Eduardo Perez

List of Publications by Year
in descending order

50 papers	785 citations	623734 14 h-index	552781 26 g-index
50 all docs	50 docs citations	50 times ranked	555 citing authors

#	Article	IF	Citations
1	Multilevel HfO2-based RRAM devices for low-power neuromorphic networks. APL Materials, 2019, 7, .	5.1	139
2	Analysis of the statistics of device-to-device and cycle-to-cycle variability in TiN/Ti/Al:HfO2/TiN RRAMs. Microelectronic Engineering, 2019, 214, 104-109.	2.4	61
3	Accurate Program/Verify Schemes of Resistive Switching Memory (RRAM) for In-Memory Neural Network Circuits. IEEE Transactions on Electron Devices, 2021, 68, 3832-3837.	3.0	56
4	Reduction of the Cell-to-Cell Variability in Hf_{1-x}Al_xO_yBased RRAM Arrays by Using Program Algorithms. IEEE Electron Device Letters, 2017, 38, 175-178.	3.9	47
5	Toward Reliable Multi-Level Operation in RRAM Arrays: Improving Post-Algorithm Stability and Assessing Endurance/Data Retention. IEEE Journal of the Electron Devices Society, 2019, 7, 740-747.	2.1	44
6	Impact of the precursor chemistry and process conditions on the cell-to-cell variability in 1T-1R based HfO2 RRAM devices. Scientific Reports, 2018, 8, 11160.	3.3	33
7	Toward Reliable Compact Modeling of Multilevel 1T-1R RRAM Devices for Neuromorphic Systems. Electronics (Switzerland), 2021, 10, 645.	3.1	28
8	Inherent Stochastic Learning in CMOS-Integrated HfO₂ Arrays for Neuromorphic Computing. IEEE Electron Device Letters, 2019, 40, 639-642.	3.9	26
9	Programming Pulse Width Assessment for Reliable and Low-Energy Endurance Performance in Al:HfO2-Based RRAM Arrays. Electronics (Switzerland), 2020, 9, 864.	3.1	25
10	Impact of the Incremental Programming Algorithm on the Filament Conduction in HfO₂-Based RRAM Arrays. IEEE Journal of the Electron Devices Society, 2017, 5, 64-68.	2.1	24
11	Analogue pattern recognition with stochastic switching binary CMOS-integrated memristive devices. Scientific Reports, 2020, 10, 14450.	3.3	23
12	Kinetic Monte Carlo analysis of data retention in Al:HfO₂-based resistive random access memories. Semiconductor Science and Technology, 2020, 35, 115012.	2.0	23
13	Study of Quantized Hardware Deep Neural Networks Based on Resistive Switching Devices, Conventional versus Convolutional Approaches. Electronics (Switzerland), 2021, 10, 346.	3.1	21
14	Variability and Energy Consumption Tradeoffs in Multilevel Programming of RRAM Arrays. IEEE Transactions on Electron Devices, 2021, 68, 2693-2698.	3.0	21
15	Optimized programming algorithms for multilevel RRAM in hardware neural networks. , 2021, , .		15
16	Optimization of Multi-Level Operation in RRAM Arrays for In-Memory Computing. Electronics (Switzerland), 2021, 10, 1084.	3.1	15
17	Performance and reliability comparison of 1T-1R RRAM arrays with amorphous and polycrystalline HfO2. , 2016, , .		14
18	Reliability of CMOS Integrated Memristive HfO2 Arrays with Respect to Neuromorphic Computing. , 2019, , .		11

