

Monday 08/7/2019 Day 1 (1/4)					
08:30 – 08:45	Opening				
08:45 – 09:30	<p style="text-align: center;">Plenary 1 (Room 4), Chair: Ronald Tetzlaff</p> <p style="text-align: center;">"Understanding the complex behavior of niobium dioxide memristors: local activity, fluctuation-dissipation, and enthalpy minimization" by Richard Stanley Williams</p> <p style="text-align: center;">Texas A&M University, Texas, USA</p>				
09:35 – 10:30	Session 1, Room 4, Chair: Ronald Tetzlaff			Session 2, Room 5, Chair: Rainer Waser	
	Computing I			Device and Physics I	
09:35 – 10:00	<p style="text-align: center;">Keynote</p> <p style="text-align: center;">"Memristor-Assisted VLSI Circuits Beyond Moore's Law" by Steve (Sung Mo) Kang, University of California, Santa Cruz, USA</p>			<p style="text-align: center;">Keynote</p> <p style="text-align: center;">"Memristor hardware accelerators for combinatorial optimization problems and pattern matching applications" by John Paul Strachan, Hewlett Packard Labs, Hewlett Packard Enterprise, Palo Alto, California, USA</p>	
10:00 – 10:15	Simulation of Inference Accuracy of RRAM-Based Physical Neural Networks	Dovydas Joksas	University College London, UK	In-Gap States and Band-Like Transport in Memristive Devices	Regina Dittmann Forschungszentrum Jülich GmbH, Germany
10:15 – 10:30	The system approach to designing memristor-based neural networks	Sergey Shchanikov	Vladimir State University, Russia	On the nature of the switching mechanism in TiO2 based memristors: An electrical characterisation study	Loukas Michalas University of Southampton, UK
10:30 – 11:05	Coffee Break				
11:05 – 12:00	Session 3, Room 4, Chair: Huaqiang Wu			Session 4, Room 5, Chair: John Paul Strachan	
	Neuromorphic Computing I			Application I	
11:05 – 11:30	<p style="text-align: center;">Invited</p> <p style="text-align: center;">"In-Memory Implementation of Binarized Deep Neural Networks" by Damien Querlioz, Centre national de la recherche scientifique and Université Paris-Sud, Orsay, France</p>			<p style="text-align: center;">Invited</p> <p style="text-align: center;">"Strategies to precisely control synaptic weights for neuromorphic computing arrays" by Jeehwan Kim, Massachusetts Institute of Technology, Massachusetts, USA</p>	
11:30 – 11:45	Memristive Edge Detection for Spiking Neural Networks	Daniel Mannion	University College London, UK	Exploring the Design Parameter Space for VCM-based ACN Applications	Tobias Ziegler Forschungszentrum Jülich GmbH, Germany
11:45 – 12:00	In-situ impedance matching in Nb/Nb2O5/PtIr memristive nanojunctions for ultra-fast neuromorphic operation	Dániel Molnár	Budapest University of Technology and Economics, Hungary	Memristor-based Reconfigurable Radiofrequency Circuits	Nicolas Wainstein Technion - Israel Institute of Technology, Israel
12:00 – 13:40	Poster Session and Lunch				

13:40 – 14:25	Plenary 2 (Room 4), Chair: Richard Stanley Williams "Memristor Cellular Nonlinear Networks: A massive parallel, universal mem-computing paradigm" by Ronald Tetzlaff Technische Universität Dresden, Dresden, Germany					
14:30 – 15:55	Session 5, Room 4, Chair: Damien Querlioz			Session 6, Room 5, Kazuya Terabe		
	Neuron Device and Learning			Non-Volatile Memory I		
14:30 – 14:55	Keynote "Memristive devices for spiking neural networks: switching dynamics and memory lifetime" by Sabina Spiga , CNR-IMM, Agrate Brianza, Italy			Keynote "Plethora of variants of redox-based memristive elements for neuromorphic computing" by Rainer Waser , RWTH Aachen, Aachen, Germany		
