



Curriculum vitae

PERSONAL INFORMATION **Leonardo Bocchi**

ACADEMIC DEGREE

2017 **National Academic Qualification as Associate Professor**

Sector: 09/G2 - ING-INF/06

1997 **PhD degree**

University of Bologna

PhD In Biomedical Engineering, Dept. Electronics and Telecommunications - University of Florence, thesis on Characterization of fine tissue structure in X-Ray imaging

April 1993 **MD in Electronic Engineering, curriculum in Biomedical Engineering**

University of Florence, April 1993, final mark 110/110 "cum laude". Thesis title: Fractal descriptors for tissue characterization in X Ray imaging

WORK EXPERIENCE

May 2018 - present **Associated Professor**

University of Florence - Dept. of Information Engineering

SSD ING-INF/06 - Electronics and Informatics bioengineering

February 2009 - April 2018 **Researcher**

University of Florence - Dept. of Information Engineering (previously Dept. of Electronics and Telecommunications)

SSD ING-INF/06 - Electronics and Informatics bioengineering

Roles and responsibilities

- Delegate for Dept. of Information Engineering in the Directive Council of CESPRO - "Centro Studio Condizioni di Rischio e Sicurezza e Sviluppo Attività di Protezione Civile"
- Orienteering delegate for the MD in Biomedical Engineering
- Member of the APREToscana staff

January 2008 - December 2008 **Research grant**

Media Integration and Communication Center dell'University of Florence

Implementation of a neural network architecture for detection of snow clutter in radar ground signal for airport security - responsible Ing. L. Pierucci

November 2006 - November 2007 **Research contract**

Media Integration and Communication Center dell'University of Florence

Non linear signal processing for radar signal analysis - responsible Ing. L. Pierucci

July 2002 - June 2004 **Research grant**

Dept. of Electronics and Telecommunications - University of Florence

Analytic methods for supporting signal and image understanding for hematological analyzers

July 2000 - June 2002 Research grant

Dept. of Electronics and Telecommunications - University of Florence

Analytic methods for supporting Computer Aided Diagnosis for medical imaging - responsible
Prof. G. Valli

October 1998 Post-doc grant

Dept. of Electronics and Telecommunications - University of Florence

Analytic methods for supporting Computer Aided Diagnosis in breast cancer

May 1993 - September 2005 Freelance

Design and development of software systems in the biomedical field, both for research and industry

TEACHING

- ING-INF/06 Medical Informatics, 9 CFU
 - ING-INF/06 Models of Physiological systems, 6 CFU
 - ING-INF/06 Medical imaging, 9 CFU
- MD in Biomedical Engineering, University of Florence

CONFERENCES AND MEETINGS

- 10-14 april 2016 Management of Special Session "TEMPERATURE REGULATION OF MICROVASCULAR FLOW", belonging to: International Conference on Biological Oscillations - 9th Meeting of the European Study Group Cardiovascular Oscillations
 - 11-12 February 2016 Keynote/Invited Speakers of SPIN-2016 - Amity University - Noida, India
 - 25-29 august 2015 Organization of Invited Session "New Methods for Gathering Information about Peripheral Blood Flow" belonging to: 37th Annual International Conference of the IEEE Engineering in Medicine and Biology Society
 - 16-19 December 2008 Plenary speaker at ISSPIT 2008 Conference - Sarajevo
- Participation, as member of the Technical Committee, in several international conferences (EuroGP & EvoWorkshops 2005, 2006, 2007, 2008, 2009, 2010, 2011, ACIVS 2005, MAVEDA 2007, 2009, 2011, INSCI 2016, Bioinformatics 2017, MIUA 2017)
- Participation, as presenter, in several international conferences

PARTICIPATION IN RESEARCH GROUPS

- January 1996 - January 2004 Participation to the research group led by prof. Valli. Research activities concerned medical image processing, interpretation and classification. Also, several cooperation activities with national and international research groups were carried out
- from 2005 to present Collaboration with EvoNet group, concerning research activities focused on the application of evolutionary computing algorithms for medical image processing. In particular, the activity included collaborations with Univ. of Uppsala, Univ. of Parma, and Univ. of Edinburgh.
- from 2006 to present Analysis of the human behaviour using video recordings; Video-Based Human Motion Estimation, in collaboration with Multimedia AI - Little Rock and University of Arkansas - Little Rock
- December 2006 - June 2011 Involved in COST 2103 "Advanced Voice Function Assessment"
- From 2009 to present Study of the effect of FREMS stimulation on peripheral microcirculation in diabetic patients - In collaboration with Ospedale Sacco - Milano
- January 2011-December 2013 Project "Non Invasive Tools for Early Detection of Autism Spectrum Disorders" coordinated by Maria Luisa Scattoni, (Dept. Cellular Biology and Neurosciences, Istituto Superiore di Sanità). Project was funded by the Italian Ministry of Health, and involved IRCCS Fondazione Stella Maris, IRCCS Ospedale Pediatrico Bambino Gesù and University of Florence

