Marco Tambussi, Ph.D.

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Biography

Marco Tambussi was born in Broni (PV), Italy in 1996. He received both Bachelor's degree in Electronics and Computer Science Engineering and Master's degree in Microelectronics Engineering (*summa cum laude*) from University of Pavia, Italy in 2018 and 2021, respectively. From 2021 to 2024 he was a Ph.D student at the Integrated MicroSystems and Sensors (IMS²) laboratory of the Department of Electrical, Computer and Biomedical Engineering, University of Pavia where he is currently working as a postdoctoral research fellow. His research interests are analog/mixed-signal circuits with focus on low power oversampled A/D converters.

Employment History

2024 – · · · **Postdoctoral Research Fellow**
University of Pavia, Italy
Work Activity: Design of a 32-Channel A/D Converter with Serialized Input Analog Data Bus for X-Ray Detectors Read-Out within Earth-Moon-Mars Mission.

2020 – 2021 **System Architect, Intern**
TDK-Invensense Italy SRL, Milan, Italy
Work Activity: Design of an oversampling SAR ADC for Audio Activity Detection.

Education

2021 – 2024 **Ph.D. in Microelectronics**
University of Pavia, Italy.
Thesis title: *Design of data converters for audio applications*.

2018 – 2021 **Master's Degree in Electronic Engineering**
University of Pavia, Italy.
Thesis title: *Design exploration of a noise shaping SAR ADC for audio activity detection*.

2015 – 2018 **Bachelor Degree in Electronic and Computer Engineering**
University of Pavia, Italy.
Thesis title: *Design of a variable gain amplifiers chain for coherent optic receivers in CMOS 28nm technology*.

2010 – 2015 **High Shool Degree**
Liceo Scientifico Statale "G. Galilei", Voghera (PV), Italy.

Certifications

2021 **Abilitazione Professionale come Ingegnere dell'Informazione**.
Università degli Studi di Pavia.

Research Publications

Journal Articles

1. A. Gemelli, **M. Tambussi**, S. Fusetto, A. Aprile, E. Moisello, E. Bonizzoni, and P. Malcovati, "Recent Trends in Structures and Interfaces of MEMS Transducers for Audio Applications: A Review," *Micromachines*, vol. 14, no. 4, 2023, ISSN: 2072-666X. DOI: 10.3390/mi14040847.

Conference Proceedings

1. **M. Tambussi**, M. Grassi, E. Bonizzoni, and P. Malcovati, "Trade-Offs in Active and Passive NS-SAR ADCs Architectures for Ultra-Low Power Audio Activity Detection Applications," in *2023 18th Conference on Ph.D Research in Microelectronics and Electronics (PRIME)*, 2023, pp. 165–168. DOI: 10.1109/PRIME58259.2023.10161952.
2. **M. Tambussi**, M. Grassi, E. Bonizzoni, and P. Malcovati, "A/D Converter Architectures for Always-On AAD Applications," in *9° Forum Nazionale delle Misure (GMEE)*, 2023, pp. 417–418.
3. **M. Tambussi**, M. Grassi, G. Rocca, S. Valle, M. Grandi, E. Bonizzoni, and P. Malcovati, "A 14.9-μW Quasi-Passive Error-Feedback Noise-Shaping SAR Converter with 78-dB Dynamic Range for Audio Activity Detection," in *2025 IEEE International Symposium on Circuits and Systems (ISCAS) (Accepted for pubblication)*, 2025.

Languages

Italian	Native.
English	Proficient reading, writing and speaking competencies.

Skills

Coding	C, MATLAB, LaTeX, Verilog-A, Verilog.
Computer Aided Design	Cadence Virtuoso, KiCad.
Hardware	Computer, Electronic instrumentations, PCB soldering.
Software	Windows, Linux, macOS, Microsoft 365, Adobe Acrobat, Inkscape.
Misc.	Academic research, tutoring, LaTeX typesetting and publishing.

International Scientific Activity

2024	Reviewer for IEEE NEWCAS Conference, IEEE ICECS Conference.
2023	Reviewer for IEEE PRIME Conference, IEEE MWSCAS Conference.

Teaching Activity

2023 – 2024	Tutor of the "Digital Integrated Circuit Design" course at University of Pavia.
2021 – 2024	Tutor of the "Electrical Linear Circuits" course at University of Pavia.
	Tutor of the "Electronics I" course at University of Pavia.
2017 – 2018	Tutor of the "Analysis I" course at University of Pavia.

Mentoring Activity

Master's Theses
- Federico Perta, "Design of a fully-differential ultra low-noise class AB amplifier for MEMS microphone applications".

Bachelor's Theses
- Alessandro Colombi, "Progettazione del buffer di ingresso di un front-end analogico per microfoni MEMS in tecnologia CMOS 65nm".

Memberships

2023 – · · ·
- Institute of Electrical and Electronics Engineers (IEEE) Student Member.