



Non-volatile emerging memories: general perspective and opportunities in RAD-HARD design

Abstract Since many years industry has been looking for a replacement of NAND mainstream technology due to its poor scalability. A side feature of many emerging technologies is an intrinsic robustness versus radiation damage which is a key factor for their introduction in rad-hard products, not very diffused so far.

In this presentation a review of most promising non-volatile emerging memories will be given. Then some consideration on performance under radiation environment, in particular for ReRAM will be given. In the last section I will give a snap-shot of RedCatDevices srl activity and research areas

Speaker Roberto Gastaldi received the MS degree in Electronic Engineering from the Politecnico of Milano, Italy in 1977 and joined the SGS-ATES (later STMicroelectronics) in the same year. From 1993 to 2000 he lead Eprom products development. In 1989 he started to work on Flash-nor technology and products development. From 2000 to 2005 he worked on SRAM and DRAM design and breakthrough technologies evaluation, developing PCM memory architecture and circuit design. In 2005-2006 he co-designed in a JDP with Intel the first 128Mb PCM product in 90nm technology. From 2008 to 2010 he served as a manager of Advanced Design Team at Numonyx and from 2010 to 2014 he was with Micron Semiconductor Italy in the Emerging Memory Dept of central R&D where he worked on TRAM and STT-MRAM memory architecture. Since Feb.2015 he is collaborating with RedcatDevices S.r.l for rad-hard IP's development. Mr. Gastaldi is co-author of many papers and conference contributions and holds 50 US granted patents. He has been a member of the winner team of the "Innovator of the Year" award for EDN-2009. Mr. Gastaldi served as a member of ISSCC technical program from 2009 to 2011.

The seminar will be **November 23th**, from **4 to 6 PM** in Aula seminari, floor D.