Compressive Sensing in Electromagnetics

Acquire Advanced Theoretical and Practical Knowledge in Compressive Sensing in 5 Days

Compressive sensing (CS) is a fundamentally interdisciplinary topic, with interplay between applied/pure mathematics and engineering serving to fertilize innovative researches opening new frontiers. The impact of CS goes far beyond compression and classical signal processing. Whenever acquiring/inverting data/information is difficult, dangerous, or expensive, it is possible to proceed with much less data/information than previously thought possible. Such a possibility has been rapidly exploited in several and different ranges of practical electromagnetic problems almost always leading to striking results that significantly advance the state-of-the-art.

Day 1: Introduction and Basic Theory of CS
Day 2: CS in Antenna Design and Engineering
Day 3: Applications of CS in Antenna Characterization and Diagnosis
Day 4: CS in Inverse Problems and Imaging
Day 5: Further Applications & Advanced Topics in CS

This course, after reviewing the fundamentals of Compressive Sensing, will focus on classical and recently introduced solution procedures and algorithms, discussing the capabilities, the limitations, and the perspectives of CS in antenna design, imaging, non-destructive testing, and sensing and diagnosis applications.

Who Should Attend?

The course is targeted to PhD students, Researchers, Scientists, and Engineers who are willing to (a) learn about the basics of Compressive Sensing; (b) enhance their background on CS in electromagnetics; (c) know about the leading edge and more recent advances on CS algorithms as applied to ill-posed synthesis and inverse problems; (d) take an overview on the applications of Compressive Sensing in academic and industrial frameworks.

Teachers

- **Prof. GUSTAFSSON Mats,** Lund University, Sweden
- **Prof. ISERNIA Tommaso**, University Mediterranea of Reggio Calabria, Italy
- **Prof. MARTINEZ LORENZO José,** Northeastern University, USA
- **Prof. MASSA Andrea**, ELEDIA - University of Trento, Italy & UESTC, China & L2S, France
- **Prof. MIGLIORE Marco Donald,** University of Cassino and Southern Lazio, Italy
- **Dr. MORABITO Andrea F.** , University Mediterranea of Reggio Calabria, Italy
- **Prof. OLIVERI Giacomo**, ELEDIA - University of Trento, Italy & L2S, France
- **Prof. ROCCA Paolo**, ELEDIA - University of Trento, Italy

Date and Location
March 18-22, 2019
Sala Belvedere @ Centro Congressi Riva del Garda
Parco Lido 1
Riva del Garda, Italy

Prerequisites
Basics of Mathematical Analysis and Electromagnetics

Course Coordinators
- Prof. Andrea MASSA
  ELEDIA - University of Trento, Italy & UESTC, China & L2S, France
- Prof. Giacomo OLIVERI
  ELEDIA - University of Trento, Italy & L2S, France

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

Maximum Capacity
40 attendees

REGISTER at
https://edu.eledia.org/courses/esoa-2019-riva-del-garda/

INFO at
esoa-2019-riva-del-garda@eledia.org

Local Organizer
Prof. Giacomo OLIVERI   giacomo.oliveri@eledia.org

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