



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 13, 2025)*

Day	Morning class	Afternoon class
Monday June 16	Introduction to the Summer School Paolo Nepa and Andrea Michel <i>University of Pisa (Summer School coordinators)</i>	Electromagnetic wave propagation: a ray-optical picture <i>Giuliano Manara, University of Pisa</i>
	Hybrid communications based on high frequencies <i>Marco Brancati</i> Head of Research, Digital & Innovation, Telespazio SpA, Rome, Italy	Wave propagation in complex environments and multipath models <i>Pierpaolo Usai, University of Pisa</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!)
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 architectures exploiting frequency diversity <i>Tommaso Tiberi, 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 <i>Alessandra Costanzo, University of Bologna</i>
		Communication and sensing in smart radio environments enabled by reconfigurable surfaces <i>Davide Dardari, University of Bologna</i> Return to Pisa (by private bus)
Wednesday June 18	Guided wave modeling in coaxial cables, printed lines and waveguides <i>Alice Buffi, University of Pisa</i>	Manipulating microwaves and mm-waves with passive devices <i>Filippo Costa, University of Pisa</i>
	Microwave device modeling <i>Simone Genovesi, University of Pisa</i>	Microwave Lab measurements <i>Andrea Michel, University of Pisa</i>
Thursday June 19	The antenna as a system component <i>Paolo Nepa, University of Pisa</i>	How antenna arrays advance wireless system performance <i>Paolo Nepa, University of Pisa</i>
	Analysis and design of passive devices: modeling and numerical simulation <i>Andrea Michel, University of Pisa</i>	Fundamentals of transceivers for communication systems <i>Francesco Pieri, University of Pisa</i>
Friday June 20	Fundamentals of satellite communications: a hands-on approach <i>Filippo Giannetti, University of Pisa</i>	5G mmWave: Industry Perspectives on Design and Deployment <i>Daniilo De Donno</i> Senior Wireless System Engineer, Huawei Technologies, Milan, Italy
	Wireless communication systems and technologies: from the basics to 5G standards <i>Giacomo Bacci, University of Pisa</i>	Wireless Transport for 5G backhaul ... and more <i>Francesca Rosati</i> Microwave R&D System Architect Nokia Italia, Milan
Saturday June 21	Automotive mm-wave radar sensors <i>Sergio Saponara, University of Pisa</i>	Project works: discussion and assignment Fill-out of a survey on the Summer School contents and organization <i>Paolo Nepa and Andrea Michel (Summer School coordinators)</i>
	Array antennas: design and optimization for satellite communications <i>Rodolfo Guidi</i> MERMEC Engineering Applied Electromagnetics Department Pisa, Italy	

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