Curriculum Vitae

Personal information

First name(s) / Surname(s)	**ALESSANDRO GROSSI**
E-mail	alessandro.grossi@.unife.it
Nationality	Italian
Date of birth	February 05th 1988
Gender	Male

Education and training

Dates	January 2014 - Ongoing
Title of qualification awarding	Ph.D. Degree in Engineering Sciences
Principal subjects/occupational skills covered	Emerging Nonvolatile Memories characterization and modeling: Charge Trap NAND, RRAM, MRAM.
Name and type of organisation providing education and training	University of Ferrara, Ferrara, Italy
Dates	March 2016 – October 2016
Principal subjects/occupational skills covered	Visiting Researcher – STT-MRAM and RRAM arrays characterization and statistical analysis
Name and type of organisation providing education and training	CEA Leti, Advanced Memory Laboratory, Grenoble, France
Dates	June 2015 – August 2015
Principal subjects/occupational skills covered	Visiting Researcher - RRAM characterization and modeling in the framework of R2RAM-H2020 European project (R2RAM aims to realize a strong methodology for the development and design of a radiation hard non-volatile RRAM memory technology by using standard CMOS silicon processing).
Name and type of organisation providing education and training	IHP GmbH, Frankfurt (Oder), Germany
Dates	October 2010 - October 2013
Title of qualification awarded	Master Degree in Electronic and Telecommunications Engineering (INGEGNERIA ELETTRONICA E DELLE TELECOMUNICAZIONI)
Level in national or international classification	LM-29 Class of Master degree in Electronic and Telecommunication Engineering
Final Degree Mark	110 (out of 110) with merit
Graduation Date	7.10.2013
Dissertation/thesis subject	Digital systems electronics

Dissertation/thesis title	Electric characterization of ReRAM and Charge Trapping NAND Flash nonvolatile memories for Solid State Drives applications.
Thesis Supervisor	Chiar.mo. Prof. Piero Olivo
Months needed to complete the thesis	7
Place of internship	Engineering Department, University of Ferrara, Ferrara, Italy
Thesis Description	Experimental characterization of Charge Trap NAND Flash and RRAM arrays performed on Active Technologies RIFLE Automated-Test-Equipment, program/erase/read algorithm development and testing, reliability analysis and statistical modeling. In collaboration with IHP (Frankfurt Oder, Germany), Active Technologies (Ferrara, Italy), NplusT (Perugia, Italy).
Principal subjects/occupational skills covered	Memory devices, semiconductor device modeling, reliability analysis, statistical modeling, electrical characterization, MATLAB simulation, semiconductor device physics, microelectronics
Name and type of organisation providing education and training	University of Ferrara, Ferrara, Italy
Dates	October 2007- October 2010
Title of qualification awarded	1st level degree in INGEGNERIA DELL'INFORMAZIONE (AUTOMAZIONE, ELETTRONICA, INFORMATICA, TELECOMUNICAZIONI) – Specific field of the degree course: Electronics
Final Degree Mark	110 (out of 110)
Graduation Date	12.10.2010
Dissertation/thesis subject	Electronic Instruments and Measures
Dissertation/thesis title	Definition and implementation of a load-pull system control algorithm oriented to the characterization of microwave devices
Thesis Supervisor	Prof. Antonio Raffo
Months needed to complete the thesis	6
Place of internship	Engineering Department, University of Ferrara, Ferrara, Italy
Thesis Description	Load-pull system control software development on Labview
Name and type of organisation providing education and training	University of Ferrara, Ferrara, Italy
Mother tongue	Italian

Other language(s)

Self-assessment	Understanding		Speaking		Writing
European level (*)	Listening	Reading	Spoken interaction	Spoken production	
English	B2	B2	B2	B2	B2
French	A2	A2	A2	A2	A2
German	A1	A1	A1	A1	A1

(*) Common European Framework of Reference for Languages

Technical skills and competences	Matlab, Simulink, Labview, Spice, Latex, Mathematica, Microsoft Visual Studio, Automated Test Equipment, Keithley 4200-SCS, RIFLE-SE, temperature chamber, thermal chuck, wafer-level testing, array testing, statistical modeling, memory devices, reliability, semiconductor device modeling, semiconductor device physics, electrical characterization, RRAM, CT-NAND, MRAM.
Programming languages known	C, C++, Java, Assembler, VHDL, SFC, Labview, Spice, Matlab, Python
Driving licence	B – Italian driving licence

Additional information

Certificates owned:

- FCE (First Certificate in English, Grade B, date of issue: 29.12.14)
- CLAD (Certified Labview Associate Developer, date of issue: 30.3.10)
- ECDL (European Computer Driving License, date of issue: 23.2.07)

Journal Referee activity:

- IEEE Transactions on Device and Materials Reliability (TDMR): April 2015 – Ongoing
- IEEE Electron Device Letters (EDL): May 2015 – Ongoing

European Projects Participation

- R2RAM-H2020 (development of Radiation-Hard RRAM technology for space applications)
- Athenis 3D-FP7 (development of TAS-MRAM technology for automotive applications)

Teaching assistant activities

- Matlab tutorial and exam exercises tutorial in Electronic Systems Reliability course (Università degli Studi di Ferrara, Prof. C. Zambelli, May 2015)
- Laboratory support in Hardware Description Language course (Università degli Studi di Ferrara, Prof. M. Favalli, Sept. 2015 – Dec. 2015)

Awards

Grant: Fondo Giovani Ricercatori 2016
Grant: Borsa di studio per la mobilità all'estero – IUSS Unife (May 2015)
Golden Reviewer of IEEE Electron Device Letters in 2015

Publications

- "Statistical analysis of resistive switching characteristics in ReRAM test arrays".
  C. Zambelli, A. Grossi, D. Walckzyk, T. Bertaud, B. Tillack, T. Schroeder, V. Stikanov, and C. Walczyk.
  In: *IEEE International Conference on Microelectronic Test Structures (ICMTS)*, Mar 2014, pp. 27-31.

