

Ronald Tetzlaff

List of Publications by Citations

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121
papers

1,211
citations

18
h-index

29
g-index

154
ext. papers

1,588
ext. citations

3.4
avg, IF

5.04
L-index

| # | Paper | IF | Citations |
|-----|--|-----|-----------|
| 121 | Memristor Model Comparison. <i>IEEE Circuits and Systems Magazine</i> , 2013 , 13, 89-105 | 3.2 | 116 |
| 120 | Physical model of threshold switching in NbO ₂ based memristors. <i>RSC Advances</i> , 2015 , 5, 102318-102323 | 3.7 | 100 |
| 119 | Nonlinear Dynamics of a Locally-Active Memristor. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , 2015 , 62, 1165-1174 | 3.9 | 92 |
| 118 | The Art of Finding Accurate Memristor Model Solutions. <i>IEEE Journal on Emerging and Selected Topics in Circuits and Systems</i> , 2015 , 5, 133-142 | 5.2 | 44 |
| 117 | Generalized boundary condition memristor model. <i>International Journal of Circuit Theory and Applications</i> , 2016 , 44, 60-84 | 2 | 39 |
| 116 | History Erase Effect in a Non-Volatile Memristor. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , 2016 , 63, 389-400 | 3.9 | 39 |
| 115 | A class of versatile circuits, made up of standard electrical components, are memristors. <i>International Journal of Circuit Theory and Applications</i> , 2016 , 44, 127-146 | 2 | 32 |
| 114 | Neuronal synapse as a memristor: modeling pair- and triplet-based STDP rule. <i>IEEE Transactions on Biomedical Circuits and Systems</i> , 2015 , 9, 87-95 | 5.1 | 28 |
| 113 | On Local Activity and Edge of Chaos in a NaMLab Memristor. <i>Frontiers in Neuroscience</i> , 2021 , 15, 651452 | 5.1 | 28 |
| 112 | Theoretical Foundations of Memristor Cellular Nonlinear Networks: A DRM2-Based Method to Design Memcomputers With Dynamic Memristors. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , 2020 , 67, 2753-2766 | 3.9 | 27 |
| 111 | Theoretical Foundations of Memristor Cellular Nonlinear Networks: Memcomputing With Bistable-Like Memristors. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , 2020 , 67, 502-515 | 3.9 | 27 |
| 110 | Theoretical Foundations of Memristor Cellular Nonlinear Networks: Stability Analysis With Dynamic Memristors. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , 2020 , 67, 1389-1401 | 3.9 | 26 |
| 109 | Adaptive Neuromorphic Architecture (ANA). <i>Neural Networks</i> , 2013 , 45, 111-6 | 9.1 | 24 |
| 108 | Ultrasensitive detection of Ebola matrix protein in a memristor mode. <i>Nano Research</i> , 2018 , 11, 1057-1068 | 6.8 | 23 |
| 107 | Pattern Formation With Locally Active S-Type NbO _x Memristors. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , 2019 , 66, 2627-2638 | 3.9 | 22 |
| 106 | Synchronization conditions in simple memristor neural networks. <i>Journal of the Franklin Institute</i> , 2015 , 352, 3196-3220 | 4 | 21 |
| 105 | Robust Simulation of a TaO Memristor Model. <i>Radioengineering</i> , 2015 , 24, 384-392 | 0.8 | 19 |

