Marco Martalò - Curriculum Vitae

Networks for Humans (Net4U) Lab
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PERSONAL INFORMATION

Place and date of birth: Galatina (LE), Italy, June 4, 1981

Nationality: Italian

Personal address: Via Piemonte 28, I-09060, Settimo San Pietro (CA), Italy

Personal phone: +39 320 9206519

Marital status: Married with a daughter

WORKING EXPERIENCES

Associate Professor, Department of Electrical and Electronic Engineering, University of Cagliari, Italy. December 2020 - present.

Post-Doc (*Assegnista di ricerca*) on "Efficient signal processing techniques," Department of Engineering and Architecture, University of Parma, Italy. June 2017 - December 2020.

Assistant Professor (*Ricercatore a tempo determinato tipo A*), School of Engineering, E-Campus University, Novedrate (CO), Italy. May 2012 - April 2017. During the same period Research Associate at the Department of Information Engineering, University of Parma, Italy.

Post-Doc (*Assegnista di ricerca*) on "Efficient techniques for signal processing and transmission in wireless ad hoc and sensor networks," Department of Information Engineering, University of Parma, Italy. February 2010 - April 2012.

SPINNER Research Fellow (*Borsista SPINNER*) on "Low-complexity localization in indoor scenarios," Department of Information Engineering, University of Parma, Italy. January 2009 - January 2010. Tutor: Prof. G. Ferrari.

Research internship on "Network coding complexity," School of Computer and Communication Sciences, Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland. October 2007 - March 2008. Tutor: Prof. C. Fragouli.

EDUCATION

Ph.D. in Information Technologies, Department of Information Engineering, University of Parma, Italy, March 2009. Advisor: Prof. G. Ferrari.

Second Level Master of Science Degree (*Laurea specialistica*) Degree in Telecommunications Engineering, School of Engineering, University of Parma, Italy, December 2005. Grade: 110/110 *Summa Cum Laude*. Advisor: Prof. G. Ferrari.

First Level Bachelor of Science Degree (*Laurea triennale*) in Telecommunications Engineering, School of Engineering, University of Parma, Italy, September 2003. Grade: 103/110. Advisor: Prof. Riccardo Raheli.

"Diploma" Degree, Liceo Classico "P. Colonna", Galatina (LE), Italy, July 2000. Grade: 100/100.

RESEARCH INTERESTS

The activities carried out during my research career are in the general field of digital communication systems with particular attention to those in wireless environments. Scientific contributions are transversal to different types of systems, both traditional (point-to-point) and more advanced networking scenarios (with multiple users and ad-hoc communications). The results obtained can be classified into the following sub-topics:

1. transmission and distributed detection in sensor networks;
2. signal processing for sensor networks;
3. transmission systems on non-ideal channels;
4. advanced applications for communication networks;
5. audio signal processing.

DEVELOPED PROJECTS

"Active Control of the Acoustic Regions in a Vehicle," collaboration between ASK Industries S.p.A., Reggio Emilia, Italy, and the Department of Engineering and Architecture, University of Parma, Italy, 2020 - 2023. Principal investigator: Prof. R. Raheli (University of Parma).

"Next generation smart perception sensors and distributed intelligence for proactive human monitoring in health, wellbeing, and automotive systems (NextPerception)," project n. 876487 funded by the European Commission and the Ministero dell'Istruzione, Università e Ricerca (MIUR, Italy) under the call H2020-ECSEL-2019-2-RIA-two-stage, 2020 - 2021. Prof. Martalò acted as lead writer of the deliverable D1.1 "State of the Art Assessment." Principal Investigator: Prof. G. Ferrari (University of Parma).

"Airborne DAta COllection on Resilient System Architectures (ADACORSA)," project n. 876019 funded by the European Commission and the Ministero dell'Istruzione, Università e Ricerca (MIUR, Italy) under the call H2020-ECSEL-2019-2-RIA-two-stage, 2020 - 2021. Principal Investigator: Prof. G. Ferrari (University of Parma).

