

A. Personal Statement

At the Institute of Biophysics and Biomedical Engineering (IBEB), Faculty of Sciences of the University of Lisbon (FCUL), my collaborators and me are strongly dedicated to developing and applying physiological and affective computing tools to both the medical and non-medical fields. In particular we have been exploring a number of techniques such as eye tracking, facial recognition, body movement detection, electroencephalography, electrocardiography, electromyography, galvanic skin response and others to assess both the central and the peripheral nervous system responses that elucidate on one's cognitive and emotional status. Additionally, we have developed tools such as brain-computer interfaces, haptic devices, robotic hands and exoskeletons, and also virtual and augmented reality applications that often use gamification approaches. The solutions we've developed range from motor impairment rehabilitation and mental workload assessment to gaming, museums, art and neuromarketing (for more please see <http://bioexmachina.com>).

B1. Education and Training

START	END	DEGREE	INSTITUTION	MENTOR	DISCIPLINE
May 2009	Dec 2011	Post-Doctoral Fellowship	Institute of Biophysics and Biomedical Engineering, Faculty of Sciences, University of Lisbon, Portugal	Prof. Alexandre Andrade	Neuroimaging, Brain Connectivity, Epilepsy
Sep 2004	Jul 2012	Medicine	Faculty of Medicine, University of Lisbon, Portugal	Prof. Mamede de Carvalho	Brain Computer Interfaces, Amyotrophic Lateral Sclerosis Grade: 16/20 .
Jan 2002	Jun 2006 (issued Jul 2007)	PhD Physics	Instituto Superior Tecnico, University of Lisbon, Portugal INESC-Microsystemns and Nanotechnologies, Lisbon, Portugal	Prof. Paulo Peixeiro de Freitas Prof. Joaquim Sampaio Cabral	Nanotechnologies, Biochips and Biosensors, Spintronics
Sep 1996	Oct 2001	BSc+MSc Technological Physics Eng	Instituto Superior Tecnico, University of Lisbon, Portugal	Prof. Paulo Peixeiro de Freitas	Nanotechnologies, Biochips and Biosensors, Spintronics Grade: 17/20 .

B2. Professional Positions

START	END	POSITION	DEPARTMENT	INSTITUTION
Oct 2016	-	Member	Rede Valor	University of Lisbon
Oct 2016	-	Evaluator	Biomedical Engineering	A3ES
Sep 2016	-	Coordinator	Masters in Biomedical Engineering and Biophysics	Faculty of Sciences, University of Lisbon, Portugal
Feb 2015	-	Focal Point	EIT Health@ULisboa/Rede Saúde	Faculty of Sciences, University of Lisbon, Portugal
Dec 2011	-	Assistant Prof	Physics	Faculty of Sciences, University of Lisbon, Portugal
Dec 2011	-	Researcher	Institute of Biophysics and Biomedical Engineering, Faculty of Sciences, University of Lisbon, Portugal	Faculty of Sciences, University of Lisbon, Portugal
Sep 2010	Dec 2011	Invited Assist Prof	Physics	Faculty of Sciences, University of Lisbon, Portugal
Jan 2013	Dec 2015	Clinical consultant	Neuroradiology (MRI surgical planning)	Hospital Sao Jose, Centro Hospitalar Lisboa Central
May 2010	-	Invited Adjunct Prof	Exact Sciences (Masters in Magnetic Resonance)	Escola Superior Tecnologias da Saude de Lisboa, Instituto Politecnico de Lisboa, Portugal
Jan 2007	Apr 2009	Clinical Education Specialist	Healthcare (Magnetic Resonance Imaging and Computed Tomography)	Siemens, Portugal
Jan 2006	Jan 2007	Founder and CEO	.	Haloris Nanotechnologies (biosensor's startup)
Sep 2000	Ago 2003	Teaching Assist	Physics	Instituto Superior Tecnico, University of Lisbon, Portugal

B3. Awards and Honors

DATE	DISTINCTION	INSTITUTION
2016	Selected to present at SCML Workhop at Web Summit (Projeto NeuroPsyCAD)	Santa Casa da Misericórdia de Lisboa
2016	Born from Knowledge Ideas Web Summit (Projeto NeuroPsyCAD)	Gabinete da Secretária de Estado da Ciência, Tecnologia e Ensino Superior
2016	Startup idea pre-selected in Cohitec 2016 competition	Technology Commercialization Accelerator, COTEC, Portugal
2016	'InovPortugal New Ideas B2B' award to Startup idea (among >13000 competitors)	Acredita Portugal, Portugal
2015	Best Technical Poster Prize (MIBCA, Alzheimer's Disease)	EANM2015
2015	Certificate of Merit for Software Application (DKI)	ESMRMB2015

