



## ITEE PhD – Ad hoc Course Announcement

**Università degli Studi di Napoli Federico II**

**PhD Program in Information Technology and Electrical Engineering**

<http://itee.dieti.unina.it>

**Module Title:**

**Electronic Scan Antennas for Radar Signal Processing Applications**

**Lecturer: Dr. Enzo Carpentieri**

**Industry MBDA**

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**Web-page: <http://mbda-systems.com>**

*Bio notes: 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.*

*The final assessment will be focused on a short presentation about a specific topic related to the course as well as its applications*

**ECTS Credits: 2**



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### Dates and venues (To Be Defined)

Lecture	Date	Time	Venue
1	TBD	TBD	TBD
2	TBD	TBD	
3	TBD	TBD	
4	TBD	TBD	
5	TBD	TBD	
Assessment			

### Content

**Lesson 1** : Beam Forming Techniques & Spectral Estimation Methods for Radar part I

**Lesson 2**: Beam Forming Techniques & Spectral Estimation Methods for Radar part II

**Lesson 3**: Space Time Adaptive Processing

**Lesson 4**: Trade Off between Mechanical vs Electronic Scan

**Lesson 5**: Practical Issues involving Radar Hardware

Contacts for additional info: **Dr. Enzo Carpentieri** - tel. 081 18763965 – Email: [enzo.carpentieri@mbda.it](mailto:enzo.carpentieri@mbda.it)

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To enroll into the course send an email to Dr. [vincenzo.carotenuto@unina.it](mailto:vincenzo.carotenuto@unina.it)