"Intelligent Secure Trustable Things (InSecTT)," project n. 876038 funded by the European Commission and the Ministero dello Sviluppo Economico (MISE, Italy) under the call H2020-ECSEL-2019-2-IA-two-stage, 2020 - 2021. Principal Investigator: Prof. G. Ferrari (Consorzio Interuniversitario Nazionale per l'Informatica, CINI, Research Unit of Parma).

"," collaboration between ASK Industries S.p.A., Reggio Emilia, Italy, and the Department of Engineering and Architecture, University of Parma, Italy, 2018 - 2021. Principal investigator: Prof. R. Raheli (University of Parma).

"Cyber-Physical Systems for Safety in Production Plants with High Accident Risk with Integration of People/Objects Localization Technologies and Distributed Sensing Systems (CP-SEC)," collaboration between Istituto Nazionale contro gli Infortuni sul Lavoro (INAIL), Rome, Italy, the Department of Information Engineering and Mathematics, University of Siena, Italy, and the Department of Engineering and Architecture, University of Parma, Italy, 2020 - 2021. Principal investigators: Prof. A. Abrardo (University of Siena) and Prof. G. Ferrari (University of Parma).

"Intelligent Antennas for 5G Vehicular Communications," collaboration between ASK Industries S.p.A., Reggio Emilia, Italy, and the Department of Engineering and Architecture, University of Parma, Italy, 2019 - 2021. Principal investigator: Prof. G. Ferrari (Consorzio Nazionale Interuniversitario per le Telecomunicazioni, CNIT, Research Unit of Parma, 2019-2020; University of Parma, 2020-2023).

"Acoustic Field Control in a Vehicle Cabin," collaboration between ASK Industries S.p.A., Reggio Emilia, Italy, and the Department of Engineering and Architecture, University of Parma, Italy, 2018 - 2021. Principal investigator: Prof. R. Raheli (University of Parma).

"Aggregate Farming in the Cloud" (AFarCloud)," project n. 783221 funded by the European Commission and the Ministero dell'Istruzione, Università e Ricerca (MIUR, Italy) under the call H2020-ECSEL-2017-2-RIA-two-stage, 2018 - 2021. Principal Investigator: Prof. G. Ferrari (University of Parma).

"Acoustic Field Control in a Tractor Cabin," collaboration between Argo Tractors S.p.A., Fabbrico (RE), Italy, and the Department of Engineering and Architecture, University of Parma, Italy, 2018 - 2021. Principal investigator: Prof. A. Farina (University of Parma). Co-investigator: Prof. G. Ferrari.

"Prototype Design for Hybrid Radio/Inertial Navigation," in collaboration with things2i S.r.l., Parma, Italy, 2019-2020. Principal investigator: Prof. G. Ferrari (University of Parma).

"Outdoor/Indoor Localization in 5G Networks," collaboration between Huawei Ltd., Shanghai, China, and the Department of Engineering and Architecture, University of Parma, Italy, funded by the Huawei Innovation Research Program (HIRP), 2018 - 2020. Principal investigator: Prof. G. Ferrari (University of Parma).

"Analysis and Design of a Localization and Tracking Algorithm," collaboration between Elettric80 S.p.A., Viano (RE), Italy, and the Department of Engineering and Architecture, University of Parma, Italy, 2017 - 2019. Principal investigator: Prof. G. Ferrari (University of Parma).

"Advanced Digital Audio Processing Algorithms," collaboration between CNIT, Parma, Italy, and MOVYM S.r.l., Milan, Italy, 2014. Principal investigator: Prof. G. Ferrari (CNIT, Research Unit of Parma).

"Phase Noise Suppression and Frequency Jumps Mitigation Algorithms," collaboration between Huawei GmbH, Munich, Germany, and the Department of Information Engineering, University of Parma, Italy, 2012-2013. Principal investigator: Prof. R. Raheli (University of Parma).