- Year 2014 Local responsible for e-Alert Project, "eAlert to support Depressed People". Partners: University of Oulu (FL), The Queen's University of Belfast (UK), Stima Soft (RO), Kaunas University of Technology (LT), Universidad de la Iglesia de Deusto (SP), Istituto Nazionale Riposo e Cura Anziani (IT), The Sanitary Consortium of Terrassa (SP), De Montfort University (UK), Cyberspace Solutions Ltd (M), St James Hospital Ltd (M), European Medical Association (BE), University of Florence (IT)
- Year 2014 Research group ATLAS, "Patient-centered integrated care system for chronic diseases with complex co-morbidity structure and dynamics". Partners: SOFTEAM (FR), University of Glasgow (UK), Université Paris XII Valde Marne (FR), University of Kent (UK), Almende B.V. (NL), MAIDIS (FR), Fincons Spa (IT), Vysocina Kraj (CZ), Tshwane University of Technology (ZA), University of Florence (IT)
- Year 2014 Research group SMART-GAM, "Self-Management Assistant for Responsible and Trustable Gaming". Partners: University of Namur (BE), University of Athens (GR), London School of Economics (UK), Faculty of information studies in Novo mesto (SLO), Par-Tec S.p.A. (IT), University of Florence (IT)
- Year 2014 Local coordinator for research group BRIDGE, "Bringing Research and Innovation in the Development of Games for Equality". Partners: University of Wolverhampton (UK), Universidad de Deusto (SP), Groupe Interaction (FR), FatDUX (CZ), 1.PF (CZ), Universidade de Aveiro (P), University of Thessaly (GR), Very Nice Studio (PL), Belle Productions (BE) and University of Florence (IT)
- From 2014 to present Member of the Scientific Committee of VirtHuLab - Human Virtual Dynamics Lab. The laboratory studies Virtual Social Dynamics, Cognitive Evolutive Systems, Design Cognitive Heuristic Models, Modelling of Self Awareness, in collaboration with University of Namur, Belgium and Institute of Physics of complexity, University of Baleares, Spain
- From July 2015 to 2018 Coordinator of an international research group on peripheral microcirculation. The group proposed a COST action, named I-Micro, for the study of microcirculation and involving 12 European countries; The proposal obtained a good scoring but was not admitted to funding.
- From 2020 to present Analysis of microcirculation alterations in Covid 19 patients. Tuscany region research project.

RESEARCH ACTIVITIES

- From 2011 to present Study of the vasomotion in peripheral vascular bed; departmental project
- From 2014 to present Coordinator of the local unit for the project "Biomolecular effect of ultrasound: new frontiers of the effects on central nervous system and possible therapeutic effects", coordinated by Prof. Massimo Gulisano (Dept. Clinical and Experimental Medicine); the project concerns the processing of images acquired using optical microscopy
- From 2016 to present Principal Investigator for the project "Study and modeling of the relation between micro and macro vascular dynamics", funded by Ente Cassa di Risparmio di Firenze

ACTIVITIES RELATED TO PHD COURSES

- September-October 2010 Remote reviewer for evaluation of PhD Thesis, for Universidad Politecnica di Madrid
- February 2012 Teaching activities belonging to MIBISOC Technical Course in Parma
- March 2014 Member of the final commission for awarding the PhD degree with additional certification of "Doctor Eurpaeus" for the University of Parma
- From 2015 to present Tutoring activities for the PhD course in Information Engineering - University of Florence

AWARDS

- April 2012 Best Paper Award - EvolASP 2012
- April 2014 Best Paper Award - ISMCT 2014

TECHNOLOGY TRANSFER ACTIVITIES

- From August 2011 to present Member of APRE Toscana staff, for supporting technology transfer and participation to European projects

From november 2012 to June 2013 Principal Investigator of ARAD-Tool project, pre-incubating at the University of Florence

OTHER EXPERIENCES

- Years 2016-17 Independent expert for Research Executive Agency, for evaluating proposals submitted at "H2020 Spreading Excellence and Widening Participation Work Programme 2016-2017", call WIDESPREAD-04-2017: Teaming Phase 1
- From 2008 to 2012 Evaluator (independent expert), for Research Executive Agency, for evaluation of proposal FP7 - SME instrument
- Dal 2010 al 2013 Project reviewer of FP7 - SME instrument projects for Research Executive Agency
 - Year 2016 Evaluation of research project funded by Emilia-Romagna region
 - Year 2017 Evaluation of research projects funded by Regione Lazio, belonging to H2020 programme
- Reviewer for several international journals (Transactions on Medical Imaging, Medical Engineering and Physics, Artificial Intelligence in Medicine, Signal Processing)
- IEEE Member

OTHER INFORMATION

Mother tongue

Other languages

UNDERSTANDING		SPEAKING		WRITING
Listening	Reading	Spoken interaction	Spoken production	

Levels: A1 and A2: Basic user – B1 and B2: Independent user – C1 and C2: Proficient user
[Common European Framework of Reference for Languages](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:31998O0023(01)&from=doctrines)

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