

# Advanced Memory Technologies in LETI

## GUEST SPEAKER

**Dr De Salvo Barbara**  
CEA-LETI-MINATEC

When: **22<sup>nd</sup> July 2010, 3.00 p.m. to 4.00 p.m.**  
Where: **Institute of Microelectronics, Singapore**  
11 Science Park Road Singapore Science Park II Singapore 117685

## **Abstract**

Semiconductor flash memory is an indispensable component of modern electronic systems which has gained a strategic position in recent decades due to the progressive shift from computing to consumer (and particularly mobile) products as revenue drivers for Integrated Circuits (IC) companies. This talk will suggest a general strategy for future innovative research in the memory field. A comprehensive overview of the different research paths and innovative technological approaches currently studied in LETI to fulfill the novel memory requirements is given. Different "evolutionary paths", based on the use of new materials and of new transistor structures, are investigated in order to extend classical floating gate technology to the 22nm and possibly lower nodes. In order to reduce bit cost, increase bit density and maintain the current pace of cost reduction, innovative integration paths, suitable for three-dimensional integration of memory circuits, are considered. On the other hand, "new breakthrough memory technologies", based on new storage mechanisms (as phase-change memories, oxide-resistive memories...), are also envisaged as possible candidates for future memory applications."

## **Speaker Biography**

Dr. Barbara De Salvo received the B.S. and M.S. in electronics engineering from the University of Parma, Italy ('96) and the Ph.D. degree in microelectronics from the Polytechnics Institute of Grenoble, France ('99). She joined LETI as a scientist in 1999. From 2002 to 2004, she has been the coordinator of the FP5 IST ADAMANT project. She currently manages the "Advanced Memory Technologies Laboratory", covering several R&D projects funded by institutions or industrial partnerships. Programmes include the technological development and physical understanding of innovative memory technologies such as devices based on Silicon and Metal Nano-crystals, new high-k dielectrics/metal gate stacks, SOI-based ultra-scaled FinFlash architectures and new 3D integration paths, but also alternative technologies such as Phase-Change memories, back-end oxide resistive memories, molecular and polymer-based memories. She is author or co-author of more than 200 articles in International Refereed Journals and Conferences, of several book chapters, and a monograph on innovative memories (Silicon Non-Volatile Memories: Paths of Innovation, Wiley). She has supervised several Master and PhD students.

## **Registration**

Pre-registration is required. Closing date is 22<sup>nd</sup> July 2010. To register, please log on:  
[http://eastar.eventshub.sg/ems\\_wb\\_Details.aspx?CallID=28&EventID=126420](http://eastar.eventshub.sg/ems_wb_Details.aspx?CallID=28&EventID=126420)

## **Location Map**

