UNIVERSITÀ DI PAVIA
Department of Electrical, Computer and Biomedical Engineering

PHD SCHOOL IN MICROELECTRONICS

Industrial Topics in Microelectronics and Photonics - Seminars

HUAWEI

Extremely High Frequency Integrated Circuits for emerging communication networks

March 14, h 16.00, Magenta Seminar Room (D Floor)

Zoom Link for remote connection

Department of Electrical, Computer and Biomedical Engineering

Abstract: *The focus of this presentation will be on very advanced radio frequency integrated circuits that have been developed in Huawei Milan R&D Centre.*

The increasing demand for higher bandwidth in telecommunication networks is pushing the industry to develop wireless and wireline communication systems with much higher capacity than the existing ones.

Millimeter wave carriers and MIMO approach are expected to be extensively employed in 5G and Point-to-Point wireless systems, while 400-Gb/s data rate per channel is emerging as a promising step in the evolution of Optical transport systems to sustain the traffic growth, improve spectral efficiency, and lower cost per bit in fiber transmission. Some practical example of components designed in our lab with their challenges and possible evolutions will be introduced.

Speaker: Federico Vecchi received the M.S. and Ph.D. degrees in electronics engineering from the University of Pavia, Italy, in 2006 and 2010, respectively. In 2007 he spent a period at the Berkeley Wireless Research Center, University of California, Berkeley, for the characterization of integrated CMOS devices for millimeter-wave applications. In 2010 he got a post-doctoral position from the University of Pavia working on frequency synthesis for serial interfaces applications. He joined Huawei Technologies, Italy in 2011; since then, he's been involved in the design of frequency synthesizers, building blocks for 5G applications (LNA, Mixer, PA), TIAs and Drivers for Optical RFIC applications in CMOS and BiCMOS technologies.

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