



University of Pavia

Ph.D. School of Electrical and Electronics Engineering and Computer Science
Ph.D. School in Microelectronics
Ph.D. School in Bioengineering and Bioinformatics

SEMINAR

Bio-electronics for Improved Quality of Life

Prof. Julius Georgiou
University of Cyprus

22nd March 2016 – h. 14:30
Aula Seminari, former Dept. of Electronics (floor D)

Microelectronic revolutions come in waves that are driven by necessity. Currently, the aging population is creating a need for various kinds of electronic systems to improve their quality of life. These include the restoration of lost functionality via electronic implants, better health screening technology and non-invasive monitoring in the home environment. In this talk I will present work that has been done towards addressing these needs, whether it be through the development of new required building blocks or through the development of more complex systems that combine custom built hardware and software. In particular the talk covers work done towards developing a vestibular implant for balance restoration, a single chip low-power imager for a bionic eye, a cancer screening capsule for detecting early-stage carcinomas in the small intestine and a bio-inspired acoustic scene analysis system.

Bio: Julius Georgiou (IEEE M'98-SM'08) is an Associate Professor at the University of Cyprus. He received his M.Eng degree in Electrical and Electronic Engineering and Ph.D. degree from Imperial College London in 1998 and 2003 respectively. For two years he worked as Head of Micropower Design in a technology start-up company, Toumaz Technology. In 2004 he joined the Johns Hopkins University as a Postdoctoral Fellow, before becoming a faculty member at the University of Cyprus from 2005 to date. Dr Georgiou is a member of the IEEE Circuits and Systems Society, is the Chair-Elect of the BioCAS Technical Committee, as well as a member of the IEEE Circuits and Systems Society Analog Signal Processing and Sensory Systems Technical Committees. He served as the General Chair of the 2010 IEEE Biomedical Circuits and Systems Conference and is currently the Action Chair of the EU COST Action ICT-1401 on "Memristors-Devices, Models, Circuits, Systems and Applications - MemoCIS". He is also is an Associate Editor of the IEEE Transactions on Biomedical Circuits and Systems and Associate Editor of the Frontiers in Neuromorphic Engineering Journal. He is a recipient of a best paper award at the 2011 IEEE International Symposium on Circuits and Systems and at IEEE BioDevices 2008 Conference. In total he has published over 100 papers in high-caliber refereed journals and international conferences.

His research interests include Low-power analog and digital ASICs, implantable biomedical devices, bioinspired electronic systems, electronics for space, brain-computer-interfaces (BCIs), memristive devices, inertial and optical sensors and related systems.

Organizer

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Seminar in English

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