 2014 pp 59-70.

2007

- “Spintronic biochips for biomolecular recognition”, P. P. Freitas, H. A. Ferreira, in *The Handbook of Magnetism and Magnetic Materials*, Volume 4, H. Kronmüller and S. Parkin, Eds., John Wiley and Sons, New York, July 2007.
- “Nanotechnology and the detection of biomolecular recognition using magnetoresistive transducers”, P.P. Freitas, H. A. Ferreira, F. Cardoso, S. Cardoso, R. Ferreira, J. Almeida, A. Guedes, V. Chu, J.P. Conde, V. Martins, L. Fonseca, J. S. Cabral, J. Germano, L. Sousa, M. Piedade, B. Silva, J.M. Lemos, L.A. Clarke, M. D. Amaral, in *A portrait of state-of-the-art research at the Technical University of Lisbon*, M.S. Pereira, Ed, Springer, Dordrecht, The Netherlands, 2007.

2006

- “Nanostructures for spin electronics”, P. P. Freitas, H. A. Ferreira, R. Ferreira, S. Cardoso, S. van Dijken, J. Gregg, in *Advanced Magnetic Nanostructures*, Chapter 14, D. Sellmyer and R. Skomski, Eds., Springer, Berlin, 2006.

2004

- “Magnetoresistive DNA chips”, P. P. Freitas, H. A. Ferreira, D. L. Graham, L. A. Clarke, M. D. Amaral, V. Martins, L. Fonseca, J. M. S. Cabral, in *Magnetoelectronics*, Chapter 7, M. Johnson, Ed., Academic Press, New York, December 2004.

Peer-Reviewed Publications

In review

- J.P. Santos, M. Martins, H. A. Ferreira, J. Ramalho, D. Seixas, “National brands versus own-label brands: the influence of price and respective neural imprints”, *Journal of Neuroscience, Psychology, and Economics*.

Submitted

- R. Normand, H. A. Ferreira, "Superchords: decoding EEG signals in the millisecond range".
- F. Lucena, T. F. Vaz, A. Santos Ribeiro, Luís M. Lacerda, N. A. da Silva, D. Nutt, J. McGonigle, H. A. Ferreira, "Assessment of the quality of brain regions and neuroimaging / connectivity metrics as biomarkers of Alzheimer’s Disease".
- J. Brito, A. Andrade, H. Ferreira, K. Koschutnig, D. Fink, G. Pfurtscheller, "Dynamics of slow BOLD oscillations measured with the phase component of wavelet coherence".

Accepted

- Silva H, Ferreira H, Silva SA, Rodrigues LM. Assessing the in vivo impact of a gel sanitizer on the epidermal ‘barrier’ dynamics. *Biomed Biopharm Res* 2015; (12)1.

2015

- A. S. Ribeiro, L. M. Lacerda, and H. A. Ferreira, "[Multimodal Imaging Brain Connectivity Analysis \(MIBCA\) toolbox](#)", *PeerJ*, vol. 3, p. e1078, 2015. (JIF 2.112 - partial)
- A. S. Ribeiro, L. Miguel Lacerda, N. A. da Silva, and H. A. Ferreira, "Multimodal imaging of brain connectivity using the MIBCA toolbox: preliminary application to Alzheimer’s Disease", *IEEE Trans. Nucl. Sci.* 62(3): 604-611, 2015. (JIF 1.283)
- R. Henriques, M. M. Correia, R. G. Nunes, and H. A. Ferreira, “Exploring the 3d geometry of the diffusion kurtosis tensor—Impact on the development of robust tractography procedures and novel biomarkers,” *NeuroImage*, vol. 111, pp. 85–99, 2015. (JIF 6.357)

- Silva H, Ferreira H, Bujan MJ, Rodrigues LM. Regarding the quantification of peripheral microcirculation — comparing responses evoked in the in vivo human lower limb by postural changes, suprasystolic occlusion and oxygen breathing. *Microvascular Research*, 99:110-117, 2015. (JIF 2.126)
- L. Nogueira, S. Brandão, E. Matos, R. G. Nunes, H. A. Ferreira, J. Loureiro, I. Ramos, (2015) "Improving malignancy prediction in breast lesions with the combination of apparent diffusion coefficient and dynamic contrast-enhanced kinetic descriptors", *Clinical Radiology*, vol. 70 (9), 1016-1025. DOI: <http://dx.doi.org/10.1016/j.crad.2015.05.009>. (JIF 1.759)
- Nogueira L, Brandão S, Nunes RG, Ferreira HA, Loureiro J, Ramos I. (2015) Breast DWI at 3T: influence of the fat suppression technique in image quality and diagnostic performance, *Clinical Radiology* 70, 286-294. (JIF 1.759)
- Nogueira L, Brandão S, Matos E, Nunes RG, Ferreira HA, Loureiro J, Ramos I. (2015) The influence of region-of-interest demarcation for the quantification of the apparent diffusion coefficient in breast lesions and its inter-observer variability, *Diagnostic and Interventional Radiology* 21:123-127. DOI: 10.5152/dir.2014.14217 (JIF 1.436)
- Brandão, Sofia, Luísa Nogueira, Eduarda Matos, Rita Gouveia Nunes, Hugo Alexandre Ferreira, Joana Loureiro, and Isabel Ramos. "Fat suppression techniques (STIR vs. SPAIR) on diffusion-weighted imaging of breast lesions at 3.0 T: preliminary experience." *La radiologia medica* (2015): 1-9. doi:10.1007/s11547-015-0508-2. (JIF 1.343)

2014

- Silva H, Ferreira H, Tavares L, Bujan J, Rodrigues LM. The wavelet transform as a tool for the characterization of the vascular response in the human lower limb. *Biomed Biopharm Res*. 2014; (11)1:75-80.
- L. Nogueira, S. Brandão, E. Matos, R. G. Nunes, J. Loureiro, I. Ramos, H. A. Ferreira (2014), "Application of the diffusion kurtosis model for the study of breast lesions", *Eur Radiol*. 24: 1197-1203. (JIF 4.014)
- L. Nogueira, S. Brandão, E. Matos, R. G. Nunes, H. A. Ferreira, J. Loureiro, I. Ramos (2014), "Diffusion-weighted breast imaging at 3T: preliminary experience", *Clinical Radiology* 69(4): 378-384. (JIF 1.759)
- L. Nogueira, S. Brandão, E. Matos, R. G. Nunes, J. Loureiro, H. A. Ferreira, I. Ramos (2014), "Diffusion-weighted breast imaging: determination of the best pair of b-values to discriminate breast lesions", *British Journal of Radiology* 87: 1039 DOI: <http://dx.doi.org/10.1259/bjr.20130807> (JIF 2.026)
- C. Ferra, Hugo A. Ferreira, Pedro Gonçalves-Pereira, Rui Manaças, A. Andrade (2014), "Diferenças na conectividade estrutural entre um cérebro normal e um cérebro com patologia", *Revista Saúde & Tecnologia #T2*: e29-e38.
- R. Rosa, H. Ferreira (2014), "Análise quantitativa da saturação de gordura em ressonância magnética mamária: comparação das técnicas SPAIR e DIXON", *Revista Saúde & Tecnologia #T2*: e5-e10.
- A. T. Varandas, D. Esteves, M. P. de Matos, R. Campos, J. C. Costa, H. A. Ferreira, "Multiparametric evaluation of prostatic tumors using magnetic resonance imaging: spectroscopy and diffusion", *Biomed Biopharm Res*. , 2014; (11) 1: , 65-74

2013

- Silva H, Ferreira H, Tavares L, Bujan J, Rodrigues LM. Exploring in vivo models to characterize peripheral microcirculation – a pilot study. *Biomed Biopharm Res*. 2013; (10) 1:65-72
- Silva H, Ferreira H, Bujan J, Rodrigues LM. Exploring the oxygen challenge test as a microcirculation evaluation model. *Biomed Biopharm Res* 2013; (10) 2:209-215;

2012

- Ferreira HA, Silva H, Rodrigues LM. Magnetic Resonance Imaging – a powerful tool for Tissue Engineering. An updated review. *Biomed Biopharm Res.* 2012; (9) 2:159-65.
- “Quantificação por imagem ponderada em difusão (DWI) das lesões tumorais da mama”, F. Borlinhas, H.A. Ferreira, *Revista Saúde & Tecnologia – #T1*: 24-30, 2012.

2011

- “Magnetic resonance imaging of human skin vasculature: feasibility in the clinical setting”, H.A. Ferreira, A. Andrade, P.C. Pinto, L.M. Rodrigues, *Biomedical and Biopharmaceutical Research* 8: 307-312, 2011.

2010

- “Measuring and extraction of biological information on new handheld biochip-based microsystem”, P.A.C. Lopes, Germano J, Almeida T.M., L.A. Sousa, M.S. Piedade, F.A. Cardoso, H.A. Ferreira, P.P. Freitas, *IEEE Transactions on Instrumentation and Measurement* 59, 56-62, 2010. (JIF 1.790)

2009

- “Antibody immobilization on magnetic particles”, A. C. A. Roque, S. Bispo, A. R. N. Pinheiro, J. M. A. Antunes, D. Gonçalves, H. A. Ferreira, *Journal of Molecular Recognition* 22, 77-82, 2009. (JIF 2.151)

2006

- “Magnetoresistive DNA-chips based on ac field focusing of magnetic labels”, H. A. Ferreira, F. A. Cardoso, R. Ferreira, S. Cardoso, P. P. Freitas, *J. Appl. Phys.* 99, 08P105, April 2006. Selected for the *Virtual Journal of Nanoscale Science and Technology*, AIP, 1st May 2006 issue. (JIF 2.183)
- “Diode/magnetic tunnel junction cell for fully scalable matrix based”, F. A. Cardoso, H. A. Ferreira, J. P. Conde, V. Chu, P. P. Freitas, D. Vidal, J. Germano, L. Sousa, M. S. Piedade, B. Andrade, J. M. Lemos, *J. Appl. Phys.* 99, 08B307, April 2006. (JIF 2.183)
- “A new hand held microsystem architecture for biological analysis”, M. Piedade, L. Sousa, T. M. Almeida, J. Germano, B. A. Costa, J. M. Lemos, P. P. Freitas, H. A. Ferreira, F. A. Cardoso, D. Vidal, *IEEE Transactions on Circuits and Systems* 53, 2384-2395, November 2006. (JIF 2.403)

2005

- “Magnetic micro-bead detection using the planar Hall effect”, L. Ejsing, M. F. Hansen, A. K. Menon, H. A. Ferreira, D. L. Graham, P. P. Freitas, *Journal of Magnetism and Magnetic Materials*, vol. 293 (1), 677-684, May 2005. (JIF 1.970)
- “Effect of spin-valve sensor magnetostatic fields on nanobead detection for biochip applications”, H. A. Ferreira, N. Feliciano, D. L. Graham, P. P. Freitas, *Journal of Applied Physics* 97 (10), 10Q904, May 2005. Selected for the *Virtual Journal of Nanoscale Science and Technology*, AIP, May 30th 2005 issue and for the *Virtual Journal of Biological Physics Research*, AIP, June 1st 2005 issue. (JIF 2.183)
- “Magnetic field assisted hybridisation and simultaneous detection using micron-sized spin-valve sensors and magnetic nanoparticles”, D. L. Graham, H. A. Ferreira, N. Feliciano, P. P. Freitas, L. A. Clarke, M. D. Amaral, *Sensors and Actuators B: Chemical* 107, 936-944, June 2005. (JIF 4.097)
- “Rapid DNA hybridisation based on AC field focusing of magnetically-labeled target DNA”, H. A. Ferreira, N. Feliciano, D. L. Graham, L. A. Clarke, M. D. Amaral, P. P. Freitas, *Appl. Phys. Lett.* 87, 013901, July 2005. Selected for the *Virtual Journal of*

Nanoscale Science and Technology, AIP, 11th July 2005 issue and for the Virtual Journal of Biological Physics Research, AIP, July 1st 2005 issue. (JIF 3.302)