#	Article	IF	Citations
19	Data retention investigation in Al:HfO2-based resistive random access memory arrays by using high-temperature accelerated tests. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2019, 37, .	1.2	11
20	Neuromorphic on-chip recognition of saliva samples of COPD and healthy controls using memristive devices. Scientific Reports, 2020, 10, 19742.	3.3	11
21	Low Conductance State Drift Characterization and Mitigation in Resistive Switching Memories (RRAM) for Artificial Neural Networks. IEEE Transactions on Device and Materials Reliability, 2022, 22, 340-347.	2.0	11
22	Characterization of the interface-driven 1st Reset operation in HfO2-based 1T1R RRAM devices. Solid-State Electronics, 2019, 159, 51-56.	1.4	9
23	Reliability of Logic-in-Memory Circuits in Resistive Memory Arrays. IEEE Transactions on Electron Devices, 2020, 67, 4611-4615.	3.0	9
24	Impact of temperature on conduction mechanisms and switching parameters in HfO2-based 1T-1R resistive random access memories devices. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2017, 35, 01A103.	1.2	8
25	In-Memory Principal Component Analysis by Crosspoint Array of Resistive Switching Memory: A new hardware approach for energy-efficient data analysis in edge computing. IEEE Nanotechnology Magazine, 2022, 16, 4-13.	1.3	8
26	Implications of the Incremental Pulse and Verify Algorithm on the Forming and Switching Distributions in RERAM Arrays. IEEE Transactions on Device and Materials Reliability, 2016, 16, 413-418.	2.0	7
27	Electrical characterization and modeling of 1T-1R RRAM arrays with amorphous and poly-crystalline HfO2. Solid-State Electronics, 2017, 128, 187-193.	1.4	7
28	A Voltageâ€“Time Model for Memristive Devices. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2018, 26, 1452-1460.	3.1	6
29	Behavioral modeling of multilevel HfO₂-based memristors for neuromorphic circuit simulation. , 2020, , .		5
30	A Versatile, Voltage-Pulse Based Read and Programming Circuit for Multi-Level RRAM Cells. Electronics (Switzerland), 2021, 10, 530.	3.1	5
31	Influence of variability on the performance of HfO2 memristor-based convolutional neural networks. Solid-State Electronics, 2021, 185, 108064.	1.4	5
32	Statistical model of program/verify algorithms in resistive-switching memories for in-memory neural network accelerators. , 2022, , .		5
33	Modulating the Filamentary-Based Resistive Switching Properties of HfO2 Memristive Devices by Adding Al2O3 Layers. Electronics (Switzerland), 2022, 11, 1540.	3.1	5
34	Assessing the forming temperature role on amorphous and polycrystalline HfO2-based 4 kbit RRAM arrays performance. Microelectronic Engineering, 2017, 178, 1-4.	2.4	4
35	The role of the bottom and top interfaces in the 1st reset operation in HfO<inf>2</inf> based RRAM devices. , 2018, , .		4
36	Advanced temperature dependent statistical analysis of forming voltage distributions for three different HfO2-based RRAM technologies. Solid-State Electronics, 2021, 176, 107961.	1.4	4

#	Article	IF	Citations
37	Temperature impact and programming algorithm for RRAM based memories. , 2018, , .		4
38	An Approximated Verilog-A Model for Memristive Devices. , 2018, , .		3
39	Multilevel memristor based matrix-vector multiplication: influence of the discretization method. , 2021, , .		3
40	Memristive-based in-memory computing: from device to large-scale CMOS integration. Neuromorphic Computing and Engineering, 2021, 1, 024006.	5.9	3
41	Sensitivity of HfO2-based RRAM Cells to Laser Irradiation. Microprocessors and Microsystems, 2021, , 104376.	2.8	3
42	Tackling the Low Conductance State Drift through Incremental Reset and Verify in RRAM arrays. , 2021, , .		3
43	Implementation of device-to-device and cycle-to-cycle variability of memristive devices in circuit simulations. Solid-State Electronics, 2022, 194, 108321.	1.4	3
44	<i>(Invited) </i>Optimized HfO₂-Based MIM Module Fabrication for Emerging Memory Applications. ECS Transactions, 2019, 92, 211-221.	0.5	2
45	Analysis of Parasitic Effects in Filamentary-Switching Memristive Memories Using an Approximated Verilog-A Memristor Model. IEEE Transactions on Circuits and Systems I: Regular Papers, 2019, 66, 1935-1947.	5.4	2
46	Influence of specific forming algorithms on the device-to-device variability of memristive Al-doped HfO2 arrays. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2020, 38, 013201.	1.2	2
47	Behavioral Model of Dot-Product Engine Implemented with 1T1R Memristor Crossbar Including Assessment. , 2021, , .		2
48	Performance Assessment of Amorphous HfO2-Based RRAM Devices for Neuromorphic Applications. ECS Journal of Solid State Science and Technology, 2021, 10, 083002.	1.8	2
49	An Analysis on the Architecture and the Size of Quantized Hardware Neural Networks Based on Memristors. Electronics (Switzerland), 2021, 10, 3141.	3.1	2
50	In-depth characterization of switching dynamics in amorphous HfO₂ memristive arrays for the implementation of synaptic updating rules. Japanese Journal of Applied Physics, 2022, 61, SM1007.	1.5	1