"Cross-Network Effective Traffic Alerts Dissemination (X-NETAD)," joint Isreal-Italy project. Partners: Guglielmo Srl and the Department of Information Engineering, University of Parma (Italian side) and Cellint (Isreali side), 2011. Principal investigator: Prof. G. Ferrari (University of Parma).

"Design and Implementation of Advanced Vertical Handover Algorithms for HSDPA and Wi-Fi Netwoks," collaboration between Guglielmo Srl, Reggio Emilia, Italy, and the Department of Information Engineering, University of Parma, Italy, 2010. Principal investigator: Prof. G. Ferrari (University of Parma).

"Algorithm for Audio Signature Detection," collaboration between Elsag-Datamat, Rome, Italy, and the Department of Information Engineering, University of Parma, Italy, 2008-2009. Principal investigator: Prof. G. Ferrari (University of Parma).

"RFID-based System for Supply Chain Management," collaboration between ID-Solutions, Parma, Italy, and the Department of Information Engineering, University of Parma, Italy, 2007. Principal investigator: Prof. G. Ferrari (University of Parma).

"Cooperative Remote Interconnected Measurement Systems Over Networks" (CRIMSON), Department of Information Engineering, University of Parma, Italy. PRIN (Progetti di Ricerca di Interesse Nazionale) project funded by the Italian Ministry of University and Research (MIUR), 2006-2008. Principal investigator: Prof. R. Raheli (University of Parma).

AWARDS

National Scientific Qualification (*Abilitazione Scientifica Nazionale*) for Associate Professorship in Telecommunications, March 2018.

Elevation to IEEE Senior Member grade, December 2016.

First prize award, together with the WASNLab team, at the first Body Sensor Network (BSN) Contest, organized in conjunction with the 2011 Body Sensor Networks (BSN) conference, Dallas, TX, USA, May 2011.

Fulbright/BEST (Business Exchange Student Training) finalist, December 2006.

Best student paper award, *IEEE International Workshop on Wireless Ad hoc and Sensor Networks* (IWWAN), June 2006.

Award as best first-year student in Telecommunications Engineering (Second Level Master), University of Parma, Italy, for the academic year 2003-2004.

INVITED TALKS AND SEMINARS

"On Fast and Secure Communications for IoT Networks," *EDUC Summer School on Building Trust in the Information Age*, University of Cagliari, Italy, August 30, 2022.

"Statistical Models of Spatially Correlated Binary Sources with Application to Communication Networks," *International Conference on Advances in Multimedia* (MMEDIA), Special Track on Models and Algorithms for Spatially and Temporally Correlated Data (STCD), Venice, Italy, April 27, 2017.

"Phase Noise Channel: Models and Fundamental Limits," Institute for Communications Engineering, Technische Universitat Munchen (TUM), Germany. May 30, 2016.

"Towards Large-scale P2P Distributed Storage with Decentralized Maintenance: a Network Coding-based Approach," Disney Research Zurich, Switzerland. December 9, 2011.

"Clustered Decentralized Binary Detection in Sensor Networks: a Joint Communication/Information-Theoretic Approach," Department of Information Engineering, University of Parma, Italy. July 26, 2006.

SPEAKER AT CONFERENCES

2019 IEEE International Conference on Computing Communication and Security (ICCCS 2019), Rome, Italy, October 2019, to present the paper [C40].

2019 International Symposium on Wireless Communication Systems (ISWCS 2019), Oulu, Finland, August 2019, to present the paper [C38].

2018 IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC), Bologna, Italy, September 2018, to present the paper [C37].

2016 International Symposium on Turbo Codes & Iterative Information Processing (ISTC 2016), Brest, France, September 2016, to present the paper [C36].

2015 International Symposium on Wireless Communication Systems (ISWCS 2015), Bruxelles, Belgium, August 2015, to present the papers [C33]-[C34].

2012 Riunione Annuale dell'Associazione Gruppo nazionale Telecomunicazioni e Tecnologie dell'Informazione (GTTI 2012), Cagliari & Villasimius, Italy, June 2012, to present the paper [CN5].

