



European School of Antennas

ANTENNA SYSTEM INTEGRATION AND PACKAGING

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KU Leuven

Leuven, Belgium



INTRODUCTION:

The ever increasing demand in mobile communications towards higher data-rates has led to the release of additional frequency bands in the millimetre-wave range. The unlicensed 60 GHz band is one example for this, but also frequency bands between 20 GHz and 40 GHz are currently under consideration for use in mobile telecommunications. The choice for this part of the spectrum for consumer products, however, requires a significant change in the used antenna technologies. This is due to the fact that the antennas will have to be directly integrated together with the front-end electronics and also because large antenna array systems will have to be employed in order to cope with the higher path loss and propagation properties at those frequencies. This course is intended to support the European industry and antenna community to master this large leap in frequency and to remain a leading player in this field. In order to achieve this goal, the course intends to equip its participants with broad background knowledge in antenna integration techniques and aspects on various system levels. Starting from state-of-the-art antenna integration at sub-6GHz frequencies into the environment (infrastructure) and user end devices, this course will then focus on typical technologies used in the IC industry followed by lectures from researchers in the area of mm-wave antenna integration.

CONTENTS:

- Sub - 6 GHz antenna integration
 - Integration of antennas in the environment (cities and homes)
 - Antenna integration in devices
- Millimetre-wave antenna integration
 - Millimetre-wave device technologies
 - Millimetre-wave antenna integration techniques for the consumer market
- Application example
- Labs, Visits

LECTURERS:

- Prof. Guy A. E. Vandenbosch, KU Leuven, Belgium
- Prof. Ulf Johannsen, TU Eindhoven, Netherlands
- Dr. Christof Olivier, Orange, Belgium
- Dr. Ulf Gustavsson, Ericsson, Sweden
- Prof. Marianne Ivashina, Chalmers University of Technology, Sweden
- Prof. Rob Maaskant, Chalmers University of Technology, Sweden
- Prof. Cyril Luxey, University of Nice, France
- Ir. Jan Willem Bergman, NXP, Netherlands

COURSE GENERAL INFO:

Schedule:

20 hrs of teaching

10 hrs of visits, labs, personal exercises

Prerequisites:

Basic Electromagnetics, microwaves, antennas

Availability: 20 students

REGISTRATION FEE:

- Academic: 440 Euro
- Companies: 1100 Euro

VENUE:

KU Leuven

Department of Electrical Engineering

Kasteelpark Arenberg 10

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