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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-now	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.
1995	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	<i>Best student paper award</i> at the IRPS conference
2008	<i>Outstanding paper award</i> at the IRPS conference <i>Best student paper award</i> at the Biodevices conference
2007	<i>Senior member</i> 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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- [137] A. S. Spinelli, G. Malavena, A. L. Lacaita, C. Monzio Compagnoni, “Random telegraph noise in 3D NAND Flash memories”, *Micromachines* **12**, 703 (2021). ISSN 2072-666X. doi 10.3390/mi12060703
- [136] A. Mannara, G. Malavena, A. S. Spinelli, C. Monzio Compagnoni, “A comparison of modeling approaches for current transport in polysilicon-channel nanowire and macaroni GAA MOSFETs”, *J. Comp. Elec.* **20**, 537–544 (2021). ISSN 1569-8025. doi 10.1007/s10825-020-01598-z
- [135] G. Franchini, A. S. Spinelli, G. Nicosia, I. Fumagalli, M. Asa, C. Groppi, C. Rinaldi, A. L. Lacaita, R. Bertacco, C. Monzio Compagnoni, “Characterization and modeling of current transport in metal/ferroelectric/semiconductor tunnel junctions”, *IEEE Trans. Electron Devices* **67**, 3729–3725 (2020). ISSN 0018-9383. doi 10.1109/TED.2020.3011398
- [134] A. S. Spinelli, C. Monzio Compagnoni, and A. L. Lacaita, “Variability effects in Nanowire and Macaroni MOSFETs – Part II: random telegraph noise”, *IEEE Trans. Electron Devices* **67**, 1492–1497 (2020). ISSN 0018-9383. doi 10.1109/TED.2020.2976630

- [133] A. S. Spinelli, C. Monzio Compagnoni, and A. L. Lacaita, “Variability effects in Nanowire and Macaroni MOSFETs – Part I: random dopant fluctuations”, *IEEE Trans. Electron Devices* **67**, 1485–1491 (2020). ISSN 0018-9383. doi 10.1109/TED.2020.2971219
- [132] G. Malavena, M. Filippi, A. S. Spinelli and C. Monzio Compagnoni, “Unsupervised learning by spike-timing-dependent plasticity in a mainstream NOR Flash memory array – Part II: array learning”, *IEEE Trans. Electron Devices* **66**, 4733–4738 (2019). ISSN 0018-9383. doi 10.1109/TED.2019.2940599
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- [130] C. Monzio Compagnoni and A. S. Spinelli, “Reliability of NAND Flash arrays: a review of what the 2-D-to-3-D transition meant”, **invited paper**, *IEEE Trans. Electron Devices* **66**, 4504–4516 (2019). ISSN 0018-9383. doi 10.1109/TED.2019.2917785
- [129] G. Malavena, A. Mannara, A. L. Lacaita, A. S. Spinelli and C. Monzio Compagnoni, “Compact modeling of GIDL-assisted erase in 3D NAND Flash strings”, *J. Comp. Elec.* **18**, 561–568 (2019). ISSN 1569-8025. doi 10.1007/s10825-019-01328-0
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- 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
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- [121] G. Pedretti, V. Milo, S. Ambrogio, R. Carboni, S. Bianchi, A. Calderoni, N. Ramaswamy, A. S. Spinelli and D. Ielmini, “Stochastic learning in neuromorphic hardware via spike timing dependent plasticity with RRAM synapses”, *IEEE J. Em. Sel. Topics Circ. Sys.* **18**, 77–85 (2018). ISSN 2156-3357. doi 10.1109/JETCAS.2017.2773124
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