

# CURRICULUM VITAE

May, 2013

## 1 PERSONAL INFORMATION

Name: Pedro Guimarães Sá Correia  
Sex: Male  
Birth: 30-12-1987, Santa Maria da Feira - Portugal  
Portuguese ID: 131925725 / Aveiro / 30-04-2008  
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## 2 ACADEMIC DEGREES

2005 - 2011      Master Degree in Biomedical Engineering.  
University of Coimbra.  
Classification: 14/20  
  
Thesis: Segmentation Processes and Pattern Recognition in Retina and Brain  
Imaging. Year: 2011. Classification: 18/20

Guidance: Rui Bernardes and Miguel Castelo-Branco  
Institutions: Association for Innovation and Biomedical Research on Light and Image, and Institute of  
Biomedical Research in Light and Image.

## 3 OTHER EDUCATION

2011              Course: BrainVoyager QX Basic Training Course.  
Institution: Brain Innovation B.V..

1998 - 2004      Course: English.  
Institution: Lancaster College.

2004              First Certificate in English.

## 4 RESEARCH ACTIVITIES

### Institute of Biomedical Research in Light and Image

2011 – Now            Research fellowship.  
Orientation: Rui Bernardes and Pedro Serranho.  
Fellowship Granter: Portuguese Foundation for Science and Technology (FCT)

#### Research Projects:

9/2011 – Now            3D segmentation of the retina vascular network resorting to Optical  
Coherence Tomography. PTDC/SAU-ENB/111139/2009.

### Association for Innovation and Biomedical Research on Light and Image

2010 - 2011            Undergraduate Researcher.  
Orientation: Rui Bernardes.

## 4 OTHER PROFESSIONAL ACTIVITIES

### University of Coimbra Hospitals (Centre of Biomedical Simulation)

2009                    Internship.

## 5 RESEARCH PROJECTS

2011 - Actual Rede vascular da retina em 3D por Tomografia de Coerência Óptica (3D retinal vascular network from Optical Coherence Tomography data)  
Reference: PTDC/SAU-ENB/111139/2009  
PI: Serranho, P..  
Sponsor: Fundação para a Ciência e a Tecnologia.  
Institutions: Association for Innovation and Biomedical Research on Light and Image; and  
Institute of Biomedical Research in Light and Image.

## 6 SCIENTIFIC INTERESTS

- 1        Image Analysis and Processing.
- 2        Pattern Recognition.
- 3        Biomedical Imaging.
- 4        Computer Science.

## 7 LANGUAGES

	English	Portuguese
Speaking:	Fluent	Mother tongue
Listening:	Fluent	Mother tongue
Writing:	Fluent	Mother tongue
Reading:	Fluent	Mother tongue

## 8 AWARDS AND HONORS

2012 – Certificate of Merit Award - "Reduced GABA levels in the Human Visual Cortex challenges the over inhibition model in Neurofibromatosis type 1" presentation on ESMRMB 2012, European Society of Magnetic Resonance in Medicine and Biology.

2011 – Best Poster - 'Reduced GABA in the Visual Cortex of Patients with NF1 – A New Perspective on the Disease Mechanism', IBILI - IBILI Meeting.

## 9 MEMBER OF PROFESSIONAL/SCIENTIFIC ASSOCIATIONS

- 1 ARVO The Association for Research in Vision and Ophthalmology (Member).
- 2 EVER European Association for Vision and Eye Research (Member).

