

Day 1 - Monday 5 October

08:50-09:00	Welcome Address: Matthias Oechsner Vice President Research, Technische Universität Darmstadt (europium)
09:00-09:45	Plenary: Abu Sebastian - Memristive Memory and Computing: Highs, Lows, and the Road Ahead (europium)
09:45-10:10	Coffee break

	EC-RAM / Protonic Devices Session Chair: Lambert Alff (europium)	Edge Computing Session Chair: Christian Hochberger (helium)
10:10-10:35	Electrochemical Ionic Synapses for Energy-Efficient Brain-Inspired Computing Bilge Yildiz - MIT, Boston	Development of Emerging Memory Devices and Their Applications for Edge Computing Shinhyun Choi - KAIST, Daejeon
10:35-10:50	Mitigating Long Read Latencies in Gradual Switching Valence Change Memories through Barrier Engineering Clemens Wittberg - FZ Jülich	Energy-efficient uncertainty quantification via gate-tunable 1A1M synaptic array for Bayesian neural network Hyeon Bin Kim - KU-KIST, Seoul
10:50-11:05	Aqueous proton-permeable graphene chemimemristor for robust electrochemical reservoir computing Senlin Tang - MPI P Mainz	Memristor crossbar arrays as stateful outer-product engines for fully-parallel backpropagation weight updates Chenfei Miao - Tsinghua U, Beijing
11:05-11:20	Multifunctional MoOx-based Volatile Memristor with Tunable Relaxation Dynamics Enabling Artificial Nociception and Neuromorphic Computing Anusha Dsouza - CeNS, Bangalore	A Fully Integrated Low-Power DNN Processor for In-Memory Computing Based on Non-Filamentary Nb₂O₅/CeO₂ Memristors Kitae Park - UNIST, Ulsan
11:20-11:35	Bidirectional Analogue Conductance Modulation in Wafer-Scale Ag/SnOx Electrochemical Metallisation Memristors Zohreh Hajabadi - U Southhampton	Monolithic 3D integrated memristor array for low-interfered and high-density in-memory computing Yeon Seo An - KU-KIST, Seoul
11:35-11:50	Temporal Evolution of Programmed Conductance in IGZO/HfO2 Electrochemical Random-Access Memory Jung Kyu Lee - SNU, Seoul	Analog Resistive Switching Assessment of CMOS-Compatible Engineered HfO₂-Based RRAM Device Gayathri Kuruvalur - IHP Frankfurt/Oder
11:50-13:35	Lunch (Mensa Stadtmitte)	

	Electrochemical Metallization Session Chair: Eszter Piros (europium)	Optoelectronic Memristors Session Chair: Shinhyun Choi (helium)
13:35-14:05	Engineering of the volatile dynamics of Ag-based electrochemical memristors Stefano Brivio - CNR-IMM, Agrate	Dye-sensitized Optoelectronic Synapses for Physical Reservoir Computing-based Motion Vision Systems Takashi Ikuno - Tokyo U of Science

14:05-14:20	Overcoming Filament Stochasticity: RESET-Based Programming in Electrochemical Metallization Memristors Xin Zheng - FZ Jülich	Parallel Optoelectronic programming of IGZO RRAM devices with a micro-LED array Andrew Adair - U Strathclyde, Glasgow
14:20-14:35	Localizing Switching Sites: Low-Variability ECM Memristors via On-Chip Ag NP Synthesis Markus Fischer-Butesheva - ETH Zurich	GeSbTe Optical Memristor Devices for Neuromorphic Computer Vision Neil Kemp - U Nottingham
14:35-14:50	Direct operando STEM observation of coupled Cu filament dynamics in hafnia-based memristors Taewook Kim - TU Darmstadt	Reconfigurable quantum dot light emitting memristor for neuromorphic computing Yeunwoo Kwon - SNU, Seoul
14:50-15:05	Different modes of threshold switching in Ag/HfO₂/Pt-based volatile electrochemical metallization memory (v-ECM) devices Susanne Hoffmann-Eifert - FZ Jülich	Optically Tunable CuxO Based Memristor for Neuromorphic Computing R. S. Harisankar - IIT Hyderabad
15:05-15:20	Synaptic Dynamics in Soft Metal–Polymer Formulations for Neuromorphic Computing Pedro Ferreira - U Porto	
15:20-15:45	Coffee break	

