



UNIVERSITÀ DEGLI STUDI DI BRESCIA

Dipartimento di Ingegneria dell'Informazione



Dottorato di Ricerca in Ingegneria dell'Informazione

PhD Program in Information Engineering

**Thursday April 9, at 10:00 am**  
**Sala Consiliare - Ingegneria**

Professor **Skandar BASROUR**  
*Joseph Fourier University - Grenoble*  
*Deputy director of TIMA Lab*  
*Head of the Micro Nano Systems Group*

will give the following talk:

### **Microsystems research activities at TIMA Laboratory**

This seminar will give an overview on the microsystems activities developed in recent years in the MNS group at TIMA Lab. We will present the results obtained on three main topics. The first one deals with the design, fabrication, and characterization of micro-power generators for autonomous devices. These tiny devices convert mechanical vibrations into electricity using thin film piezoelectric materials. These devices have been fabricated using standard CMOS processes. More recently we have developed microfabrication processes using bulk ceramics. The prototypes developed with this technology are able to power medical implant. The second topic concerns the development of MEMS devices for medical applications (surgery tools or implant). Some activities developed in the group allowed the creation of a Start-up in 2011 (Uromems). The last research theme developed concerns several sensors and actuators devices based mainly on piezoresistive or piezoelectric transduction. Among these devices we will focus more in details on acoustic components like wide-band microphones for metrology applications, and on new haptic devices.



**Skandar Basrou** graduated from the Ecole Normale Supérieure de Tunisie, Tunisia, in 1986, and received the Ph.D. degree in microelectronics from the Université Joseph Fourier (UJF), Grenoble, France, in 1990. From 1992 to 2001, he was an assistant professor of electronics and microsystems at the Université de Franche-Comté, Besancon, France. He contributed to the development and the improvement of the X-ray and UV LIGA techniques for the realization of micro-components. Since 2001, he has been a professor of electronics and microsystems in the Electrical Department of PolytechGrenoble, UJF. He is the leader of the Micro Engineering and Nano Systems (MNS) group within the TIMA laboratory. His research activities involve the design, fabrication, and characterization of integrated MEMS, NEMS, and micropower sources.

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