2010 IEEE International Symposium on Industrial Electronics (ISIE 2010), Bari, Italy, July 2010, to present the paper [C22].

2010 International Symposium on Wireless Pervasive Computing (ISWPC 2010), Modena, Italy, May 2010, to present the papers [C19]-[C20].

2010 Information Theory and Applications Workshop (ITA 2010), San Diego, CA, USA, February 2010, to present the invited paper [C18].

2009 Riunione Annuale dell'Associazione Gruppo nazionale Telecomunicazioni e Tecnologie dell'Informazione (GTTI 2009), Parma, Italy, June 2009, to present the paper [CN3].

2008 Riunione Annuale dell'Associazione Gruppo nazionale Telecomunicazioni e Tecnologie dell'Informazione (GTTI 2008), Firenze, Italy, June 2008, to present the paper [CN2].

2008 IEEE International Symposium on Communications, Control and Signal Processing (ISCCSP 2008), St. Julians, Malta, March 2008, to present the papers [C9]-[C10].

2006 International Workshop on Wireless Ad-hoc Networks (IWWAN 2006), New York, NY, USA, June 2006, to present the paper [C4] awarded with a Best Student Paper Award.

SCOLARSHIPS

6-month scolarship on "Network coding complexity," School of Computer and Communication Sciences, Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland. October 2007.

1-year CNIT scolarship (out of 15 at a nation wide level) on the analysis and design of sensor networks. Assigned to the Department of Information Engineering, University of Parma, Italy. Not accepted for overlap with an Italian Ministry of University and Research (MIUR) scolarship. July 2006.

PRIN (nation-wide italian project) scolarship on "Mutual information and decentralized detection in clustered sensor networks," Department of Information Engineering, University of Parma, Italy. Not accepted for overlap with an Italian Ministry of University and Research (MIUR) scolarship. March 2006.

Merit-based scolarships for completing undergraduate and graduate university studies (average grade above 24/30 in the undergraduate course and 28/30 in the graduate course). Academic years: 2000/2001, 2001/2002, 2002/2003, 2003/2004, 2004/2005, and 2005/2006.

TEACHING ACTIVITIES

Lecturer for *Traditional* Courses

"Network Security" (4 CFUs), University of Cagliari, Italy. Second-year course for the Master Degree in Internet Engineering. Academic year: 2022-2023.

"Network Security Laboratory" (2 CFUs), University of Cagliari, Italy. Second-year course for the Master Degree in Internet Engineering. Academic years: from 2021-2022 to 2022-2023.

"Communication Networks" (6 CFUs), University of Cagliari, Italy. First-year course for the Bachelor Degree in Electrical, Electronic, and Computer Engineering. Academic years: from 2020-2021 to 2021-2023. Also held in a blended version until 2021-2022.

"Applications for Smart Cities" (4 CFUs), University of Cagliari, Italy. Second-year course for the Master Degree in Internet Engineering. Academic years: from 2020-2021 to 2021-2022.

"Internet and Multimedia" (6 CFUs), University of Parma, Italy. First-year course for the Bachelor Degree in Management Engineering. Academic year: 2019-2020 with delivery in the second semester with online teaching due to the COVID-19 pandemic.

"Internet and Multimedia" (9 CFUs), University of Parma, Italy. First-year course for the Bachelor Degree in Information Systems Engineering. Academic years: from 2017-2018 to 2019-2020.

"Communication Networks" (6 CFUs), University of Parma, Italy. Third-year course for the Bachelor Degree in Computer, Electronic, and Telecommunication Engineering and second-year course for the Bachelor Degree in Information Systems Engineering. Academic year: 2018-2019.

"Laboratory of Telecommunications (Wireless Networks)" (2 CFUs), University of Parma, Italy. Second-year course for the Master Degree in Telecommunications Engineering. Academic year: 2009-2010.

"Network Coding" (10 hours), University of Parma, Italy. Short course for the Ph.D. program in Information Technologies. February 2009.

