

## COMPRESSIVE SENSING AS APPLIED TO ELECTROMAGNETICS THEORY, TECHNIQUES, AND EM APPLICATIONS

Compressive sensing (CS) is fundamentally interdisciplinary, with interplay between applied/pure mathematics and engineering serving to fertilize new 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, CS allows 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:** CS: INTRODUCTION AND THEORETICAL BASIS

**Day 2:** CS IN ANTENNA AND RADAR ENGINEERING

**Day 3:** INVERSE PROBLEMS AND IMAGING WITH CS

**Day 4:** COMPRESSIVE SENSING IN ARRAY AND ANTENNA PROCESSING

**Day 5:** FURTHER ISSUES & ADVANCED TOPICS IN CS

### 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. Mats GUSTAFSSON**, Lund University, Sweden
- **Prof. Tommaso ISERNIA**, Università Mediterranea di Reggio Calabria, Italy
- **Dr. Ivan LAHANE**, KBR, Inc., USA
- **Prof. José MARTINEZ-LORENZO**, Northeastern University, USA
- **Prof. Andrea MASSA**, ELEDIA - University of Trento, Italy & UESTC, China & Tsinghua, China
- **Prof. Marco Donald MIGLIORE**, ELEDIA - Università di Cassino e del Lazio Meridionale, Italy
- **Prof. Giacomo OLIVERI**, ELEDIA - University of Trento, Italy
- **Prof. Paolo ROCCA**, ELEDIA - University of Trento, Italy
- **Prof. Andrea MORABITO**, Università Mediterranea di Reggio Calabria, Italy

### Date and Location

*October 25-29, 2021*

The course will be held online

### Course Coordinators

- **Prof. Andrea MASSA**, ELEDIA - University of Trento, Italy & UESTC, China & Tsinghua, China
- **Prof. Giacomo OLIVERI**, ELEDIA - University of Trento, Italy

### Registration Fees

- University Student (full time Master or Ph. D. student): 250 €
- Any other participant: 440 €

### REGISTER at

<https://edu.eledia.org/courses/esoa-2021-riva-del-garda/>

### INFO at

[esoa-2021-riva-del-garda@eledia.org](mailto:esoa-2021-riva-del-garda@eledia.org)

### Local Organizer

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