- “Magnetic Biosensors for genetic screening of cystic fibrosis”, L. Lagae, R. Wirix-Speetjens, C.-X. Liu, W. Laureyn, J. De Boeck, G. Borghs, S. Harvey, P. Galvin, D. L. Graham, H. A. Ferreira, P. P. Freitas, L. A. Clarke, M. D. Amaral, IEE Proceedings on Circuits, Devices and Systems, 152, 393-400, August 2005.
- “Detection of cystic fibrosis related DNA targets using AC field focusing of magnetic labels and spin-valve sensors”, H. A. Ferreira, D. L. Graham, N. Feliciano, L. A. Clarke, M. D. Amaral, P. P. Freitas, IEEE Trans. Magn. 41 (10), 4140-4142, October 2005. (JIF 1.386)

2004

- “Planar Hall effect sensor for magnetic micro- and nanobead detection”, L. Ejsing, M. F. Hansen, A. K. Menon, H. A. Ferreira, D. L. Graham, P. P. Freitas, Appl. Physics Letters, vol. 84 (23), 4729-4731, June 2004. Selected for the Virtual Journal of Nanoscale Science & Technology, AIP, May 31st 2004 issue. (JIF 3.302)
- “Flow velocity measurement in microchannels using magnetoresistive chips”, H. A. Ferreira, D. L. Graham, P. Parracho, V. Soares, P. P. Freitas, IEEE Trans. Magn., vol. 40 (4), 2652-2654, July 2004. (JIF 1.386)
- “Magnetoresistive-based biosensors and biochips: a review”, D. L. Graham, H. A. Ferreira, P. P. Freitas, Trends in Biotechnology, vol. 22 (9), 455-462, September 2004. Magazine cover. (JIF 11.958)

2003

- “High Sensitivity detection of molecular recognition using magnetically labeled biomolecules and magnetoresistive sensors”, D. L. Graham, H. A. Ferreira, P. P. Freitas, J. M. S. Cabral, Biosensors & Bioelectronics, vol. 18 (4), 483-488, February 2003. (JIF 6.409)
- “Bio-detection using magnetically labelled biomolecules and arrays of spin valve sensors”, H. A. Ferreira, D. L. Graham, P. P. Freitas, J. M. S. Cabral, J. Appl. Phys., vol. 93 (10), 7281-7286, May 2003 (invited paper). Selected for the Virtual Journal of Nanoscale Science and Technology, AIP, May 26th 2003 issue and for the Virtual Journal of Biological Physics Research, AIP, May 15th 2003 issue. (JIF 2.183)

2002

- “On chip manipulation and magnetization assessment of magnetic bead ensembles by integrated spin valve sensors”, L. Lagae, R. Wirix-Speetjens, J. Das, D. L. Graham, H. Ferreira, P. P. Freitas, G. Borghs, J. De Boeck, J. Appl. Phys., vol. 91 (10), pp.7445-7447, May 2002. Selected for the Virtual Journal of Biological Physics Research, AIP, May 15th 2002 issue. (JIF 2.183)
- “Single magnetic microsphere placement and detection on chip using current line designs with integrated spin valve sensors: biotechnological applications”, D. L. Graham, H. Ferreira, J. Bernardo, P. P. Freitas, J. M. S. Cabral, J. Appl. Phys., vol. 91 (10), pp.7786-7788, May 2002. Selected for the Virtual Journal of Biological Physics Research, AIP, May 15th 2002 issue. (JIF 2.183)

19. Conference Proceedings & Other Publications

Conference Proceedings

Accepted

- J. Soeiro, A. P. Cláudio, M. B. Carmo, H. A. Ferreira, "Visualizing the brain on a mixed reality smartphone application", 37th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 25-29 August 2015, Milan, Italy. (peer-reviewed)

2015

- Silva H, Ferreira H, Antunes J, Bujan J, Rodrigues LM, "Comparing different non-invasive methods to the study of human in vivo peripheral microcirculation", *J Vasc Res* 2015; 52 (suppl 1): 66.
- A. Ticlo, S. Reimão, H. Ferreira, J. M. Sousa, D. Abreu, J. Ferreira, J. Campos, R. G. Nunes, "Serial Measurements of Structural Connectivity and Diffusion-Tensor Metrics in Parkinson's Disease", *Proc. Intl. Soc. Magn. Reson. Med.* 23: 4296 (2015).
- V. Tavares, A. Santos-Ribeiro, C. Capela, L. Cerqueira, H. A. Ferreira, "Method for epileptogenic focus localization using BOLD signal complexity analysis", *ISMRM 23rd Annual Meeting, Proc. Intl. Soc. Magn. Reson. Med.* 23: 3922 (2015).
- R. Ribeiro, I. Neiva, H. A. Ferreira, "BrainVR: the virtual reality brain connectivity navigator", *Proc. Intl. Soc. Magn. Reson. Med.* 23: 1340 (2015).
- R. Neto-Henriques, M. M. Correia, R. G. Nunes, H. A. Ferreira, "Resolving crossing fibers and generalizing biomarkers using the diffusion kurtosis tensor", *ISMRM 23rd Annual Meeting, Proc. Intl. Soc. Magn. Reson. Med.* 23: 1028 (2015).
- J. Leote, R. G. Nunes, L. Cerqueira, H. A. Ferreira, "Corticospinal MRI tractography in space-occupying brain lesions by diffusion tensor and kurtosis imaging methods", *EJNMMI Physics* 2015, 2(Suppl 1): A82.
- V. Tavares, A. Santos-Ribeiro, C. Capela, L. Cerqueira, H. A. Ferreira, "Epileptogenic focus localisation: a new approach", *EJNMMI Physics* 2015, 2(Suppl 1): A81.
- A. C. Mendes, A. Santos-Ribeiro, A.-M. Oros-Peusquens³, K.-J. Langen, N. J. Shah, H.A. Ferreira, "Brain connectivity study of brain tumor patients using MR-PET data: preliminary results", *EJNMMI Physics* 2015, 2(Suppl 1): A75.
- F. Lucena, T. Vaz, J. Pé-Leve, A. Santos-Ribeiro, L. Lacerda, N. Silva, D. Nutt, J. McGonigle, H. A. Ferreira, "Assessment of brain regions and multimodal neuroimaging metrics as biomarkers of Alzheimer's Disease", *EJNMMI Physics* 2015, 2(Suppl 1):A46.
- "Impact of patient positioning during MRI of the Lumbar Spine in patients with stenosis: changes in lordosis and canal dimensions", N. Martins, R. G. Nunes, H. A. Ferreira, J. P. Figueiredo, L. Barroso, J. D. Mineiro, *European Congress of Radiology* 2015, 4-8 March 2015, Vienna, Austria. E-poster presentation. DOI: 10.1594/ecr2015/B-0945.
- R. Loucao, R. G. Nunes, R. Neto-Henriques, M. Correia, H. Ferreira (2015), "Human brain tractography: A DTI vs DKI comparison analysis", *In Bioengineering (ENBENG), 2015 IEEE 4th Portuguese Meeting on* (pp. 1-2).
- D. N. Sousa, H. A. Ferreira (2015), "Diffusion kurtosis imaging: Monte Carlo simulation of diffusion processes using crowd process", *In : Bioengineering (ENBENG), 2015 IEEE 4th Portuguese Meeting on. IEEE, 2015.* p. 1-4.
- F. Borlinhas, L. Nogueira, S. Brandao, R. G. Nunes, J. Loureiro, I. Ramos, H. A. Ferreira (2015), "Gamma distribution model in breast cancer diffusion-weighted

imaging", In Bioengineering (ENBENG), 2015 IEEE 4th Portuguese Meeting on (pp. 1-1). IEEE.

- R. Lipovsky, H. A. Ferreira (2015), "Hand therapist: A rehabilitation approach based on wearable technology and video gaming". In Bioengineering (ENBENG), 2015 IEEE 4th Portuguese Meeting on (pp. 1-2). IEEE.
- Adam Chec, Dominika Olczak, Tiago Fernandes and Hugo Alexandre Ferreira. [Physiological computing gaming: Use of electrocardiogram as an input for video gaming](#). In Proc. of the Int'l Conf. on Physiological Computing Systems (PhyCS), pp. 157-163, 2015. (peer-reviewed)

2014

- R. Rosa, A. M. Sarmento, M. D. L. G. F. R. Orvalho, H. Ferreira, "Fat saturation in breast dynamic contrast-enhanced magnetic resonance imaging (DCE-MRI): comparison between DIXON and SPAIR techniques", European Congress of Radiology, 6-10 March 2014, Vienna, Austria. E-poster presentation. DOI: 10.1594/ecr2014/C-2101.
- Santos Ribeiro A., Salvado D., Evans G., Soares Augusto J. and Ferreira H. (2014). A Multimodal Low-cost Platform for Acquisition of Electrophysiological Signals Interfacing with Portable Devices. In Proceedings of the International Conference on Physiological Computing Systems, pages 63-70
- DOI: 10.5220/0004885000630070
- Alves A., Martins J., Plácido da Silva H., Lourenço A., Fred A. and Ferreira H. (2014). Experimental Study and Evaluation of Paper-based Inkjet Electrodes for ECG Signal Acquisition. In Proceedings of the International Conference on Physiological Computing Systems, pages 275-281 DOI: 10.5220/0004720802750281
- A. Santos-Ribeiro, L. M. Lacerda, N. A. da Silva, H. A. Ferreira (2014), "Multimodal Imaging Brain Connectivity Analysis (MIBCA) Toolbox: preliminary application to Alzheimer's Disease", EJNMMI Physics 1(S1): A61.
- J. M. Sousa, R. G. Nunes, S. Reimão, J. Ferreira, H. A. Ferreira (2014), "Analysis of structural connectivity in Parkinson's Disease using graph theory analysis", Proc. Intl. Soc. Magn. Reson. Med. 22: 1921.
- L. M. Lacerda, A. Santos-Ribeiro, N. A. da Silva, R. Neto-Henriques, H. A. Ferreira (2014), "Multimodality imaging brain connectivity toolbox", Proc. Intl. Soc. Magn. Reson. Med. 22: 3003. (**ISMRM 2014 Magna Cum Laude**)
- R. Neto-Henriques, L. Lacerda, R. Nunes, M. M. Correia, H. A. Ferreira (2014), "Diffusion kurtosis imaging based tractography", Proc. Intl. Soc. Magn. Reson. Med. 22: 4525.

2013

- A.C.V. Ferreira, E. de Vlugt, J. de Groot, H.A. Ferreira, "Predicting muscle fiber type composition through joint mechanics", in R.M. Natal Jorge, J.M.R.S. Tavares, J. Belinha, M.P.L. Parente, P.A.L.S. Martins (Eds), 5th Portuguese Congress on Biomechanics, 8-9 February 2013, Espinho, Portugal.
- L. Lacerda, F. dell'Acqua, R. Manaças, P. Gonçalves-Pereira, R. Neto-Henriques, A. Andrade, R. Nunes, H. A. Ferreira (2013), "Automatic dissection and structural connectivity of the limbic system", *Epilepsia* 54(S3): 308-309.
- N. da Silva, R. Maximiano, and H. A. Ferreira, "[Hybrid Brain Computer Interface based on Gaming Technology: an approach with Emotiv EEG and Microsoft Kinect](#)", XIII Mediterranean Conference on Medical and Biological Engineering and Computing 2013 IFMBE Proceedings Volume 41, 2014, pp 1655-1658.