	VCM / Modelling Session Chair: Stefano Brivio (europium)	Analog Computing Session Chair: Takashi Ikuno (helium)
15:45-16:15	The Role of Materials and Defects on the Electroforming and Switching Mechanism of Filamentary VCM Cells Stephan Menzel - FZ Jülich	Emerging Analog Memories as Knobs for Multi-Scale Neural System Design Melika Payvand - U/ETH Zurich
16:15-16:30	Nanoscale Filament Evolution and Local Resistive Switching in Sub-Stoichiometric Yttrium Oxide Thin Films Yen-Po Liu - FZ Jülich	Performance-Reliability Co-Optimization of Trion(3N0C) Synaptic Memory for Analog AI Acceleration Junyoung Choi - POSTECH, Pohang
16:30-16:45	Forming voltage reduction of 1T1R RRAM devices by tuning Ti/Al:HfO₂ thickness ratio while maintaining reliable switching performance Keerthi Dorai Swamy Reddy - IHP, Frankfurt/Oder	Analog Conductance Modulation in Percolative Ge₂Sb₂Te₅ Pathways Confined within a HfO₂ Nanoparticle Matrix So-Young Lim - UNIST, Ulsan
16:45-17:00	Insights into Voltage-Driven Degradation Processes in Hafnia-Based Memristive Devices Cristian Ferreyra - UAB Barcelona	Wafer-Scale Hexagonal Boron Nitride Memristors with Reliable Analog Switching Jaesub Song - POSTECH, Pohang
17:00-17:15	High-Temperature Retention and Degradation Mechanisms of Multilevel Conductive-Metal-Oxide/HfO_x ReRAM Marta Reyes - IBM, Zurich / NOVA School of Science and Technology, University of Lisbon	
18:00-20:00	Welcome reception (Staatsarchiv)	

Day 2 - Tuesday 6 October

09:00-09:45	Plenary: Ming Liu – Emerging Device and Architecture Innovations in the AI Era (europium)	
09:45-10:10	Coffee break	
	Organic Memristors Session Chair: Stephan Menzel (europium)	Reservoir Computing Session Chair: Melika Payvand (helium)
10:10-10:35	Memristors with Organic Self-Assembled Monolayers Peer Kirsch - TU Darmstadt/Merck	Iontronic and Spintronics Reservoirs: Toward In-Materia Sensor Computing Takashi Tsuchiya - NIMS, Tsukuba
10:35-10:50	Memristive and neuromorphic properties of CdIn₂S₄-based devices driven by metastable defect complexe Jakub Zdziełowski - Warsaw U	Resistive Random-Access Memory-Based Logic-in-Memory as a Tunable Temporal Encoding Kernel Kunhee Son - SNU, Seoul
10:50-11:05	A Highly Stable Multimodal Perovskite Heterojunction Memristor Enabling In-Memory Perception Abdul Momin Syed - KAUST, Thuwal	Overcoming Dynamic Saturation in Memristor-based Physical Reservoir Computing via Input Spectral Mapping Soohyeon Kim - U Michigan, Ann Arbor
11:05-11:20	Deterministic Control of Neuromorphic Behavior in SI-ATRP Engineered Polymer Brush Memristors Anna Kostecka - U Krakow	Spatiotemporal Sequence Identification with Percolating Networks of Nanoparticles Daniel Smith - U Canterbury, Christchurch
11:20-11:35	A Self-powered Optoelectronic In-sensor PUF Based on Halide Perovskites Nivedan Amarnani - Nanyang TU, Singapore	An Analog Pulse Amplitude-to-Width Encoding Circuit Using Single-Transistor-Latch Oscillator for Reservoir Computing Byeong Su Kim - SNU, Seoul
11:35-11:50	Soft reconfigurable self-assembled materials for embodied computing Francesca Borghi - U Milano	Multiterminal characterization of spatio-temporal dynamics in self-organizing nanowire networks Carlo Ricciardi - Politecnico di Torino
11:50-13:35	Lunch (Mensa Stadtmitte)	
	Noise Session Chair: Asal Kiazadeh (europium)	Uncommon Systems Session Chair: Peer Kirsch (helium)
13:35-14:05	Understanding and Controlling Read Noise in VCM-based RRAM Fabiana Taglietti - FZ Jülich	Programmable memristors with two-dimensional nanofluidic channels Radha Boya - Manchester U
14:05-14:20	Low-Frequency Noise Uncovers Distinct Filament Dynamics in La-Doped and Undoped HfO₂-Based RRAM Yingxin Li - TU Darmstadt	From Powder to Device: High Entropy Oxide for Resistive Switching Applications Lukas Heinen - FZ Jülich

14:20-14:35	Full-cycle noise measurements in memristive systems: uncovering and reducing the stochasticity that limits device performance Zoltán Balogh - Budapest U	Temperature Induced Synaptic Fatigue in BiFeO₃-Based Electronic Synapses Sanchari Pal - IIST, Kerala
14:35-14:50	Temperature dependent characterization of HfO₂ memristive devices and their noise analysis Itir Köymen - TOBB ETÜ, Ankara	Inkjet-Printed Hexagonal Boron Nitride Memristors: Current-Driven Characterization and Record Endurance at Low Switching Currents Pere Aran Vila - U Barcelona
14:50-15:05	AFM-based local fluctuations spectroscopy of memristive systems Botond Sánta - Budapest U	Programming Noise Mitigation of Synaptic Weights Through Adaptive Quantization in Spintronic Resistive Devices Caterina Baldassini - CNR-ISMN, Bologna/U Bologna
15:05-15:20		Flexible LIG CuO/ZnO pn Nanoheterostructure for Efficient CO Detection at Room Temperature Megha Megha - Shiv Nadar I, Noida
15:20-15:45	Coffee break	

