

# Writam Banerjee

## List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

53  
papers

1,798  
citations

27  
h-index

41  
g-index

55  
ext. papers

2,114  
ext. citations

5.9  
avg, IF

5.6  
L-index

| #  | Paper  | IF  | Citations |
|----|--|-----|-----------|
| 53 | Eliminating Negative-SET Behavior by Suppressing Nanofilament Overgrowth in Cation-Based Memory. <i>Advanced Materials</i> , <b>2016</b> , 28, 10623-10629   | 24  | 161       |
| 52 | Confining Cation Injection to Enhance CBRAM Performance by Nanopore Graphene Layer. <i>Small</i> , <b>2017</b> , 13, 1603948   | 11  | 113       |
| 51 | Evolution of conductive filament and its impact on reliability issues in oxide-electrolyte based resistive random access memory. <i>Scientific Reports</i> , <b>2015</b> , 5, 7764   | 4.9 | 99        |
| 50 | Transparent and flexible resistive switching memory devices with a very high ON/OFF ratio using gold nanoparticles embedded in a silk protein matrix. <i>Nanotechnology</i> , <b>2013</b> , 24, 345202   | 3.4 | 96        |
| 49 | Challenges and Applications of Emerging Nonvolatile Memory Devices. <i>Electronics (Switzerland)</i> , <b>2020</b> , 9, 1029   | 2.6 | 80        |
| 48 | Nanocrystals for silicon-based light-emitting and memory devices. <i>Journal Physics D: Applied Physics</i> , <b>2013</b> , 46, 153001   | 3   | 79        |
| 47 | Electronic imitation of behavioral and psychological synaptic activities using TiO/AlO-based memristor devices. <i>Nanoscale</i> , <b>2017</b> , 9, 14442-14450  | 7.7 | 76        |
| 46 | Full imitation of synaptic metaplasticity based on memristor devices. <i>Nanoscale</i> , <b>2018</b> , 10, 5875-5881   | 7.7 | 75        |
| 45 | Super non-linear RRAM with ultra-low power for 3D vertical nano-crossbar arrays. <i>Nanoscale</i> , <b>2016</b> , 8, 15629-36  | 7.7 | 72        |
| 44 | Atomic View of Filament Growth in Electrochemical Memristive Elements. <i>Scientific Reports</i> , <b>2015</b> , 5, 13311  | 4.9 | 65        |
| 43 | Various Threshold Switching Devices for Integrate and Fire Neuron Applications. <i>Advanced Electronic Materials</i> , <b>2019</b> , 5, 1800866  | 6.4 | 59        |
| 42 | Design of CMOS Compatible, High-Speed, Highly-Stable Complementary Switching with Multilevel Operation in 3D Vertically Stacked Novel HfO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub> /TiO <sub>x</sub> (HAT) RRAM. <i>Advanced Electronic Materials</i> , <b>2018</b> , 4, 1700561 | 6.4 | 45        |
| 41 | Improvement of durability and switching speed by incorporating nanocrystals in the HfO <sub>x</sub> based resistive random access memory devices. <i>Applied Physics Letters</i> , <b>2018</b> , 113, 023105   | 3.4 | 44        |
| 40 | Quantized Conduction Device with 6-Bit Storage Based on Electrically Controllable Break Junctions. <i>Advanced Electronic Materials</i> , <b>2019</b> , 5, 1900744   | 6.4 | 43        |
| 39 | Occurrence of Resistive Switching and Threshold Switching in Atomic Layer Deposited Ultrathin (2 nm) Aluminium Oxide Crossbar Resistive Random Access Memory. <i>IEEE Electron Device Letters</i> , <b>2015</b> , 36, 333-335  | 4.4 | 36        |
| 38 | Formation polarity dependent improved resistive switching memory characteristics using nanoscale (1.3 nm) core-shell IrO <sub>x</sub> nano-dots. <i>Nanoscale Research Letters</i> , <b>2012</b> , 7, 194  | 5   | 36        |
| 37 | Near ideal synaptic functionalities in Li ion synaptic transistor using LiPOSe electrolyte with high ionic conductivity. <i>Scientific Reports</i> , <b>2019</b> , 9, 18883  | 4.9 | 36        |

