EUROPEAN CURRICULUM VITAE FORMAT

SHORT BIO

Gianni Pasolini is an Associate Professor in the Department of Electrical, Electronic, and Information Engineering at the University of Bologna, where he has been teaching telecommunications courses since 2003. His research focuses on wireless communication systems, the Internet of Things, digital signal processing, and THz communications. He has actively participated in several European initiatives focused on wireless communications, contributing to COST actions and Networks of Excellence. He is the vice-chair of the IEEE ComSoc Special Interest Group on Terahertz Communications. He serves as an Associate Editor for the IEEE Open Journal of the Communications Society (IEEE OJ-COM). Additionally, he served as a member of the Organizing Committee for PIMRC 2018, ISWCS 2017, and ICUWB 2011. He was the vice-chair of the joint ComSoc/VTS Italian Chapter from 2018 to 2021 and received the Best Paper Award at the 2023 IEEE International Conference on Communications (ICC). He is one of the founding members of the "National Laboratory of Wireless Communications - WiLab" at the National Inter-University Consortium for Telecommunications (CNIT) in Italy. Additionally, he is a founding member of a startup named Neptune Srl, which operates in the telecommunications field.

PERSONAL INFORMATION

Name	**GIANNI PASOLINI**
Address	University of Bologna, Engineering School, Via Risorgimento 2, 40136 Bologna, Italy
Telephone	051 2093553
Fax	---
E-mail	gianni.pasolini@unibo.it
Website	https://www.unibo.it/sitoweb/gianni.pasolini
Nationality	Italian

GENERAL RESEARCH INTERESTS

Wireless systems, digital modulations, signal processing, Internet of Things, terahertz communications

BIBLIOMETRIC SUMMARY DATA

• Total international publications	[98]
• Total citations	[1508] source: scholar.google.com
H-index	[19] source: scholar.google.com

EDUCATION AND TRAINING

• Dates (from – to)	01/01/2000 – 02/07/2003
• Name and type of organisation providing education and training	University of Bologna
• Principal subjects/occupational skills covered	PhD student in Electronic Engineering, Computer Science and Telecommunications, University of Bologna. Dissertation title: Radio resource management in wireless multimedia systems
• Title of qualification awarded	PhD

• Dates (from – to)	AA 89/90-AA 97/98
• Name and type of organisation providing education and training	University of Bologna
• Principal subjects/occupational skills covered	Student
• Title of qualification awarded	Laurea degree in Telecommunications Engineering

PRINCIPAL POSITIONS

• Dates (from – to)	20/12/2021 – CURRENT
• Name and address of employer	University of Bologna, via Zamboni 22, Bologna,
• Type of business or sector	Telecommunications
• Occupation or position held	Associate Professor, affiliated to the Department of Electrical, Electronic and Information Engineering -"Guglielmo Marconi".
• Main activities and responsibilities	Teaching, research, knowledge transfer
• Dates (from – to)	01/10/2006 – 19/12/2021
• Name and address of employer	University of Bologna, via Zamboni 22, Bologna,
• Type of business or sector	Telecommunications
• Occupation or position held	Researcher
• Main activities and responsibilities	Teaching, research, knowledge transfer
• Dates (from – to)	01/04/1999 – 30/09/2006
• Name and address of employer	Consiglio Nazionale delle Ricerche, piazzale Aldo Moro 7, Roma
• Type of business or sector	Telecommunications
• Occupation or position held	Technologist at the "Centro di Studio per l'Informatica ed i Sistemi di Telecomunicazione" (CSITE) of the "Consiglio Nazionale delle Ricerche" (CNR), which later became the Bologna branch of the "Istituto di Elettronica e di Ingegneria dell'Informazione e delle Telecomunicazioni" (IEIIT-CNR).
• Main activities and responsibilities	Research, knowledge transfer

TEACHING

• Current
- "Signal Processing T" (9 CFU), First cycle degree programme (L) in Electronics and Telecommunications Engineering, Engineering School, University of Bologna.
- "Communication Systems: Theory and Measurement M" (3 CFU), Second cycle degree programme (LM) in Telecommunications Engineering, Engineering School, University of Bologna.
- "Software Development M" (3 CFU), Second cycle degree programme (LM) in Telecommunications Engineering, Engineering School, University of Bologna.

• Past
- "Vehicular Communications M" (3 CFU). Second cycle degree programme (LM) in Advanced Automotive Electronic Engineering, Engineering School, University of Bologna.
- "Telecommunications Laboratory" LA (3 CFU), Single cycle degree programme in Electronics and Telecommunications Engineering, Engineering School, University of Bologna.
- "Telecommunications Laboratory LB" (3 CFU), Single cycle degree programme in Electronics and Telecommunications Engineering, Engineering School, University of Bologna.