Lecturer for *e-Learning* Courses

"Signals and Systems" (9 CFUs), E-Campus University, Italy. Second-year course for the Bachelor Degree in Computer and Automation Engineering. Academic years: from 2015-2016 to 2016-2017.

"Telecommunications" (9 CFUs), E-Campus University, Italy. Second-year course for the Bachelor Degree in Computer and Automation Engineering. Academic years: from 2012-2013 to 2016-2017.

"Communication Networks" (6 CFUs), E-Campus University, Italy. Third-year course for the Bachelor Degree in Computer and Automation Engineering. Academic years: from 2012-2013 to 2016-2017.

"Digital Signal Processing" (6 CFUs), E-Campus University, Italy. Third-year course for the Bachelor Degree in Computer and Automation Engineering. Academic years: from 2012-2013 to 2016-2017.

"Telecommunications and Remote Sensing" (6 CFUs), E-Campus University, Italy. Second-year course for the Master Degree in Computer and Automation Engineering. Academic years: from 2013-2014 to 2016-2017.

Teaching Assistant

Lectures, for a total amount of 32 hours, for the course of "Wireless Communications" (2018-2019) for the Master Degree in Communication Engineering at the University of Parma, Italy. For this course, I also served as chair of the examination committee.

Integrative teaching activities (lectures, exercise and laboratory sessions, seminars, and tutoring) at the University of Parma, Italy, for a total amount of about 350 hours. Activities done for the following courses: "Network performance" (from 2015-2016 to 2019-2020), "Wireless Communications" (from 2016-2017 to 2019-2020), "Comunicazioni Wireless" (from 2010-2011 to 2012-2013), "Trasmissione numerica A" (from 2009-2010 to 2011-2012), "Teoria dei segnali B" (2008-2009), "Sistemi radiomobili e a larga banda" (from 2006-2007 to 2008-2009), "Precorso di alfabetizzazione informatica" (2006-2007).

Member of the examination committee for the following courses: "Wireless Communications" (from 2013-2015 to 2019-2020), "Comunicazioni wireless" (from 2010-2011 to 2012-2013), "Trasmissione numerica" (from 2011-2011 to 2013-2014), "Trasmissione numerica A" (from 2009-2010 to 2010-2011), "Sistemi radiomobili e a larga banda" (from 2007-2008 to 2008-2009).

Supervised Ph.D. Students

Anatolij Borroni, Ph.D. in Information Technologies, Department of Engineering and Architecture, University of Parma, Italy. Research topic: "active control of personal sound space by digital signal processing," XXXVI cycle, 2020-2023 (in progress). Advisor: Prof. R. Raheli.

Alessandro Opinto, Ph.D. in Automotive for Intelligent Mobility, Department of Industrial Engineering, University of Bologna, Italy. Thesis title: "Control of the noise acoustic field in a vehicle cabin," XXXIV cycle, 2018-2021 (defended in June 2022). Advisor: Prof. A. Farina. Partially presented work in the following publications: [J30] and [C41]-[C43].

Muhammad Asim, Ph.D. in Information Technologies, Department of Information Engineering, University of Parma, Italy. Thesis title: "Advanced receivers for next generation wireless communication systems," XXVIII cycle, 2013-2015 (defended in March 2016). Advisor: Prof. G. Ferrari. Partially presented work in the following publications: [J25]-[J26] and [C32]-[C33], [C36].

Supervised Master Students (3+2 or 5-year program)

Matteo Flumini, Department of Electrical and Electronic Engineering, University of Cagliari, Italy. Thesis topic: "Machine learning for encrypted network traffic classfication," expected defense in February 2023. **Advisor: Prof. M. Martalò**.

Giovanni Pettorru, Department of Electrical and Electronic Engineering, University of Cagliari, Italy. Thesis title: "Secure and low-latency communications based on Websocket and QUIC in IoT scenarios," *in Italian*, expected defense in September 2022. **Advisor: Prof. M. Martalò**.