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|----|---|------|----|
| 36 | Variability Improvement of TiO <sub>2</sub> /AlO <sub>x</sub> Bilayer Nonvolatile Resistive Switching Devices by Interfacial Band Engineering with an Ultrathin AlO <sub>x</sub> Dielectric Material. <i>ACS Omega</i> , <b>2017</b> , 2, 6888-6895   | 3.9  | 34 |
| 35 | Multilevel unipolar resistive switching with negative differential resistance effect in Ag/SiO <sub>2</sub> /Pt device. <i>Journal of Applied Physics</i> , <b>2014</b> , 116, 154509   | 2.5  | 34 |
| 34 | Engineering of defects in resistive random access memory devices. <i>Journal of Applied Physics</i> , <b>2020</b> , 127, 051101   | 2.5  | 32 |
| 33 | Crystal that remembers: several ways to utilize nanocrystals in resistive switching memory. <i>Journal Physics D: Applied Physics</i> , <b>2017</b> , 50, 303002  | 3    | 31 |
| 32 | Cu BEOL compatible selector with high selectivity (>10 <sup>7</sup> ), extremely low off-current (~pA) and high endurance (>10 <sup>10</sup> ) <b>2015</b> ,  |      | 31 |
| 31 | Charge carrier hopping transport based on Marcus theory and variable-range hopping theory in organic semiconductors. <i>Journal of Applied Physics</i> , <b>2015</b> , 118, 045701  | 2.5  | 30 |
| 30 | Intrinsic anionic rearrangement by extrinsic control: transition of RS and CRS in thermally elevated TiN/HfO <sub>2</sub> /Pt RRAM. <i>Nanoscale</i> , <b>2017</b> , 9, 18908-18917   | 7.7  | 30 |
| 29 | <b>2015</b> ,   |      | 30 |
| 28 | Complementary Switching in 3D Resistive Memory Array. <i>Advanced Electronic Materials</i> , <b>2017</b> , 3, 1700287.4   | 7.4  | 28 |
| 27 | In Quest of Nonfilamentary Switching: A Synergistic Approach of Dual Nanostructure Engineering to Improve the Variability and Reliability of Resistive Random-Access-Memory Devices. <i>Advanced Electronic Materials</i> , <b>2020</b> , 6, 2000209  | 6.4  | 28 |
| 26 | Transformation of threshold volatile switching to quantum point contact originated nonvolatile switching in graphene interface controlled memory devices. <i>Nanoscale Advances</i> , <b>2019</b> , 1, 3753-3760  | 5.1  | 26 |
| 25 | Impact of electrically formed interfacial layer and improved memory characteristics of IrO <sub>x</sub> /high-κ/W structures containing AlO <sub>x</sub> , GdO <sub>x</sub> , HfO <sub>x</sub> , and TaO <sub>x</sub> switching materials. <i>Nanoscale Research Letters</i> , <b>2013</b> , 8, 379 | 5    | 21 |
| 24 | High-κ Al <sub>2</sub> O <sub>3</sub> /WO <sub>x</sub> Bilayer Dielectrics for Low-Power Resistive Switching Memory Applications. <i>Japanese Journal of Applied Physics</i> , <b>2011</b> , 50, 10PH01   | 1.4  | 20 |
| 23 | Understanding of Selector-Less 1S1R Type Cu-Based CBRAM Devices by Controlling Sub-Quantum Filament. <i>Advanced Electronic Materials</i> , <b>2020</b> , 6, 2000488  | 6.4  | 18 |
| 22 | Deep Insight into Steep-Slope Threshold Switching with Record Selectivity (>4 × 10 <sup>10</sup> ) Controlled by Metal-Ion Movement through Vacancy-Induced-Percolation Path: Quantum-Level Control of Hybrid-Filament. <i>Advanced Functional Materials</i> , <b>2021</b> , 31, 2104054            | 15.6 | 17 |
| 21 | Physical model of Seebeck coefficient under surface dipole effect in organic thin-film transistors. <i>Organic Electronics</i> , <b>2016</b> , 29, 27-32  | 3.5  | 16 |
| 20 | Electric field modified Arrhenius description of charge transport in amorphous oxide semiconductor thin film transistors. <i>Physical Review B</i> , <b>2018</b> , 98,  | 3.3  | 16 |
| 19 | Excellent Uniformity and Multilevel Operation in Formation-Free Low Power Resistive Switching Memory Using IrO <sub>x</sub> /AlO <sub>x</sub> /W Cross-Point. <i>Japanese Journal of Applied Physics</i> , <b>2012</b> , 51, 04DD10   | 1.4  | 14 |