EDITORIAL ACTIVITY

Associate Editor for the IEEE Open Journal of the Communications Society

Dates (from – to)	January 1st, 2023-December 31st, 2025
Name of the project	RESTART-Industrial Networks
Description	The Project has been funded under the National Recovery and Resilience Plan (PNRR). Its objective is the development of ICT solutions for the technological advancement of industrial environments. In particular, the project explores solutions related to radio communications, networks, and artificial intelligence.
Role	Task Leader (Task: Radio Signaling for IN) Use Case Leader: Mobile Control Panels
Dates (from – to)	January 1st, 2023-December 31st, 2025
Name of the project	SoBigData.it
Description	The Project has been funded under the National Recovery and Resilience Plan (PNRR). It aims to strengthen the Italian node of the SoBigData research infrastructure (www.sobigdata.eu), with the goal of enhancing interdisciplinary and innovative research on the multiple aspects of social complexity by combining data and model-driven approach.
Role	Responsible of the activity carried out by the Department of Electrical, Electronic and Information Engineering "Guglielmo Marconi" (DEI) at the University of Bologna
Dates (from – to)	October 1st, 2021-June 15th, 2023
Name of the project	BISS
Description	The Project has been funded by the Italian Space Agency. The main objective of the BISS project is to develop the first Italian CubeSat for Internet of Things (IoT) missions in Low Earth Orbit (LEO) and to lay the groundwork for the infrastructure of the related service, including ground-based IoT devices and network and application servers for the management and dissemination of IoT data.
Role	Expert for the LoRa Technology
Dates (from – to)	May 20th, 2019 – October 31th, 2020
Name of the project	European Project H2020 PRIMELOC (Personal Radars for Radio Imaging and Infrastructure-less Localization)
Description	Partner: Commissariat à l'énergie atomique et aux énergies alternatives (CEA-Leti) - France. The project, which is part of the European call ATTRACT for "highly novel technology concepts", is aimed at developing a prototype of a radar with electronic beamforming in view of its integration in future generation smartphones. The basic idea is that each cell phone is equipped with a personal radar to map the surrounding environment and locate the user.
Role	Member of the research team.
Dates (from – to)	January 1st, 2017 – June 21st, 2018
Name of the project	SCAT: C-Band Transceiver for Small Satellites" project
Description	Partners: Sitael, IMT The project, funded by the European Space Agency (ESA), was aimed at the realization of a C-band transceiver for low-orbit cubesat satellites. As part of the project, the UdR of Bologna, coordinated by Prof. Enrico Paolini, has developed on a Microsemi FPGA platform a DVB-S2 transmitter for broadband communications between the satellite and the ground station and a second transmitter, at low transmission rate, for telemetry.
Role	Member of the research team.
Dates (from – to)	February 1st, 2015 – December 31st, Member of the research team.
Name of the project	2015 Simulink Defined Radio
Description	The project, funded by Mathworks (the US multinational company that develops the MATLAB platform), was aimed at developing within the Simulink environment digital transmitter models (FSK, QPSK, OFDM) that could be automatically converted to C code for software-defined radio (SDR) implementations on low-cost programmable devices. The final goal was to achieve the

SDR realization of real telecommunication systems, characterizable on a measurement bench, starting only from the corresponding Simulink models developed in graphical form ("model-based design" approach), without the need to write code in any programming language or to know the details of the specific hardware on which the system was to be implemented.

Role

Responsible of the Activity

SELECTED PUBLICATIONS AND RESEARCH REPORTS IN THE LAST TEN YEARS

A. Bazzi, B. M. Masini, A. Zanella, G. Pasolini, "IEEE 802.11p for Cellular Offloading in Vehicular Sensor Networks", Computer communications, Vol. 60, pp. 97-108, April 2015. doi:10.1016/j.comcom.2015.01.012

G. Pasolini, D. Dardari, "Secret Information of Wireless Multi-Dimensional Gaussian Channels,"IEEE Transactions on Wireless Communications, vol.14, no.6, pp.3429,3442, June 2015. doi: 10.1109/TWC.2015.2406320

Li, W.; Bassi, F.; Dardari, D.; Kieffer, M.; Pasolini, G., "Defective Sensor Identification for WSNs involving Generic Local Outlier Detection Tests," in IEEE Transactions on Signal and Information Processing over Networks, 2016, Volume: 2, Issue: 1, Pages: 29 - 48, DOI: 10.1109/TSIPN.2016.2516821

Zabini F, Pasolini G., Andrisano O; "Design Criteria for FIR-Based Echo Cancellers," in IEEE Transactions on Broadcasting, vol. 62, no. 3, pp. 562-578, Sept. 2016. doi: 10.1109/TBC.2016.2570015

G. Pasolini, A. Bazzi and F. Zabini, "A Raspberry Pi-Based Platform for Signal Processing Education [SP Education]," in IEEE Signal Processing Magazine, vol. 34, no. 4, pp. 151-158, July 2017.

