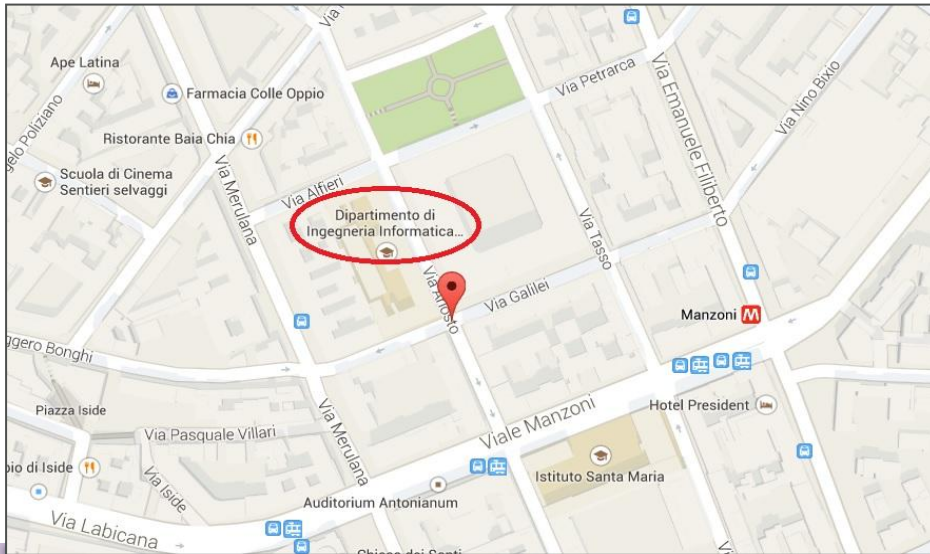




SAPIENZA
UNIVERSITÀ DI ROMA

January 29-30, 2015 - Via Ariosto, 25 Roma
Aula Magna della Facoltà di Ingegneria dell'Informazione,
Informatica e Statistica



4th Workshop Micro and Nano-Electronics 2DAY
“Non-Volatile Memories: State of Art in Europe”

ORGANIZER:
Sapienza Università di Roma,
Dipartimento di Ingegneria dell'Informazione,
Elettronica e delle Telecomunicazioni

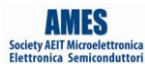
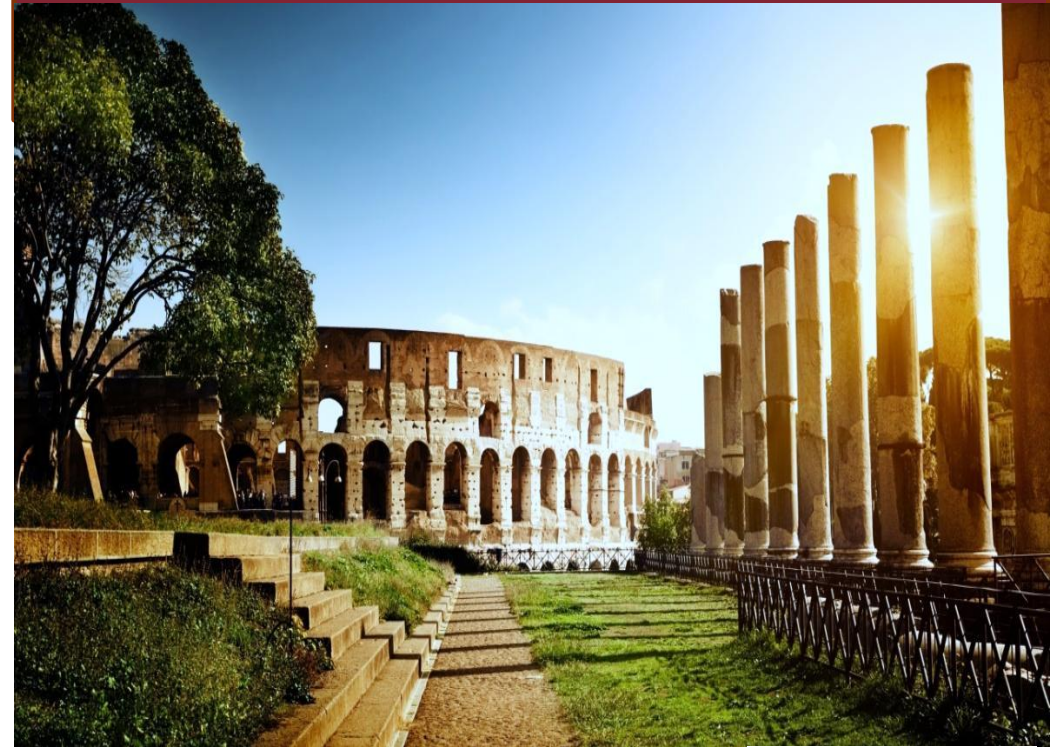
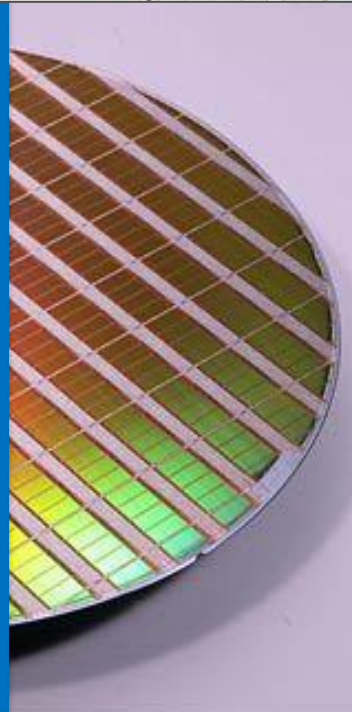
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The attendance is free

