

SEASONAL SCHOOL "PHOTONIC TECHNOLOGIES FOR SENSING APPLICATIONS" 2021/2022

Classroom Training			
TEACHING	TEACHING METHODOLOGY	HOURS OF LESSON	University Credits (ECTS/CFU)
Introduction to the Seasonal School	Frontal lesson	2	0.2
Basic of optical components	Frontal lessons + Laboratory Demo	8	0.8
Optical fiber sensor systems	Frontal lessons + Laboratory Demo	8	0.8
Imaging sensors for industrial applications	Frontal lessons + Laboratory Demo	6	0,6
Basics of photonic integration	Frontal lessons + Laboratory Demo	8	0.8
Photonic integration for sensing applications	Frontal lessons + Laboratory Demo	6	0,6
1 Industrial Seminar	Frontal Lesson (Brembo S.p.A.)	2	0,2

- Introduction to the Seasonal School (Fabrizio Di Pasquale 2 hours)
- Basic of optical components (Claudio Oton 8 hours)
- Optical fiber sensor systems (Fabrizio Di Pasquale 8 hours)
- Imaging sensors for industrial applications (Carlo Alberto Avizzano 6 hours)
- Basics of photonic integration (Stefano Faralli, Philippe Velha 8 hours)
- Photonic integration for sensing (Philippe Velha, Claudio Oton, Antonella Bogoni 6 hours)

Industrial Seminar (2 hours): Ing. Giorgio Ascanelli, Brembo S.p.A., *“Connectivity: Road Vehicles and Industry 4.0; Challenging and Opportunities in Automotive Industry”*

SCHOOL PROGRAM

24 January 09:00-11:00 **INTRODUCTION TO THE SEASONAL SCHOOL "PHOTONIC TECHNOLOGIES FOR SENSING APPLICATIONS"**, F, Di Pasquale (AULA 3 – Sede Centrale)

24 January 11:00-13:00 Basic of Optical Components (Optical Fibers), C. Oton (AULA 3 – Sede Centrale)

24 January 14:30-16:30 Basic of Imaging Sensors (HW), C.A. Avizzano (Aula Blu – IIM/TECIP)

24 January 16:30-18:30 Basic of Optical Components (Passive Optical Components), C. Oton (Aula Blu – IIM/TECIP)

WELCOME COCKTAIL (Sede Centrale) 19:00

25 January 09:00-11:00 Basic of Optical Components (Optical Sources), C. Oton (AULA 3 – Sede Centrale)

25 January 11:00-13:00 Basic of Imaging Sensors (SW), C.A. Avizzano (AULA 3 – Sede Centrale)

25 January 14:30-16:30 Basic of Optical Components (Detectors), C. Oton (Aula Blu – IIM/TECIP)

25 Gennaio 16:30-18:30 Optical Fiber Sensor Systems (Basic of Optical Fiber Sensors), F. Di Pasquale (Aula Blu – IIM/TECIP)

26 January 9:00-11:00 Basic of Photonic Integration 1, S. Faralli (AULA 3 – Sede Centrale)

26 January 11:00-13:00 Optical Fiber Sensor Systems (Fiber Bragg Grating Sensors), F. Di Pasquale (AULA 3 – Sede Centrale)

26 January 14:30-18:30 Basic of Photonic Integration 2, S. Faralli (Aula Blu – IIM/TECIP)

26 January 16:30-18:30 Imaging Sensors for Industrial Applications, C.A. Avizzano (Aula Blu – IIM/TECIP)

27 January 09:00-11:00 Optical Fiber Sensor Systems (Raman and Brillouin based Distributed Sensing), F. Di Pasquale (AULA 3 – Sede Centrale)

27 January 11:00-13:00 Basic of Photonic Integration 3, P. Velha (AULA 3 – Sede Centrale)

27 January 14:30-16:30 Optical Fiber Sensor Systems (DAS and Hybrid Distributed Sensors), F. Di Pasquale (Aula Blu – IIM/TECIP)

27 January 16:30-18:30 Basic of Photonic Integration 4, P. Velha (Aula Blu – IIM/TECIP)

28 January 09:00-11:00 **INDUSTRIAL SEMINAR (Ing. Giorgio Ascanelli, Brembo S.p.A.)** *“Connectivity: Road Vehicles and Industry 4.0; Challenging and Opportunities in Automotive Industry”* (AULA MAGNA - Sede Centrale)

28 January 11:00-13:00 Photonic Integration for Sensing Applications: LIDAR, A. Bogoni (AULA 3 – Sede Centrale)

28 January 14:30-16:30 Photonic Integration for Sensing Applications: FBG READING UNITS ON CHIP, C. Oton (Aula Blu – IIM/TECIP)

28 January 16:30-18:30 Photonic Integration for Sensing Applications: BIO-CHEMICAL SENSING, P. Velha (Aula Blu – IIM/TECIP)