	Silicon Oxide / PCMO Session Chair: Radha Boya (europium)	Spiking Behavior Session Chair: Fabiana Taglietti (helium)
15:45-16:15	CMOS-compatible silicon-oxide memristors: Device characterization, compact modelling, and prospects for in-memory computing Fernando Aguirre - Intrinsic Semiconductor	Memristor-based Parallel-Synapse Leaky Integrate-and-Fire Neuron Circuit for Non-Periodic Spiking Data Processing Jen-Sue Chen - NCKU, Tainan
16:15-16:30	The role of deposition on oxygen exchange at the SiO₂/Ta interfaces: a first-principles study Margherita Buraschi - University College, London	Material-Intrinsic Synapse-Like Plasticity and Leaky Integrate-and-Fire Dynamics in a Quasi-One-Dimensional Molecular Memristor Taishi Takenobu - Nagoya U
16:30-16:45	Tracing the origin of switching variability in SiO_x:Cu memristive devices through fabrication, data mining and simulations Sahitya Yarragolla - U Bochum	Multimodal Memristive Blinking Neurons for Ultra-High Density Spiking Neural Networks Yue Zhou - Hongkong U SciTech, Guangzhou
16:45-17:00	Detection and Statistical Analysis of Switching Behavior Transitions in SiO_x-Based ReRAM Paulius Abraitis - University College, London	A Spiking Memristive Neuristor Chain at the Edge-of-Chaos Richard Schroedter - TU Dresden
17:00-17:15	Amorphous, Highly Conductive Pr_{0.7}Ca_{0.3}MnO₃ for Area-Dependent Resistive Switching Devices Max Buczek - FZ Jülich	Electronic Pain Perception Enabled by Ag/CeO₂ Diffusive Memristors Subramanian Angappane - CNSMS Bangalore
18:00-20:00	Poster Session (Staatsarchiv)	

Day 3 - Wednesday 7 October

	Integration / Design Session Chair: Jen-Sue Chen (europium)	Circuit Design Session Chair: Fernando Aguirre (helium)
09:00-09:25	Energy-Efficient Edge Systems via Emerging Memory Co-Integration Erika Covi - TU München	From Compute-in-Memory to New Frontiers Marc Reichenbach - U Rostock
09:25-09:40	Noise-Enhanced Synaptic Weight Adaptation in HfO2 Memristive Synapses Samrat Malakar - IIT Palakkad	From MAGIC to PyPIM: The Evolution of Abstraction in PIM Ronny Ronen - Technion
09:40-09:55	Automated Statistical Validation Framework for Memristor-Based Random Number Generators Using NIST SP 800-22 Juan Castillo - UB Barcelona	Precision-Energy Trade-offs in 28nm RRAM-Based MAC Arrays Ankit Bende - FZ Jülich
09:55-10:10	Correlating the impact of structure, morphology and the defects of the solution-processed tungsten oxide on RRAM devices for PUF applications Suresh Kumar Garlapati - IIT Hyderabad	Mixture density networks for probabilistic forecasting of resistive switching Thiemo Benthien - Kiel U
10:10-10:25	Electrochemical Polishing Approach for Reliable Quantum Memristors Ilia Valov - FZ Jülich	Design and Implementation of Single-/Multi-Stage Small-Signal Amplifier Circuits Based on Locally Active Memristors Yan Liang - Hangzhou Dianzi U
10:25-10:50	Coffee break	
	Neuro-inspired Computing Session Chair: Erika Covi (europium)	Ising Machines Session Chair: Marc Reichenbach (helium)
10:50-11:20	Memristive-based Technologies and Testbeds for Neuro-inspired Computing Gina Adam - GWU Washington	Towards Scalable High-Order Ising Machines and SAT Solvers with In-Memory Computing Fabian Böhm / Dmitri Strukov - UC Santa Barbara / HP Labs
11:20-11:35	Anodic Memristors: From Electrochemical Oxide Growth to Tailored Resistive Switching Properties Elena Atanasova - Johannes Kepler U, Linz	Scalable RRAM-Based Analog Solver for Sparse Matrix Equations Zheng Miao - Peking University, Beijing
11:35-11:50	In-Operando Thermorefectance Imaging of Heating Localization during Self-Oscillation in Vanadium Dioxide Nanowires Memristors. Thomas Ratier - UC Louvain	Solving QUBO Problems with Memristor-based Ising Machines Christoph Flothow - TU Darmstadt
11:50-12:05	Machine Learning with Material Chaos Vivek Dey - IIS Bangalore	Closed-Loop In-Memory Computing for Energy-Based Nonlinear Optimization Piergiulio Mannonci - Unconventional AI
12:05-12:20	Gallium oxide barrier engineering in HZO ferroelectric tunnel junctions for analog synapses Mrinmoy Dutta - HZ Berlin	