O. Andrisano et al., "The Need of Multidisciplinary Approaches and Engineering Tools for the Development and Implementation of the Smart City Paradigm," in Proceedings of the IEEE, vol. 106, no. 4, pp. 738-760, April 2018. doi: 10.1109/JPROC.2018.2812836

[G. Pasolini, C. Buratti, L. Feltrin, F. Zabini, C. De Castro, R. Verdone, O. Andrisano, "Smart City Pilot Projects Using LoRa and IEEE802.15.4 Technologies", Sensors, Vol.18, 2018, No. 4, Article number=1118, URL = http://www.mdpi.com/1424-8220/18/4/1118, ISSN = 1424-8220,

V. Zambianchi, F. Bassi, A. Calisti, D. Dardari, M. Kieffer and G. Pasolini, "Distributed Nonasymptotic Confidence Region Computation Over Sensor Networks," in IEEE Transactions on Signal and Information Processing over Networks, vol. 4, no. 2, pp. 308-324, June 2018. doi: 10.1109/TSIPN.2017.2695403,

D. Dardari, G. Pasolini, F. Zabini, "An efficient method for physical fields mapping through crowdsensing," in Pervasive and Mobile Computing, Volume 48, 2018, Pages 69-83, ISSN 1574-1192, URL: https://doi.org/10.1016/j.pmcj.2018.06.001.

G. Pasolini, P. Toppan, F. Zabini, C. De Castro, O. Andrisano, "Design, Deployment and Evolution of Heterogeneous Smart Public Lighting Systems", in Applied Sciences (MDPI), Volume 9, Issue 16, 2019, Article number=3281, Pages 1-25, ISSN: 2076-3417, URL: https://www.mdpi.com/2076-3417/9/16/3281/htm

G. Pasolini, D. Dardari and M. Kieffer, "Exploiting the Agent's Memory in Asymptotic and Finite-Time Consensus Over Multi-Agent Networks," in IEEE Transactions on Signal and Information Processing over Networks, vol. 6, pp. 479-490, 2020, doi: 10.1109/TSIPN.2020.3002613.

G. Pasolini, A. Guerra, F. Guidi, N. Decarli, and D. Dardari, "Crowd-Based Cognitive Perception

of the Physical World: Towards the Internet of Senses," Sensors, vol. 20, no. 9, p. 2437, Apr. 2020. https://www.mdpi.com/1424-8220/20/9/2437

R. Marini, K. Mikhaylov, G. Pasolini, and C. Buratti, "LoRaWANSim: A Flexible Simulator for LoRaWAN Networks," Sensors, vol. 21, no. 3, p. 695, Jan. 2021. https://www.mdpi.com/1424-8220/21/3/695

G. Pasolini, "On the LoRa Chirp Spread Spectrum Modulation: Signal Properties and Their Impact on Transmitter and Receiver Architectures," in IEEE Transactions on Wireless Communications, vol. 21, no. 1, pp. 357-369, Jan. 2022, doi: 10.1109/TWC.2021.3095667.

R. Marini, K. Mikhaylov, G. Pasolini and C. Buratti, "Low-Power Wide-Area Networks: Comparison of LoRaWAN and NB-IoT Performance," in IEEE Internet of Things Journal, 2022, doi: 10.1109/JIOT.2022.3176394.

D. Dardari, M. Lotti, N. Decarli and G. Pasolini, "Establishing Multi-User MIMO Communications Automatically Using Retrodirective Arrays," in IEEE Open Journal of the Communications Society, vol. 4, pp. 1396-1416, 2023, doi: 10.1109/OJCOMS.2023.3289326.

M. Lotti, G. Pasolini, A. Guerra, F. Guidi, R. D'Errico and D. Dardari, "Radio SLAM for 6G Systems at THz Frequencies: Design and Experimental Validation," in IEEE Journal of Selected Topics in Signal Processing, vol. 17, no. 4, pp. 834-849, July 2023, doi: 10.1109/JSTSP.2023.3285101.

M. Asad Ullah, G. Pasolini, K. Mikhaylov and H. Alves, "Understanding the Limits of LoRa Direct-to-Satellite: The Doppler Perspectives," in IEEE Open Journal of the Communications Society, vol. 5, pp. 51-63, 2024, doi: 10.1109/OJCOMS.2023.3337004.

G. Cuozzo, N. Longhi and G. Pasolini, "Characterization of Orthogonal Chirp Division Multiplexing and Performance Evaluation at THz Frequencies in the Presence of Phase Noise," in IEEE Open Journal of the Communications Society, vol. 5, pp. 238-255, 2024, doi: 10.1109/OJCOMS.2023.3340091.

MOTHER TONGUE	**ITALIAN**
OTHER LANGUAGES	
	ENGLISH
• Reading skills	C1
• Writing skills	C1
• Verbal skills	C1
SOCIAL SKILLS AND COMPETENCES	Leading skill developed as team coordination in the framework of many scientific and industrial projects and as Ph.D. advisor
ORGANISATIONAL SKILLS AND COMPETENCES .	2021-current. Vice Chair of the Special Interest Group on Terahertz Communication of the IEEE Radio Communication Committee
	2019-2021. Chairman of the Bologna chapter of AEIT (Associazione Italiana di Elettrotecnica, Elettronica Automazione, Informatica e Telecomunicazioni).
	2019-2021. Vice Chair of the Italian joint Communication Society and Vehicular Technology Society Chapter of IEEE

According to law 679/2016 of the Regulation of the European Parliament of 27th April 2016,
I hereby express my consent to process and use my data provided in this CV.

Bologna, February 25th, 2024
Gianni Pasolini