Riccardo Straccia, Department of Engineering and Architecture, University of Parma, Italy. Thesis title: "Temporal convolutional networks for microphone virtualization," March 2021. Advisor: Prof. R. Raheli.

Mona Shivaji Rao Chavan, Department of Engineering and Architecture, University of Parma, Italy. Thesis title: "Synchronization issues in positioning systems for next-generation wireless systems," December 2020. **Advisor: Dr. M. Martalò**.

Anatolij Borroni, Department of Engineering and Architecture, University of Parma, Italy. Thesis title: "Performance analysis of digital signal processing algorithms for active control of individual acoustic zones," October 2020. Advisor: Prof. R. Raheli. Partially presented work in the following publication: [C44].

Gianmarco Carraglia, Department of Engineering and Architecture, University of Parma, Italy. Thesis title: "Adaptive filter estimation for active noise control in a tractor cabin," March 2020. **Advisor: Dr. M. Martalò**. Partially presented work in the following publication: [C45].

Fabrizio Carpi, Department of Engineering and Architecture, University of Parma, Italy. Thesis title: "Exploring machine learning algorithms for decoding linear block codes," October 2018. Advisor: Prof. R. Raheli. Partially presented work in the following publication: [C39].

Elia Santi, Department of Engineering and Architecture, University of Parma, Italy. Thesis title: "Decoding Reed-Muller codes using minimum-weight parity checks," October 2018. Advisor: Prof. R. Raheli.

Alessandro Opinto, Department of Engineering and Architecture, University of Parma, Italy. Thesis title: "Design and performance of a precoded OFDM massive MIMO system for new generation cellular network," March 2018. Advisor: Prof. R. Raheli. Partially presented work in the following publication: [C37].

Antonino Gervasi, School of Engineering, University of Parma, Italy. Thesis title: "Information rate analysis of the oversampled phase-noise channel," *in Italian*, March 2015. Advisor: Prof. R. Raheli. Partially presented work in the following publication: [C34].

Carlo Tripodi, School of Engineering, University of Parma, Italy. Thesis title: "Information rate analysis of phase noise-limited communications," December 2012. Advisor: Prof. R. Raheli. Partially presented work in the following publications: [J22] and [C31].

Michele Mohorovicich, School of Engineering, University of Parma, Italy. Thesis title: "Network-coded multihop multicast: topology and complexity," March 2011. Advisor: Prof. G. Ferrari. Partially presented work in the following publication: [C29].

Naldo Poletti, School of Engineering, University of Parma, Italy. Thesis title: "Design and experimental development of a wireless network with mesh topology," *in Italian*, March 2011. Advisor: Prof. G. Ferrari

Erind Meco, School of Engineering, University of Parma, Italy. Thesis title: "Design of a network-coded P2P architecture for managing large information flows," *in Italian*, March 2011. Advisor: Prof. M. Amoretti. Partially presented work in the following publication: [C30].

Davide Ribolini, School of Engineering, University of Parma, Italy. Thesis title: "Highly energy efficient target tracking in clustered sensor networks," *in Italian*, December 2010. Advisor: Prof. G. Ferrari.

Matteo Giuberti, School of Engineering, University of Parma, Italy. Thesis title: "Design of localization algorithms for motion capture in wireless SunSpot sensor networks," *in Italian*, December 2010. Advisor: Prof. G. Ferrari. Partially presented work in the following publications: [J19] and [C26].

Giovanni Spigoni, School of Engineering, University of Parma, Italy. Thesis title: "Design and performance analysis of a software for vertical handover between heterogeneous networks," *in Italian*, July 2010. Advisor: Prof. G. Ferrari. Partially presented work in the following publications: [J9] and [C23].

Riccardo Bussandri, School of Engineering, University of Parma, Italy. Thesis title: "Design and performance evaluation of a P2P distributed storage system based on network and erasure coding," *in Italian*, December 2009. Advisor: Prof. M. Amoretti. Partially presented work in the following publication: [C21].

