

**University of Pavia**  
**Ph.D. School of Electrical and Electronics Engineering**  
**and Computer Science**

**Seminar series**  
**THz Communications: channels and modulations**

***Dr. Josep M. Jornet***  
**Ass. Prof. @ Northeastern University, Boston (MA)**

16:00-18:00 May 23<sup>th</sup>, 2021: THz propagation and channel modeling  
14:00-16:00 May 25<sup>th</sup>, 2021: THz ultra-broadband modulations  
14:00-16:00 May 27<sup>th</sup>, 2021: Multi-user interference at THz frequencies

[Zoom Link](#)  
Meeting ID: 832 1555 2948  
Passcode: 642724

### **Abstract**

In this 2<sup>nd</sup> lecture series, details about communications channel models and modulations for digital communications in the Terahertz (THz) band (100 GHz to 10 THz) will be provided. The THz signal propagation channel will be defined by underlining the peculiar phenomena at these frequencies in various scenarios and comparing them to those typical of systems at lower (microwaves) or higher frequencies (optical wireless). Finally, specific digital transmission techniques will be presented for the hardware capabilities and the transmission channel at these frequencies.

### **Biography**

Josep Miquel Jornet is an Associate Professor in the Department of Electrical and Computer Engineering, the director of the Ultrabroadband Nanonetworking (UN) Laboratory, and a member of the Institute for the Wireless Internet of Things at Northeastern University. He received the Degree in Telecommunication Engineering and the Master of Science in Information and Communication Technologies from Barcelona School of Telecommunications Engineering (ETSETB), Universitat Politècnica de Catalunya, Spain, in 2008. From September 2007 to December 2008, he was a visiting researcher at the Massachusetts Institute of Technology, Cambridge, under the MIT Sea Grant program. He received the Ph.D. degree in Electrical and Computer Engineering from the Georgia Institute of Technology, Atlanta, GA, in August 2013. Between August 2013 and August 2019, he was in the Department of Electrical Engineering at the University at Buffalo, The State University of New York.

**Organizer**  
Prof. Paolo Gamba

**Ph.D. Coordinator**  
Prof. I. Cristiani

Seminar in English  
For more information: [paolo.gamba@unipv.it](mailto:paolo.gamba@unipv.it)