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Born: August 23, 1966—Bergamo, Italy

Nationality: Italian

Current position

Full Professor, Politecnico di Milano

Research interests

Non-volatile memories; NAND Flash reliability.

Positions held

2006-2019	Full professor, Politecnico di Milano, Milano, Italy
2004-2006	Associate professor, Politecnico di Milano, Milano, Italy
2001	Visiting professor, Institute National Polytechnique de Grenoble, Grenoble, France
1998-2004	Associate professor, University of Como, Como, Italy
1997-1998	Research assistant, Politecnico di Milano, Milano, Italy
1996	Consultant, STMicroelectronics, Agrate Brianza, Italy. Visiting scholar, University of Tennessee Space Institute, Tullahoma, TN, USA

Education

1996	PhD in Electronics Engineering, Politecnico di Milano
1992	MSc in Electronics Engineering, Politecnico di Milano

Awards

2015	<i>Best poster award</i> at the IRPS conference
2014	<i>Best student paper award</i> at the IRPS conference
2013	<i>Best student paper award</i> at the IRPS conference

2012 *Best student paper award* at the IRPS conference
2008 *Outstanding paper award* at the IRPS conference
Best student paper award at the Biodevices conference
2007 *Senior member* of the IEEE

International patents

- [3] S. Aritome, S. Wi, A. Visconti, S. Beltrami, C. Monzio Compagnoni, A. S. Spinelli, “Methods to operate a memory cell”, US 2013/0033936 A1 (2013)
- [2] S. Aritome, S. Wi, A. Visconti, S. Beltrami, C. Monzio Compagnoni, A. S. Spinelli, “Method for program verifying a memory cell and memory devices configured to perform the same”, US 2013/0033937 A1 (2013)
- [1] A. Visconti, M. Bonanomi, D. Ielmini, A. Spinelli, “Method for programming/erasing a non volatile memory cell device, in particular for Flash type memories”, EP1833058 A1, US 2007/0211534 A1 (2007)

Publications & talks

JOURNAL ARTICLES

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- [127] G. Nicosia and A. Goda and A. S. Spinelli and C. Monzio Compagnoni, “Investigation of the temperature dependence of random telegraph noise fluctuations in nanoscale polysilicon-channel 3-D Flash cells”, *Solid-State Electron.* **151**, 18–2 (2019). ISSN 0038-1101. doi 10.1016/j.sse.2018.10.010
- [126] W. Wang and G. Pedretti and V. Milo and R. Carboni and A. Calderoni and N. Ramaswamy and A. S. Spinelli and D. Ielmini, “Learning of spatiotemporal patterns in a spiking neural network with resistive switching synapses”, *Science Adv.* **4**, eaat4752:1–eaat4752:8 (2018). ISSN 2375-2548. doi 10.1126/sciadv.aat4752
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- [124] G. Nicosia, A. Mannara, D. Resnati, G. M. Paolucci, P. Tessariol, A. S. Spinelli, A. L. Lacaita, A. Goda and C. Monzio Compagnoni, “Characterization and modeling of temperature effects in 3-D NAND Flash arrays – Part II: random telegraph noise”, *IEEE Trans. Electron Devices* **65**, 3207–3213 (2018). ISSN 0018-9383. doi 10.1109/TED.2018.2839904

- [123] D. Resnati, A. Mannara, G. Nicosia, G. M. Paolucci, P. Tessariol, A. S. Spinelli, A. L. Lacaita and C. Monzio Compagnoni, “Characterization and modeling of temperature effects in 3-D NAND Flash arrays – Part I: polysilicon-induced variability”, *IEEE Trans. Electron Devices* **65**, 3199–3206 (2018). ISSN 0018-9383. doi 10.1109/TED.2018.2838524
- [122] G. Malavena, A. L. Lacaita, A. S. Spinelli and C. Monzio Compagnoni, “Investigation and compact modeling of the time dynamics of the GIDL-assisted increase of the string potential in 3-D NAND Flash arrays”, *IEEE Trans. Electron Devices* **65**, 2804–2811 (2018). ISSN 0018-9383. doi 10.1109/TED.2018.2831902
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- [120] G. Pedretti, V. Milo, S. Ambrogio, R. Carboni, S. Bianchi, A. Calderoni, N. Ramaswamy, A. S. Spinelli and D. Ielmini, “Memristive neural network for on-line learning and tracking with brain-inspired spike timing dependent plasticity”, *Sci. Rep.* **7**, 5288:1–5288:10 (2017). ISSN 20452322. doi 10.1038/s41598-017-05480-0
- [119] C. Monzio Compagnoni, A. Goda, A. S. Spinelli, P. Feeley, A. L. Lacaita and A. Visconti, “Reviewing the evolution of the NAND Flash technology”, *Proc. IEEE* **105**, 1609–1633 (2017). ISSN 0018-9219. doi 10.1109/JPROC.2017.2665781
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- [111] G. M. Paolucci, C. M. Compagnoni, A. S. Spinelli, A. L. Lacaita and A. Goda, “Fitting cells into a narrow V_T interval: physical constraints along the lifetime of an extremely scaled NAND Flash memory array”, *IEEE Trans. Electron Devices* **62**, 1491–1497 (2015). ISSN 0018-9383
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- [109] C. Monzio Compagnoni, G. M. Paolucci, C. Miccoli, A. S. Spinelli, A. L. Lacaita, A. Visconti and A. Goda, “First detection of single-electron charging of the floating gate of NAND flash memory cells”, *IEEE Electron Dev. Lett.* **36**, 132–134 (2015). ISSN 0741-3106
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