12:20-14:20	Lunch (Mensa Stadtmittel) / Steering Committee	
	High Frequency / Ultrafast / Devices Session Chair: Piergiulio Mannocci (europium)	Synaptic Behavior Session Chair: Stefan Slesazeck (helium)
14:20-14:50	Design and performance analysis of rf switches based on resistive switching devices Asal Kiazadeh - Unova, Lisboa	Time-series prediction with compact memristor circuits over a wide, adjustable operating frequency range András Halbritter - Budapest U
		Time-Dependent Synaptic Plasticity and Neuromorphic Potential of Ag-Doped VCeOx-Based Analog RRAM Devices Jiyeon Ryu - UNIST, Ulsan
14:50-15:05	Toward GHz operation of oscillating neural networks Miklos Csontos - ETH, Zurich	Multimodal Learning and Dual-Wavelength Information Encoding in CuPc-Based Optoelectronic Artificial Synapses Abhijith Anand - IIST, Kerala
15:05-15:20	Tri-Functional Oxide Nanoelectronic devices for Neuromorphic Hardware Soumen Pradhan - U Würzburg	Unraveling the Local Current-Limit Mechanism behind Linear, Low-Voltage Synaptic Update in IGZO/Cu:Te Bilayer Memristor Inho Kim - KIST, Seoul
15:20-15:35	Evaluating HfO₂-based RRAM at Cryogenic Temperatures for Reliable Cryo-Compatible Memory Applications Sonu Joshy - IHP Frankfurt/Oder	
15:45-16:10	Honorary session: Glenn Ge – From Science to Silicon Beyond von Neumann: The Memristor's Industrialization Path to Scalable Real-World AI (europium)	
16:10-17:00	Honorary session: Leon Chua – Hearts are poised at the edge of chaos – Introduction by Ronald Tetzlaff – (europium)	
17:00-17:30	Honorary session: Amy Chua – My father: A singular point Yale University (europium)	
17:30-17:50	Conference Group Photo (Entrance Area darmstadtium)	
19:00-22:00	Conference dinner (Orangerie)	

Day 4 - Thursday 8 October

09:00-09:45	Plenary: Themis Prodromakis – Emerging memory technologies: state-modalities, tools and models (europium)	
09:45-10:10	Coffee break	
	Crossbar Arrays Session Chair: Themis Prodromakis (europium)	Oscillators Session Chair: András Halbritter (helium)
10:10-10:35	The case of ferroelectric memristors and memcapacitors in passive crossbar arrays Stefan Slesazeck - Namlab, Dresden	Investigating Ring Oscillator Networks Coupled with ReRAM Devices for Associative Memory Tasks Jelle Verest / Aida Todri-Sanial - Eindhoven U of Technology
10:35-10:50	Application of Memristors for Implementation of a Modified Hebbian Learning Rule Xiaoyuan Wang - Anhui U	A Novel Spectral Method to Investigate Symmetry Breaking in Cellular Systems Alon Ascoli - Politecnico di Torino
10:50-11:05	Impact of variations in n-type MOSFET electrical characteristics on 1T1R RRAM cells performance Eduardo Perez - IHP Frankfurt/Oder	Self-Sustained Oscillation Driven by Colossal Emergent Inductance in a Molecular Memristor Yugo Oshima - RIKEN
11:05-11:20	Programming of artificial synapses in neurotransistors without direct gate node access Hampus Hoffman - Namlab, Dresden	Light-Modulated Oscillatory Neuromorphic Devices Using Phase-Transition V_3O_5 Shimul Kanti Nath - UNSW Sydney
11:30-12:15	Editors Panel with confirmed panellists from Wiley Advanced, Springer Nature and IOP (europium)	
12:15-13:00	Prize Ceremony and Closing Remarks (europium)	

Poster Session

Material Functionality	
1	Optically Programmable Ferroelectric Memory with State Dependent Resistive Switching Hanglin He - Integrated Systems Laboratory, ETH Zurich, Switzerland
2	1P-1R Device for Optical Encoding and Edge-AI In-Sensor Computing G. Paul - PGI-10, Forschungszentrum Jülich GmbH, 52428 Jülich, Germany
3	Optical Memristors with RGB Sensitivity D.P. Whitt - School of Physics and Astronomy, University of Nottingham, United Kingdom
4	Integration of HZO Ferroelectric Weights on Flexible Substrates for Wearable Neuromorphic Systems Nathan Savoia - ETH Zürich
5	Phase Transition-Induced Large Memory Window in MoTe₂ Ferroelectric Transistors Yong Ha Shin - Department of Electrical and Computer Engineering, Sungkyunkwan University, Suwon 16419, Republic of Korea
6	CNT FET for heterosynaptic applications Rejaul Ali - Birla Institute of Technology And Science, Pilani Campus, Pilani, India
7	Multi-terminal Synapses and Neurons based on Floating-Gate Memory for Spiking Neural Network Implementation Hong Woon Yun - Department of AI System Engineering, Sungkyunkwan University, Republic of Korea
8	Leaky-integrate functionality in GCMO-based neuromorphic devices Petriina Paturi - Wihuri Physical Laboratory, Department of Physics and Astronomy, University of Turku, Finland
9	Oxygen Programmed Memristive Dynamics in Silicon Nanowire Devices for Neural Electronics Junrui Chen - Bio/CMOS Interfaces Laboratory (BCI), École Polytechnique Fédérale de Lausanne, Rue de la Maladière 71b, 2002 Neuchâtel
10	Novel AgNbO₃ thin-film-based threshold-switching devices with an intrinsic Ag source Sreelakshmi Prasanna - Institute of Materials Science, TU Darmstadt, Darmstadt, Germany
11	Vertical Nanoporous Silica Memristors with Electro-Dependent Switching Dynamics Bohao Ding - School of Electronics and Computer Science, University of Southampton, Southampton, United Kingdom
12	Controllable and multi-timescale relaxation dynamics of Ag/SiO_x/Pt volatile ECM memristors with an Al₂O₃ nanolayer at the active interface Andrea Bellingeri - CNR-IMM, Unit of Agrate Brianza, Italy + Department of Physics 'A. Pontremoli', Università degli Studi di Milano, Italy
13	Volatile memristive devices with tunable temporal dynamics for event-based sensing Dimitrios Spithouris - Peter Gruenberg Institute (PGI-7), Forschungszentrum Juelich GmbH, Germany
14	Ultra-low Power Memristive Switching through Electro-Thermally Induced Conductive Channels in VO₂ Thin Films A. Chhotrai Soren - Department of Materials Science and Engineering, Indian Institute of Technology Delhi, India
15	Reconfigurable Threshold in NbTex Selector-Only Memory for Artificial Neurons Zhenyu Xu - Department of Precision Instrument, Center for Brain Inspired Computing Research, Tsinghua University, Beijing, China
16	Switching Behavior of FCM-Based Ohmic Memristors under Various Electrical Conditions Byoung Gun Han - RWTH Aachen University, Germany + Forschungszentrum Jülich GmbH, Germany

