

Europass Curriculum Vitae

Personal information

Surname(s) / First name(s)

Address(es)

Telephone(s)

Email(s)

Nationality(-ies)

Date of birth

Gender

Poggi, Tomaso

Barrenkale Barrena, 5/5 d, Bilbao, 48005, España

+34 677907750

tomaso.poggi@hotmail.com, tpoggi@essbilbao.org

Italian

October 07, 1982

Male



Desired employment/ Occupational field

Researcher in electronics and mathematical engineering

Work experience

Occupation or position held
Name and address of employer

Researcher

ESS-Bilbao, Parque Tecnológico de Bizkaia, Laida Bidea, Edificio 207 B, 48170 – Zamudio. Bizkaia, Spain

Main activity and Occupation
Dates

Implementation of the Low Level RF system for a linear accelerator
2011-today

Occupation or position held
Name and address of employer

Postdoc research assistant

University of Genoa, Biophysical and Electronic Engineering Department, Via Opera Pia 11a, 16145, Genoa, Italy

Main activity and Occupation
Dates

Research in the field of embedded systems for nonlinear control
2010

Occupation or position held
Name and address of employer

Assistant lecturer

University of Genoa, Biophysical and Electronic Engineering Department, Via Opera Pia 11a, 16145, Genoa, Italy

Main activity and Occupation
Dates

Teaching in the following courses: linear circuits theory, analogue and digital filters, circuits and systems for signal processing. Coadvisor of M.Sc. thesis
2007-2009

Education and training

Title of qualification awarded
Principal subjects and skills
Name and type of organisation providing education and training
Date

Ph.D. in mathematical and simulation engineering

Mathematics applied to engineering, design of digital circuits

University of Genoa

2010

Title of qualification awarded
Principal subjects and skills
Name and type of organisation providing education and training
Level in national classification
Date

Laurea Magistrale (M.Sc.) in Electronic Engineering

Electronics, informatics and mathematics

University of Genoa

110/110 with honours

2006

Foreign Studies

Location University of Lancaster, Lancaster, UK
 Main Activity and Occupation Researcher of physical models for wireless sensor networks
 Dates July 09, 2007 - September 27, 2007

Location Universidad Nacional del Sur, Bahía Blanca, Argentina
 Main Activity and Occupation M.Sc. graduation thesis
 Dates July 15, 2006 - October 04, 2006

Location Universitat Autònoma de Barcelona, Barcelona, Spain
 Main Activity and Occupation Erasmus Project
 Dates February 03, 2005 - June 30, 2005

Personal skills and competences

Mother tongue(s)

Other language(s)

*Self-assessment
 European level^(*)*

Spanish
English

Italian

Spanish, English

Understanding		Speaking		Writing
Listening	Reading	Spoken interaction	Spoken production	
C1	C1	C1	C1	C1
C1	C1	B2	B2	C1

^(*) Common European Framework of Reference (CEF) level

Social skills and competences

My experiences in foreign countries gave me the ability to collaborate and communicate with other people in any social context.

Organisational skills and competences

As a researcher I have learnt how to face problems with an open-minded approach.

Technical skills and competences: Hardware

FPGA programming, analogue and digital circuit design for printed circuit boards (PCB), Measurement Instruments (oscilloscope, waveform generator, multimeter, logic analyser, etc.).

Technical skills and competences: Software

MatLab, Xilinx ISE, Xilinx System Generator, ModelSim XE, OrCAD Cadence, OrCAD PCB Editor, OrCAD PSpice, LabVIEW, HSpice, numerical libraries for optimisation (GLPK, CDD, ILOG CPLEX, CLP).

Programming languages

MatLab, VHDL, L^AT_EX, C.

Other computer skills and competences

Microsoft Office, TeXnicCenter; Operative Systems (user experience): Windows, Linux (Ubuntu, Debian, Fedora).

Artistic skills and competences

Electric guitar player.

Driving licence

B.

Additional information

Research Interests

Piecewise-linear functions: study of techniques that allow a circuital implementation of nonlinear functions using a collection of linear functions; piecewise-linear approximation/identification of nonlinear functions and systems.