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| 104 | The First Ever Real Bistable Memristors Part I: Theoretical Insights on Local Fading Memory. <i>IEEE Transactions on Circuits and Systems II: Express Briefs</i> , 2016 , 63, 1091-1095 | 3.5 | 19 |
| 103 | The First Ever Real Bistable Memristors Part II: Design and Analysis of a Local Fading Memory System. <i>IEEE Transactions on Circuits and Systems II: Express Briefs</i> , 2016 , 63, 1096-1100 | 3.5 | 16 |
| 102 | Intrinsic plasticity of silicon nanowire neurotransistors for dynamic memory and learning functions. <i>Nature Electronics</i> , 2020 , 3, 398-408 | 28.4 | 14 |
| 101 | Convolutional Neural Networks for Epileptic Seizure Prediction 2018 , | | 14 |
| 100 | Memristor-enhanced humanoid robot control system Part II: Circuit theoretic model and performance analysis. <i>International Journal of Circuit Theory and Applications</i> , 2018 , 46, 184-220 | 2 | 13 |
| 99 | Memristor-enhanced humanoid robot control system Part I: Theory behind the novel memcomputing paradigm. <i>International Journal of Circuit Theory and Applications</i> , 2018 , 46, 155-183 | 2 | 13 |
| 98 | Experimental evaluation of the dynamic route map in the reset transition of memristive ReRAMs. <i>Chaos, Solitons and Fractals</i> , 2020 , 139, 110288 | 9.3 | 12 |
| 97 | PSpice switch-based versatile memristor model 2013 , | | 12 |
| 96 | Closed-form analytical solution for on-switching dynamics in a TaO memristor. <i>Electronics Letters</i> , 2017 , 53, 1125-1126 | 1.1 | 11 |
| 95 | The Seizure Prediction Problem in Epilepsy: Cellular Nonlinear Networks. <i>IEEE Circuits and Systems Magazine</i> , 2012 , 12, 8-20 | 3.2 | 11 |
| 94 | NbO ₂ -Mott Memristor: A Circuit- Theoretic Investigation. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , 2021 , 68, 4979-4992 | 3.9 | 11 |
| 93 | Multiple slopes in the negative differential resistance region of NbO _x -based threshold switches. <i>Journal Physics D: Applied Physics</i> , 2019 , 52, 325104 | 3 | 10 |
| 92 | Exploring the Dynamics of Real-World Memristors on the Basis of Circuit Theoretic Model Predictions. <i>IEEE Circuits and Systems Magazine</i> , 2018 , 18, 48-76 | 3.2 | 10 |
| 91 | Beyond series and parallel: Coupling as a third relation in memristive systems 2014 , | | 10 |
| 90 | Registration and Fusion of Thermographic and Visual-Light Images in Neurosurgery. <i>IEEE Transactions on Biomedical Circuits and Systems</i> , 2018 , 12, 1313-1321 | 5.1 | 10 |
| 89 | An Improved Cellular Nonlinear Network Architecture for Binary and Grayscale Image Processing. <i>IEEE Transactions on Circuits and Systems II: Express Briefs</i> , 2018 , 65, 1084-1088 | 3.5 | 9 |
| 88 | NERO mastering 300k CNN cells 2013 , | | 9 |
| 87 | New CNN based algorithms for the full penetration hole extraction in laser welding processes: Experimental results. 2009 , | | 9 |

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| 86 | Edge of Chaos Theory Resolves Smale Paradox. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , 2022 , 1-14 | 3.9 | 9 |
| 85 | How to Build a Memristive Integrate-and-Fire Model for Spiking Neuronal Signal Generation. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , 2021 , 68, 4837-4850 | 3.9 | 9 |
| 84 | Application of the Volterra Series Paradigm to Memristive Systems 2014 , 163-191 | | 9 |
| 83 | Requirements and Challenges for Modelling Redox-based Memristive Devices 2018 , | | 8 |
| 82 | Feature extraction in laser welding processes 2008 , | | 8 |
| 81 | Improved Vertex Coloring With NbOx Memristor-Based Oscillatory Networks. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , 2021 , 1-14 | 3.9 | 8 |
| 80 | NEROvideo: a general-purpose CNN-UM video processing system. <i>Journal of Real-Time Image Processing</i> , 2016 , 12, 763-774 | 1.9 | 7 |
| 79 | Motion correction of thermographic images in neurosurgery: Performance comparison 2014 , | | 7 |
| 78 | Memristors and memristive circuits - an overview 2012 , | | 7 |
| 77 | Continuous and Differentiable Approximation of a TaO Memristor Model for Robust Numerical Simulations. <i>Springer Proceedings in Physics</i> , 2017 , 61-69 | 0.2 | 6 |
| 76 | Advanced memristive model of synapses with adaptive thresholds 2012 , | | 6 |
| 75 | Omnidirectional algorithm for the full penetration hole extraction in laser welding processes 2009 , | | 6 |
| 74 | A Simple Memristor Model for Neuromorphic ReRAM Devices 2020 , | | 6 |
| 73 | Real-time artefact filter for intraoperative thermographic imaging 2016 , | | 6 |
| 72 | Analysis of memristors with nonlinear memristance versus state maps. <i>International Journal of Circuit Theory and Applications</i> , 2017 , 45, 1814-1832 | 2 | 5 |
| 71 | Edge of chaos in reaction diffusion CNN model. <i>Open Mathematics</i> , 2017 , 15, 21-29 | 0.8 | 5 |
| 70 | Transformation techniques applied to a TaO memristor model to enable stable device simulations 2017 , | | 5 |
| 69 | Unfolding the Threshold Switching Behavior of a Memristor. <i>Communications in Computer and Information Science</i> , 2014 , 156-164 | 0.3 | 5 |