How to reach the place: Metro A, Stop Manzoni



4th Micro and Nano-Electronics 2DAY

January 29

This is the fourth edition of the Workshop *Micro and NanoElectronics 2DAY*, whose mission is gathering industries and researchers active in specific fields of the semiconductor world. This year the workshop focuses on the topic of the non-volatile memories. The state of art of research in Italy and Europe, the industry current leading products and the development perspectives and strategies of the sector will be presented. The workshop originates from the collaboration between the research group on semiconductors of the *MiND Lab of the Rome Sapienza University* and the industry *Micron*, world leader of the non-volatile memory market.

14:00 Welcome**Industry side (chairperson: T. Vali)**

- 14:30 *M. Peri*, STMicroelectronics, "Manufacturing and Technology Evolution of Automotive Microcontrollers"
- 14:50 *M. Atti*, Infineon, "Way to Zero-Defect in Automotive embedded NVM"
- 15:10 *J. Lohmueller, Robert Bosch*, "Future Requirements for Automotive NVM"
- 15:30 *C. Molina, Magneti Marelli*, "Automotive NVM: snapshot from a Tier 1"
- 15:50 *H. Raynal*, Continental, "Automotive Quality Insights "

COFFEE BREAK**Research in Europe (chairperson: F. Irrera)**

- 16:50 *E. Miranda*, Universitat Autònoma de Barcelona, Spain "Non-linear memristive equations for resistive switching devices"
- 17:10 *C. Wenger*, IHP Frankfurt/Oder, Germany "Current Status of Integrated HfO₂-based 1T1R Devices"
- 17:30 *J. Van Houdt*, IMEC Leuven, Belgium "From 2D to 3D memory: a paradigm shift"
- 17:50 *L. Perniola*, CEA-LETI MINATEC Campus Grenoble, France "eNVM at LETI : chain of value for disruptive concepts to accelerate the industrialization "

4th Micro and Nano-Electronics 2DAY

January 30

09:00 Welcome**MICRON Side (chairperson: J. Van Houdt)**

- 09:30 *G. Servalli*, R&D, "Challenges and opportunities in emerging memory technology"
- 09:50 *C. Villa*, R&D, "Challenges and opportunities in emerging memory design"
- 10:10 *L. De Santis*, NVM Design Center, "High Density NAND memories: Internal Controller design trade-off"
- 10:30 *A. Mondello*, NVM Design Center, "Secure Flash NOR with trusted computing capabilities"

COFFEE BREAK**Research in Italy (chairperson: G. Servalli)**

- 11:30 *F. Crupi*, DIMES-Università della Calabria, "DC and low-frequency noise behavior of the conductive filament in bipolar HfO₂-based resistive RAM"
- 11:50 *P. Pavan*, Università di Modena e Reggio Emilia «I-V and RTN characterization for a complete compact model of Hf-based RRAM"
- 12:10 *P. Lorenzi*, DIET-Sapienza Università di Roma «Toward RRAM based neuromorphic circuits»
- 12:30 *D. Ielmini*, DEIB-Politecnico di Milano, «Oxide resistive memories: scaling and new applications in computing"
- 12:50 *C. Zambelli*, Università di Ferrara, "Solid State Drives reliability: physical and architectural challenges".

LUNCH

- 14:30 **Open discussion (Moderator: Prof. L. Selmi, Univ. di Udine)**
The semiconductor market: perspectives and industrial strategies
A. Wild, ECSEL JU
G. Chiozzi, Infineon Italia
G. Scuro, Micron Automotive
S. Galbiati, LFoundry Italia
 STMicroelectronics