2015	Research Contract for "Brain Tumour Connectivity using Multimodal Imaging", financed by (principal investigator)	Medical Imaging Physics - Institute of Neuroscience and Medicine, Forschungszentrum Juelich,
2014	Magna Cum Laude Poster (MIBCA)	ISMIRM2014
2014	Passaporte para o Empreendedorismo (Projeto EscutaME)	IAPMEI
2013	Passaporte para o Empreendedorismo (Projeto bioM)	IAPMEI
2013	Premio BES Inovacao (Projeto bioM)	BES
2013	Vodafone Mobile Data Challenge (Projeto bioM)	Vodafone
2010	National Project PTDC/SAU-ENB/120718/2010: "Comprehensive multi-parametric analysis of the limbic system connectivity in post-traumatic epilepsy patients" (principal investigator)	Foundation for Science and Technology (FCT), Portugal
2010	Bursary Award	Comission of European Affairs – International League Against Epilepsy
2009	Travel award	Fundação Calouste Gulbenkian
2009	Post-Doc Fellowship Award & Grant (SFRH/BPD/44806/2008)	Foundation for Science and Technology (FCT), Portugal
2006	NEST certificate for new technology-based start-ups	Agência da Inovação (ADI)
2006	NEOTEC	Agência da Inovação (ADI).
2005	1st Prize in the Concurso Bioempreendedor 2005	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"	BES
2005	Student travel award	MMM2005
2005	Finalist in the Concurso Nacional de Empreendedorismo 2005, Project "MagBiosense"	Caixa Geral de Depósitos and Universidade Nova de Lisboa
2005	1st Prize in the Concurso de Ideias do Programa Avançado em Empreendedorismo e Gestão da Inovação (PAEGI)	Catolica Business School
2005	Student travel award	IEEE2005
2005	Technology round of the Berkeley Nano-Opportunity Challenge 2005 – business ideas for the nano generation	Berkeley Nanotechnology Club
2004	3rd Prize in the Great Lakes Entrepreneurs Quest 2004 Fall Edition in the category of New Business Idea at the North/West Michigan region	Great Lakes Entrepreneurs Quest
2004	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	3M Portugal and Universidade Técnica de Lisboa
2003	Programa Gulbenkian de Estimulo à Investigação 2003 – Área das Nanotecnologias	Fundação Calouste Gulbenkian
2003	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"	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	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
2002	Prémio Professor Luís Vidigal 2000/2001	Universidade Técnica de Lisboa
2001	PhD Fellowship Award & Grant (SFRH/BD/5031/2001)	Foundation for Science and Technology (FCT), Portugal

C. Selected Publications (all internationally peer-reviewed and indexed; see <http://bioexmachina.com> and also <http://brainconnectivity.info>)

- C. Bernardino, H.A. Ferreira, T. Chambel, "Towards Media for Wellbeing". In: Proceedings of the ACM International Conference on Interactive Experiences for TV and Online Video. ACM, 2016. p. 171-177. **(peer-reviewed)**
- A.R. Moital, S. Dogramadzi, H. A. Ferreira, "Development of an EMG controlled hand exoskeleton for post-stroke rehabilitation", In Proceedings of the 3rd 2015 Workshop on ICTs for improving Patients Rehabilitation Research Techniques 2015 Oct 1 (pp. 66-72). ACM **(peer-reviewed)**.
- R. Lipovský R, H. A. Ferreira, "Self hand-rehabilitation system based on wearable technology", In Proceedings of the 3rd 2015 Workshop on ICTs for improving Patients Rehabilitation Research Techniques 2015 Oct 1 (pp. 93-95). ACM. **(peer-reviewed)**.
- R.D. Pinto, H. A Ferreira, "Development of a Non-invasive Brain Computer Interface for Neurorehabilitation", In Proceedings of the 3rd 2015 Workshop on ICTs for improving Patients Rehabilitation Research Techniques 2015 Oct 1 (pp. 126-130). ACM **(peer-reviewed)**.

- J. Soeiro, A. P. Cláudio, M. B. Carmo, H. A. Ferreira, "Visualizing the brain on a mixed reality smartphone application", Proceedings of the 37th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 25-29 August 2015, Milan, Italy, pp. 5090-5093. **(peer-reviewed)**
- A. Chec, D. Olczak, Ti. Fernandes and H. A. 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)**
- 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. **(peer-reviewed)**.
- 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. **(peer-reviewed)**

D. Research Support (See B5).

E. Bibliometric indicators.

(2 patents+1 provisional; 3 theses; 8 book chapters; 31 papers in international peer-reviewed journals; >50 papers in conference proceedings, of which 17 peer-reviewed; >10 invited talks in scientific meetings; >50 regular talks in international scientific meetings; >100 poster presentations and exhibits in international scientific meetings; see full CV at <https://www.dropbox.com/sh/tv8xr3skhmzw65k/AABULgpXvCTq1D4zGQOtuxwQa?dl=0>)

1. Total number of citations: 1036 in Web of Science Researcher ID (1806 in Google Scholar)
2. H factor: 14 in Web of Science Researcher ID (18 in Google Scholar)
3. Number and impact of papers as corresponding or last author during the last 5 years: 12 peer-reviewed papers
(for citations of each article please see Web of Science Research ID <http://www.researcherid.com/rid/l-8538-2015> and Google Scholar profile <https://scholar.google.pt/citations?user=92iIVdsAAAAJ&hl=en&oi=sra>)