14:55 – 15:10	Mechanism and applications of the Electric Mott transition	Marie-Paule Besland	Institut des Matériaux Jean Rouxel CNRS-IMN, France	GST-based Reconfigurable Conductive Bridge Random Access Memory	Niloufar Raeis-Hosseini	Imperial College London, UK
15:10 – 15:25	An Artificial Synapse and Neuron Based on the Pt/C/NbO/TiN Device	Wei Wang	National University of Defense Technology, China	Resistive switching mechanism of parylene-based memristive devices	Andrey Emelyanov	National Research Center "Kurchatov Institute", Russia
15:25 – 15:40	Bienenstock, Cooper and Munro Learning Rules Realized in Second-Order Memristors with Tunable Forgetting Rate	Rui Yang	Huazhong University of Science and Technology, China	Investigation of current induced resistive switching in single-atom silver nanowires	Anna Nyáry	Budapest University of Technology and Economics and MTA BME, Hungary
15:40 – 15:55	Quasi-Hodgkin-Huxley neurons with leaky integrate-and-fire functions physically realized with memristive devices	He-Ming Huang	Huazhong University of Science and Technology, China	Resistive Switching in Yttrium Oxide-based Resistive Random Access Memory Devices: Towards Neuromorphic Applications	Eszter Piros	TU Darmstadt, Germany
15:55 – 16:20	Coffee Break					
16:20 – 18:00	Session 7, Room 4, Chair: Thirumalai Venkatesan			Session 8, Room 5, Chair: Regina Dittmann		
	Memristive Materials and Device Architectures I			Memristor Characterization I		
16:20 – 16:45	Invited "Control of STM and LTM-based learning behavior of molecular gap atomic switches" by Tsuyoshi Hasegawa , Waseda University, Tokyo, Japan			Invited "Artificial Synapses and Neurons Realized with Memristive Devices" by Xin Guo , Huazhong University of Science & Technology, Hubei, China		
16:45 – 17:00	Fabrication of ultrasmall resistive switches in on-chip nanogap systems	László Pósa	Hungarian Academy of Sciences, Hungary	Optimizing Multi-State Reliability in ReRAM Arrays using an Automated Device Selection Method	Jakob Peschel	Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany
17:00 – 17:15	Resistive Switching of Si/Ag on Rigid and Flexible Substrates	Catarina Dias	University of Porto, Portugal	Insight into the conductive filaments in Ta2O5-based memristive devices through a detailed electrical and structural study of TaOx thin films	Carlos Rosário	University of Aveiro, Portugal

17:15 – 17:30	Memristive devices based on coplanar nanogap electrodes	Dimitra Georgiadou	Imperial College London, UK	Tunable platform for Li-ion memristive devices	Juan Carlos Gonzalez Rosillo	Massachusetts Institute of Technology, USA
17:30 – 17:45	Dual-window relaxation oscillation in NbOx memristor with double negative differential resistance	Shuai Li	The Australian National University, Australia	Comprehensive Study of HfOx-based ReRAMs	Behnoush Attarimashalkoubeh	EPFL-LSM, Switzerland
17:45 – 18:00	Self-assembled memristive interface in Al-LaNiO3 heterostructures	Pavan Nukala	University of Groningen, Netherlands	Tolerance and Stability in Ferroelectric Tunnel Junctions	Andreas Dörfler	Munich University of Applied Sciences, Germany
18:30 – 20:30	"Get Together" (Terrassenebene)					

Tuesday 09/7/2019 Day 2 (2/4)					
08:30 – 09:15	<p style="text-align: center;">Plenary 3 (Room 4), Chair: Michael Kozicki "Accelerating Deep Neural Networks with Analog Memory Devices" by Geoffrey W. Burr IBM Almaden Research Center, San Jose, USA</p>				
09:20 – 10:15	Session 9, Room 4, Chair: Tsuyoshi Hasegawa Device and Physics II			Session 10, Room 5, Chair: Ilia Valov Neuromorphic Computing II	
