

announce the second Edition of the PhD School on
Microwave Imaging and Diagnostics:
Theory, Techniques, and Applications
Taormina, Italy
10-14 October 2016

Course Coordinators:

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Università Mediterranea of Reggio Calabria

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ELEDIA Research Center
Università di Trento

Microwave Imaging and Diagnostics – Course Overview



Introduction

The exploitation of electromagnetic field data as a sensing tool paves the way to a number of interesting engineering applications including antenna testing and characterization, biomedical diagnostics, humanitarian demining, archeological prospection, through-the-wall imaging, non-destructive testing of transport infrastructures and buildings, and many others.

This course, after reviewing fundamental equations and main difficulties of inverse problems in high-frequency electromagnetics, will focus on classical and recently introduced solution procedures and algorithms, discussing capabilities, limitations, and perspectives of both approximate and 'exact' reconstruction methods. Applicative examples, including exercises and lessons regarding specific applications, with focus on the topics of relevant COST Actions (Medical Imaging: <http://cost-action-td1301.org>; GPR: www.gpradar.eu), will corroborate the developed concepts.

Course Contents

- Motivations and Basics of Microwave Imaging and Diagnostics
- Inverse Source Problems : difficulties, basic tools, applications
- Qualitative and approximate methods for inverse scattering
- 'Full wave' methods for quantitative imaging: difficulties, tools, examples
- Applications:
 - Antenna diagnostics
 - Medical imaging : present and perspective
 - Applications in Civil Engineering

Teachers:

Dr. Lorenzo CROCCO
Prof. Tommaso ISERNIA
Prof. Panagiotis KOSMAS
Prof. Fernando LAS-HERAS
Prof. Joe LO VETRI
Prof. Andrea MASSA
Prof. Paolo ROCCA

Dr. Loreto DI DONATO
Dr. Andrea MORABITO
Prof. Giacomo OLIVERI

Course Info:

35.5 hours of classes:

- 28 hours of theoretical lectures
- 5.5 hours of guided software exercises
- 2 hours of final exam

Registration fee:

440 EUR for non-profit institutions
880 EUR for companies

All information on registration, transportation, lodging, and else @:
http://www.antennasvce.org/Community/Education/Courses?id_folder=654

Microwave Imaging and Diagnostics – Venue & Grants



Taormina is a very pleasant seaside town in East Sicily, with many natural and historical attractions. In October, weather is usually fine for swimming.

The School will take place in the 'Sala dell'Archivio Storico' @ Corso Umberto (in front of 'Vicolo Stretto'), in the very center of Taormina.



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