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| 68 | CESAR: Emulating Cellular Networks on FPGA 2012 , | | 5 |
| 67 | 2011 , | | 5 |
| 66 | New CNN based algorithms for the full penetration hole extraction in laser welding processes 2009 , | | 5 |
| 65 | Toward an autonomous platform for spatio-temporal EEG-signal analysis based on cellular nonlinear networks. <i>International Journal of Circuit Theory and Applications</i> , 2008 , 36, 623-639 | 2 | 5 |
| 64 | New Signal Processing Methods for the Development of Seizure Warning Devices in Epilepsy. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , 2016 , 63, 609-616 | 3.9 | 5 |
| 63 | About v-i Pinched Hysteresis of Some Non-Memristive Systems. <i>Mathematical Problems in Engineering</i> , 2018 , 2018, 1-10 | 1.1 | 5 |
| 62 | A Compact Memristor Model for Neuromorphic ReRAM Devices in Flux-Charge Space. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , 2021 , 68, 3631-3641 | 3.9 | 5 |
| 61 | Graph Coloring via Locally-Active Memristor Oscillatory Networks. <i>Journal of Low Power Electronics and Applications</i> , 2022 , 12, 22 | 1.7 | 5 |
| 60 | Edge of Chaos in Nanoscale Memristor CNN 2019 , | | 4 |
| 59 | Improvement of NbO _x -based threshold switching devices by implementing multilayer stacks. <i>Semiconductor Science and Technology</i> , 2019 , 34, 075005 | 1.8 | 4 |
| 58 | A Simple Monte Carlo Model for the Cycle-to-Cycle Reset Transition Variation of ReRAM Memristive Devices 2020 , | | 4 |
| 57 | An intraoperative imaging system for neurosurgical thermography 2017 , | | 4 |
| 56 | Memristor for Neuromorphic Applications: Models and Circuit Implementations 2014 , 379-403 | | 4 |
| 55 | Hierarchical description and analysis of CNN algorithms 2014 , | | 4 |
| 54 | Spatio-temporal analysis of brain electrical activity in epilepsy based on cellular nonlinear networks 2009 , | | 4 |
| 53 | Prediction Error Profiles allowing a Seizure Forecasting in Epilepsy ? 2006 , | | 4 |
| 52 | Mathematical Analysis of Memristor CNN | | 4 |
| 51 | System-Theoretic Methods for Designing Bio-Inspired Mem-Computing Memristor Cellular Nonlinear Networks. <i>Frontiers in Nanotechnology</i> , 2021 , 3, | 5.5 | 4 |

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| 50 | Selective and self-validating breath-level detection of hydrogen sulfide in humid air by gold nanoparticle-functionalized nanotube arrays. <i>Nano Research</i> , 2021 , 1-10 | 10 | 4 |
| 49 | Real-Time Control of Laser Beam Welding Processes: Reality 2011 , 261-281 | | 4 |
| 48 | A Cellular Network Architecture With Polynomial Weight Functions. <i>IEEE Transactions on Very Large Scale Integration (VLSI) Systems</i> , 2016 , 24, 353-357 | 2.6 | 3 |
| 47 | A new high-speed real-time video processing platform 2014 , | | 3 |
| 46 | Modelling brain electrical activity by reaction diffusion cellular nonlinear networks (RD-CNN) in laplace domain 2014 , | | 3 |
| 45 | Cellular Neural Network (CNN) based control algorithms for omnidirectional laser welding processes: Experimental results 2010 , | | 3 |
| 44 | CNN computing of the interaction of fluxons 2011 , | | 3 |
| 43 | A new cellular nonlinear network emulation on FPGA for EEG signal processing in epilepsy 2011 , | | 3 |
| 42 | Spatio-temporal coupling of EEG signals in epilepsy 2011 , | | 3 |
| 41 | A Flux-Controlled Memristor Model for Neuromorphic ReRAM Devices 2020 , | | 3 |
| 40 | Towards Simplified Physics-based Memristor Modeling of Valence Change Mechanism Devices. <i>IEEE Transactions on Circuits and Systems II: Express Briefs</i> , 2022 , 1-1 | 3.5 | 3 |
| 39 | Complex behavior in memristor circuits based on static nonlinear two-ports and dynamic bipole 2015 , | | 2 |
| 38 | Evaluation of machine learning methods for seizure prediction in epilepsy. <i>Current Directions in Biomedical Engineering</i> , 2019 , 5, 109-112 | 0.5 | 2 |
| 37 | CNN based movement correction in thermography for intrasurgical diagnostics 2014 , | | 2 |
| 36 | Motion estimation and correction for thermographic imaging in brain surgery 2017 , | | 2 |
| 35 | Cellular nonlinear network-based signal prediction in epilepsy: Method comparison 2015 , | | 2 |
| 34 | Motion correction of thermographic images in neurosurgery 2015 , | | 2 |
| 33 | Memristor plasticity enables emergence of synchronization in neuromorphic networks 2014 , | | 2 |