09:20 – 09:45	<p style="text-align: center;">Invited</p> <p style="text-align: center;">"Ionic Nanoarchitectonics for Creating Innovative Devices" by Kazuya Terabe, International Center for Materials Nanoarchitectonics, Tsukuba, Japan</p>			<p style="text-align: center;">Keynote</p> <p style="text-align: center;">"AI on a chip" – A roadmap for embedding intelligence everywhere by Themis Prodromakis, University of Southampton, UK</p>	
09:45 – 10:00	The device physics of lead halide perovskite interfaces and memristors	Piers Barnes	Imperial College London, UK	Control of Synaptic Weight Updates in HfO ₂ based Memristors for Artificial Neuromorphic Systems	Mireia Bargallo Gonzalez Institut de Microelectrònica de Barcelona (IMB-CNM, CSIC), Spain
10:00 – 10:15	Tailoring the switching performance of resistive switching SrTiO ₃ devices by SrO interlayer engineering	Felix Hensling	PGI-7 Forschungszentrum Jülich, Germany	Neuromorphic Data Converters using Memristors	Loai Danial Technion, Haifa, Israel
10:15 – 10:50	Coffee Break				
10:50 – 12:00	Session 11, Room 4, Chair: Geoffrey W. Burr Synaptic Device I			Session 12, Room 5, Chair: Fernando Corinto Memristor Models I	
10:50 – 11:15	<p style="text-align: center;">Keynote</p> <p style="text-align: center;">"Computing in memristor: A demonstration of CNN with RRAM arrays" by Huaqiang Wu, Tsinghua University, China</p>			<p style="text-align: center;">Keynote</p> <p style="text-align: center;">"Duality rules in circuits containing memristors and other nonlinear elements" by Dalibor Bielek, University of Defence, Brno, Czechia</p>	
11:15 – 11:30	An Oxide-Based Electrochemical Transistor for Neuromorphic Application	Da-Shan Shang	Institute of Microelectronics, Chinese Academy of Sciences, China	A simplified model of second order memristors for neuromorphic computing	Marco Gilli Politecnico di Torino, Italy
11:30 – 11:45	WO ₃ /HfO ₂ based resistive devices for neuromorphic computing	Valeria Bragaglia	IBM Reseach (Zurich), Switzerland	A Memristor Model for Neuromorphic ReRAM Devices	Mohamad Moner Al Chawa Universitat de les Illes Balears, Spain
11:45 – 12:00	From memristor-based perceptrons to self-adaptive spiking neuromorphic networks	Vyacheslav Demin	National Research Center "Kurchatov Institute"	Key factors for the observation of the snapback effect in memristive structures	Enrique Miranda Universitat Autònoma de Barcelona, Spain
12:00 – 13:40	Poster Session and Lunch				

13:40 – 14:25	Plenary 4 (Room 4), Chair: Masakazu Aono "Design of materials for memristive functionalities" by Ilia Valov Peter Gruenberg Institute, Electronic Materials (IEM) Research Centre Jülich, Germany					
14:30 – 15:40	Session 13, Room 4, Chair: Georgios Ch. Sirakoulis			Session 14, Room 5, Chair: Xing Guo		
	Memristor Theory I			Memristor Physics and Characterization I		
14:30 – 14:55	Keynote "Computing with Mem-Elements: Theory and Applications" by Fernando Corinto , Politecnico di Torino, Italy			Keynote "Atomic Switch is Now Flying in Space" by Masakazu Aono , International Center for Material Nanoarchitectonics, National Institute for Materials Science, Tsukuba, Japan		
14:55 – 15:10	Memristor-based RF circulator	Dalibor Bielek	UD Brno, Czechia	Electroforming-free resistive switching and conduction mechanism in yttrium manganite thin films by cationic substitution	Venkata Rao Rayapati	Fraunhofer Institute for Electronic Nano Systems, Germany
