ELEctromagnetic DIAgnostics Research Center

Engineering and Computer Science Department
University of Trento
Via Sommarive 5, 38123 Trento, ITALY
Phone +39 0461 282057 www.eledia.ing.unitn.it
www.twitter.com/ELEDIAResearch

SEMINAR:

Optical Fiber Sensors: From Structural Health Monitoring to Chemical and Bio-chemical Sensing Applications

Speaker: **Prof. Luigi Zeni**
(Second University of Naples, Naples, Italy)

Date: March 14, 2016 @ 2:30 PM

Location: Room OFEK – Polo Scientifico F. Ferrari – Povo

Note: The seminar will be held in English

Contact: Prof. Andrea Massa (andrea.massa@unitn.it)

After a brief overview of point and distributed optical fiber sensors, in the first part, an overview of the most significant results achieved in the field of structural health monitoring via distributed optical fiber sensors for strain and temperature profiles measurements, will be presented. In particular, applications to monitoring of bridges, slopes, railways and volcanic areas as well as the possibility to identify and localize defects in metallic and composite structures, will be discussed. In the second part, a versatile low-cost sensing platform based on surface plasmon resonance in polymeric optical fibers for chemical and bio-chemical sensing will be introduced and its applications to safety and security will be presented.

- **About the Speaker**

Luigi Zeni is full professor of electronics at the Second University of Naples and president of the Research Consortium on Advanced Remote Sensing Systems – CO.RI.S.T.A. (www.corista.eu). He took his degree in Electronic Engineering, summa cum laude, from University of Naples in 1988 and his Ph.D. in Electronics and Computer Science, from Italian Ministry of University, in 1992. He worked, in 1994, at DIMES (Delft Institute of Microelectronics and Submicrontechnology) of Technical University of DELFT (The Netherlands) as a visiting scientist. He has been national coordinator of PRIN projects, funded by the Italian Ministry of University and Research (MIUR) in 2000 and 2005, has been scientific coordinator of several research contracts with public and private institutions and responsible for projects funded within the 7th Framework Program of the European Union. He serves as reviewer for several international journals. He is reviewer for MIUR projects and industrial research projects and European Research Council projects, as well. He has been member of the Management Committee of the COST 299 "Optical fibers for new challenges facing the information society" of the European Union and of the Management Committee of the COST TD1001 "Novel and Reliable Optical Fiber Sensor Systems for Future Security and Safety Applications (OFSESA)". His teaching activity includes digital electronics and optoelectronics. His research interests include the design and realization of optical fiber sensors and integrated optoelectronic devices. He is author of about 130 papers in international journals, more than 120 publications at international conferences and 10 patents. He is also founder of the Spinoff company OPTOSENSING which deals with structural and environmental monitoring by distributed optical fiber sensors.