- D. Duarte, and H. A. Ferreira, "[Development of a low-cost BCI application using Neurosky Mindband and Lego Mindstorms](#)", Assistive Technology: From Research to Practice AAATE 2013 Proceedings Volume 33, 2013, pp. 953-958.
- A. T. Pereira, J. Morgado, L. Alcácer, J. Martins, H. A. Ferreira, "Applications of Inkjet Printing for Organic Electronics: Organic Thin-Film Transistors and Electrodes for Electromyography", Proceedings of the 9th Conference on Telecommunications, Conftel 2013, 8-10 May 2013, Castelo Branco, Portugal.
- H. A. Ferreira, F. Rodrigues, M. I. Meyer, A. Santos-Ribeiro, P. M. Gonçalves-Pereira, R. Manaças, A. Andrade (2013), "Complexity analysis of resting-state networks", MAGMA 26 (S1): 225.
- A. Santos-Ribeiro, L. Lacerda, J. Rodrigues, J. M. Sousa, H. A. Ferreira (2013), "Multimodal imaging brain connectivity analysis", MAGMA 26 (S1): 232.
- "Intravoxel Incoherent Motion (IVIM) analysis of breast cancer lesions", F. Borlinhas, H.A. Ferreira, European Congress of Radiology, 7-11 March 2013, Vienna, Austria. E-poster presentation. DOI: 10.1594/ecr2013/C-2510 (**Invest in Youth award to F. Borlinhas**)

2012

- Santos, J. P., Martins, M., Ferreira, H. A., Ramalho, J., Seixas, D. National brands versus own-label brands: The influence of price and respective neural imprints. 2012 NeuroPsychoEconomics Conference Proceedings, p.37.
- "Diffusional kurtosis as a biomarker of breast tumors", F. Borlinhas, L. Lacerda, A. Andrade, H. A. Ferreira, European Congress of Radiology 2012, 1-5 March 2012, Vienna, Austria. E-poster presentation. DOI: 10.1594/erc2012/C-1369 (**Invest in Youth award to F. Borlinhas**)
- "Granger causality analysis of resting-state networks in post-traumatic epilepsy patients", H.A. Ferreira, A.C. Borralho, P.M. Gonçalves-Pereira, R. Manaças, A. Andrade, Epilepsia 53(S5): 64, 2012.
- H.A. Ferreira, A.R. Rocha, P.M. Gonçalves-Pereira, R.M. Manaças, A. Andrade, "Multiscale entropy analysis of blood-oxygen level dependent brain signals", 29th Annual Scientific Meeting ESMRMB2012, October 4-6, Lisboa, Portugal, MAGMA 2012, 25 (S1), 82-83.
- M.M. Ribeiro, M. Carreiras, H. Martins, H.A. Ferreira, D. Pais, J.G. O'Neill, J.C. Mauricio, "Post-mortem structural MR imaging of diethylene glycol - embalmed brain specimens", 29th Annual Scientific Meeting ESMRMB2012, October 4-6, Lisboa, Portugal. MAGMA 2012, 25 (S1), 560.
- R.C. Conceição, M. O'Halloran, R. Capote, N. Matela, H. Ferreira, M. Glavin, E. Jones, P. Almeida (2012), "Development of breast and tumour models for simulation of novel multimodal PEM-UWB technique for detection and classification of breast tumours", Proc. IEEE Nuclear Science Symposium and Medical Imaging Conference (NSS/MIC) 2012, 2769-2772, DOI: 10.1109/NSSMIC.2012.6551631

2011

- "Combined use of electrocardiography and accelerometry to evaluate the physical condition of a subject", A. Ribeiro, C. Fernandes, D. Salvado, L. Lacerda, M. Costa, R. Henriques, G. Evans, P. Almeida, H.A. Ferreira, CETC 2011, 24-25 November 2011, ISEL, Lisboa, Portugal. ID-48
- "Human-computer interface for remote manipulation of medical images", N. Silva, H.A. Ferreira, CETC 2011, 24-25 November 2011, ISEL, Lisboa, Portugal. ID-40.
- "Resting-state functional connectivity analysis of post-traumatic epilepsy patients", H.A. Ferreira, C. Rua, J. Loureiro, L. Lacerda, R.M. Manaças, P.M. Gonçalves-Pereira, A. Andrade. Epilepsia 52(S6): 179, 2011.

- “Whole-brain voxel-based susceptibility-weighted imaging (SWI) analysis: normal cortical and subcortical values, and preliminary results in post-traumatic epilepsy”, H.A. Ferreira, A. Andrade, R.M. Manaças, P.M. Gonçalves-Pereira. Proceedings International Society of Magnetic Resonance in Medicine 19: 2658, 2011.

2010

- “Assessment of thalamic pathology in patients with unilateral mesial temporal lobe epilepsy and hippocampal sclerosis (MTLE-HS) by means of voxel-based morphometry (VBM), T2-relaxometry and ADC mapping”, H.A. Ferreira, C. Rua, A. Andrade, R.M. Manaças, P.M. Gonçalves-Pereira. *Epilepsia* 51(S4): 32, 2010.

2009

- “T2-relaxometry and apparent diffusion coefficient mapping of the thalamus in temporal lobe epilepsy”, H.A. Ferreira, R.M. Manaças, and P.M.G. Pereira. *Epilepsia* 50 (S10): 129, 2009.

2007

- “A new handheld biochip-based microsystem”, P. A. C. Lopes, J. Germano, T. M. Almeida, L. Sousa, M. S. Piedade, F. Cardoso, H. Ferreira, P. Freitas, IEEE International Symposium on Circuits and Systems 2007, pp 2379-2382, May 2007.

2006

- “Techniques to the determination of biological expression signals on a new handheld biochip-based microsystem”, P.A.C. Lopes, Germano J, Almeida T.M., L.A. Sousa,, M.S. Piedade, F.A. Cardoso, H.A. Ferreira, P.P. Freitas, IEEE Biomedical Circuits and Systems Conference (BioCAS 2006), London, United Kingdom, 29 November -1 December 2006.
- “Microsystem for biological analysis based on magnetoresistive sensing”, J. Germano, M. S. Piedade, L. Sousa, T. M. Almeida, P. Lopes, F. A. Cardoso, H. A. Ferreira, and P. P. Freitas, Proceedings of the XVIIIth International Measurement Confederation World Congress (IMEKO 2006), Rio de Janeiro ,Brazil, 17 – 22 September 2006.
- “Magnetoresistive biosensor modelling for biomolecular recognition”, T. M. Almeida, M. S. Piedade, P. C. Lopes, L. Sousa, J. Germano, F. Cardoso, H. A. Ferreira, and P. P. Freitas, Proceedings of the XVIIIth International Measurement Confederation World Congress (IMEKO 2006), Rio de Janeiro, Brazil, 17 – 22 September 2006.
- “Temperature modeling of a biochip for DNA analysis”, B.A. Costa, J.M. Lemos, M.S. Piedade, L. Sousa, T. Almeida, J. Germano, P. Freitas, H. Ferreira, F. Cardoso, 14th Mediterranean Conference on Control and Automation (MED '06), Ancona, Italy, 28-30 June 2006.
- “Characterisation and modelling of a magnetic biosensor”, T. M. Almeida, M. S. Piedade, F. Cardoso, H. A. Ferreira, and P. P. Freitas, Proceedings of the 2006 IEEE Instrumentation and Measurement Technology Conference (IMTC 2006), Sorrento, Italy, 24 – 27 April 2006.

2005

- “Architecture of a portable system based on a biochip for DNA recognition”, M. Piedade, L. Sousa, J. Germano, J. Lemos, B. Costa, P. Freitas, H. Ferreira, F. Cardoso, D. Vidal, Proceedings of the XXth Conference on Design of Circuits and Integrated Systems (DCIS 2005), Lisboa, Portugal, 23 – 25 November 2005.

- “Use of magnetoresistive biochips for monitoring of pathogenic microorganisms in water through bioprobes: oligonucleotides and antibodies”, V. C. B. Martins, L. P. Fonseca, H. A. Ferreira, D. L. Graham, P. P. Freitas, J. M. S. Cabral, Technical Proceedings of the 2005 NSTI Nanotechnology Conference and Trade Show, Volume 1, Chapter 8: Bio Micro Sensors, 493-496, Anaheim, California, U.S.A., 8 - 12 May 2005.
- “Monitoring of pathogenesis microorganisms in water through DNA probes and antibodies immobilized onto magnetoresistive biochips”, L.P. Fonseca, V.C.B. Martins, H.A. Ferreira, 229th National Meeting of the American-Chemical Society, San Diego, California, United States of America, 13-17 March, 2005.

2003

- “Flow velocity measurement in microchannels using spin valve sensors and superparamagnetic particles”, H. A. Ferreira, D. L. Graham, P. Parracho, V. Soares, P. P. Freitas, Proceedings of The 17th European Conference on Solid-State Transducers, 1099-1102, Guimarães, Portugal, 21 - 24 September 2003.

Other Publications, Non-Peer Reviewed: Pre-Prints, Working Papers, Posters

2015

- Normand R, Ferreira HA. (2015) [Superchords: decoding EEG signals in the millisecond range](#). PeerJ PrePrints 3:e1549
- R. Normand, H. A. Ferreira, "[Superchords: the atoms of thought](#)", arXiv:1505.01228 [q-bio.NC]

2014

- Santos Ribeiro A, Miguel Lacerda L, Ferreira HA. (2014), "[Multimodal Imaging Brain Connectivity Analysis toolbox \(MIBCA\)](#)", PeerJ PrePrints 2:e699v1
- V. Tavares, J. Brito, H. Ferreira, A. Andrade, K. Koschutnig, G. Pfurtscheller, “Temporal clustering analysis to evaluate slow oscillations around 0.1 Hz”, F1000Posters 2014, 5: 818 (poster).
- C. Correia, N. Martins, M. Ribeiro, H. Ferreira (2014), “fMRI evaluation of visual, auditory, and motor cortex in visually impaired and sighted judo athletes”, F1000Posters 2014, 5: 977 (poster).
- H.A. Ferreira, C. Ferra, P. Gonçalves-Pereira, R. Manaças, A. Andrade, “Pipeline methodology for structural connectivity analysis: application to the normal brain”, F1000Posters 2014, 5: 13 (poster).

2013

- L. Lacerda, R. Neto-Henriques, F. dell’Acqua, R. Nunes, A. Andrade, R. Manaças, P. Gonçalves-Pereira, and H. Ferreira, “Functional and structural connectivity of the limbic system using automatic parcellation”, F1000Posters 2013, 4: 639 (poster).

2006

- “Biossensores magnetoresistivos e nanomarcadores magnéticos – Monitorização de microorganismos patogénicos em água”, V. Martins, H. A. Ferreira, L. P. Fonseca, P. P. Freitas, and J. M. S. Cabral, Boletim de Biotecnologia, April 2006.
- “Nanotechnology and the detection of biomolecular recognition using magnetoresistive transducers”, P. P. Freitas, H. A. Ferreira, F. Cardoso, S. Cardoso, R. Ferreira, J. Almeida, A. Guedes, V. Chu, J. P. Conde, V. Martins, L. Fonseca, J. S. Cabral, J. Germano, L. Sousa, M. Piedade, B. Silva, J. M. Lemos, L. A. Clarke, M. D. Amaral,

Symposium on Scientific Research at the Technical University of Lisbon, Lisboa, Portugal, 2 and 3 February, 2006.

2003

- “Magnetoresistive biochips”, P. P. Freitas, H. Ferreira, D. Graham, L. Clarke, M. Amaral, V. Martins, L. Fonseca, J. S. Cabral, Europhysics News, vol. 34 (6), 224-226, November/December 2003.