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| 32 | Complex dynamics in neuromorphic memristor circuits 2013 , | | 2 |
| 31 | Semi-Totalistic CNN Genes for Compact Image Compression 2006 , | | 2 |
| 30 | A Compact and Continuous Reformulation of the Strachan TaOx Memristor Model With Improved Numerical Stability. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , 2021 , 1-12 | 3.9 | 2 |
| 29 | Memristor CNNs with Hysteresis. <i>Studies in Computational Intelligence</i> , 2019 , 383-394 | 0.8 | 2 |
| 28 | A robust optical flow motion estimation and correction method for IRT imaging in brain surgery. <i>Quantitative InfraRed Thermography Journal</i> , 2020 , 1-26 | 1.1 | 2 |
| 27 | Multilevel Interpolation for Feature-based Motion Correction in Neurosurgery 2018 , | | 2 |
| 26 | Seizure Prediction by Multivariate Autoregressive Model Order Optimization. <i>Current Directions in Biomedical Engineering</i> , 2018 , 4, 395-398 | 0.5 | 2 |
| 25 | Efficient feature-based motion estimation in neurosurgery using non-maximum suppression. <i>Current Directions in Biomedical Engineering</i> , 2018 , 4, 555-558 | 0.5 | 2 |
| 24 | A New CNN Occlusion Masking Method for IRT Imaging in Neurosurgery 2020 , | | 1 |
| 23 | Architectures for Intraoperative Image Fusion in Brain Surgery 2018 , | | 1 |
| 22 | Analysis of multi-memristor circuits 2013 , | | 1 |
| 21 | Synchronization properties of a bio-inspired neural network 2015 , | | 1 |
| 20 | Analysis of EEG-signals in epilepsy: Spatio-temporal models 2008 , | | 1 |
| 19 | Pattern Formation in a RD-MCNN with Locally Active Memristors | | 1 |
| 18 | Synapse as a Memristor 2019 , 351-367 | | 1 |
| 17 | Memristors - Devices, Models, Circuits, Systems and Applications <i>International Journal of Circuit Theory and Applications</i> , 2016 , 44, 1478-1479 | 2 | 1 |
| 16 | Programmable Emulator of Genuinely Floating Memristive Switching Devices 2019 , | | 1 |
| 15 | Motion Correction for Thermography using Co-registered Visual-Light Images 2019 , | | 1 |

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| 14 | Intraoperative motion correction in neurosurgery: a comparison of intensity- and feature-based methods. <i>Biomedizinische Technik</i> , 2018 , 63, 573-578 | 1.3 | 1 |
| 13 | Motion correction for IRT imaging in neurosurgery: Analysis and comparison of frequency-/filter- and intensity-based approaches. <i>Infrared Physics and Technology</i> , 2021 , 117, 103804 | 2.7 | 1 |
| 12 | Tactile electronics 2021 , 277-292 | | 1 |
| 11 | Motion Correction in Multimodal Intraoperative Imaging. <i>IEEE Transactions on Biomedical Circuits and Systems</i> , 2020 , 14, 671-680 | 5.1 | 0 |
| 10 | Coherent false seizure prediction in epilepsy, coincidence or providence?. <i>Clinical Neurophysiology</i> , 2021 , 133, 157-157 | 4.3 | 0 |
| 9 | On the chaotic nature of random telegraph noise in unipolar RRAM memristor devices. <i>Chaos, Solitons and Fractals</i> , 2022 , 160, 112224 | 9.3 | 0 |
| 8 | Pattern Formation in an M-CNN Structure Utilizing a Locally Active NbOx Memristor 2022 , 79-101 | | 0 |
| 7 | [From the Guest Editors]. <i>IEEE Circuits and Systems Magazine</i> , 2018 , 18, 5-6 | 3.2 | |
| 6 | ANALYTICAL ANALYSIS OF MEMRISTIVE NETWORKS 2013 , 529-539 | | |
| 5 | [From the Guest Editors]. <i>IEEE Circuits and Systems Magazine</i> , 2013 , 13, 4-6 | 3.2 | |
| 4 | Cellular Neural Networks Proposed for Image Predictive Coding. <i>Communications in Computer and Information Science</i> , 2014 , 237-245 | 0.3 | |
| 3 | Registration of IRT and visible light images in neurosurgery: analysis and comparison of automatic intensity-based registration approaches.. <i>International Journal of Computer Assisted Radiology and Surgery</i> , 2022 , 17, 683 | 3.9 | |
| 2 | Sniffbots to the Rescue! Fog Services for a Gas-Sniffing Immersive Robot Collective. <i>Lecture Notes in Computer Science</i> , 2022 , 3-28 | 0.9 | |
| 1 | Theory and Technology of Memristive Devices 1-35 | | |