



Microwaves and mm-waves for the Design of Advanced Wireless Links: Communication, Sensing and Power Transfer

Department of Information Engineering, University of Pisa
Pisa (Italy) – June 16-21, 2025

Important Dates

- **April 20, 2025:** deadline to get application fee waivers
- **May 15, 2025:** general application deadline

More info and preliminary program at this [link](#)



The 2025 edition of the Summer School will be held in June, so attendees will have the chance to see the Luminara 2025, on the evening of June 16th. About 70,000 candles being lit and placed all over buildings and even floating down the Arno River, with spectacular fireworks at the end of the evening!

Program (last update: March 24, 2025)

Day	Morning class	Afternoon class
Monday June 16	Introduction to the Summer School Paolo Nepa and Andrea Michel <i>University of Pisa</i> (Summer School coordinators)	Electromagnetic wave propagation: a ray-optical picture Giuliano Manara, <i>University of Pisa</i>
	Hybrid communications based on high frequencies Marco Brancati <i>Head of Research, Digital & Innovation, Telespazio s.p.a., Rome, Italy</i>	Wave propagation in complex environments and multipath models Pierpaolo Usai, <i>University of Pisa</i> <i>In the evening, in Pisa downtown: 70,000 wax candles and fireworks will illuminate the Lungarni for one magical night (do not miss Luminara 2025 !)</i>
Tuesday June 17 Off-campus lessons at Villa Griffone, Pontecchio Marconi, Bologna	<i>Transfer from Pisa to Pontecchio Marconi (by private bus)</i>	Advanced radiating architecture exploiting frequency diversity Tommaso Tiberi, <i>University of Bologna</i>
	Guided tour of the Marconi Museum at Villa Griffone (https://www.fgm.it/en/home.html)	Devices and architectures for battery-less RF systems Alessandra Costanzo, <i>University of Bologna</i>
		Over-the-air EM signal processing: fundamentals and recent results Davide Dardari, <i>University of Bologna</i> <i>Return to Pisa</i>
Wednesady June 18	Guided wave modeling in coaxial cables, printed lines and waveguides Alice Buffi, <i>University of Pisa</i>	Manipulating microwaves and mm-waves with periodic structures Filippo Costa, <i>University of Pisa</i>
	Microwave device modeling Simone Genovesi, <i>University of Pisa</i>	The antenna as a system component Paolo Nepa, <i>University of Pisa</i>
Thursday June 19	Analysis and design of passive devices: from numerical simulations to measurements Andrea Michel, <i>University of Pisa</i>	Advanced antenna systems for next-generation radio telescopes Pietro Bolli and Renzo Nesti, <i>National Institute for Astrophysics (INAF), Italy</i>
	How antenna arrays advance wireless system performance Paolo Nepa, <i>University of Pisa</i>	Fundamentals of transceivers for communication systems Francesco Pieri, <i>University of Pisa</i>
Friday June 20	Fundamentals of satellite communications: a hands-on approach Filippo Giannetti, <i>University of Pisa</i>	5G mmWave: Industry Perspectives on Design and Development Danilo De Donno <i>Senior Wireless System Engineering, Huawei Technologies, Milan, Italy</i>
	Wireless communication systems and technologies: from the basics to 5G standards Giacomo Bacci, <i>University of Pisa</i>	Wireless Transport for 5G backhaul... and more Francesca Rosati <i>Microwave R&D System Architect</i> <i>Nokia Italia, Milan</i>
Saturday June 21	Automotive mm-wave radar sensors Sergio Saponara, <i>University of Pisa</i>	Project works: discussion and assignment Fill-out a survey on the Summer School contents and organization Paolo Nepa and Andrea Michel <i>Summer School coordinators</i>
	Array antennas: design and optimization for satellite communications Rodolfo Guidi <i>MERMEC Engineering, Applied Electromagnetic Department, Pisa, Italy</i>	

Please write to the coordinators to get any further information may be needed.

- Prof. Paolo Nepa paolo.nepa@unipi.it
- Prof. Andrea Michel andrea.michel@unipi.it
- Dr. Francesca Tiani francesca.tiani@unipi.it