20. Oral Communications

Invited Oral Communications

2015

- H. A. Ferreira, "Basics of brain connectivity and graph theory analysis", 13th ESMRN Congress, 14-16 May 2015, Porto, Portugal

2014

- H. A. Ferreira, “Multimodal Approaches in Brain Connectivity”, X Congresso Nacional de Neurorradiologia, 14-16 November 2014, Lisboa, Portugal.
- H. A. Ferreira, “Advances in vascular magnetic resonance imaging”, 30th LIAC Meeting on Vascular Research, 22-25 October 2014 Valladolid, Spain.
- H. A. Ferreira, "BCI research at IBEB - topics and roadmap", "[Brain-Computer Interface \(BCI\) workshop & hands-on seminar](#)", g.tec medical engineering Austria and University of Lisbon, 7 October 2014, Lisbon, Portugal
- H. A. Ferreira, "Physiological computing: brain and body drive technology", [JORTEC 2014](#), 10-14 February 2014, Faculty of Sciences and Technology, New University of Lisbon, Lisboa, Portugal

2013

- H. A. Ferreira, "iMRI: interventional MRI - bridging the future with MRI-guided drug-delivery systems", 1st Workshop on Daul Imaging of Nano/Microsized Theranostics", Charité-Universitätsmedizin, 5-6 September 2013, Berlin, Germany.
- H. A. Ferreira, "Methods and techniques for the characterisation of micro- and nanoparticles – a survey", 1st Workshop on Daul Imaging of Nano/Microsized Theranostics", Charité-Universitätsmedizin, 5-6 September 2013, Berlin, Germany.

2010

- H. A. Ferreira, C. Rua, A. Andrade, R. M. Manaças, P. M. Gonçalves-Pereira, “Assessment of Thalamic Pathology in Patients with Unilateral Mesial Temporal Lobe Epilepsy and Hippocampal Sclerosis (MTLE-HS) by means of Voxel-Based Morphometry (VBM), T2-Relaxometry and ADC Mapping”, 9th European Congress on Epileptology, 27 June-1 July 2010, Rhodes, Greece. (**Bursary award**)

2006

- H. A. Ferreira, "Magnetoresistive biochips for the detection of biomolecular recognition", The 6th European Conference on Magnetic Sensors and Actuators, 3-5 July 2006, Bilbao, Spain.

2003

- H. A. Ferreira, D. L. Graham, P. P. Freitas, J. S. Cabral, "Detection of Biomolecular Recognition Using Nanometer-Sized Magnetic Labels and Spin-Valve Sensors", The IEEE 2003 International Magnetism Conference, 28 March - 3 April 2003, Boston, Massachusetts, U.S.A..

Oral Communications

2015

- F. Borlinhas, L. Nogueira, S. Brandão, R. G. Nunes, R. Conceição, J. Loureiro, I. Ramos, H. A. Ferreira, "Diffusion Quantification Models for Breast Tumors - ROC Curve Analysis", 32nd Annual Scientific Meeting of the European Society of Magnetic Resonance in Medicine and Biology (ESMRMB), 1-3 October 2015, Edinburgh, United Kingdom. **(Student Support Programme)**
- H. A. Ferreira, "Physiological computing: using vascular signals for something completely different", 31th LIAC Meeting on Vascular Research, 9-12 September 2015, Lisboa, Portugal.
- F. Borlinhas, R. Conceição, H. A. Ferreira, "Contribution of Diffusion Weighted Imaging (DWI) to Breast Cancer characterization – Analysis of two diffusion models", Summer School: Multidisciplinary Advances in Personalised Breast Cancer Surgery - MAP Breast 2015, organized by the EU-Projects PICTURE (Patient Information Combined for the Assessment of Specific Surgical Outcomes in Breast Cancer) and VPH-PRISM (Personalised Predictive Breast Cancer Therapy Through Integrated Tissue Micro-Structure Modeling), at the Institute for Systems Engineering and Computers (INESC TEC), 13-17 July 2015, Porto, Portugal.
- L. Nogueira, S. Brandão, R. Nunes, J. Loureiro, I. Ramos, H. Ferreira, "Structural differences between breast lesion types by diffusion kurtosis imaging", BioMedWomen - International Conference on Clinical and BioEngineering for Women's Health, 20 – 23 June 2015, Porto, Portugal.
- Silva H, Ferreira H, Antunes J, Bujan J, Rodrigues LM, "Comparing different non-invasive methods to the study of human in vivo peripheral microcirculation", Joint Meeting of the European Society for Microcirculation (ESM) and the European Vascular Biology Organization (EVBO), 3-6 June 2015, Pisa, Italy.
- R. Neto-Henriques, M. M. Correia, R. G. Nunes, H. A. Ferreira, "Resolving crossing fibers and generalizing biomarkers using the diffusion kurtosis tensor", ISMRM 23rd Annual Meeting, 30 May – 5 June 2015, Toronto, Canada.
- A. C. Mendes, A. Santos-Ribeiro, A.-M. Oros-Peusquens, K.-J. Langen, N. J. Shah, H. A. Ferreira, "Brain connectivity study of brain tumor patients using MR-PET data: preliminary results", PSMR2015 - 4th Conference on PET/MR and SPECT/MR, 17-20 May 2015, La Biodola, Isola d'Elba, Italia.
- Silva H, Rosado C, Ferreira H, Antunes J, Rodrigues LM. Exploring lower limb microvascular reactivity with methyl nicotinate in different perfusion conditions. V Congresso Nacional de Ciências Dermatocósméticas / IV Congresso da Sociedade Portuguesa de Ciências Cosméticas. Lisboa, Portugal, 15 May 2015.
- V. Tavares, H. Ferreira, A. Leal, "Dynamic analysis of the interaction between physiological and epileptic resting state networks", 13th ESMRN Congress, 14-16 May 2015, Porto, Portugal.
- V. Tavares, H. Ferreira, A. Leal, "Análise da dinâmica de interação entre as redes neuronais de repouso fisiológicas e epiléticas", 27º Congresso Nacional de Epileptologia, 13-14 March 2015, Coimbra.

- R. Lipovsky, H. A. Ferreira, "Hand therapist: A rehabilitation approach based on wearable technology and video gaming", 4th Portuguese BioEngineering Meeting, 26-28 February 2015, Porto, Portugal.
- F. Borlinhas, L. Nogueira, S. Brandao, R. G. Nunes, J. Loureiro, I. Ramos, H. A. Ferreira, "Gamma distribution model in breast cancer diffusion-weighted imaging", 4th Portuguese BioEngineering Meeting, 26-28 February 2015, Porto, Portugal.
- R. Loução, R. G. Nunes, R. Neto-Henriques, M. M. Correia, H. A. Ferreira, "Human brain tractography: a DTI vs DKI comparison analysis", 4th Portuguese BioEngineering Meeting, 26-28 February 2015, Porto, Portugal.
- D. N. Sousa, H. A. Ferreira, "Diffusion Kurtosis Imaging: Monte Carlo simulations of diffusion processes using crowd-processing", 4th Portuguese BioEngineering Meeting, 26-28 February 2015, Porto, Portugal.

2014

- Mafalda Perez, Hugo Ferreira, Nivaldo Pereira, João Leote, "Mapping of Brain Regions with Deception by Functional Magnetic Resonance", X Congresso da Sociedade Portuguesa de Neurorradiologia, 14-15 November 2014, Lisboa, Portugal.
- C. Correia, N. Martins, M. Ribeiro, H. Ferreira, "Avaliação por fMRI do córtex visual, motor e auditivo através de estimulação sensoriomotora e sonora em desportistas invisuais e desportistas sem deficiência visual", Congresso do Comité Paralímpico de Portugal 2014: "Igualdade, Inclusão e Excelência Desportiva", Escola Superior de Tecnologia da Saúde de Lisboa, 24 October 2014, Lisboa, Portugal.
- Silva H, Ferreira H, Tavares L, Bujan J, Rodrigues LM. Evaluation of the peripheral microcirculation with Wavelet Transform and Detrended Fluctuation Analysis. 30th LIAC Meeting on Vascular Research. Valladolid, Spain, October 22-25, 2014.
- Silva H, Ferreira H, Bujan J, Rodrigues LM. Contribution for the study of the oscillatory components of peripheral microcirculation. I Jornadas CBIOS. ECTS-ULHT. 9-10 October 2014.
- Silva H, Ferreira H, Bujan J, Rodrigues LM. Studying the effect of oxygen inhalation on cutaneous microcirculation by the wavelet transform. YES Meeting - 9th Young European Scientist Meeting. Faculty of Medicine of Porto, Porto, Portugal. 18-21 September 2014.
- A. P. Alves, J. Martins, H. P. Silva, A. Lourenço, A. Fred, H. Ferreira, "Experimental Study and Evaluation of Paper-based Inkjet Electrodes for ECG Signal Acquisition", International Conference on Physiological Computing Systems, 7-9 January 2014, Lisboa, Portugal.

2013

- A. Santos-Ribeiro, L. Lacerda, J. Rodrigues, J.M. Sousa, H.A. Ferreira, "Multimodal Imaging Brain Connectivity Analysis", 30th Annual Scientific Meeting ESMRMB2013, 3-5 October 2013, Toulouse, France. Oral and e-poster presentation (Poster Highlights).
- H.A. Ferreira, F. Rodrigues, M.I. Meyer, A. Santos-Ribeiro, P.M. Gonçalves-Pereira, R.M. Manaças, A. Andrade, "Complexity analysis of resting-state networks", 30th Annual Scientific Meeting ESMRMB2013, 3-5 October 2013, Toulouse, France. Oral and poster presentation (Poster Highlights).
- N. da Silva, R. Maximiano, and H. A. Ferreira, "Hybrid Brain Computer Interface based on Gaming Technology: an approach with Emotiv EEG and Microsoft Kinect", Medicon 2013: XIII Mediterranean Conference on Medical and Biological Engineering and Computing, 25-28 September 2013, Sevilla, Spain.
- R. Gigante, H. A. Ferreira, "Fabrication of magnetic devices using magnetic nanoparticles and 3D printed polymers", Charité-Universitätsmedizin, 5-6 September 2013, Berlin, Germany.

- T. Martins, J. P. Coelho, H. A. Ferreira, "Hyperthermia using gold nanoparticles: simulation, experimentation and study of applications", Charité-Universitätsmedizin, 5-6 September 2013, Berlin, Germany.
- C. Bértolo, C. P. Reis, H. A. Ferreira, "Synthesis of multifunctional nanoparticles for cancer diagnosis and therapy", Charité-Universitätsmedizin, 5-6 September 2013, Berlin, Germany.
- J. Agostinho, H. A. Ferreira, "Apparatus for control of magnetically-guided microdevices", Charité-Universitätsmedizin, 5-6 September 2013, Berlin, Germany.
- P. Zoio, R. G. Nunes, H. A. Ferreira, "Nanorobot navigation using a magnetic resonance imaging system", Charité-Universitätsmedizin, 5-6 September 2013, Berlin, Germany.
- A. R. Rocha, H. Bäuml, H. A. Ferreira, "Drug Delivery of modified 5-Fluoruracil (5-FU) by means of biopolymer micro-carriers", Charité-Universitätsmedizin, 5-6 September 2013, Berlin, Germany.
- Silva H, Ferreira H, Tavares L, Bujan J, Rodrigues LM. Modelos in vivo para o estudo da microcirculação periférica. CBIOS Science Sessions. ECTS-ULHT. 22 May 2013.
- A. T. Pereira, J. Morgado, L. Alcácer, J. Martins, H. A. Ferreira, "Applications of Inkjet Printing for Organic Electronics: Organic Thin-Film Transistors and Electrodes for Electromyography", The 9th Conference on Telecommunications, Conftel 2013, 8-10 May 2013, Castelo Branco, Portugal.
- A.C.V. Ferreira, E. de Vlugt, J. de Groot, H.A. Ferreira, "Predicting muscle fiber type composition through joint mechanics", 5th Portuguese Congress on Biomechanics, 8-9 February 2013, Espinho, Portugal.