Stefano Busanelli, School of Engineering, University of Parma, Italy. Thesis title: "Markov chain models for performance analysis of sensor networks with multihop communications," *in Italian*, December 2007. Advisor: Prof. G. Ferrari. Partially presented work in the following publications: [J5] and [C9], [C11], [C17].

Marco Sarti, School of Engineering, University of Parma, Italy. Thesis title: "Algorithms for Distributed Detection of Non-constant Binary Phenomena in Sensor Networks," *in Italian*, December 2006. Advisor: Prof. G. Ferrari. Partially presented work in the following publications: [J7] and [C6].

Paolo Medagliani, School of Engineering, University of Parma, Italy. Thesis title: "Design and Implementation of Wireless Sensor Networks with Zigbee Technology," *in Italian*, April 2006. Advisor: Prof. G. Ferrari. Partially presented work in the following publications: [J1] and [C7].

Supervised Bachelor Students (3-year program)

A total amount of 24 Bachelor students have been supervised, 17 of them as the advisor and the remaining 7 as a co-advisor. Another 1, as advisor, is ongoing. The full list is available on the personal page https://marcomartalo.github.io

PROFESSIONAL ACTIVITIES

Journal Editor and Conference Organization

Topic Advisory Panel Member for the MDPI Sensors journal, August 2020-present.

Moderator for the IEEE TechRxiv preprint platform, April 2020-present. Coordination of the approval process for an average amount of 2.5 papers per month.

Guest Editor for the Special Issue on "IoT Enabling Technologies for Smart Cities: Challenges and Approaches," MDPI Sensors, 2021-2022.

Associate Editor for IEEE Access journal, June 2018-present. Coordination of the review process for an average amount of 4 papers per month.

Publication Chair of the IEEE IoT Vertical and Topical Summit on Tourism, Cagliari, Italy, 2021.

Organizer for the following Special Sessions.

- "Wireless Intelligence: From Reconfigurable Surfaces to Edge/Cloud Communications" workshop of the Gruppo nazionale Telecomunicazioni e Teoria dell'Informazione (GTTI), online, 26 March 2021;
- "Recent Advances in Indoor Navigation for IoT-based Applications" (RAIN-IoT) in the International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC), Bologna, Italy, 2018.
- "STCD: Models and Algorithms for Spatially and Temporally Correlated Data" in the International Conference on Advances in Multimedia (MMEDIA), Venice, Italy, 2017.

TPC member for the following conferences.

- IEEE International Conference on Communications (ICC), Communication Theory Symposium (2018-2023) and Mobile and Wireless Networks Symposium (2023);
- IEEE Global Communications Conference (GLOBECOM), Communication Theory Symposium (2011) e Wireless Communication Symposium (2021);
- International Conference on Future Internet of Things and Cloud (FiCloud), 2022.
- International Conference on Advances in Multimedia (MMEDIA), 2018-2020.
- IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC), 2020;
- IEEE International Symposium on Power Line Communications and its Applications (ISPLC), 2020.
- IEEE International Conference on Computing Communication and Security (ICCCS), 2019.
- Workshop on Dependable Communication and Localization for the IoT, Graz, Austria, 2017.
- International Conference on Recent Advances in Electronics and Communication Technology (ICRAECT), Bengaluru, Karnataka, India, 2017.
- International Conference on Advances in Satellite and Space Communications (SPACOMM), 2009-2010.
- International Workshop on Performance Methodologies and Tools for Wireless Sensor Networks (WSNPerf), Pisa, Italy, 2009.

Chair for the following conference sessions.

- "RAIN-IoT: Recent Advances in Indoor Navigation for IoT-based Applications," International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC), Bologna, Italy, September 2018.
- "STCD: Models and Algorithms for Spatially and Temporally Correlated Data," International Conference on Advances in Multimedia (MMEDIA), Venice, Italy, April 2017.
- "SPCI - Dialog 1: Electric Machines / Signal Processing," IEEE International Symposium on Industrial Electronics (ISIE), Bari, Italy, July 2010.

