Mark Buckwell

List of Publications by Year in descending order

27 papers	1,099 citations	566801 15 h-index	610482 24 g-index
27 all docs	27 docs citations	27 times ranked	1402 citing authors

#	Article	IF	Citations
1	Recommended Methods to Study Resistive Switching Devices. Advanced Electronic Materials, 2019, 5, 1800143.	2.6	452
2	Structural changes and conductance thresholds in metal-free intrinsic SiOx resistive random access memory. Journal of Applied Physics, 2015, 117, .	1.1	102
3	Intrinsic resistance switching in amorphous silicon oxide for high performance SiOx ReRAM devices. Microelectronic Engineering, 2017, 178, 98-103.	1.1	64
4	Conductance tomography of conductive filaments in intrinsic silicon-rich silica RRAM. Nanoscale, 2015, 7, 18030-18035.	2.8	62
5	Nanoscale Transformations in Metastable, Amorphous, Siliconâ€Rich Silica. Advanced Materials, 2016, 28, 7486-7493.	11.1	52
6	Simulation of Inference Accuracy Using Realistic RRAM Devices. Frontiers in Neuroscience, 2019, 13, 593.	1.4	52
7	Committee machinesâ€”a universal method to deal with non-idealities in memristor-based neural networks. Nature Communications, 2020, 11, 4273.	5.8	51
8	Intrinsic Resistance Switching in Amorphous Silicon Suboxides: The Role of Columnar Microstructure. Scientific Reports, 2017, 7, 9274.	1.6	41
9	Probing electrochemistry at the nanoscale: in situ TEM and STM characterizations of conducting filaments in memristive devices. Journal of Electroceramics, 2017, 39, 73-93.	0.8	28
10	Spike-Timing Dependent Plasticity in Unipolar Silicon Oxide RRAM Devices. Frontiers in Neuroscience, 2018, 12, 57.	1.4	24
11	Investigation of resistance switching in SiO_xRRAM cells using a 3D multi-scale kinetic Monte Carlo simulator. Journal of Physics Condensed Matter, 2018, 30, 084005.	0.7	23
12	Microscopic and spectroscopic analysis of the nature of conductivity changes during resistive switching in siliconâ€rich silicon oxide. Physica Status Solidi C: Current Topics in Solid State Physics, 2015, 12, 211-217.	0.8	21
13	On the Limits of Scalpel AFM for the 3D Electrical Characterization of Nanomaterials. Advanced Functional Materials, 2018, 28, 1802266.	7.8	19
14	In situ transmission electron microscopy of resistive switching in thin silicon oxide layers. Resolution and Discovery, 2016, 1, 27-33.	0.9	16
15	The interplay between structure and function in redox-based resistance switching. Faraday Discussions, 2019, 213, 151-163.	1.6	16
16	Silica: Nanoscale Transformations in Metastable, Amorphous, Siliconâ€Rich Silica (Adv. Mater. 34/2016). Advanced Materials, 2016, 28, 7549-7549.	11.1	13
17	Nanosecond Analog Programming of Substoichiometric Silicon Oxide Resistive RAM. IEEE Nanotechnology Magazine, 2016, 15, 428-434.	1.1	13
18	X-ray spectromicroscopy investigation of soft and hard breakdown in RRAM devices. Nanotechnology, 2016, 27, 345705.	1.3	11

#	Article	IF	Citations
19	High-Performance Resistance Switching Memory Devices Using Spin-On Silicon Oxide. IEEE Nanotechnology Magazine, 2018, 17, 884-888.	1.1	11
20	Conductive AFM Topography of Intrinsic Conductivity Variations in Silica Based Dielectrics for Memory Applications. ECS Transactions, 2016, 75, 3-9.	0.3	7
21	Advanced physical modeling of SiO<inf>x</inf> resistive random access memories. , 2016, , .		6
22	A nanoscale analysis method to reveal oxygen exchange between environment, oxide, and electrodes in ReRAM devices. APL Materials, 2021, 9, .	2.2	6
23	Improving the Consistency of Nanoscale Etching for Atomic Force Microscopy Tomography Applications. Frontiers in Materials, 2019, 6, .	1.2	5
24	Neuromorphic Dynamics at the Nanoscale in Silicon Suboxide RRAM. Frontiers in Nanotechnology, 2021, 3, .	2.4	3
25	Resistance Switching in Individual Hydrogen Silsesquioxane (HSQ) Nanopillars. ECS Transactions, 2016, 75, 101-105.	0.3	1
26	Resistance switching in SiO_x. , 2015, , .		0
27	Structural investigation of resistance switching in silicon-rich silica films. , 2015, , .		0