2012

- L.M. Rodrigues, P. Pinto, J. Morais, H. Ferreira, J. Fluhr, "Mathematical modelling - new meanings for established variables", ISBS 2012 – International Society for Biophysics and Imaging of the Skin, 28-30 November 2012, Copenhagen, Denmark.
- L. Lacerda, H.A. Ferreira, F. dell'Acqua, "Automated method for parcellation of brain connectivity: application to epilepsy and to the accurate delineation of the optic radiation", 29th Annual Scientific Meeting ESMRMB2012, October 4-6, Lisboa, Portugal.
- H.A. Ferreira, A.R. Rocha, P.M. Gonçalves-Pereira, R.M. Manaças, A. Andrade, "Multiscale entropy analysis of blood-oxygen level dependent brain signals", 29th Annual Scientific Meeting ESMRMB2012, October 4-6, Lisboa, Portugal. Oral presentation and poster (Poster Highlights).
- J.P. Santos, M. Martins, H.A. Ferreira, J. Ramalho, D. Seixas, "National brands versus own-label brands: the influence of price and respective neural imprints", NeuroPsychoEconomics Conference 2012, 14-15 June 2012, Rotterdam, The Netherlands.
- Santos, J. P., Martins, M., Ferreira, H. A., Ramalho, J., Seixas, D. National brands versus own-label brands: The influence of price and respective neural imprints. 2012 NeuroPsychoEconomics Conference, 13-14 June 2012, Rotterdam, Netherlands.
- M.M. Ribeiro, H. Leal, H. Ferreira, J. O'Neill, J.C. Maurício, "Caracterização da Tecnologia por Ressonância Magnética em Portugal", Congresso Nacional de Radiologia (CNR) 2012, 9-12 May 2012, Vilamoura, Portugal.

2011

- A. Ribeiro, C. Fernandes, D. Salvado, L. Lacerda, M. Costa, R. Henriques, G. Evans, P. Almeida, H.A. Ferreira, "Combined use of electrocardiography and accelerometry to evaluate the physical condition of a subject", CETC 2011 – Conference on Electronics Telecommunications and Computers, 24-25 November 2011, Lisboa, Portugal.

- N. Silva, H.A. Ferreira, “Human-computer interface for remote manipulation of medical images”, CETC 2011 – Conference on Electronics Telecommunications and Computers, 24-25 November 2011, Lisboa, Portugal.
- H.A. Ferreira, A. Andrade, P. Pinto, L. M. Rodrigues, “In-vivo MRI of human skin vasculature - gradient echo sequences in the clinical setting”, 20th Congress of the European Academy of Dermatology and Venereology, 20-24 October 2011, Lisboa, Portugal.

2006

- H. A. Ferreira, "Haloris Nanotechnologies", Nanomedicine 2006: A new opportunity for improving diagnosis, prevention and treatment for disease, Sant Feliu de Guixols, Spain, 15th to 20th September 2006.

2005

- “The 50th Annual Conference on Magnetism and Magnetic Materials”, San Jose, California, U.S.A., 30th October to 3rd November 2005.
- “The IEEE 2005 International Magnetics Conference”, Nagoya, Japan, 4th to 8th April 2005.

2004

- “The 9th Joint MMM/Intermag Conference”, Anaheim, California, U.S.A., 5th to 9th January 2004.

2003

- “The 17th European Conference on Solid-State Transducers”, Guimarães, Portugal, 21st to 24th September 2003 (2 communications).
- “Bioeng’2003 – 7th Portuguese Conference on Biomedical Engineering”, Lisboa, Portugal, 26th and 27th June 2003.

2002

- “The IEEE 2002 International Magnetics Conference”, Amsterdam, Holand, 28th April to 2nd May 2002.

2001

- “The 46th Annual Conference on Magnetism and Magnetic Materials”, Seattle, Washington, U.S.A., 12th to 16th November 2001.

21. Poster Communications & Exhibits

Poster & E-Poster Communications; Hardware & Software Exhibits

2015

- R. Moital, S. Dogramadzi, H. A. Ferreira, "Development of an EMG controlled hand exoskeleton for post-stroke rehabilitation", REHAB 2015 - 3rd Workshop on ICT's for improving Patients Rehabilitations Research Techniques, 1-2 October 2005, Lisboa, Portugal. (submitted)
- R. Lipovsky, H. A. Ferreira, "Self hand rehabilitation system based on wearable technology", REHAB 2015 - 3rd Workshop on ICT's for improving Patients Rehabilitations Research Techniques, 1-2 October 2005, Lisboa, Portugal. (submitted)

- R. D. Pinto, H. A. Ferreira, "Development of a non-invasive brain computer interface for neurorehabilitation", REHAB 2015 - 3rd Workshop on ICT's for improving Patients Rehabilitations Research Techniques, 1-2 October 2005, Lisboa, Portugal. (submitted)
- J. Brito, A. Andrade, H. Ferreira, K. Koschutnig, G. Pfurtscheller, "Dynamics of slow BOLD oscillations measured with the phase component of wavelet coherence", ESMRMB 2015 Congress - 32nd Annual Scientific Meeting, 1-3 October 2015, Edinburgh, UK. E-poster + lightning talk presentation.
- D. N. Sousa, H. A. Ferreira, "Study of Diffusion Kurtosis Imaging parameters using Monte Carlo simulations", ESMRMB 2015 Congress - 32nd Annual Scientific Meeting, 1-3 October 2015, Edinburgh, UK. E-poster + lightning talk presentation.
- R. Loução, R. G. Nunes, R. Neto-Henriques, M. M. Correia, A. Santos-Ribeiro, H. A. Ferreira "Structural connectivity based on diffusion kurtosis imaging", ESMRMB 2015 Congress - 32nd Annual Scientific Meeting, 1-3 October 2015, Edinburgh, UK. E-poster + lightning talk presentation.
- R. Neto-Henriques, M. M. Correia, H. A. Ferreira, "United Diffusion Kurtosis Imaging toolbox", ESMRMB 2015 Congress - 32nd Annual Scientific Meeting, 1-3 October 2015, Edinburgh, UK. Poster and software exhibit.
- Santos-Ribeiro, L. M. Lacerda, R. Neto-Henriques, R. Maximiano, R. Loução, H. A. Ferreira, "MIBCA: a toolbox for processing and analysis of multimodal imaging and connectivity data", 2015 International Conference on Brain Informatics and Health (BIH2015), 30 August – 2 September 2015, London, UK.
- F. S. Rodrigues, R. Ribeiro, H. A. Ferreira, "Brain Connectivity Leap: Interacting with the brain connectome", 2015 International Conference on Brain Informatics and Health (BIH2015), 30 August – 2 September 2015, London, UK.
- R. Maximiano, A. Santos-Ribeiro, L. M. Lacerda, H. A. Ferreira, "Automatic classification of brain connectivity matrices using the MIBCA toolbox", 2015 International Conference on Brain Informatics and Health (BIH2015), 30 August – 2 September 2015, London, UK.
- R. Normand, A. Leal, H. A. Ferreira, "Superchords: classification of visual stimuli based on single raw EEG measurements", 2015 International Conference on Brain Informatics and Health (BIH2015), 30 August – 2 September 2015, London, UK.
- F. S. Rodrigues, R. F. Ribeiro, H. A. Ferreira, "Brain Connectivity Leap", LXMLS 2015 – Lisbon Machine Learning School Demo Day, 21 July 2015, Instituto Superior Técnico, University of Lisbon, Lisbon, Portugal. Demo.
- L. Atalaya, E. Santos, H.A. Ferreira, "Extreme Zen - a Physiological Computing game", LXMLS 2015 – Lisbon Machine Learning School Demo Day, 21 July 2015, Instituto Superior Técnico, University of Lisbon, Lisbon, Portugal. Demo.
- J. Soeiro, A. P. Cláudio, M. B. Carmo, H. A. Ferreira, "Brain AR/VR - a new tool for visualizing the brain", LXMLS 2015 – Lisbon Machine Learning School Demo Day, 21 July 2015, Instituto Superior Técnico, University of Lisbon, Lisbon, Portugal. Demo.
- R. Lipovsky, H. A. Ferreira, "Eye tracking - novel applications", LXMLS 2015 – Lisbon Machine Learning School Demo Day, 21 July 2015, Instituto Superior Técnico, University of Lisbon, Lisbon, Portugal. Demo.
- J. M. Sousa, H. A. Ferreira, "Interacting with an avatar", LXMLS 2015 – Lisbon Machine Learning School Demo Day, 21 July 2015, Instituto Superior Técnico, University of Lisbon, Lisbon, Portugal. Demo.
- Santos-Ribeiro, L. Lacerda, N. Silva, David Nutt, H. Ferreira, J. McGonigle, "A multimodal imaging approach to the study of Alzheimer's disease", IBRO 9th World Congress 2015, 7-11 July 2015, Rio de Janeiro, Brazil.

- Silva H, Silva S, Ferreira H, Rodrigues LM. Assessing the impact of the regular use of hand sanitizers on the epidermal barrier. Physiology 2015. Cardiff, Wales, 6-8 July 2015.
- Silva H, Rosado C, Ferreira H, Antunes J, Rodrigues LM. Exploring the in vivo cutaneous vascular reactivity with methyl nicotinate under various circulatory dynamics by the Wavelet Transform and the Detrended Fluctuation Analysis. Physiology 2015. Cardiff, Wales, 6-8 July 2015.
- Silva H, Ferreira H, Antunes J, Bujan J, Rodrigues LM. LDF oscillatory components described by the wavelet transform, the detrended fluctuation analysis (DFA) and the multiscale entropy analysis (MSE). Physiology 2015. Cardiff, Wales, 6-8 July 2015.
- Nogueira L., Brandão S., Nunes R. G., Ferreira H. A., Loureiro J., Ramos I., Diagnostic performances of DCE and DWI in breast imaging, BioMedWomen - International Conference on Clinical and BioEngineering for Women's Health, 20 – 23 June 2015, Porto, Portugal.
- Silva H, Ferreira H, Antunes J, Bujan J, Rodrigues LM. Comparing different non-invasive methods to the study of human in vivo peripheral microcirculation. Joint Meeting of the European Society for Microcirculation (ESM) and the European Vascular Biology Organization (EVBO), 3-6 June 2015, Pisa, Italy.
- Ticlo, S. Reimão, H. Ferreira, J. M. Sousa, D. Abreu, J. Ferreira, J. Campos, R. G. Nunes, "Serial Measurements of Structural Connectivity and Diffusion-Tensor Metrics in Parkinson's Disease", ISMRM 23rd Annual Meeting, 30 May – 5 June 2015, Toronto, Canada.
- R. Ribeiro, I. Neiva, H. A. Ferreira, "BrainVR: the virtual reality brain connectivity navigator", ISMRM 23rd Annual Meeting, 30 May – 5 June 2015, Toronto, Canada.
- V. Tavares, A. Santos-Ribeiro, C. Capela, L. Cerqueira, H. A. Ferreira, "Method for epileptogenic focus localization using BOLD signal complexity analysis", ISMRM 23rd Annual Meeting, 30 May – 5 June 2015, Toronto, Canada. (**Educational Stipend to V. Tavares**)
- V. Tavares, A. Santos-Ribeiro, C. Capela, L. Cerqueira, H. A. Ferreira, "Epileptogenic focus localisation: a new approach", PSMR2015 - 4th Conference on PET/MR and SPECT/MR, 17-20 May 2015, La Biodola, Isola d'Elba, Italia.
- J. Leote, R. G. Nunes, L. Cerqueira, H. A. Ferreira, "Corticospinal MRI tractography in space-occupying brain lesions by diffusion tensor and kurtosis imaging methods", PSMR2015 - 4th Conference on PET/MR and SPECT/MR, 17-20 May 2015, La Biodola, Isola d'Elba, Italia.
- F. Lucena, T. Vaz, J. Pé-Leve, A. Santos-Ribeiro, L. Lacerda, N. Silva, D. Nutt, J. McGonigle, H. A. Ferreira, "Assessment of brain regions and multimodal neuroimaging metrics as biomarkers of Alzheimer's Disease", PSMR2015 - 4th Conference on PET/MR and SPECT/MR, 17-20 May 2015, La Biodola, Isola d'Elba, Italia.
- Silva H, Ferreira H, Antunes J, Bujan MJ, Monteiro Rodrigues L. Comparing microvascular responses from healthy individuals with different ages submitted to the 'oxygen challenge test'. V Congresso Nacional de Ciências Dermatocósméticas / IV Congresso da Sociedade Portuguesa de Ciências Cosmetológicas. Lisboa, Portugal, 15 May 2015.
- Silva H, Ferreira H, Silva SA, Monteiro Rodrigues L. Impact from the regular use of a hand sanitizer on the epidermal barrier – a pilot study. V Congresso Nacional de Ciências Dermatocósméticas / IV Congresso da Sociedade Portuguesa de Ciências Cosmetológicas. Lisboa, Portugal, 15 May 2015.
- F. Borlinhas, R. Conceição, H.A. Ferreira, "Methods of ROI placement for breast tumor differentiation in Diffusion Weighted Imaging", 7th Workshop on Biomedical

Engineering”, 18 April 2015, Faculty of Sciences of the University of Lisbon, Lisboa, Portugal.

