



Marco Raggio

Staff

✉ marco.raggio@unige.it

Education and training

2000

PhD in Electronics and Computer Science

University of Genoa - Genoa - IT

1992

M.sc. Electronic engineer

University of Genoa - Genoa - IT

1984

Secondary School Diploma in Electrical eng.

ITIS - Sestri Levante (GE) - IT

Academic experience

2001 - 2012

Officer

University of Genoa - Genoa - IT

2012 - ONGOING

Technical manager

University of Genoa - Genoa - IT

2014 - ONGOING

Lecturer

University of genoa - Genoa - IT

Work experience

1992 - 1995

Freelance Engineer

Freelance

Language skills

Italian Sign

Language

Mother tongue

Teaching activity

A.Y.2020-21 Teacher in 'Electronic Devices and Circuits' (code: 65997) of the third year of the Degree Course in Computer Engineering - Unige

A.Y.2020-21 Teacher in 'Edge Computing' teaching (code: 101837) of the second year of the Master's Degree Course in Electronic Engineering - Unige

A.Y. 2019-20 Teacher in 'Electronic Devices and Circuits' (code: 65997) of the third year of the Degree Course in Computer Engineering - Unige

From 2014 to 2019 Teacher in 'Electronic instrumentation laboratory' course (code 84428) of the third year Degree Course '9273' (IETI) - Unige

From 2015 to 2020 Teacher in International specialization course in Electronics and Telecommunication, at Dept. DITEN - Unige

2015- Teacher in Electromagnetic compatibility and bioelectromagnetism - Telecommunications specialization course - School of Telecommunications FF.AA. Chiavari.

2011 - Training course on Video Surveillance Techniques and Systems at SELEX (Rome).

2005 - Training course 'Management and maintenance of the Microsoft Windows Server 2003 environment - (code 70-290)' - Interior Ministry - Prefecture of Genoa.

2002 - Teacher on IT and tools for cooperative work - refresher course of technical professionalism of staff - Ansaldo transmission and distribution - Genoa

2001 - Teacher on Systems for video communication and cooperative work - Adapt ICN project - 1254 / A2 / Reg. Vicenza Industrial Association.

Postgraduate research and teaching activity

Supervision of PhD students, residents and post-doctoral fellows

- XXV cycle. - Topic: multicore electronic architectures and systems, multithreaded parallel programming models for multimedia applications working in real time, implementations on programmable HW - Address: Electronics and Computer Science - PhD student: Ing. Rajiv Bajpai.

- XXV cycle. - Topic: multicore electronic architectures and systems, multithreaded parallel programming models for multimedia applications working in real time, implementations on programmable HW - Path: Electronics and Computer Science - PhD student: Ing. Abishek Sharma.

- XXII cycle. - Topic: Real-time, highly efficient and robust video coding and decoding techniques for embedded hardware platforms. - Address: Electronics and Computer Science - PhD Student: Ing. D. Brizzolara.

- XXI cycle. - Topic: implementation on DSP processors of algorithms for the optimal and real-time processing of standard video sequences. - Address: Electronics and Computer Science - PhD student: Ing. P. Lambruschini.

- XIX cycle. - Topic: DSP architectures with sub-word parallelism and multiprocessor integrated electronic systems for multimedia applications. - Address: Electronics and Computer Science - PhD student: Ing. R. Stagnaro.

- XIX cycle. - Topic: Electronic and IT tools for the research, development and implementation of automatic systems for automatic speech recognition and multimedia applications, in embedded electronic systems for mobile and automotive applications .. - Address: Space Science and Engineering - PhD student: Ing M. Cantarini.
- XVIII cycle. - Topic: Telecommunication network architectures oriented to telemedicine applications - Address: Electronics and Computer Science - PhD student: Ing. S. Cevasco.
- XVIII cycle. - Topic: Hardware and software architectures for the processing of digital signals in real time oriented to applications for telecommunications. - Address: Electronics and Computer Science - PhD student: Ing. F. Sguanci.
- XVII cycle - Topic: Implementation on DSP architectures and electronic systems of architectures for the real-time processing of multimedia signals especially aimed at speech compression and recognition - Address: Electronics and Computer Science - PhD student: Ing. A. Chiappori.
- XVII cycle - Topic: Algorithms and electronic platforms for the compression and transmission in real time of voice signal - Address: Electronics and Computer Science - PhD student: Ing. A. Scotto.
- XV cycle - Topic: Development of tools for the study and simulation of DSP architectures with sub-word parallelism and embedded electronic systems for multimedia applications - Address: Electronics and Computer Science - Dott. M. Bariani.
- XVII cycle - Topic: study, simulation and implementation of electronic and computer systems for the processing, retrieval and distribution in real time of multimedia information in compressed digital format, compatible with standards for video communication, videoconferencing and distance learning - Address : Electronics and Computer Science - Dr. G. Bailo.

Research interests

Electronic systems, software and firmware for IoT and embedded systems, electronic measurements, tools for distance learning and multimedia, networks and security

Grants

1996 - 1999

SCALeable Architectures with hardware extensions for low bit rate variable bandwidth real time video communication

EU

250K - Participant

2010 - 2013

A Highly Efficient Adaptive Multi-processor Framework

EU

270K - Participant

Editorial activity

'An Efficient Multi-Core SIMD Implementation for H.264 / AVC Encoder,' by Paolo Lambruschini, Massimo Bariani and Marco Raggio. Special Issue on VLSI Circuits, Systems, and Architectures for Advanced Image and Video Compression Standards,

<http://www.hindawi.com/journals/vlsi/2012/413747/>, VLSI Design Volume 2012 (2012), Article ID 413747, 14 pages, doi: 10.1155 / 2012/413747