15:10 – 15:25	Stochastic Resonance on Memristance Enhancement under Device-to-Device Variability	Vasileios Ntinias	Democritus University of Thrace, Greece	Li ion transport behavior in LiCoO ₂ based memristor	Qi Hu	Beihang University, China
15:25 – 15:40	Pattern formation with locally active S-type NbOx memristors	Martin Weiher	TU Dresden, Germany	Nb-doped SrTiO ₃ Schottky Junctions for Bio inspired Computing	Anouk Goossens	University of Groningen, Netherlands
15:40 – 16:05	Coffee Break					
16:05 – 17:00	Session 15, Room 4, Chair: Jeehwan Kim			Session 16, Room 5, Chair: Themis Prodromakis		
	Application II			Non-Volatile Memory II		
16:05 – 16:30	Invited "Electrolyte-Gated Synaptic Transistor for Neuromorphic Computing" by Da-Shan Shang , Chinese Academy of Sciences, Beijing, China			Invited "Robust 'Mem-devices' using Organometallic Molecules" by Thirumalai Venkatesan , National University of Singapore, Singapore		
16:30 – 16:45	Simulation of Abrupt SET and Gradual RESET Behavior in Variable HfO ₂ /TiOx ReRAM Cells	Christopher Bengel	RWTH Aachen, Aachen, Germany	Resistance switching properties of both pristine and plasma treated LPCVD Si ₃ N ₄ ReRAMs	Panagiotis Dimitrakis	INN-NCSR Demokritos, Greece
16:45 – 17:00	Efficient Acceleration of Stencil Applications Through In-memory Computing	Hasan Erdem Yantrı	King Abdullah University of Science and Technology, Saudi Arabia	Metal/ bi-layer/Metal memristor technology	Ali Khiat	University of Southampton, UK

17:00 – 17:15		Discrete, Nonvolatile memristive and memcapacitive switching via Charge disproportionate molecular redox Sreetosh Goswami National University of Singapore, Singapore
17:15 – 18:00	Editorial panel and discussion from Nature and Wiley, Room 4, Chair: Ilia Valov Luigi Martiradonna (Nature Materials), Hakim Meskine (Advanced Electronic Materials, Wiley) and Matthew Parker (Nature Electronics)	
19:30 – 22:30	Conference Dinner at <i>"The Westin Bellevue"</i>	

Wednesday 10/7/2019 Day 3 (3/4)						
08:30 – 09:15	<p style="text-align: center;">Plenary 5 (Room 4), Chair: Bernabe Linares Barranco "Shocking Phenomena Uncovered from Hodgkin-Huxley Equations" by Leon O. Chua University of California, Berkeley, USA</p>					
09:20 – 10:15	Session 17, Room 4, Chair: Manuel Le Gallo			Session 18, Room 5, Chair: Said Hamdioui		
	Logic			Computing II		
09:20 – 09:45	<p style="text-align: center;">Keynote "Real Processing-in-Memory with Memristive Memory Processing Unit" by Shahar Kvatinsky, Technion - Israel Institute of Technology, Israel</p>			<p style="text-align: center;">Keynote "Memristors blended with Cellular Automata principles: A unique tense computing mixture" by Georgios Ch. Sirakoulis, Democritus University of Thace, Greece</p>		
09:45 – 10:00	SIMPLER MAGIC - Synthesis and Mapping of In-memory Logic Executed in a Single Row to Improve Throughput	Rotem Ben-Hur	Technion - Israel Institute of Technology, Israel	Shortest Path Computing in Weighted Directed Graphs with Networks of Memristors	Carlos Fernandez	Universidad Tecnica Federico Santa Maria, Chile
10:00 – 10:15	Accurate and fast analog data programming technique based on the analog stateful logic	Kim, Kyung Min	Department of Materials Science and Engineering, KAIST, Republic of Korea	A Spiking Neuron Network Based on A Threshold Switching Memristor and an Asynchronous Address Event Representation Circuit	Jinsong Wei	Institute of Microelectronics, Chinese Academy of Sciences, China
10:15 – 10:50	Coffee Break					
10:50 – 12:00	Session 19, Room 4, Chair: Thomas Mikolajick			Session 20, Room 5, Chair: Ioannis Messaris		