- F. Borlinhas, H.A. Ferreira, “DWI quantification techniques applied to breast cancer”, “7th Workshop on Biomedical Engineering”, 7th Workshop on Biomedical Engineering”, 18 April 2015, Faculty of Sciences of the University of Lisbon, Lisboa, Portugal.
- S. Ticló, S. Reimão, H. A. Ferreira, J. M. Sousa, D. Abreu, J. Ferreira, J. Campos, R. G. Nunes, “A Longitudinal Study of Structural Connectivity and Diffusion-Tensor Metrics in Parkinson's Disease”, 7th Workshop on Biomedical Engineering”, 18 April 2015, Faculty of Sciences of the University of Lisbon, Lisboa, Portugal.
- P. A. Zoio, R. G. Nunes, H. A. Ferreira, “Modeling and design of an electromagnetic actuation system for the manipulation of microrobots in blood vessels”, 7th Workshop on Biomedical Engineering”, 18 April 2015, Faculty of Sciences of the University of Lisbon, Lisboa, Portugal.
- R. Loução, R. G. Nunes, R. Neto-Henriques, M. Correia, H. Ferreira, “Human brain tractography: a DTI vs DKI comparison analysis in crossing fiber regions”, 18 April 2015, Faculty of Sciences of the University of Lisbon, Lisboa, Portugal.
- N. Martins, R. G. Nunes, H. A. Ferreira, J. P. Figueiredo, L. Barroso, J. D. Mineiro, “Impact of patient positioning during MRI of the Lumbar Spine in patients with stenosis: changes in lordosis and canal dimensions”, European Congress of Radiology, 4-8 March 2014, Vienna, Austria. E-poster presentation.
- A.F. Alves, S.G. Mendo, M.D. Carvalho, R. Gigante, L.P. Ferreira, M.M. Cruz, H. Ferreira, M. Godinho, S. Biscaia, T. Viana, M. Franco, G.R. Mitchell, "Magnetic hyperthermia with different media (from water to polycaprolactone)", HYMA2015 - 4th International Conference on Multifunctional, Hybrid and Nanomaterials, 9-13th March, Stiges, Spain.
- Chec, D. Olczak, T. Fernandes, H. A. Ferreira, "Physiological computing gaming: use of electrocardiogram as an input for video gaming", PhysC 2015 2nd International Conference on Physiological Computing Systems, 11-13 February 2015, Angers, France.

2014

- F. Borlinhas, R. Conceição, H. A. Ferreira, “Contribution of Diffusion models in Diffusion-Weighted Magnetic Resonance Imaging (DWI) for improved breast tumor characterization”, 1st ASPIC International Congress, organized by the Portuguese Association in Cancer Research (ASPIC), Fundação Calouste Gulbenkian, 25-26 November 2015, Lisboa, Portugal.
- R.F. Ribeiro, I. Neiva, H.A. Ferreira, “BrainVR: brain connectivity navigator”, LXMLS 2014 – Lisbon Machine Learning School Demo Day, 24 July 2014, Instituto Superior Técnico, University of Lisbon, Lisbon, Portugal. Demo.
- R. Maximiano, H.A. Ferreira, “Towards a clinical decision support system for neuropsychiatric disorders: MLSP 2014 schizophrenia classification challenge”, LXMLS 2014 – Lisbon Machine Learning School Demo Day, 24 July 2014, Instituto Superior Técnico, University of Lisbon, Lisbon, Portugal. Demo.
- Silva H, Ferreira H, Bujan J, Rodrigues LM. The wavelet transform is a useful tool for the assessment of the lower limb microcirculation. Physiology 2014. London, England, 30th June-2nd July 2014.
- Silva H, Ferreira H, Antunes J, Bujan MJ, Rodrigues LM. Characterizing the lower limb microcirculation in vivo by the oxygen challenge test. Physiology 2014. London, England, 30th June-2nd July 2014.

- A. Andrade, H. Ferreira, K. Koschnig, G. Pfurtscheller, “Slow waves in rest and paced motion studied with wavelet transform coherence: an fMRI study”, OHBM 2014 Annual Meeting, 8-12 June 2014, Hamburg, Germany (poster).
- V. Tavares, J. Brito, H. Ferreira, A. Andrade, K. Koschnig, G. Pfurtscheller, “Temporal clustering analysis to evaluate slow oscillations around 0.1 Hz”, OHBM 2014 Annual Meeting, 8-12 June 2014, Hamburg, Germany (poster).
- C. Correia, N. Martins, M. Ribeiro, H. Ferreira (2014), “fMRI evaluation of visual, auditory, and motor cortex in visually impaired and sighted judo athletes”, OHBM 2014 Annual Meeting, 8-12 June 2014, Hamburg, Germany (poster).
- A. R. Queirós, J. L. Ferreira, J. M. Coelho, H. A. Ferreira (2014), “Towards a simple, low-cost, do-it-yourself functional NIRS platform”, AOP2014, II International Conference on Applications of Optics and Photonics, 26-30 May 2014, Aveiro, Portugal
- A. Santos-Ribeiro, L. M. Lacerda, N. A. da Silva, H. A. Ferreira, "Multimodal Imaging Brain Connectivity Analysis (MIBCA) Toolbox: preliminary application to Alzheimer's Disease", 3rd Conference on PET/MR and SPECT/MR, 19-21 May 2014, Kos, Greece (poster and early stage researcher oral highlight, COST grant).
- R. Neto-Henriques, L. Lacerda, R. Nunes, M. M. Correia, H. A. Ferreira, “Diffusion kurtosis imaging based tractography”, Joint Annual Meeting ISMRM-ESMRMB 2014, 10-16 May 2014, Milan, Italy (poster).
- J. M. Sousa, R. G. Nunes, S. Reimão, J. Ferreira, H. A. Ferreira, “Analysis of structural connectivity in Parkinson’s Disease using graph theory analysis”, Joint Annual Meeting ISMRM-ESMRMB 2014, 10-16 May 2014, Milan, Italy (poster).
- L. M. Lacerda, A. Santos-Ribeiro, N. A. da Silva, R. Neto-Henriques, H. A. Ferreira, “Multimodality imaging brain connectivity toolbox”, Joint Annual Meeting ISMRM-ESMRMB 2014, 10-16 May 2014, Milan, Italy. **ISMRM Magna Cum Laude** (poster).
- Silva H, Ferreira H, Bujan J, Monteiro Rodrigues L. Use of the wavelet transform in the study of the lower limb microcirculation – a pilot study. 6th Workshop on Biomedical Engineering 2014. Faculty of Sciences of the University of Lisbon, Portugal, 5th of April, 2014.
- A.C.P. Mendes, H.A. Ferreira, P. Gonçalves-Pereira, R.M. Manaças “Characterization of gray matter in the limbic system”, 6th Workshop on Biomedical Engineering, 5 April 2014, Faculty of Sciences of the University of Lisbon, Lisbon, Portugal. Poster.
- M. Perez, N. Pereira, J. Leote, J. P. Santos, J. Fialho, C. Almeida, L. Cerqueira, H. Ferreira (2014), “Mapping of brain regions associated with deception by functional magnetic resonance imaging”, 6th Workshop on Biomedical Engineering, 5 April 2014, Faculty of Sciences of the University of Lisbon, Lisbon, Portugal. Poster.
- N. Pereira, J. Tourais, S. Ferreira, S. Silveira, H. Ferreira, Luís Cerqueira (2014), “Development of an application for segmentation of brain lesions based on T1 and T2-weighted magnetic resonance images: use in pre-surgical planning”, 6th Workshop on Biomedical Engineering, 5 April 2014, Faculty of Sciences of the University of Lisbon, Lisbon, Portugal. Poster.
- F. Borlinhas, C. Ferra, S. Silva, P. Gonçalves-Pereira, R. Manaças, H. A. Ferreira, “Correlation between diffusion MRI metrics and structural connectivity parameters in the human brain”, 6th Workshop on Biomedical Engineering, 5 April 2014, Faculty of Sciences of the University of Lisbon, Lisbon, Portugal. Poster.
- J. Brito, V. Tavares, H. Ferreira, A. Andrade, K. Koschnig, G. Pfurtscheller, “Brain connectivity during task condition: a wavelet analysis approach”, 6th Workshop on Biomedical Engineering, 5 April 2014, Faculty of Sciences of the University of Lisbon, Lisbon, Portugal. Poster.
- F. Guerreiro, F. Melo, M. Carmo, N. Vilhena, H. Ferreira, “Building a tridimensional hologram of plots of cerebral connectivity graphs”, 6th Workshop on Biomedical

Engineering, 5 April 2014, Faculty of Sciences of the University of Lisbon, Lisbon, Portugal. Poster.

- V. Tavares, J. Brito, H. Ferreira, A. Andrade, K. Koschnig, G. Pfurtscheller, “Brain connectivity at slow oscillations: a temporal clustering approach”, 6th Workshop on Biomedical Engineering, 5 April 2014, Faculty of Sciences of the University of Lisbon, Lisbon, Portugal. Poster.
- J. M. Sousa, R. G. Nunes, S. Reimão, J. Ferreira, H. A. Ferreira, “Analysis of structural connectivity in Parkinson’s Disease using graph theory analysis”, 6th Workshop on Biomedical Engineering, 5 April 2014, Faculty of Sciences of the University of Lisbon, Lisbon, Portugal. Poster.
- T. Martins, J. M. P. Coelho, H. A. Ferreira, “Finite Element Simulation of laser irradiated metal nanoparticles”, 6th Workshop on Biomedical Engineering, 5 April 2014, Faculty of Sciences of the University of Lisbon, Lisbon, Portugal. Poster.
- R. Rosa, A. M. Sarmiento, M. D. L. G. F. R. Orvalho, H. Ferreira, "Fat saturation in breast dynamic contrast-enhanced magnetic resonance imaging (DCE-MRI): comparison between DIXON and SPAIR techniques", European Congress of Radiology, 6-10 March 2014, Vienna, Austria. E-poster presentation.
- A. Santos Ribeiro, D. Salvado, G. Evans, J. Soares Augusto, and H. A. Ferreira, "Multimodal Low-cost Platform for Acquisition of Electrophysiological Signals Interfacing with Portable Devices", International Conference on Physiological Computing Systems, 7-9 January 2014, Lisbon, Portugal.