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|----|---|-----|----|
| 18 | A unified physical model of Seebeck coefficient in amorphous oxide semiconductor thin-film transistors. <i>Journal of Applied Physics</i> , <b>2014</b> , 116, 104502   | 2.5 | 12 |
| 17 | Ionic Sieving Through One-Atom-Thick 2D Material Enables Analog Nonvolatile Memory for Neuromorphic Computing. <i>Small</i> , <b>2021</b> , 17, e2103543  | 11  | 11 |
| 16 | An Efficient Approach Based on Tuned Nanoionics to Maximize Memory Characteristics in Ag-Based Devices. <i>Advanced Electronic Materials</i> , <b>2021</b> , 7, 2100022   | 6.4 | 11 |
| 15 | High- $\text{Al}_2\text{O}_3/\text{WO}_x$ Bilayer Dielectrics for Low-Power Resistive Switching Memory Applications. <i>Japanese Journal of Applied Physics</i> , <b>2011</b> , 50, 10PH01  | 1.4 | 10 |
| 14 | Carrier-transport-path-induced switching parameter fluctuation in oxide-based resistive switching memory. <i>Materials Research Express</i> , <b>2015</b> , 2, 046304   | 1.7 | 9  |
| 13 | Hafnium Oxide (HfO <sub>2</sub> ) - A Multifunctional Oxide: A Review on the Prospect and Challenges of Hafnium Oxide in Resistive Switching and Ferroelectric Memories.. <i>Small</i> , <b>2022</b> , e2107575                         | 11  | 9  |
| 12 | Investigation of Retention Behavior of TiO <sub>x</sub> /Al <sub>2</sub> O <sub>3</sub> Resistive Memory and Its Failure Mechanism Based on Meyer-Neldel Rule. <i>IEEE Transactions on Electron Devices</i> , <b>2018</b> , 65, 957-962 | 2.9 | 8  |
| 11 | Compact model for organic thin-film transistor with Gaussian density of states. <i>AIP Advances</i> , <b>2015</b> , 5, 047123   | 1.5 | 8  |
| 10 | Improved Threshold Switching and Endurance Characteristics Using Controlled Atomic-Scale Switching in a 0.5 nm Thick Stoichiometric HfO <sub>2</sub> Layer. <i>Advanced Electronic Materials</i> , <b>2021</b> , 7, 2000869             | 6.4 | 8  |
| 9  | Prospect and challenges of analog switching for neuromorphic hardware. <i>Applied Physics Letters</i> , <b>2022</b> , 120, 060501   | 3.4 | 7  |
| 8  | Application of Resistive Random Access Memory in Hardware Security: A Review. <i>Advanced Electronic Materials</i> , <b>2021</b> , 7, 2100536   | 6.4 | 7  |
| 7  | Memory Devices: Eliminating Negative-SET Behavior by Suppressing Nanofilament Overgrowth in Cation-Based Memory (Adv. Mater. 48/2016). <i>Advanced Materials</i> , <b>2016</b> , 28, 10809-10809  | 24  | 6  |
| 6  | Origin of negative resistance in anion migration controlled resistive memory. <i>Applied Physics Letters</i> , <b>2018</b> , 112, 133108  | 3.4 | 5  |
| 5  | Excellent Uniformity and Multilevel Operation in Formation-Free Low Power Resistive Switching Memory Using IrO <sub>x</sub> /AlO <sub>x</sub> /W Cross-Point. <i>Japanese Journal of Applied Physics</i> , <b>2012</b> , 51, 04DD10     | 1.4 | 4  |
| 4  | <b>2020</b> ,   |     | 4  |
| 3  | Surface Diffusion and Epitaxial Self-Planarization for Wafer-Scale Single-Grain Metal Chalcogenide Thin Films. <i>Advanced Materials</i> , <b>2021</b> , 33, e2102252   | 24  | 4  |
| 2  | Evolution of 0.7 conductance anomaly in electric field driven ferromagnetic CuO junction based resistive random access memory devices. <i>Applied Physics Letters</i> , <b>2020</b> , 116, 053502                                       | 3.4 | 3  |
| 1  | A physical model for dual gate a-InGaZnO thin film transistors based on multiple trapping and release mechanism. <i>Microelectronics Journal</i> , <b>2019</b> , 86, 1-6  | 1.8 | 1  |

