

Topics on Microelectronics

Year I - May-Sept. 2007

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ToM 2007/1 - Final Report

In the last years, a Ph.D. course on Microelectronics is proposed at University of Pavia (Italy). In parallel an increasing number of microelectronics companies are establishing new design centers in the Pavia area (Acco, Austrian MicroSystems, International Rectifier, Marvell, Maxim, National Semiconductor, STMicroelectronics, etc...). In this scenario, an advanced educational activity is a key point for a good success of these contests. This initiative regards the organization of a series of events directly addressed to students (Master and PhD), researchers, and designers from companies who want to improve their knowledge in the microelectronics field. A series of courses called "Topics on Microelectronics" has been organized by the recently established Italian Chapter of IEEE Solid State Circuit Society in collaboration with the Department of Electronics of University of Pavia. Each course consists in five talks/lectures giving both overview and advanced details about the topic. These lectures will be held by academic professors or qualified experts coming from companies or research centers. In this way the academic and industrial approaches for research and state-of-the art progress will be presented. Different topics will be addressed in each course. This is intentionally done in order to give a wide-spectrum for the audience about the present challenges in the microelectronics world.

The first course (2007/1) has been held in Pavia on May, 2-4, 2007, with the following program.

- A. Di Giandomenico - Infineon (Austria), "Continuous-time Sigma-Delta Modulators"
- M. Conta - GloNav (USA), "Frequency synthesis for wireless radios"
- R. Castello - University of Pavia (Italy), "CMOS Buffer Amplifiers"
- P. Malcovati - University of Pavia (Italy), "Interface Circuits for Resistive Chemical Sensors"
- A. Gola - Infineon (Italy), "Analysis and Design of Bandgap-Based Voltage References"

Some pictures of the lectures follow



A. Di Giandomenico



M. Conta



R. Castello



P. Malcovati



A. Gola

More than 40 students coming from different locations participated to the first course. About 25% was from companies and more than 30% from Universities apart University of Pavia. This significant participation is expected to be replicated at the next event under organization by the IEEE SSCS Italian Chapter. This will be the 2nd course of the "Topic on Microelectronics" series to be held on September 2007 always in Pavia with the following program.

- F. Svelto - University of Pavia (Italy), "Design of CMOS down-conversion mixers"
- P.F. Manfredi - Univ. of Pisa (Italy), "Design of Analog Integrated Circuits under Low-Noise Constraints"
- G. Torelli - University of Pavia (Italy), "CMOS Charge Pumps"
- F. Maloberti - University of Pavia (Italy), "Sigma-Delta Data-Converters for Telecom"
- D. Stoppa - ITC-irst (Italy), "CMOS interfaces for imagers"



One instant during lecture

Finally, next year the IEEE SSCS Italian Chapter will participate to the organization of the International Workshop on "Advances on Analog Circuit Design" (AACD2008) to be held in Pavia on April, 8-10, 2008 in the same Aula where Alessandro Volta gave his lectures more than 200 years ago. A visit to the museum with the exhibition of the instruments developed by Alessandro Volta will be possible.

The success of this initiative has also been possible thanks to the contribution of the volunteers Laura Gobbi, and Alessandro Cabrini, whose collaboration is here acknowledged.

For affiliation to the IEEE SSCS Italian Chapter, to have further information about the initiatives of the Chapter or to participate to them, contact Andrea Baschiroto (andrea.baschiroto@unile.it) or visit the website www.microelectronicsevents.com.



..... and the coffee break