17	Polarity-Dependent Coexistence of Volatile and Nonvolatile Switching in Ag/a-Si Memristors Ting Fu - School of Electronics and Computer Science, University of Southampton, United Kingdom
18	Nanoscale Back-End-of-Line Silicon Carbide Memristor for Neuromorphic Computing Qin Liu - School of Electronics and Computer Science, University of Southampton, United Kingdom
19	Memristive-capacitive coupling for higher-order plasticity and reservoir computing Munan Fang - Department of Physics and Astronomy, The University of Manchester, Manchester, UK
20	Capacitive-Memristive Coupling in Two-Dimensional Nanofluidic Systems for Adaptive Ionic Memory Siddhi Vinayak Pandey - r.ac.uk of Department of Physics and Astronomy, School of Natural Sciences, The University Manchester, Manchester M13 9PL, United Kingdom
21	Electrochemical random-access memory devices for neuromorphic computing Davide Bridarolli - CNR-IMM, Unit of Agrate Brianza, Italy + Department of Physics 'A. Pontremoli', Università degli Studi di Milano, Italy
22	MemrisTec Memristor Model Platform: An Open Educational Framework for Studying Memristive Devices Christian Bruchatz - Institute of Circuits and Systems, Dresden University of Technology, 01062 Dresden, Germany
23	Compact Modeling of Trap-Assisted Tunneling in Area-Dependent PCMO Memristive Devices Jinhao Zhang - Peter Grünberg Institute 7 (PGI-7), Forschungszentrum Jülich GmbH, Germany
24	Simulation of field-dependent conductivity in AlOx/PCMO memristive devices Iliyas T. Dossayev - Peter Grünberg Institut 7 (PGI-7), Forschungszentrum Jülich GmbH, Germany
25	Influence of Experimentally Determined Thermal Boundary Conductance on Heat Dissipation in VCM Memristors: An Electro-Thermal FEM Study Bestaeva Alana - Forschungszentrum Jülich, Germany
26	Multiphysics simulation of h-BN memristors, thermal and transient effects J.B. Roldan - Dpto. de Electrónica y Tec. de Comp., Universidad de Granada, Spain
27	Analysis and Modelling of Undesirable Set in Resistive Random Access Memory (RRAM) Zixuan Tang - Department of Electronic & Electrical Engineering, University College London, UK
28	Experimental Investigation and Modeling with COMSOL Multiphysics Software of Ag/ZnO/ITO Memristor Sandra Zivanovic - Institute for Micromanufacturing, Louisiana Tech University, USA
29	Low-Frequency Noise Spectroscopy and Simulations as a Tool to Evaluate Oxide-Based Memristive Switching Mechanisms Demian Ranftl - Institute of Physics, Goethe University, Frankfurt am Main, Germany
30	QSPICE simulation of memristive devices using the dynamic memdiode model Enrique Miranda - Universitat Autònoma de Barcelona, Spain
31	SPICE Building Block for Temperature-Sensitive Analogue Memristors Using Hybrid Physical-Compact Modelling Martin Baco - Institute of Electrical Engineering, Slovak Academy of Sciences, Bratislava, Slovakia
32	Toward Synaptic Compact Modeling of an Ultra-Low-Voltage Ag/WTe₂ CBRAM with Multi-Timescale Forgetting for Future Lifelong Learning Computing Hsin-Te Yu - Academic of Innovative Semiconductor and Sustainable Manufacturing, National Cheng Kung University, Tainan City, R.O.C.
33	Impact of Defect Density on Reset Voltage in Memristive Filaments: A Two-Dimensional kinetic Monte Carlo Study M.A. Villena - Dpto. de Electrónica y Tec. de Comp., Universidad de Granada, Spain

34	Quantum theory of diffusive memristors Lada B. Karimullina - Skolkovo Institute of Science and Technology, Moscow 121205, Russia
35	Neural Memristor Rate Model for Compute in Memory Architecture Ghanendra Singh - TU Graz, Austria