	Memristor Models II			Memristor Theory II		
10:50 – 11:15	<p style="text-align: center;">Invited "Physical Compact Modeling of Redox-based Memristive Devices" by Stephan Menzel, Peter Grünberg Institute, Forschungszentrum Jülich, Germany</p>			<p style="text-align: center;">Invited "Universal computing by memristive neural networks" by Alon Ascoli, Technische Universität Dresden, Germany</p>		
11:15 – 11:30	Switching noise modelling in RRAM devices	Spyros Stathopoulos	University of Southampton, UK	Synchronization by dynamical relaying in chaotic electronic circuits with memristive coupling	Iacyle Gomes	Universitat de les Illes Balears, Spain
11:30 – 11:45	A Voltage-driven Window Function for Comprehensive Predictive Modeling of Voltage-controlled Memristors	Javier Ortiz	Universidad Tecnica Federico Santa Maria, Chile	Complex behavior of a memristor CNN shadow system	Angela Slavova	Institute of Mathematics and Informatics, Bulgarian Academy of Sciences
11:45 – 12:00	From device engineering and adaptive programming to stochastic multistable models of metal-oxide memristors	Alexey Mikhaylov	National Research Lobachevsky State University of Nizhny Novgorod, Russia	Experimental Estimation of the Dynamic Route Map in the Reset Transition of MIM ReRAMs	David Maldonado	University of Granada, Spain
12:00 – 13:40	Poster Session and Lunch					

13:40 – 14:25	Plenary 6 (Room 4) , Chair: Steve (Sung Mo) Kang "Copper-silicon oxide resistive memory: A versatile back-end-of-line technology" by Michael Kozicki Arizona State University, Tempe, USA					
14:30 – 15:55	Session 21, Room 4, Chair: Sabina Spiga Synaptic Device II			Session 22, Room 5, Chair: Dirk Wouters Memristor Physics and Characterization II		
14:30 – 14:55	Keynote "Spiking Neural Networks for Artificial Vision. From Sensing, to Processing and Learning" by Bernabe Linares Barranco , IMSE-CNM, Sevilla, Spain			Keynote "Silicon nanowire-based transistors displaying intrinsic plasticity: From artificial synapses to neurotransistors" by Gianaurelio Cuniberti , Technische Universität Dresden, Germany		
14:55 – 15:10	Towards fully solution-processed memories: printed electronic synapse with sol-gel a-TiO ₂	Varvara Salonikidou	University of Surrey , Faculty of Engineering & Physical Science, UK	Competing Covalent and Ionic Bonding in Ge-Sb-Te Phase Change Materials	David Singh	University of Missouri, US
15:10 – 15:25	Volatile Ag/HfO ₂ RRAM for neuromorphic short-term synapses	Erika Covi	Politecnico di Milano, Italy	Multiple Physical Time Scales and Dead Time Rule in Few-Nanometers Sized Graphene-SiO _x -Graphene Memristors	Miklós Csontos	Swiss Federal Laboratories for Materials Science and Technology, Switzerland
15:25 – 15:40	Neuromorphic applications of Cu/Parylene/ITO memristive devices	Anton Minnekhanov	National Research Centre "Kurchatov Institute", Russia	A mechanism of electroforming and reset in SiO ₂ based ReRAM devices	Alexander Shluger	UCL - London's Global University, UK
15:40 – 15:55	Short-term plasticity mimicked in a vacuum gap atomic switch for low power neuromorphic computation	Xinglong Ji	Singapore University of Technology and Design, Singapore	Role of the interplay between the active electrode and the buffer layer in W-based ReRAM cells	Vittorio Fra	Politecnico di Torino, Italy
15:55 – 16:20	Coffee Break					
16:20 – 18:00	Session 23, Room 4, Chair: Shahar Kvatinsky Memristive Materials and Device Architectures II			Session 24, Room 5, Chair: Gianaurelio Cuniberti Memristor Characterization II		
