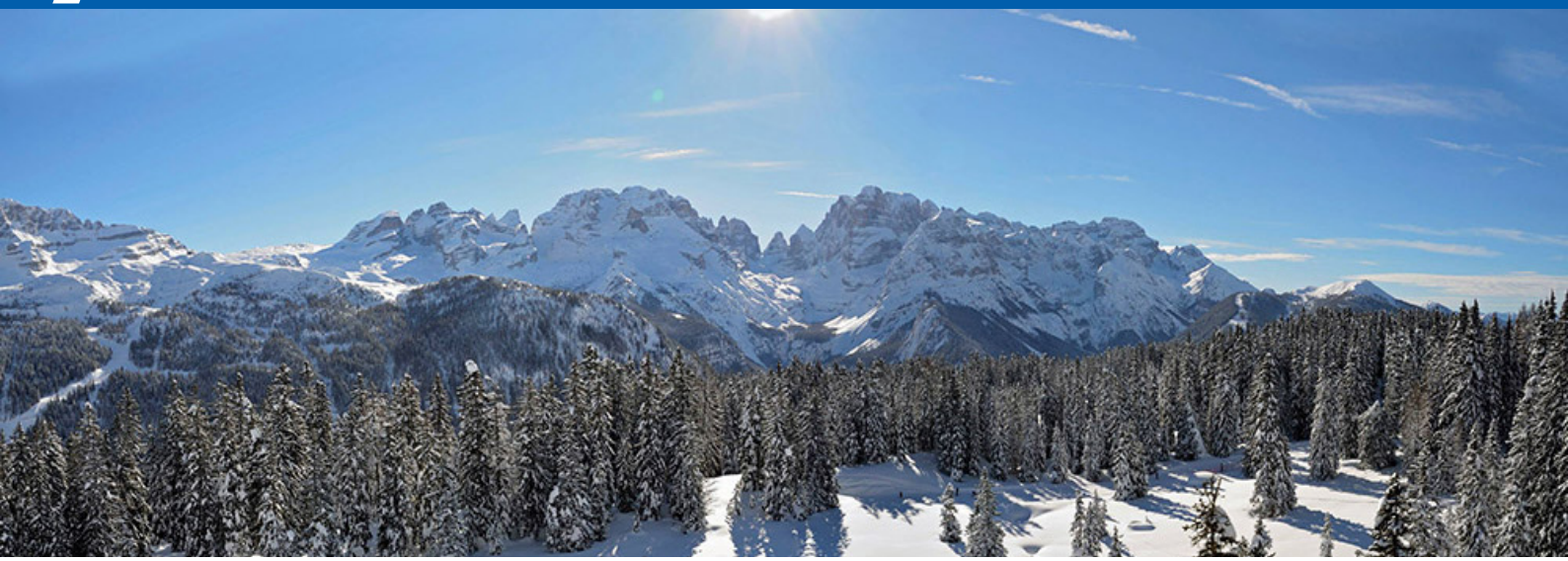

Microwave Imaging and Diagnostics

Theory, Techniques, and Applications

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.

Day 1: Introduction and Basic Theory
Day 2: Basic Tools for Ill-Posed Problems and Qualitative Imaging Methods
Day 3: Quantitative Imaging: Approximated and Complete Methods
Day 4: Imaging Systems and Applications
Day 5: Further Applications & Advanced Topics

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, will corroborate the developed concepts.

Who Should Attend?

The course is targeted to PhD students, Researchers, Scientists, and Engineers who are willing to: (a) learn about the basics of microwave diagnostics and imaging; (b) enhance their background on inverse problems in electromagnetics; (c) know about the leading edge and more recent advances on inversion algorithms; (d) take an overview on the applications of inverse scattering techniques to research, industrial, and civil frameworks.

Teachers

- **Dr. CROCCO Lorenzo**, CNR, Italy
- **Prof. ISERNIA Tommaso**, University Mediterranea of Reggio Calabria, Italy
- **Prof. LAS-HERAS Fernando**, University of Oviedo, Spain
- **Dr. LESSELIER Dominique**, CNRS, France
- **Prof. LOVETRI Joe**, University of Manitoba, Canada
- **Prof. MASSA Andrea**, ELEDIA - University of Trento, Italy & UC3M, Spain
- **Dr. MORABITO Andrea F.** , University Mediterranea of Reggio Calabria, Italy
- **Prof. OLIVERI Giacomo**, ELEDIA - University of Trento, Italy
- **Prof. ROCCA Paolo**, ELEDIA - University of Trento, Italy
- **Dr. SALUCCI Marco**, ELEDIA - University of Trento, Italy
- **Prof. YAROVOY Alexander**, Delft University of Technology, The Netherlands

Date and Location
March 19-23, 2018
Sala della Cultura @ Centro Rainalter
Via Pradalago, 8
Madonna di Campiglio, Italy

Prerequisites
Basics of Mathematical Analysis and Electromagnetics

Course Coordinators
- Prof. Andrea MASSA
  ELEDIA - University of Trento, Italy & UC3M, Spain
- Prof. Tommaso ISERNIA
  University Mediterranea of Reggio Calabria, Italy

Registration Fees*
- Non-profit Institutions: 440 €
- For-profit Institutions: 880 €

Maximum Capacity
40 attendees

REGISTER at
https://edu.eledia.org/courses/esoa-2018-madonna-di-campiglio/

INFO at
esoa-2018-madonna-di-campiglio@eledia.org

Local Organizer
Prof. Paolo ROCCA paolo.rocca@eledia.org

* The fee includes the course teaching and the material, lunches, coffee breaks, and social dinner.