2013

- J. Santos, H. Ferreira, C. Marques, M. Marques, V. Santos, H. Vilela, "Comparison of peripheral to central venous pressure in postoperative cardiac surgery patients", Euroanaesthesia 2013, 8-9 November 2013, Timisoara, Romania.
- Silva H, Ferreira H, Tavares L, Bujan J, Rodrigues LM. Percutaneous absorption might be modified by local perfusion conditions [Abstract]. International Federation of Societies of Cosmetic Chemists (IFSCC) 2013. Rio de Janeiro, Brazil 30th October-1st November 2013.
- F. Borlinhas, R. Conceição, H. A. Ferreira, "Diffusion Kurtosis Imaging (DKI) in breast tumor differentiation", 1º Encontro Nacional de Física Médica e Engenharia Biomédica, 7 November 2013, Lisbon, Portugal.
- H. Silva, H. Ferreira, L. Tavares, J. Bujan, L. Monteiro Rodrigues, "Percutaneous absorption might be modified by local perfusion conditions", IFSCC Conference, 30 October - 1 November 2013, Rio de Janeiro, Brazil.
- J. Brito, V. Tavares, H. Ferreira, "Micro/nanofluidics with jelly chips: A “Learn-by-Doing” approach", II Simpósio Nacional de Nanociência e Nanotecnologia Biomédica, 11 October 2013, Lisbon, Portugal.
- A. Amorim, A. Santos-Ribeiro, H.A. Ferreira, “A simple and low-cost optical fiber response system for fMRI studies”, 30th Annual Scientific Meeting ESMRMB2013, 3-5 October 2013, Toulouse, France. Software and poster presentation.
- M. L. Nogueira, S. Brandão, E. Matos, R. G. Nunes, H. A. Ferreira, J. Loureiro, I. Ramos (2013), “Repeatability and variability of ADC measurements in breast fibroglandular tissue in healthy volunteers”, Book of Abstracts of the ESMRMB 2013 Congress, 3-5 October 2013, Toulouse, France.
- D. Duarte, and H. A. Ferreira, “Development of a low-cost BCI application using Neurosky Mindband and Lego Mindstorms”, 12th European Association for the Advancement of Assistive Technology in Europe (AAATE) Conference, 19-22 September 2013, Vilamoura, Portugal.
- Silva H, Ferreira H, Tavares L, Bujan J, Rodrigues LM. Local perfusion conditions influence the epidermal “barrier” function in the lower limb [Abstract]. International

Union of Physiological Sciences (IUPS) 2013. Birmingham, United Kingdom, 21-26 July 2013.

- L. Lacerda, F. dell'Acqua, R. Manaças, P. Gonçalves-Pereira, R. Neto-Henriques, A. Andrade, R. Nunes, H. A. Ferreira, "Automatic dissection and structural connectivity of the limbic system", 30th International Epilepsy Congress, 23-27 June 2013, Montreal, Canada. Poster presentation.
- R. Neto-Henriques, M. Correia, R. Nunes, J. Ramalho, H. Ferreira, "Advances on multi-compartment model simulations to interpret the 3D geometry of diffusion kurtosis", Organization for Human Brain Mapping 2013 Conference, 16-20 June 2013, Seattle, USA.
- L. Lacerda, R. Neto-Henriques, F. dell'Acqua, R. Nunes, A. Andrade, R. Manaças, P. Gonçalves-Pereira, and H. Ferreira, "Functional and structural connectivity of the limbic system using automatic parcellation", Organization for Human Brain Mapping 2013 Conference, 16-20 June 2013, Seattle, USA.
- Silva H, Ferreira H, Tavares L, Bujan J, Rodrigues LM. About determinants of in vivo microcirculation – data from a pilot study. IV Congresso Nacional de Ciências Dermatocósméticas. Lisboa, Portugal, 15 Março 2013.
- "Intravoxel Incoherent Motion (IVIM) analysis of breast cancer lesions", F. Borlinhas, H.A. Ferreira, European Congress of Radiology, 7-11 March 2013, Vienna, Austria. E-poster presentation. (Invest in Youth award to F. Borlinhas)

2012

- H.A. Ferreira, L.M. Rodrigues, "Texture analysis of skin magnetic resonance imaging data: a feasibility study", ISBS 2012 – International Society for Biophysics and Imaging of the Skin, 28-30 November 2012, Copenhagen, Denmark.
- H.A. Ferreira, C.D. Fernandes, P.C. Pinto, L.M. Rodrigues, "Wavelet and detrended fluctuation analysis of skin microcirculation: assessment of perfusion restriction in healthy subjects", ISBS 2012 – International Society for Biophysics and Imaging of the Skin, 28-30 November 2012, Copenhagen, Denmark.
- F. Borlinhas, R.C. Conceição, H.A. Ferreira, "Breast tumor differentiation through diffusional kurtosis imaging (DKI) in magnetic resonance imaging", One Day Symposium with Castro Caldas sponsored by European Association for Cancer Research, 29 October 2012, Porto, Portugal.
- V. Santos, B. Costa, H. Ferreira, M. Marques, J. Santos, G. Mota, R. Pereira, C. Marques, I. Pires, H. Vilela, "Comparison of peripheral to central venous oxygen saturation in postoperative cardiac surgery patients", Anesthesiology 2012, 13-17 October, Washington D.C., United States of America. Poster.
- M.M. Ribeiro, M. Carreiras, H. Martins, H.A. Ferreira, D. Pais, J.G. O'Neill, J.C. Mauricio, "Post-mortem structural MR imaging of diethylene glycol - embalmed brain specimens", 29th Annual Scientific Meeting ESMRMB2012, 4-6 October 2012, Lisboa, Portugal.
- H.A. Ferreira, A.C. Borralho, P.M. Gonçalves-Pereira, R. Manaças, A. Andrade, "Granger causality analysis of resting-state networks in post-traumatic epilepsy patients", 10th European Congress on Epileptology, 30 September to 4 October 2012, London, United Kingdom. Poster.
- Ferreira HA, Silva H, Rodrigues LM. Applications of Magnetic Resonance Imaging in tissue engineering. Bioimaging 2012 – 1st International Symposium in Applied Bioimaging. Porto, Portugal, 20-21 September 2012.
- S. Brandão, T.H. da Roza, M. Parente, H.A. Ferreira, T. Mascarenhas, I. Ramos, R. N. Jorge, "Magnetic resonance tractography as a means to evaluate pubovisceral muscle fibers", International Urogynecological Association 2012, 4-8 September 2012, Brisbane, Australia.

- H.A. Ferreira, C. Fernandes, P. Pinto, L.M. Rodrigues, “Human skin microcirculation assessment by wavelet transforms and detrended fluctuation analysis”, Physiology 2012, 2-5 July 2012, Edinburgh, United Kingdom. Poster.
- I. Romero, H.A. Ferreira, A. Rodrigues, F. Aldomiro, “Anemia Hemolítica a E. coli ESBL”, 7º Encontro Nacional de Internos de Medicina Interna, 21-23 June 2012, Cascais, Portugal.
- H.A. Ferreira, C. Ferra, P. Gonçalves-Pereira, R. Manaças, A. Andrade, “Pipeline methodology for structural connectivity analysis: application to the normal brain”, 18th Annual Meeting of the Organization for Human Brain Mapping, 10-14 June 2012, Beijing, China. Poster and E-poster.
- J. Ramalho, H. Ferreira, J. Reis, “Preoperative localization of the sensorimotor area in brain tumor patients using resting-state functional MR imaging”, 50th American Society of Neuroradiology Annual Meeting, 21-26 April 2012, New York, USA. Poster presentation.
- F. Borlinhas, H.A. Ferreira, “Diffusion Kurtosis Imaging application on breast lesions”, 4th Workshop on Biomedical Engineering, 21 April 2012, Faculty of Sciences of the University of Lisbon.
- C. Ferra, H.A. Ferreira, “Differences in structural connectivity between normal and pathological brains”, 4th Workshop on Biomedical Engineering, 21 April 2012, Faculty of Sciences of the University of Lisbon.
- F. Borlinhas, L. Lacerda, A. Andrade, H. A. Ferreira, “Diffusional kurtosis as a biomarker of breast tumors”, European Congress of Radiology, 1-5 March 2012, Vienna, Austria. E-poster presentation. (Invest in Youth award to F. Borlinhas)

2011

- J.P. Santos, H. Ferreira, “Sequencing brain networks that support cognitive processes in a sub-TR timeframe using independent component analysis (ICA) and Granger causality”, III Annual Meeting IBILI, 6-7 December 2011, Coimbra, Portugal. Poster presentation.
- F. Borlinhas, H.A. Ferreira, “RM da mama: optimização dos valores b em difusão”, VI Encontro Nacional de Ciências e Tecnologias da Saúde, 20-22 October 2011, Lisboa, Portugal.
- M. Ferreira, M.J. Quintela, N. Caçador, L. Cerqueira, H. Ferreira, J. Reis, “Sialo RM na avaliação de doenças das glândulas salivares”, Silan 2011 – XXIII Congresso da Sociedade Ibero Latino Americana de Neuroradiologia Diagnóstica e Terapêutica, 10-14 October 2011, Cascais, Portugal.
- F. Borlinhas, H.A. Ferreira, “ADC enquanto biomarcador para as lesões da mama”, XIII Jornadas de Senologia, 8 October 2011, Viseu, Portugal
- H. A. Ferreira, L. Lacerda, R. M. Manaças, P.M. Gonçalves-Pereira, A. Andrade, “Diffusion-kurtosis imaging (DKI) analysis by means of statistical parametric mapping: preliminary applications in post-traumatic epilepsy”, European Society of Magnetic Resonance in Medicine and Biology 2011, 28th Annual Scientific Meeting, 6-8 October 2011, Leipzig, Germany. E-poster presentation.
- C. Ferreira, H. Ferreira, G. Cunha, M. Castelo-Branco, “Functional mapping of eloquent brain areas in pre-surgical assessment: a case study of a patient with an astrocytoma”, ISMRM Scientific Workshop – Mapping Functional Networks for Brain Surgery, 6-9 September 2011, Milano, Italy. Poster presentation.
- H.A. Ferreira, C. Rua, J. Loureiro, L. Lacerda, R.M. Manaças, P.M. Gonçalves-Pereira, A. Andrade, “Resting-state functional connectivity analysis of post-traumatic epilepsy patients”, 29th International Epilepsy Congress, 28 August - 1 September 2011, Rome, Italy. Poster presentation.

- L. Lacerda, H.A. Ferreira, A. Andrade, “Diffusional kurtosis imaging: a novel method of diffusion analysis in magnetic resonance imaging”, Workshop Física Ilimitada”, 20-21 May 2011, Departamento de Física, Faculdade de Ciências da Universidade de Lisboa. Poster presentation (2nd best poster prize in Licenciatura cycle).
- H.A. Ferreira, A. Andrade, R.M. Manaças, P.M. Gonçalves-Pereira, “Whole-brain voxel-based susceptibility-weighted imaging (SWI) analysis: normal cortical and subcortical values, and preliminary results in post-traumatic epilepsy”, ISMRM 2011, 9-13 May 2011, Montreal, Canada. Poster presentation.
- H.A. Ferreira, A. Andrade, P. Pinto, L. Monteiro Rodrigues, “In vivo magnetic resonance microscopy of normal skin and skin vasculature”, III Congresso Nacional de Ciências Dermatocósméticas, 18 March 2011, Lisboa, Portugal. Poster Presentation.

2010

- “SialoRM: a diagnostic tool in salivary diseases”, V Congresso Nacional Sociedade Portuguesa de Neurorradiologia, 11-13 de November 2010, Badajoz, Spain.
- “Combined analysis of BOLD and DTI techniques in brain tumors”, Section for Magnetic Resonance Technologists 19th Annual Meeting, 30 April- 2 May 2010, Stockholm, Sweden.
- “New functionalities in MRI: combined analysis of BOLD and DTI techniques”, 3rd Euro-Med Congress for Radiographers, 15 to 18 April 2010, Lisboa, Portugal (poster).

2009

- “T2-Relaxometry and Apparent Diffusion Coefficient Mapping of the Thalamus in Temporal Lobe Epilepsy”, 28th International Epilepsy Congress, 28 June to 2 July 2009, Budapest, Hungary.
- “Novas Potencialidades em MRI”: aplicações da análise combinada BOLD e DTI”, V Jornadas Técnicas de Imagiologia, 15 to 16 May 2009, Escola Superior de Saúde da Universidade de Aveiro, Aveiro, Portugal (**Best poster award**).

2006

- "Nanomedicine 2006: A new opportunity for improving diagnosis, prevention and treatment for disease", Sant Feliu de Guixols, Spain, 15th to 20th September 2006.
- “Biosensors 2006 – The 9th World Congress on Biosensors”, Toronto, Canada, 10th to 12th May 2006.

2004

- “The 9th Joint MMM/Intermag Conference”, Anaheim, California, U.S.A., 5th to 9th January 2004.

