



UNIVERSITÀ
DI PAVIA

Ph.D. Program in Electronics, Computer Science and Electrical Engineering

SEMINAR SERIES

Advanced topics in 5G & 6G communications and sensing

Dr. Henk Wymeersch

Prof. @ Chalmers University of Technology (Sweden)

Room H1	16:00-18:00 May 6	OFDM
Room E8	14:00-16:00 May 8	MIMO
Room E8	11:00-13:00 May 9	Adaptive transmission
Room H1	14:00-16:00 May 10	5G: from Multi-user MIMO to massive MIMO and mmWave
Room H1	16:00-18:00 May 10	6G: Cell-free massive MIMO and RIS
Room H1	16:00-18:00 May 13	Localization
Room E8	14:00-16:00 May 15	Integrated sensing and communications

Abstract

These eight lectures designed to delve into the intricacies of enhancing data transmission rates and positioning accuracy through advanced communication techniques and technologies. Initially, we will explore foundational strategies for boosting data rates, focusing on multi-carrier communication, multi-antenna (MIMO) systems, and adaptive transmission methods. Subsequently, the course will shift its focus to the latest advancements in 5G and the emerging 6G technologies over two lectures. The concluding three lectures will be dedicated to the fields of radio localization and sensing, beginning with fundamental principles before moving on to recent progress in 5G and prospective developments for 6G.

Biography

Henk Wymeersch obtained the Ph.D. degree in Electrical Engineering/Applied Sciences in 2005 from Ghent University, Belgium. He is currently a Professor of Communication Systems with the Department of Electrical Engineering at Chalmers University of Technology, Sweden. He is also a Distinguished Research Associate with Eindhoven University of Technology. Prior to joining Chalmers, he was a postdoctoral researcher from 2005 until 2009 with the Laboratory for Information and Decision Systems at the Massachusetts Institute of Technology. Prof. Wymeersch served as Associate Editor for IEEE Communication Letters (2009-2013), IEEE Transactions on Wireless Communications (since 2013), and IEEE Transactions on Communications (2016-2018) and is currently Senior Member of the IEEE Signal Processing Magazine Editorial Board. During 2019-2021, he was an IEEE Distinguished Lecturer with the Vehicular Technology Society. interests include the convergence of communication and sensing, in a 5G and Beyond 5G context.

Organizer

Prof. Paolo Gamba

Ph.D. Coordinator

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Seminar in English

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