'Supervision analysis and control system of photovoltaic power plants'. P. Lambruschini, M. Raggio, R. Bajpai, A. Sharma,, 7th International Conference on System of Systems Engineering, SOSE 2012, July 16-19th, 2012, Genoa, IT. ISBN: 978-1-4673-2975-3

'Efficient implementation of packet pre-filtering for scalable analysis of IP traffic on high-speed lines', P. Lambruschini, M. Raggio, R. Bajpai, A. Sharma, 20th International Conference on Software, Telecommunications and Computer Networks, SoftCOM 2012 , September 11-13th, 2012, Split. Croatia, ISBN: 978-1-4673-2710-7

'Optimized packet pre-filtering for analysis of IP traffic on high-speed networks'. P. Lambruschini, M. Raggio, R. Bajpai, A. Sharma,, International Conference on Signals and Electronic Systems, ICSES 2012, September 18-21th, 2012, Wroclaw, <http://icses2012.pwr.wroc.pl/m3.html> ISBN: 978-1-4673-1710-8

'SIMD implementation of new HEVC video decoder on ARM architecture'. M. Bariani, P. Lambruschini, L. Pezzoni, M. Raggio,, Proceedings of the 10th Annual International Workshop STDAY 2012, October 25-26th, 2012, Politecnico di Milano, Milan, IT.

"An Optimized Software Implementation of the HEVC / H.265 Video Decoder '. M. Bariani, P. Lambruschini, M. Raggio, L. Pezzoni, The 11th Annual IEEE consumer communications & networking conference, CCNC 2014,, January 10-13, 2014 Las Vegas, Nevada USA, <http://ccnc2014.ieee-ccnc.org/>

"An Optimized SIMD Implementation of the HEVC / H.265 Video Decoder '. M. Bariani, P. Lambruschini, M. Raggio, L. Pezzoni, The 13th annual Wireless Telecommunications Symposium (WTS), April 9-11, 2014, Washington D.C., D.C. USA, DOI: 1109 / WTS.2014.6835018

"Embedded system for supervision, analysis and control of photovoltaic power plants". A. Cabitto, P. Lambruschini, M. Raggio. Smart Sensors, Actuators and MEMS VII and Cyber Physical Systems - SPIE Microtechnologies, May 4-6, 2015; Barcelona, Spain. Proc. SPIE 9517, (95172M) doi: 10.1117 / 12.2179019. <http://dx.doi.org/10.1117/12.2179019>

"Efficient Implementation of H.265 video decoder on low computational power architecture". Bariani, P. Lambruschini, M. Raggio, L. Pezzoni, Italian Electronics Group, Proceedings of 47th Annual meeting, pp. 21-22, GE2015, 24-26th June 2015, Siena, Italy.

http://ge2015.diism.unisi.it/ge2015_proceedings_siena.pdf

"An Efficient SIMD Implementation of the H.265 Decoder for mobile architecture". M. Bariani, P. Lambruschini, M. Raggio, L. Pezzoni, - ICIAP2015 - Springer, 18th International Conference on Image Analysis and Processing; 7-11 September 2015, Genoa, ISBN 978-3-319-23234-8

"Embedded system for supervision analysis and control of photovoltaic

power plants”, A. Cabitto, P. Lambruschini, M. Raggio. *Microsystem Technologies (Journal)* - Publisher: Springer International Publishing AG, ISSN: 0946-7076 (Print), Volume 22, Issue 160. ISSN: 1432-1858 (Online). DOI 10.1007 / s00542-016-2938-8. 22 April 2016, Page (s):
http://link.springer.com/article/10.1007/s00542-016-2938-8?wt_mc=internal.event.1.SEM.ArticleAuthorOnlineFirst
(search author RAGGIO M)
<http://www.scopus.com/authid/detail.url?authorId=8573253200#>

Assignments abroad

2010 - Training course on Development of video surveillance systems based on Open source software, within the 'Intensive Program in Developing Open Source System Expertise in Europe' - EU project 'DOSSEE' - Univ. Metropolia of Applied Science - Helsinki (FI) .

Other professional activities

2013-14 “Optimization for a ARM architecture of STM multimedia library” 40 - for STMicroelectronics
2012 - Study of the High Efficiency Video Coding (HEVC or H.265) and optimization for a ARM architecture '. 40 - for STMicroelectronics
2011 - 'Creation of a Scalable Video Encoder and its optimization for a ARM architecture and analysis of H265 decoder'. - STMicroelectronics
2010-11 - Design and development of monitoring system for switchboards, inverters and network interfaces with MODBUS protocol and SOAP-XML methodology - RGM SpA
2011 - Spin off Unige: EPOCS SRL
2010. 'Flexible HW / SW architecture for MM application and Mapping of Multimedia coding Libraries of primitives to support Scalability (STM2010) - for STMicroelectronics
2010 - Test DVB-T receivers, study, development and integration of applications' (PRIMO2010) - Mediamouse - Primocanale SRL
2009-2010. 'Study of a digital system for the control of Magnetic Resonance equipment (Paramed2010) - Paramed Srl
2007-8 - SW / FW realization for GRID connected inverters and intelligent management of the energy balance (SOLARTECH) - RGM Spa
2005-6 - Modeling of efficient programmable architectures for realtime video co-decoding devices (MEDYA3) - STMicroelectronics
2002 - Components and control algorithms with methods and techniques for the INTEGRATION of logic functions in safety for railway signaling systems. (INTEGRA) Ansaldo Segnamento Ferr.
1998 - Very Long Instruction Word Digital Signal Processor (VLIW-DSP) - HP Lab. Boston (USA).
1996-97 - Modular Digital Signal Processor (MDSP) - Ericsson Components A.B. - Kista (S)