## 10 SCIENTIFIC PRODUCTION

### 10.1 Publications

- 1 Violante, I.R.; Ribeiro, M.J.; Edden, R.; Guimarães, P.; Bernardino, I.; Rebola, J.; Cunha, G.; Silva, E.; Castelo-Branco, M.. GABA deficit in the visual cortex of patients with neurofibromatosis type 1: genotype-phenotype correlations and functional impact. *Brain*, n. 2013, p. aws368v1-aws368, 2013.  
ISSN/ISBN: 0006-8950; DOI: 10.1093/brain/aws368.
- 2 Serranho, P.; Guimarães, P.; Rodrigues, P.; Bernardes, R. On the Relevance of the 3D Retinal Vascular Network from OCT Data. *Biometrical Letters*, v. 49, n. 2, p. 95-102, 2012.
- 3 Rodrigues, P.; Guimarães, P.; Bernardes, R.; Serranho, P.. Vascular network of the human macula from OCT. *Acta Ophthalmologica*, v. 90, n. s249, p. 0-0, 2012.  
ISSN/ISBN: 1755375X; DOI: 10.1111/j.1755-3768.2012.2713.x.
- 4 Guimarães, P.; Rodrigues, P.; Bernardes, R.; Serranho, P.. 3D blood vessels segmentation from optical coherence tomography. *Acta Ophthalmologica*, v. 90, n. s249, p. 0-0, 2012.  
ISSN/ISBN: 1755375X; DOI: 10.1111/j.1755-3768.2012.2713.x.

## 10.2 Conference Proceedings

- 1 Guimarães, P.; Rodrigues, P.; Serranho, P.; Bernardes, R.. 3D Retinal Vascular Network from Optical Coherence Tomography Data. Aurélio Campilho; Mohamed Kamel. Image Analysis and Recognition. ed. Berlin, Heidelberg: Springer Berlin Heidelberg, 2012, v. 7325, p. 339-346.

ISSN/ISBN: 978-3-642-31297-7; DOI: 10.1007/978-3-642-31298-4\_40.

- 2 Guimaraes, P.; Serranho, P.; Castelo-Branco, M.; Bernardes, R.. Segmentation processes and pattern recognition in retina and brain imaging. In: 2012 IEEE 2ND PORTUGUESE MEETING IN BIOENGINEERING (ENBENG), 2012. Coimbra, Portugal. 2012 IEEE 2nd Portuguese Meeting in Bioengineering (ENBENG). IEEE, 2012, p. 1-6.

ISSN/ISBN: 978-1-4673-4526-2; DOI: 10.1109/ENBENG.2012.6331395.

## 10.3 Thesis

- 1 Guimarães, P.. Segmentation Processes and Pattern Recognition in Retina and Brain Imaging. Coimbra: Faculdade de Ciências e Tecnologia da Universidade de Coimbra, 2011. .

Msc. Thesis (18 in 20).

## 10.4 Communications

- 1 Rodrigues, P.; Guimarães, P.; Bernardes, R.; Serranho, P.. Improved 3-Dimension Retinal Vascular Tree Segmentation and Reconstruction from high-definition optical coherence tomography. ARVO Anual Meeting. Estados Unidos. 2013. (Poster).
- 2 Bernardes, R.; Guimarães, P.; Rodrigues, P.; Figueira, J.; Serranho, P.. Discrimination between perfused and occluded vessels from OCT scans. ARVO Anual Meeting. Estados Unidos. 2013. (Poster).
- 3 Guimarães, P.; Rodrigues, P.; Lobo, C.; Bernardes, R.; Serranho, P.. Fully-automated multimodal co-registration of optical coherence tomography to colour fundus photography and fluorescein angiography. ARVO Anual Meeting. Estados Unidos. 2013. (Poster).
- 4 Rodrigues, P.; Guimarães, P.; Bernardes, R.; Serranho, P.. Improved 3D Retinal Vascular Tree Segmentation. 3rd Portuguese Bioengineering Meeting. Portugal. 2013. (Oral Presentation).

