
UNIVERSITÀ DEGLI STUDI DI NAPOLI FEDERICO II

**PhD PROGRAM IN
INFORMATION TECHNOLOGY AND ELECTRICAL ENGINEERING**

INFORMATION AND COMMUNICATION TECHNOLOGY FOR HEALTH

Seminar announcement

Tuesday, November 4th, 2025 – Time: 9:00 - 12:30

Seminar room, first floor, building 3, DIETI - Via Claudio, 21 – NAPOLI



Eng. Fabio Moresi

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Smart antennas for 5G communications

Abstract: The seminar will provide an overview of MIMO and Beamforming technologies, as well as their applications to 5G Massive MIMO antennas in sub-6 GHz (FR1) and mmWave bands (FR2).

Starting from examples of commercial products deployed in mobile sites, the lecturer will highlight the technical differences within such solutions, focusing on Digital Beam Forming vs. Hybrid Beam Forming, stand-

alone Active Antenna vs. passive and active antennas, and measurement activities performed at UniNa regarding the electromagnetic field of mmWave antennas.

Based on acquired know-how, the 5G performance in different bands will also be analyzed and compared.

Finally, some basic considerations about electromagnetic emissions will be shared.

Lecturer short bio: Fabio Moresi received an M.Sc. degree in electronic engineering at the Polytechnic of Milan, Italy, in 1996. Since 1997, he has been working in TLC companies such as Italtel, Siemens, Nokia Siemens Networks, and Huawei Technologies, firstly covering roles in R&D as a SW engineer, then in product management and technical sales/marketing. Since 2018, he has been supporting the development of 5G technology in Italy. He coordinated the technical team of a multi-company consortium awarded a 5G trial (sub-6 GHz) in Bari and Matera. Since 2020, he has also been supporting the commercial deployment of the first 5G networks in the mmWave band (FR2) in Italy.

For information: Prof. Nicola Pasquino (DIETI, UniNA) – nicola.pasquino@unina.it (organizer)