

UNIVERSITÀ DEGLI STUDI DI NAPOLI FEDERICO II
**DOTTORATO DI RICERCA / PHD PROGRAM IN
INFORMATION TECHNOLOGY AND ELECTRICAL ENGINEERING**

Module Title: **Electronic Scan Antennas for Radar Signal Processing Applications**

Lecturer: **Dr. Enzo Carpentieri**
MBDA, Bacoli (NA), Italy

CV: Enzo Carpentieri, graduated in Electronic Engineering at University of Naples "Federico II" in 1983. He is currently Technical Expert in MBDA. He has authored a number of scientific publications on transmission line transformers, detection of pulse radar signals, and phased array antennas..

Overview

This course will discuss the applications of Electronic Scanning Antennas in the Radar field and will provide the students with a brief introduction and a review of the main techniques/algorithms that can be applied for target filtering, beamforming, and detection. After a theoretical part, the attention will be shifted to some specific examples with emphasis on solutions proposed in practice. At the end of each lecture, students are encouraged to start a discussion on possible alternative techniques or solutions.

Credits: 2

Schedule

Lecture	Date	Time	Topics	Lecturer
1	28/09/2021	15.30-17:30	Beam Forming Techniques & Spectral Estimation Methods for Radar: part I	E. Carpentieri
2	30/09/2021	15.30-17:30	Beam Forming Techniques & Spectral Estimation Methods for Radar: part II	E. Carpentieri
3	05/10/2021	15.30-17:30	Space Time Adaptive Processing	E. Carpentieri
4	07/10/2021	15.30-17:30	Trade Off between Mechanical vs Electronic Scan	E. Carpentieri
5	12/10/2021	15.30-17:30	Practical Issues involving Radar Hardware	E. Carpentieri
	TBD	TBD	Assessment test	

Lectures will be delivered (possibly) in-class. Further information will be provided as it becomes available.

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