Virtual Sensors: a Virtual Sensor is an observer, i.e. a nonlinear filter, that estimates an unknown variable starting from correlated measurements, using mathematical models rather than physical devices. It can be used instead of a real sensor when this one is not available or is too expensive.

	<p><i>Model Predictive Control</i>: development and circuit implementation of algorithms for the control of dynamical systems with constraints; stability and feasibility analysis of closed-loop systems.</p> <p><i>Low Level RF</i>: design and implementation of embedded control systems for RF applications in particle accelerators.</p>
Publications	Tomaso Poggi is the author of thirteen papers published on international journals and conferences.
Journals	<p>T. Poggi, M. Rubagotti, A. Bemporad, M. Storace, <i>High-speed piecewise affine virtual sensors</i>, IEEE Transactions on Industrial Electronics, vol. 59, pg. 1228-1237, Feb. 2012.</p> <p>A. Bemporad, A. Oliveri, T. Poggi, M. Storace, <i>Ultra-fast stabilizing Model Predictive Control via canonical piecewise affine approximations</i>, IEEE Transactions on Automatic Control, in press, DOI:10.1109/TAC.2011.2141410.</p> <p>M. Storace, T. Poggi, <i>Digital architectures realizing piecewise-linear multi-variate functions: two FPGA implementations</i>, International Journal of Circuit Theory and Applications, vol. 39, pg. 1-15, Jan. 2011.</p> <p>M. Di Federico, P Julián, T. Poggi, M. Storace, <i>Integrated circuit implementation of multidimensional piecewise-linear functions</i>, Digital Signal Processing, vol. 20, pg. 1723-1732, Dec. 2010.</p> <p>D. Linaro, T. Poggi, M. Storace, <i>Experimental bifurcation diagram of a circuit-implemented neuron model</i>, Physics Letters A, vol. 374, pg. 4589-4593, 2010.</p> <p>T. Poggi, F. Comaschi, M. Storace, <i>Digital circuit realization of piecewise affine functions with non-uniform resolution: theory and FPGA implementation</i>, IEEE Transactions on Circuits and Systems II, vol. 57, pg. 131-135, Feb. 2010.</p> <p>T. Poggi, A. Sciutto, M. Storace, <i>Piecewise linear implementation of nonlinear dynamical systems: from theory to practice</i>, Electronics Letters, vol. 45, pg. 966-967, Sep. 2009.</p>
Conferences	<p>T. Poggi, S. Trimboli, A. Bemporad, M. Storace, <i>Explicit hybrid model predictive control: discontinuous piecewise-affine approximation and FPGA implementation</i>, 18th World Congress of the International Federation of Automatic Control (IFAC), Milan, Italy, Aug. 2011, accepted for publication.</p> <p>A. Bemporad, A. Oliveri, T. Poggi, M. Storace, <i>Synthesis of stabilizing model predictive controllers via canonical piecewise affine approximations</i>, IEEE Conference on Decision and Control (CDC 2010), Atlanta, Georgia, USA, Dec. 2010.</p> <p>T. Poggi, M. Storace, <i>Digital architectures implementing piecewise-affine functions: an overview</i>, Proc. ISCAS10, Paris, France, pg. 3304–3307, Jun 2010.</p> <p>A. Oliveri, A. Oliveri, T. Poggi, M. Storace, <i>Circuit implementation of piecewise-affine functions based on a binary search tree</i>, Proc. ECCTD09, Antalya, Turkey, pg. 145-148, Aug 2009.</p> <p>A. Boggiano, S. Delfitto, T. Poggi, M. Storace, <i>FPGA Implementation of a New Scheme for the Circuit Realization of PWL Functions</i>, Proc. ECCTD07, Sevilla, Spain, pg. 874-877, Aug 2007.</p> <p>M. Di Federico, P Julián, T. Poggi, M. Storace, <i>A Simplicial PWL Integrated Circuit Realization</i>, Proc. ISCAS07, New Orleans, USA, vol 1-11, pg. 685-688, 2007.</p>
Personal interests	<p><i>Music</i>: Blues, Hard Rock, Progressive and Heavy Metal. Electric guitar and bass guitar.</p> <p><i>Literature</i>: XIX - XXI centuries and South-American Authors.</p>