- "Electrical characterization of read window in ReRAM arrays under different SET/RESET cycling conditions".
  C. Zambelli, A. Grossi, P. Olivo, D. Walczyk, J. Dabrowski, B. Tillack, T. Schroeder, R. Kraemer ,V. Stikanov, and C. Walczyk.
  In: *IEEE International Memory Workshop (IMW)*, May 2014, pp. 1-4.

- "Bit Error Rate Analysis in Charge Trapping Memories for SSD applications".
  A. Grossi, C. Zambelli, and P. Olivo.
  In: *IEEE International Reliability Physics Symposium (IRPS)*, Jun 2014, pp. MY.7.1-MY.7.5.

- "Automated characterization of TAS-MRAM test arrays"
  A. Grossi, C. Zambelli, P. Olivo, P. Pellati, M. Ramponi, J. Alvarez-Hérault, and K. Mackay.
  In: *IEEE International Conference On Design and Technology of Integrated Systems In Nanoscale Era (DTIS)*, Apr 2015, pp. 1-2.

- "Relationship among current fluctuations during forming, cell-to-cell variability and reliability in RRAM arrays"
  A. Grossi, C. Zambelli, P. Olivo, E. Miranda, V. Stikanov, T. Schroeder, C. Walczyk, and C. Wenger.
  In: *IEEE International Memory Workshop (IMW)*, May 2015, pp. 1-4.

- "RRAM Reliability and Performance Characterization through Array Architectures investigations"
  C. Zambelli, A. Grossi, P. Olivo, C. Walczyk, and C. Wenger.
  In: *IEEE Computer Society Annual Symposium on VLSI (ISVLSI)*, Jul 2015

- "Impact of inter-cell and intra-cell variability on forming and switching parameters in RRAM arrays"
  A. Grossi, D. Walczyk, C. Zambelli, E. Miranda, P. Olivo, V. Stikanov, A. Feriani, J. Suñé, G. Schoof, R. Kraemer, B. Tillack, A. Fox, T. Schroeder, C. Wenger, and C. Walczyk
  In: *IEEE Transactions on Electron Devices (TED)*, vol. 62, no. 8, pp. 2502-2509, Aug 2015

- "Quality-of-Service Implications of Enhanced Program Algorithms for Charge-Trapping NAND in Future Solid-State Drives"
  A. Grossi, L. Zuolo, F. Restuccia, C. Zambelli, and P. Olivo
  In: *IEEE Transactions on Device and Materials Reliability (TDMR)*, vol. 15, no. 3, pp. 363-369, Sept 2015

Publications

- "Reliability and Cell-to-Cell Variability of TAS-MRAM arrays under cycling conditions"
  A. Grossi, C. Zambelli, P. Olivo, J. Alvarez-Hérault and K. Mackay
  In: *IEEE Non-Volatile Memory Technology Symposium (NVMTS)*, Oct 2015

- "Radiation hard design of HfO_2 based 1T1R cells and memory arrays"
  A. Grossi, C. Calligaro, E. Perez, J. Schmidt, F. Teply, T. Mausolf, C. Zambelli, P. Olivo, and C. Wenger
  In: *International Conference on Memristive Systems (MEMRYSIS)*, Nov 2015

- "Impact of ALD process parameters on HfO_2 based 1T-1R RRAM inter-cell variability and switching properties"
  A. Grossi, E. Perez, C. Zambelli, P. Olivo, R. Roelofs, and C. Wenger
  In: *IEEE Semiconductor Interface Specialists Conference (SISC)*, Dec 2015

- "Electrical Characterization and Modeling of Pulse-based Forming Techniques in RRAM Arrays"
  A. Grossi, C. Zambelli, P. Olivo, E. Miranda, V. Stikanov, C. Walczyk, and C. Wenger
  In: Elsevier Solid-State Electronics, vol. 115, part A, pp. 17–25, Jan 2016

- "Performance and Reliability Comparison of 1T-1R RRAM arrays with Amorphous and Polycrystalline HfO_2"
  A. Grossi, E. Perez, C. Zambelli, P. Olivo, and C. Wenger
  In: Joint Int. EUROSOI Workshop and Int. Conf. on Ultimate Integration on Silicon (EUROSOI-ULIS), Jan 2016

Il sottoscritto acconsente, ai sensi del D.Lgs. 30/06/2003 n.196, al trattamento dei propri dati personali. Il sottoscritto acconsente alla pubblicazione del presente curriculum vitae sul sito dell'Università di Ferrara