Material Processing	
36	Physics-informed microstructure engineering of HfOx in wafer-scale memristive devices Alexander Shkurmanov - Chair of Energy Materials and Devices, Institute of Materials Science, Kiel University, Kaiserstraße 2, Kiel 24143, Germany
37	Tailoring Resistive Switching Performance in Hafnium Oxide Based Memristive Devices with Crystallinity Engineering Ilya Petrenyov - Kiel University, Germany
38	Transition Between Abnormal and Conventional Bipolar Resistive Switching in HfOx-Based Memristors Through Ar/O₂ Ratio Control During RF Sputtering Radhika Hirpara - Institute for Automation Technology, Faculty of Electro Engineering and Information Technology, Otto-von-Guericke University Magdeburg, Magdeburg, Germany
39	Size-Dependent Memristive Switching in HfO₂ Nanoislands Revealed by Conductive Atomic Force Microscopy. Luisa Bayer - Peter Grünberg Institute (PGI-7), Forschungszentrum Jülich GmbH, 52425 Jülich, Germany
40	Ion Beam-Induced Defect Engineering of Titanium Oxide-Based RRAM Devices for Emerging Non-Volatile Memory Technologies Disha Yadav - Department of Physics, UPES, Dehradun 248007, India
41	Analysis of Ion Energy Barrier Modulation and Enhanced Memristive Effects through Fluorine Doping for Memristive Neuromorphic Systems Jongmin Bae - School of Electrical Engineering, Korea Advanced Institute of Science and Technology, Republic of Korea
42	Metastable Defect Engineering for Resistive Switching in Mo/CdIn₂S₄/Al₂O₃/Pt Memristors Gabriela Szczepanik - Faculty of Physics, Warsaw University of Technology, Poland
43	Band-engineering in area-dependent IGZO-based memristive devices Peijia Yuan - Peter Grünberg Institut 7 (PGI-7), Forschungszentrum Jülich GmbH, Germany
44	Enhanced Synapse Performances of Cu:Te/TaOx/IGZO Memristor by Interface Engineering Jong Keuk Park - Korea Institute of Science and Technology
45	Impact of Electrode Materials on the Switching Behaviors of TaOx-based ReRAM Systems: Roles of Schottky and Redox Barriers. Yaohui Liu - Peter Grünberg Institut 7, Forschungszentrum Jülich GmbH, Germany
46	The role of thin insulating barriers in amplifying the dynamic range in oxide semiconductor interface based memristors Himanshu Rai - Cognitive System and Material Center, 9700 AB, Netherlands + Zernike Institute of Advanced Materials, University of Groningen, Netherlands
47	Interface engineering in HZO-Based Memristive Devices for Neuromorphic Computing Applications Arnab De - Department of Energy Conversion and Storage, Technical University of Denmark, Kgs. Lyngby, Denmark
48	Ca-Concentration and Area Dependence of Resistive Switching in Al/Gd(1-x)Ca(x)MnO(3) Memristors A. Antola - Wihuri Physical Laboratory, Department of Physics and Astronomy, University of Turku, Finland

49	A Single-Stack LaVO₃ Memristor for Brain-Inspired Learning and Hardware-Level Encryption Richa Bharti - Department of Physics, Indian Institute of Technology Patna, Bihar, India
50	Structure and chemistry of resistive switching in yttria based RRAM Yu Duan - Technische Universität Darmstadt
51	Investigation of Cu₂O and STO as oxide layers for memristive devices. W.R. Veldhoen - School of Physics CRANN, Trinity College Dublin, The University of Dublin, Republic of Ireland
52	A study on materials of ECRAM devices for neuromorphic computing Stefano Kuschlan - CNR IMM, Unit of Agrate Brianza, Italy
53	Tungsten-Doped VO₂ Volatile Threshold Memristor for Neuromorphic Computing Bingkai Ding - School of Electronics and Computer Science, University of Southampton, Southampton, United Kingdom
54	Intermediate Resistive State in Wafer-Scale MoS₂ Memristors through Lateral Silver Filament Growth Yuan Fa - AMO GmbH, Advanced Microelectronic Center Aachen, Germany + Chair of Electronic Devices (ELD), RWTH Aachen University, Germany
55	Influence of Polymer Residue and Top Electrode Deposition Method on MOCVD MoS₂ Memristors Hui Bian - AMO GmbH, Advanced Microelectronic Center Aachen, Germany + Chair of Electronic Devices (ELD), RWTH Aachen University, Germany
56	Enhanced 2D MoTe₂ Analogue Switching Through Laser Processing and ALD-Passivation for Dual-Function Neuromorphic Devices Mohamed Radwan - Department of Electronics and Nanoengineering Aalto University, Tietotie 3 FI-02150, Finland
57	Material-generated ionic fluctuations in angstrom-scale two-dimensional nanochannels Kai Xu - Department of Physics and Astronomy, The University of Manchester, United Kingdom + National Graphene Institute, The University of Manchester, United Kingdom
58	Cu₂O Nanowire Memristors Fabricated in Ion Track-Etched Templates Michael Wagner - GSI Helmholtzzentrum für Schwerionenforschung, Germany
59	Correlating Resistive Switching with Bias-Induced Chemical Redistribution in Prussian Blue Memristive Devices M. F. Kalady - Leibniz Institute for Solid State and Materials Research Dresden, 01069 Dresden, Germany + Institute of Solid State and Materials Physics, TU Dresden, Haeckelstraße 3, 01069 Dresden, Germany
60	Multiscale Functional Analysis of Neuromorphic Nanoparticle Networks via In Situ Electron Microscopy Revealing Network Structure-Function Relationship Ole Gronenberg - Department of Materials Science, Faculty of Engineering, Kiel University, Kiel, Germany
61	Copper(II) halide-acridine complexess materials for reservoir computing? Dominik Caus - Akademic Centre for Materials and Nanotechnology, AGH University of Krakow, Poland + Faculty of Material Science and Ceramics, AGH University of Krakow, Poland
62	Engineering Charge Transport in Thiazole-Based Organic and Hybrid Frameworks for Neuromorphic Resistive Switching Tomasz Mazur - Chemical Faculty, Department of Inorganic Chemistry, Gdansk University of Technology, Poland
63	Design and Characterization of Aminotriazole Iodobismuthate Memristors for Neuromorphic Computing Marta Janioł - Academic Centre for Materials and Nanotechnology AGH, Kraków, Poland