2003

- “Bionanotechnology – Euroconference on Biomolecular Devices”, Granada, Spain, 9th to 14th July 2003.
- “Bioeng’2003 – 7th Portuguese Conference on Biomedical Engineering”, Lisboa, Portugal, 26th and 27th June 2003. (**Best poster award**).

22. Organization of Meetings and Chairs

2016

- Member of the Scientific Comitee, "[24th International Conference on Bioencapsulation](#)", Universidade Lusófona de Humanidades e Tecnologias, 2-4 September 2016, Lisboa, Portugal
- Chair, "[3º Simpósio Nacional de Nanociência e Nanotecnologia Biomédica - Nano2016.pt](#)", Universidade Lusófona de Humanidades e Tecnologias, 15 April 2016, Lisboa, Portugal

2015

- Organizer and Lecturer at the [Satellite Symposium](#), II Congresso Internacional da Saúde, Gaia-Porto, Escola Superior de Saúde do Porto, Instituto Politécnico do Porto, 19-21 November 2015.
- Program Committee/Reviewers, "[3rd International Congress on Neurotechnology, Electronics and Informatics - Neurotechnix 2015](#)", 16-17 November 2015, Lisbon, Portugal
- Organizing Committee "[XXXI LIAC Meeting on Vascular Research](#)", 9-12 September 2015, Universidade Lusófona de Humanidades e Tecnologias, Lisboa, Portugal, Lisboa, Portugal
- Organizing Committee, "[7th Workshop on Biomedical Engineering](#)", 18 April 2015, Faculty of Sciences, University of Lisbon, Lisboa, Portugal

2014

- Program Committee/Reviewers, "[2nd International Congress on Neurotechnology, Electronics and Informatics - Neurotechnix 2014](#)", 25-26 October 2014, Rome, Italy
- Organizer, "[Brain-Computer Interface \(BCI\) workshop & hands-on seminar](#)", g.tec medical engineering Austria and University of Lisbon, 7 October 2014, Lisbon, Portugal
- Organizing Committee, "[6th Workshop on Biomedical Engineering](#)", 5 April 2014, Faculty of Sciences, University of Lisbon, Lisboa, Portugal

2013

- Organizing Committee, "[5th Workshop on Biomedical Engineering](#)", 20 April 2013, Faculty of Sciences, University of Lisbon, Lisboa, Portugal

2012

- Organizing Committee and Chairman, "[4th Workshop on Biomedical Engineering](#)", 21 April 2012, Faculty of Sciences, University of Lisbon, Lisboa, Portugal

2011

- Chairman at the “Workhop Física Ilimitada”, 20-21 May 2011, Departamento de Física, Faculdade de Ciências da Universidade de Lisboa
- Chairman at the “3rd Workshop on Biomedical Engineering”, 16 April 2011, Faculdade de Ciências da Universidade de Lisboa

2006

- Session chair at the “The 6th European Conference on Magnetic Sensors and Actuators”, Bilbao, Spain, 3 - 5 July 2006.

2005

- Chair of the session on “Biosensors and Bead Manipulation” at the “The 50th Annual Conference on Magnetism and Magnetic Materials”, San Jose, California, USA, 30 October - 3 November 2005.

23. Editorial Activity

2015

- Reviewer for the "[3rd International Congress on Neurotechnology, Electronics and Informatics - Neurotechnix 2015](#)", 16-17 November 2015, Lisbon, Portugal
- Reviewer for the "[7th International IEEE EMBS Conference on Neural Engineering](#)", 22-24 April 2015, Montpellier, France.

2014

- Reviewer for the "PeerJ" journal ([profile](#))
- Reviewer for the "[2nd International Congress on Neurotechnology, Electronics and Informatics - Neurotechnix 2014](#)", 25-26 October 2014, Rome, Italy
- Reviewer for the "[Biomedical and Biopharmaceutical Research](#)" journal

2013

- Reviewer for the "[CETC2013 - Conference on Electronics, Telecommunications and Computers](#)", 5-6 December 2013, Lisbon, Portugal.
- Reviewer for the "[6th International IEEE EMBS Conference on Neural Engineering](#)", 6-8 November 2013, San Diego, California, USA.

2012

- Reviewer for the "[ISMIRM 2012 - 20th Annual Meeting & Exhibition](#)", 5-11 May 2012, Melbourne, Australia.

2005 – 2006: Member of the Editorial Board of the Journal of Biomedical Nanotechnology, American Scientific Publishers.

2004 – 2008: Peer-review of scientific papers for IEEE Transactions on Magnetics and for Sensors journals within the scope of international scientific conferences.

24. Faculty Roles

2015: KIC EIT Health@Lisboa

- Flagship 1 - “Motivate active personal lifestyles”, Focal Point at FCUL
- Flagship 3 - “Ageing with a Healthy Brain”, surrogate Focal Point at FCUL
- Flagship 4 - “Mobility and independence throughout Life”, Focal Point at FCUL

- Proposal: [Smart Mobile Learning UL](#) for Flagship 1
- Schematic: [FCUL skills](#) for Flagship 3

2013-Present: Comissão de Reestruturação do Ciclo de Estudos do Mestrado Integrado em Engenharia Biomédica e Biofísica, Faculdade de Ciências da Universidade de Lisboa. A entrar em vigor ano lectivo 2015/2016. Avaliação pela A3ES.

2013-Present: Student liason for the Projecto Empresarial course (ISCTE-FCUL), Mestrado Integrado em Engenharia Biomédica e Biofísica, Faculdade de Ciências da Universidade de Lisboa

2011-Present: Comissão Pedagógica, Mestrado Integrado em Engenharia Biomédica e Biofísica, Faculdade de Ciências da Universidade de Lisboa

2011-Present: Divulging activities such as visits to the IBEB's lab, and events such as FCUL's Open day, Futurália; preparation of promotional material

2009-Present: Scientific Council member of IBEB.

25. Seminars & Community Outreach

2011-2015: Divulging activities such as visits to the IBEB's lab, and events such as FCUL's Open day, Futurália; preparation of promotional material

Seminars

2015

- LXMLS 2015 – Lisbon Machine Learning School Demo Day, 21 July 2015, Instituto Superior Técnico, University of Lisbon, Lisbon, Portugal. Physiological Computing and Machine-Learning Demos.
- "Brain Connectivity: a new LIGHT in brain functioning", 26 June 2015, "Noites de Ciência, Noites de Luz", Faculdade de Ciências da Universidade de Lisboa.

2014

- "Computação Fisiológica", Apresentação e Palestras de Boas-vindas aos Novos Alunos do Departamento de Física, 12 September 2014, Faculdade de Ciências da Universidade de Lisboa,
- LXMLS 2014 – Lisbon Machine Learning School Demo Day, 24 July 2014, Instituto Superior Técnico, University of Lisbon, Lisbon, Portugal. Physiological Computing and Machine-Learning Demos.
- "Imagem por curiose de difusão", Serviço de Neurologia, Hospital de Santa Maria, 19 June 2014, Lisboa, Portugal
- "Physiological computing: brain and body drive technology", Ciclo de Seminários do Departamento de Física, 26 February 2014, Faculdade de Ciências da Universidade de Lisboa

2013

- "Touchless Autopsy Report", 2 December 2013, Escola Superior de Saúde, Instituto Politécnico de Setúbal, Setúbal, Portugal,

- Presentation of the Institute of Biophysics and Biomedical Engineering at the Human Brain Project meeting - Future Neurosciences session, "[New Brain Technologies: A roadmap for Portugal](#)", 26 June 2013, Fundação Champalimaud, Lisboa, Portugal.

2012

- “Conectividade cerebral: sistema límbico”, Serviço de Medicina II, Hospital Prof. Dr. Fernando Fonseca, E.P.E., 2 de Julho de 2012, Amadora, Portugal
- “Utilização de interfaces cérebro-computador em esclerose lateral amiotrófica: uma actualização”, Serviço de Medicina II, Hospital Prof. Dr. Fernando Fonseca, E.P.E., 30 de Maio de 2012, Amadora, Portugal
- “iMRI: Interventional MRI”, curso de Licenciatura em Radiologia (3º ano), 14 April 2012, Escola Superior de Saúde Ribeiro Sanches, Lisboa, Portugal.
- “Radiologia baseada em evidência: orientações para a prescrição de exames de imagem no âmbito de medicina geral e familiar: gonalgias, lombalgias e ombro doloroso”, 5 January 2012, Unidade de Saúde Familiar Fernão Ferro Mais, Fernão Ferro.

2011

- “Espectroscopia por RM”, Curso de Ressonância Magnética do Cérebro: Princípios Físicos e Técnicas Avançadas, 12 de Novembro 2011, Universidade Atlântica
- “Elastography”, curso de Licenciatura em Radiologia (3º ano), 14 April 2011, Escola Superior de Saúde Ribeiro Sanches, Lisboa, Portugal.
- “Nanomedicina”, Ciclo de Seminários do Departamento de Física, 2 March 2011, Faculdade de Ciências da Universidade de Lisboa,
- “Nanomedicina”, curso de Mestrado Integrado em Engenharia Biomédica e Biofísica (3o ano), 21 October 2010, Faculdade de Ciências da Universidade de Lisboa, Lisboa, Portugal.

2010

- “CT/RM Neurovascular”, curso de Licenciatura em Radiologia (3º ano), 13 May 2010, Escola Superior de Saúde Ribeiro Sanches, Lisboa, Portugal.
- “MRI: Magnetic Resonance Imaging – Innovations in MRI”, 30 March 2010, Instituto de Biofísica e Engenharia Biomédica, Faculdade de Ciências da Universidade de Lisboa, Lisboa, Portugal
- “MRI: Magnetic Resonance Imaging – The now and future to be”, curso de Pós-Graduação em Técnicas Avançadas de Radiologia e Processamento de Imagem, 6 March 2010, Universidade Atlântica, Oeiras, Portugal.
- “Aplicações Avançadas de Ressonância Magnética”, curso de Licenciatura em Radiologia (4º ano), 19 November 2009, Escola Superior de Saúde Ribeiro Sanches, Lisboa, Portugal.

2009

- “Syngo – Soluções para Neurroradiologia”, IV Curso de Neurroradiologia ATARP – Neurroradiologia Vascular, 6 February 2009, Hospital Prof. Fernando Fonseca, Amadora, Portugal
- “Advanced Topics in MRI”, Mestrado em Física Médica, 17 Novembro 2008, Faculdade de Ciências da Universidade do Porto, Portugal
- “News in MRI”, Pós-graduação em Física Médica, 16 May 2008, Faculdade de Ciências da Universidade do Porto, Portugal

2008

- “MRI Short Course”, 10 a 12 Março 2008, Siemens Medical Solutions, Amadora, Portugal

- “Neuroimaging with MR”, 1o Seminário em Neurorradiologia, 1 March 2008, Escola Superior de Saúde da Universidade de Aveiro, Portugal

2007

- “Advances in MRI”, Pós-graduação em Física Médica, 27 June 2007, Faculdade de Ciências da Universidade do Porto, Portugal

2006

- “Magnetic Biochips: from hard-disk drives to biosensing devices”, Centro de Engenharia Química e Biológica, Instituto Superior Técnico, 7 March 2006.

2005

- “Magnetoresistive Biochips and Biosensors”, Microelectromechanical Systems (MEMS) course, Institute for Micro- and Nanotechnologies (MIC), Technical University of Denmark, Denmark, 13 October 2005.

Community Outreach

2013

- [FC innovation lab](#)

2012

- [Brain connectivity page](#)
- “Projecto Conectividade Cerebral”, Mundo Novo TSF
- “Human-computer interface for rehabilitation”, Futuralia 2012, 14-17 March 2012, Feira Internacional de Lisboa

2010

- [Nanomedicine divulging portal](#)

2006

- Divulging activity on “Biosensores” within the activity “Dialogues with nanoscientists” from the exposition “NanoDialogue”, Pavilhão do Conhecimento – Ciência Viva, Lisboa, 8 April 2006.