Frequent and regular reviewer for the main scientific journals and conferences in the field of telecommunications. The full list is available on the personal page https://marcomartalo.github.io

Other Academic Duties

Member of the scientific committee for the national GTTI meeting, Italy, 2021.

Co-chair for the annual PhD Day of the PhD Program in Electronic and Computer Engineering (DRIEI), Department of Electrical and Electronic Engineering, University of Cagliari, Italy, 2021.

Committee member for drafting the review report (*Rapporto del Riesame*), School of Engineering, E-Campus University, Italy. Academic years: from 2012-2013 to 2016-2017.

Committee member for quality assurance, School of Engineering, E-Campus University, Italy. Academic years: from 2013-2014 to 2016-2017.

PERSONAL SKILLS AND INTERESTS

Languages: English (good), French (basic), and German (basic).

Main personal interest as volleyball player and trainer (second-level Italian degree).

LIST OF PUBLICATIONS

Bibliometric indexes

source	citations	h-index
Google Scholar	859	15
Scopus	448	12

Books

[B1] C. Buratti, M. Martalò, R. Verdone, and G. Ferrari, "Sensor Networks with IEEE 802.15.4 Systems: Distributed Processing, MAC, and Connectivity," Springer, Germany, 2011. ISBN: 978-3-642-17489-6.

Book Chapters

[BC9] **M. Martalò**, V. Pilloni, T. F. Rahman, and L. Atzori, "Game Theoretical-Based Task Allocation in Malicious Cognitive IoT," chapter contribution in *Wireless Mesh Networks for IoT and Smart Cities: Technologies and Applications*, pp. 247-264, edited by L. Davoli and G. Ferrari. IET, London, UK, 2022. ISBN: 978-1-83953-282-5.

[BC8] L. Davoli, V. Mattioli, S. Gambetta, L. Belli, L. Carnevali, **M. Martalò**, A. Sgoifo, R. Raheli, and G. Ferrari, "Non-Invasive Psycho-Physiological Driver Monitoring Through IoT-Oriented Systems," chapter contribution in *The Internet of Medical Things: Enabling Technologies and Emerging Applications*, pp. 19-33, edited by S. Kumar Pani, P. Patra, G. Ferrari, R. Kraleva, and H. Wang. IET, London, UK, 2021. ISBN: 978-1-83953-273-3.

[BC7] A. Abrardo, **M. Martalò**, and G. Ferrari, "Decision Fusion in Cognitive Wireless Sensor Networks," chapter contribution in *Multisensor Data Fusion: From Algorithms and Architectural Design to Applications*, pp. 349-362, edited by H. Fourati. CRC Press, 2015. ISBN: 978-1-4822-6374-9.

[BC6] G. Spigoni, S. Busanelli, **M. Martalò**, G. Ferrari, and N. Iotti, "Vertical Handover in Heterogeneous Networks: a Comparative Experimental and Simulation-based Investigation," chapter contribution in *Heterogeneous Cellular Networks*, pp. 265-286, edited by R. Q. Hu and Y. Qian. Wiley, 2013. ISBN: 978-1-1199-9912-6.

[BC5] **M. Martalò**, G. Ferrari, and C. Malavenda, "Wireless Sensor Networks and Audio Signal Processing for Homeland Security," chapter contribution in *Effective Surveillance for Homeland Security: Balancing Technology and Social Issues*, pp. 457-488, edited by F. Flammini, R. Setola, and G. Franceschetti. Chapman and Hall/CRC Press (Taylor and Francis Group), 2013. ISBN: 978-1-4398-8324-2.

[BC4] S. Busanelli, **M. Martalò**, G. Ferrari, G. Spigoni, and N. Iotti, "Experimental Investigation of Vertical Handover Algorithms between WiFi and UMTS Networks," chapter contribution in *Communication and Networking, Part I*, pp. 137-146, edited by C.-C. Chang, M. Li, C. Rong, C. Z. Patrikakis, and D. Slezak. Springer, 2011. ISBN: 978-3642175862.

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