16:20 – 16:45	Keynote "Emerging applications of RRAM based memories: Impact of programming algorithms" by Christian Wenger , IHP-Leibniz-Institut fuer Innovative Mikroelektronik, Germany			Invited "Cr-doped Vanadium Oxide as a Versatile Resistive Switching Device" by Dirk Wouters , RWTH Aachen, Germany		
16:45 – 17:00	Single Crystalline ZnO Nanowires as ECM model systems	Carlo Ricciardi	Politecnico di Torino, Italy	Investigation of bipolar resistive switching mechanisms in Ge ₂ Sb ₂ Te ₅ thin films using different electrode materials	Hagen Bryja	IOM Leipzig, Germany
17:00 – 17:15	Optoelectronic memristors based on reactive tunnel junctions	Pan Wang	King's College London, UK	Kinetics of the anomalous switching process in SrTiO ₃ -based resistive switching cells with different oxide stoichiometries and material stacks	Sebastian Siegel	Peter-Grünberg-Institut - Forschungszentrum Jülich GmbH, Germany

17:15 – 17:30	Fully inkjet-printed transparent resistive memory cells based on a Ag nanowire mesh	Johannes Jehn	University of Applied Sciences Munich, Germany	Dual memelement functionalities DNA guided Ni ion chain development and characterization	Chia-Ching Chang	National Chiao Tung University, Taiwan
17:30 – 17:45	Engineering oxygen diffusion in metallic perovskite oxides for memristive transistor-like devices	Anna Palau	Institut de Ciència de Materials de Barcelona (ICMAB-CSIC), Spain	Electroforming process and spatial distribution of conductive filaments in NbOx based metaloxide-metal cross-point devices	Sanjoy Nandi	The Australian National University, Australia
17:45 – 18:00	Light Tunable Resistive Switching Graphene Oxide Memristors	Neil Kemp	University of Hull, UK	Control of Switching Modes in Grain Boundary Engineered HfO2 based Memristor Devices	Robert Eilhardt	TU Darmstadt, Germany

Thursday 11/7/2019 Day 4 (4/4)						
08:30 – 09:15	<p style="text-align: center;">Plenary 7 (Room 4), Chair: Daniele Ielmini</p> <p style="text-align: center;">"In Situ Learning with Memristive Neural Networks: Supervised, Unsupervised, Reinforcement" by Joshua Yang</p> <p style="text-align: center;">University of Massachusetts at Amherst, USA</p>					
09:20 – 10:15	Session 25, Room 4, Chair: Yuchao Yang			Session 26, Room 5, Chair: Alon Ascoli		
	Neuromorphic Computing III			Application III		
09:20 – 09:45	<p style="text-align: center;">Keynote</p> <p style="text-align: center;">"Solving algebra problems in crosspoint arrays of resistive memories" by Daniele Ielmini, Politecnico di Milano, Italy</p>			<p style="text-align: center;">Keynote</p> <p style="text-align: center;">"Memristive Devices and Arrays for Hardware Security Applications" by Qiangfei Xia, University of Massachusetts at Amherst, USA</p>		
09:45 – 10:00	Neuromorphic synchronization of organic electrochemical devices by global voltage oscillations	Dimitrios Koutsouras	Max Planck Institute for Polymer Research, Germany	Performance Enhancing Selector via Symmetrical Multilayer Design	Yiming Sun	School of Materials Science and Engineering, Tsinghua University, China
10:00 – 10:15	Bipolar analogue memristive function for neuromorphic computing enabled by stack design of HfO ₂ -based ReRAM devices	Felix Cüppers	Forschungszentrum Jülich GmbH, Peter Grünberg Institute and JARA-Fit, Germany	Superior selector performance after a unique holding state evolution	Qi Lin	Huazhong University of Science and Technology, China
10:15 – 10:50	Coffee Break					
10:50 – 12:00	Session 27, Room 4, Chair: Stephan Menzel			Session 28, Room 5, Chair: Qiangfei Xia		
	Memristor Models III			Computing III		