64	Modifying the memristive behavior in the RGO-polymer composite films by polyelectrolyte exchange W. Wiecek - AGH University of Krakow, Academic Centre for Materials and Nanotechnology, Mickiewicza 30, 30-059 Krakow, Poland + AGH University of Krakow, Faculty of Materials Science and Ceramics, Mickiewicza 30, Krakow 30-059, Poland
65	Realisation of Artificial Synapse through Solution-Processed Organic Small Molecule/ZnO Nanoparticle Hybrid Memristor Nikhitha Rajan - Indian Institute of Technology Patna, India
66	Mercapto-methylimidazole Molecular Memristors for High-Performance Resistive Switching and Artificial Synaptic Emulation A. Krishnendu Karmakar - Department of Physics, Indian Institute of Technology Jodhpur, Jodhpur 342030, India
67	Geometric Confinement of Silver Filament Growth in a Nanostructured Polymer Electrolyte for ECM Memristors Idan Bar-Lev - Institute of Chemistry and the Center for Nanoscience and Nanotechnology, The Hebrew University of Jerusalem, 9190401, Jerusalem, Israel
68	Synthesis, characterization and Memristive Performance of Tailored Dithieno[3,2-b:2',3'-d]pyrrole Conjugated Polymers Nela Slobodova - University Institute, Centre of Polymer Systems, Tomas Bata University in Zlín, Czech Republic
69	Tuning Ion Transport and Switching Dynamics in Organic Memristors via Side-Chain Engineering Jarmila Vilcakova - University Institute, Centre of Polymer Systems, Tomas Bata University in Zlín, Czech Republic
70	Memristive Properties of Dithienopyrrole Polymers in Planar Interdigitated Devices Marek Jurča - Centre of Polymer Systems, Tomas Bata University in Zlín, 760 01, Zlín, Czech Republic

Applications	
71	Memristive Bio-Sensors for Highly-Sensitive Bio/Chemical Detection Applications Iben Braeckvelt - Center for Microsystems Technology (IMEC associated), Ghent University, Belgium
72	Neuromorphic Sleep Monitoring with RRAM-based In-Memory FIR-Hilbert Preprocessing and SNN Inference Jingyi Chen - State Key Laboratory of Integrated Chips and Systems, College of Integrated Circuits and Micro-Nano Electronics, Frontier Institute of Chip and System, Fudan University, Shanghai 200433, China
73	Pruning of ASR Models in Preparation for Efficient Crossbar Deployment Benedikt Hilmes - Machine Learning and Human Language Technology Group, Faculty of Computer Science, RWTH Aachen University, Aachen, Germany + Aptek GmbH, Aachen, Germany
74	In-Memory Computing Inspired Framework for Early Soybean Leaf Disease Recognition Saurabh Yadav - Centre for Advanced Electronics (CAE), Indian Institute of Technology Indore, Simrol, Madhya Pradesh, India
75	Live Demo: Non-Frontal Face Recognition Using GANs and Memristor-Based Classifiers Semih Vazgecen - Centre for Electronics Frontiers, Institute for Integrated Micro and Nano Systems, School of Engineering, The University of Edinburgh, United Kingdom
76	Toward reliable training on highly variable memristive weights Kristina Nikiruy - Kiel University, Germany