- 5 Bernardes, R.; Guimarães, P.; Rodrigues, P.; Lobo, C.; Serranho, P.. Multimodal Co-registration of Ocular Fundus Images. 3rd Portuguese Bioengineering Meeting. Portugal. 2013. (Poster).
- 6 Guimarães, P.; Rodrigues, P.; Serranho, P.; Bernardes, R.. 3D Reconstruction of the Retinal Vascular Network Morphology from Optical Coherence Tomography. 3rd Portuguese Bioengineering Meeting. Portugal. 2013. (Oral Presentation).
- 7 Rodrigues, P.; Guimarães, P.; Serranho, P.; Bernardes, R. 3D Retinal Vascular Network from OCT Data. 2012 ARVO Annual Meeting. Estados Unidos. 2012. (Poster).
- 8 Guimarães, P.; Rodrigues, P.; Bernardes, R.; Serranho, P. Vascular Network of the Human Macula from High-Definition OCT. 2012 ARVO Annual Meeting. Estados Unidos. 2012. (Poster).
- 9 Guimarães, P.; Rodrigues, P.; Serranho, P.; Lobo, C.; Bernardes, R.. Multi-modal co-registration of fundus images. 4th Annual Meeting of IBILI. Portugal. 2012. (Poster).
- 10 Rodrigues, P.; Guimarães, P.; Serranho, P.; Bernardes, R. 3D Vascular Network of the Ocular Fundus from SD-OCT. 4th Annual Meeting of IBILI. Portugal. 2012. (Oral Presentation).
- 11 Rodrigues, P.; Guimarães, P.; Bernardes, R.; Serranho, P.. Vascular Network of the Human Macula from OCT. EVER 2012. França. 2012. (Oral Presentation).
- 12 Guimarães, P.; Rodrigues, P.; Bernardes, R.; Serranho, P.. 3D Blood Vessels Segmentation from Optical Coherence Tomography. EVER 2012. França. 2012. (Oral Presentation).
- 13 Violante, I.R.; Ribeiro, M.J.; Edden, R.; Guimarães, P.; Bernardino, I.; Rebola, J.; Cunha, G.; Silva, E.; Castelo-Branco, M.. Reduced GABA levels in the Human Visual Cortex challenges the over-inhibition model in Neurofibromatosis type 1. ESMRMB meeting 2012. Portugal. 2012. (Oral Presentation).
- 14 Violante, I.R.; Ribeiro, M.J.; Edden, R.; Bernardino, I.; Rebola, J.; Guimarães, P.; Cunha, G.; Silva, E.; Castelo-Branco, M.. Reduced GABA in the Visual Cortex of Patients with NF1 – A New Perspective on the Disease Mechanism. 18th Annual Meeting of the Organization for Human Brain Mapping. China. 2012. (Oral Presentation).
- 15 Guimarães, P.. Segmentation Processes and Pattern Recognition in Retina and Brain Imaging. Encontro Nacional de Bioengenharia. Portugal. 2012. (Poster).
- 16 Guimarães, P.; Rodrigues, P.; Serranho, P.; Bernardes, R.. 3D Retinal Vascular Network From Optical Coherence Tomography Data. International Conference on Image Analysis and Recognition. Portugal. 2012. (Oral Presentation).
- 17 Violante, I.R.; Ribeiro, M.J.; Edden, R.; Bernardino, I.; Rebola, J.; Guimarães, P.; Cunha, G.; Silva, E.; Castelo-Branco, M.. Gaba Concentration is Reduced in the Visual Cortex of Patients with

Neurofibromatosis Type 1 – A New Perspective on the Disease Mechanism. 3rd Annual Meeting of IBILI. Portugal. 2011. (Poster).

- 18 Santos, T.; Rodrigues, P.; Guimarães, P.; Gonçalves, V.; Cunha Vaz, J.; Bernardes, R.. Assessing the Ageing of Neuronal Tissue Through OCT. 3rd Annual Meeting of IBILI. Portugal. 2011. (Poster).
- 19 Rodrigues, P.; Guimarães, P.; Bernardes, R.; Serranho, P.. Retinal Vascular Network From 2D OCT Fundus Images. 3rd Annual Meeting of IBILI. Portugal. 2011. (Poster).
- 20 Guimarães, P.; Rodrigues, P.; Serranho, P.; Bernardes, R.. 3D Retinal Vascular Network from Optical Coherence data. 3rd Annual Meeting of IBILI. Portugal. 2011. (Poster).
- 21 Guimarães, P.; Serranho, P.; Almeida, O.; Castelo-Branco, M.; Bernardes, R.. Correlation between Retinal and Cortical thickness. 2nd Annual Meeting of IBILI. Portugal. 2010. (Oral Presentation).