



## ***Emerging memories: design techniques for improved reliability and scaling***

### ***Abstract:***

Several new memory technologies are being considered as a replacement of well established technologies and/or as a supplement to fill a performance - cost gap existing in the memory hierarchy. Conventional technologies are also looking at disruptive ideas to extend the scaling path for a few more generations. In this context reliability is a concern and it demands for design solution to compensate for the increased manufacturing complexity. An overview of the emerging memories under study is presented, as well as a few design techniques used for reliability improvement. Benefits and costs of these techniques are also examined..

### ***Speaker:***

***Corrado Villa*** is a Fellow at Micron Technologies. He joined Micron in 2010, working on PCM memories at first, and later on Emerging Memories design, where he is in charge of delivering testchip to support the development of new memory technologies, as well as proto type products and lead products. He has worked in non volatile memory design for many years, from 1989 to 2008 with STMicroelectronics, Agrate, where he has designed EPROMs, E2PROMs, NOR flash memories, introducing several innovations among which an innovative sensing technique for MLC read. From 2008 to 2010 he was with Numonyx, and was in charge of the design and qualification of the first PCM product that was manufactured in volume for the mobile market. He graduated in Electronic Engineering from the Politecnico of Milano (Italy) in 1988. He is owner of about 40 patents and the author of several papers published in peer-reviewed international journals and international conferences.

The seminar will be **December 14<sup>th</sup>**, from **4 to 6 PM** in Aula seminari, floor D.