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LUCA LARCHER

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Biography

Luca Larcher received the “Laurea” degree in Electrical Engineering from the University of Padova, Italy, in 1998, and the Ph.D. degree also in Electrical Engineering from the University of Modena and Reggio Emilia, Italy, in 2002. In 2001 he was appointed Assistant Professor at the University of Modena and Reggio Emilia, where he is currently Associate Professor of Electronics since the 1st of November 2005.

Research Interests

His research interests cover three main research areas.

He has worked on the experimental characterization and physical modeling of state-of-the-art and emerging Non-Volatile Memory (NVM) devices. He is leading a team which develops physical models reproducing the physical mechanisms governing the operation and reliability of various NVM devices (standard FG Flash, NROM, TANOS, PCM, RRAM). He is working also on the modeling of charge transport and degradation in high-k stacks for both logic and non-volatile memory applications.

He has worked on the design and characterization of integrated circuits for wired and wireless telecommunications systems, focusing especially on Class-E power amplifiers realized in CMOS technology

(i.e. Wireless Sensor Network nodes). In this activity, he is also working on the characterization and modeling of MEMS piezoelectric transducers for vibration energy harvesting, and on the design of WSN nodes powered through energy harvesting circuits and systems.

Publications >>> **updated list of publications**

He has co-authored >35 papers published in refereed international journals (including 28 papers in IEEE Journals), >65 papers published in proceedings of international conferences, and 1 book.

Collaborations and Projects

He has been involved in several projects supported by EU, Italian government and Regional government. At this time, he is involved in 5 projects supported by the EU (FP7 IP Gossamer, JTI-ENIAC Mirandela, JTI-ENIAC END, FP7 NoE Nanofunction, ICT-for-AGRI Stratos), and he is coordinating the activity carried out at the University of Modena and Reggio Emilia for the first 4 projects (FP7 IP Gossamer, JTI-ENIAC Mirandela, JTI-ENIAC END, FP7 NoE Nanofunction). He is the scientific coordinator of the ISOTRACTOR project, funded by the Regional Government in collaboration with local enterprises, and he is involved in the Intermech.MoRe laboratory (funded by the Regional government) dedicated to the technology transfer to local enterprises, where he is coordinating the work-package dedicated to the “industrial electronic systems.”

He is member of the Italian Nanoelectronics team (IU.NET). He has collaborated with several scientific and industrial institutions (in addition to several universities in Italy), including: CEA-Leti (Grenoble, France); Sematech, (USA); Istituto Nazionale di Fisica della Materia (INFN); Saifun Semiconductors (Israel); Nanyang Technology University (Singapore); University of Stanford (California, USA); STMicroelectronics (Pavia and Milan sites), IMEC (Leuven, Belgium).

Conference Program Committees

He served as a TPC (Technical Program Committee) member of the IEEE International Electron Devices Meeting (IEDM) (2006-2007) and of the IEEE International Reliability Physics Symposium (IRPS) (2011-).

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