77	Toward Neuromorphic Hardware with Liquid Memristors: Integrating I-V based Analog Gradients and Physical Weights Arpan Acharya - IFIMUP, Departamento de Física e Astronomia, Faculdade de Ciencias, Universidade do Porto, 4169-007 Porto, Portugal + Department of Electrical, Electronic, and Information Engineering, 'Guglielmo Marconi'-DEI, University of Bologna, Bologna 40136, Italy
78	Machine Learning for Memristive Device Modeling: Automated Parameter Fitting for the Dynamic Memdiode Model Max Troppmann - Artificial Intelligence and Machine Learning Lab, Institute of Computer Science, Technische Universität Darmstadt, Germany
79	Electrically Tunable Physical Reservoir Computing on Two-terminal Devices Sungho Kim - Department of Materials Science and Engineering and Inter-University Semiconductor Research Center, Seoul National University, Seoul 08826, Republic of Korea
80	Reservoir Computing with Volatile Memristors for Image Recognition and Time Series Prediction Rishona Daniels - Viterbi Faculty of Electrical and Computing Engineering, Technion - Israel Institute of Technology, Haifa, Israel
81	Simulation of a memristive device-based Reservoir Computing framework Henry Hall - Department of Electronic & Electrical Engineering, University College London
82	A new simple and reliable memristive system for time-series data analysis Etienne Puyoo - INSA Lyon, CNRS, Ecole Centrale de Lyon, Université Claude Bernard Lyon 1, CPE Lyon, INL, UMR5270, Villeurbanne, 69621 France
83	A Leaky-Integrate-and-Probabilistic-Fire Memristive Neuron for Probabilistic Spiking Neural Networks Zelin Ma - Microelectronics, The Hong Kong University of Science and Technology, Guangzhou, China
84	Experimental demonstration of scalable artificial neuron based on Ovonic threshold switch for spiking neural network applications Chaebin Park - School of Electrical Engineering, Korea Advanced Institute of Science and Technology, Republic of Korea
85	Feasibility study of a Parylene-based memristive capacitive Oscillator for Scalable Neuromorphic Hardware Architectures Falk Schaller - Fraunhofer Institute for Electronic Nano Systems ENAS, Technologie-Campus 3, 09126 Chemnitz, Germany
86	Towards Design of Bio-realistic third-order Memristive Neuron Circuits for Neuromorphic Computing Akhil Bonagiri - Chair of Fundamentals of Electrical Engineering, Technology University of Dresden, Dresden, Germany
87	A connection-centric paradigm for biologically detailed neuron simulation using memristive computing-in-memory Yiyuan Gao - Department of Precision Instrument, Tsinghua University, China
88	Design of a spiking error minimizing neuron in 130nm CMOS technology for self learning hardware neural networks. D. Llobet Munoz - IHP - Leibniz Institute for High Performance Microelectronics, Germany
89	A Brain-Inspired Neuromemristive Synapse for Emulating Homo- and Hetero- Synaptic Plasticity Hyongsuk Kim - Division of Electronics Engineering and Intelligent Robot Research Center, Jeonbuk National University, Jeonju, Jollabuk-do, 567-54896, Republic of Korea
90	Noise and Accuracy Analysis of RRAM-based Analog Matrix Equation Solving Circuit Saitao Zhang - Institute for Artificial Intelligence, School of Integrated Circuits, Peking University, China
91	Neurocontroller Based on an Analog 1R Memristor Crossbars Matej Horsky - Institute of Electrical Engineering, Slovak Academy of Sciences, Bratislava, Slovakia

92	Reduction of sneak path effects in crossbar arrays using generalized gaussian voltage signals Francisco Jimenez-Molinos - Departamento de Electrónica, Facultad de Ciencias. Universidad de Granada, Spain
93	RRAM-Based Multi-Context FPGA: architecture and evaluation methodology Alvaro Javier Gallardo - Institute for Applied Microelectronics and Data Engineering, University of Rostock, Germany
94	Implementation of MIN and MAX fuzzy logic gates utilizing TaOx filamentary memristors N. K. Calvo - Institute of Electrical Engineering, Slovak Academy of Sciences, Bratislava, Slovakia
95	Noise-Assisted Variability-Tolerant IMPLY Logic Using Memristive Devices R. W. Ahmad - Department of Electronic Systems, Aalborg University, Copenhagen, Denmark
96	Investigation on the Impact of Memristive Device Variability on Uncoupled Memristive Cellular Nonlinear Networks S. Y. Neyaz - Peter Grünberg Institut (PGI-7), Forschungszentrum Jülich GmbH, 52425 Jülich, Germany
97	Memristive Synaptic Circuit Configurations under Device Variability and Nonlinear Effects Dimitrios Prousalis - Faculty of Electrical and Computer Engineering, TUD Dresden University of Technology, Germany
98	A Theoretical Framework for Optical Memristor-Based Cellular Neural Networks Ioannis Messaris - Dresden University of Technology, Germany
99	A General Grey-Box Neural ODE Framework for Identifiable Memristor Modeling in Chaotic Circuits Karol Bednarz - Department of Electrical and Power Engineering, AGH University of Krakow, al. Mickiewicza 30, 30059, Krakow, Poland
100	Optimized first reset operation for more than 3-bit RRAM cells Sogand Bagheri - IHP - Innovations for High Performance Microelectronics, Germany
101	Radiation tolerance assessment of 1T1R HfO₂ memory arrays against total ionizing dose effects Mar Puigibert Perez - IHP - Leibniz Institute for High Performance Microelectronics, Germany
102	Trade-Offs Between Volatile and Non-Volatile Memristors for RF Switching Applications Shimul Kanti Nath - Information Device Science Laboratory, Nara Institute of Science and Technology (NAIST), Nara 630-0192, Japan
103	Hybrid Analog–Digital Random Number Generator Based on Memristive Oscillators with Entropy-Seeding and FPGA Implementation C. A. Hernandez Gutierrez - Center for Research and Advanced Studies of the National Polytechnic Institute, Mexico
104	Physical Verification of Memristor-based Circuits - The MACHAME Test-Chip Leon Mayrhofer - Computer Systems Group, Technische Universität Darmstadt, Germany