10:50 – 11:15	<p style="text-align: center;">Invited</p> <p style="text-align: center;">"Hyperdimensional computing using phase-change memory devices" by Manuel Le Gallo, IBM Research – Zurich, Rueschlikon, Switzerland</p>			<p style="text-align: center;">Invited</p> <p style="text-align: center;">"Memristive devices for computation-in-Memory: opportunities and challenges" by Said Hamdioui, Computer Engineering Laboratory, TU Delft, The Netherlands</p>		
11:15 – 11:30	Volatility Characterisation Model for AuTiO ₂ Pt Memristive Devices	Christos Giotis	University of Southampton, UK	Supporting the Momentum Training Algorithm Using a Memristor-Based Synapse	Tzofnat Greenberg	Technion - Israel Institute of Technology, Israel
11:30 – 11:45	Verilog-A Model for MTJ-Based Continuously Tunable Memristors	Terry Ye	Southern University of Science and Technology (SUSTech), China	Toward O(1) complexity of solving linear systems with in-memory computing	Giacomo Pedretti	Politecnico di Milano, Italy
11:45 – 12:00	A simulation model for smart alloy NiTi memristive behavior	Rodrigo Picos	Physics Department, University of Balearic Islands, Palma Majorca, Spain	Hopfield Associative Memories with Memristor Oscillators	Francesco Marrone	Politecnico di Milano, Italy
12:00 – 13:40	Poster Session and Lunch					

13:40 – 15:05		Session 29, Room 4, Chair: Joshua Yang		Session 30, Room 5, Chair: Da-Shan Shang		
		Synaptic Device III		Memristor Physics and Characterization III		
13:40 – 14:05		<p style="text-align: center;">Keynote</p> <p style="text-align: center;"><i>"Artificial synapses enabling bio-inspired information processing"</i> by</p> <p style="text-align: center;">Yuchao Yang, Beijing University, China</p>		<p style="text-align: center;">Keynote</p> <p style="text-align: center;"><i>"Threshold Switching and Analogue Switching in Niobium Oxide based Resistive Switches"</i> by</p> <p style="text-align: center;">Thomas Mikolajick, NaMLab GmbH and TU Dresden, Germany</p>		
14:05 – 14:20	Photothermally Lithographed Graphene-Oxide Memristors for Neuromorphic Applications	Francisco Javier Romero	University of Granada, Spain	Room temperature spin filtering in a metalloprotein	Salvador Cardona-Serra	ICMoI, University of Valencia
14:20 – 14:35	An artificial synapse with long-term plasticity and habituation characteristics	Zuheng Wu	Institute of Microelectronics, Chinese Academy of Sciences, China	Universal 1/f type current noise of Ag filaments in redox-based memristive nanojunctions	András Halbritter	Department of Physics, Budapest University of Technology and Economics, Hungary
14:35 – 14:50	Bipolar Analog Memristor as Artificial Synapse for Neuromorphic Computing	Tuo Shi	Institute of Microelectronics, Chinese Academy of Sciences, China	Telegraph Noise at the Equilibrium between Ionic Drift and Diffusion in Filamentary Memristive Devices	Stefano Brivio	CNR - IMM, Unit of Agrate Brianza, Italy
14:50 – 15:05	A photosensitive a-InGaZnO synaptic transistor for hardware neuromorphic system	Nian Duan	Huazhong University of Science and Technology, China	Ferroelectric polarization-mediated memristive switching of two-dimensional materials	Hye-Jin Jin	Ewha Womans University, South Korea
15:05 – 15:35 Coffee Break						
15:35 – 17:05		Session 31, Room 4, Chair: Stefan Slesazek		Session 32, Room 5, Chair: Ronald Tetzlaff		
		Memristive Materials and Device Architectures III		Memristor Characterization III		
15:35 – 15:50	Polar and antipolar phases in substoichiometric HfO _{2-δ} and ZrO _{2-δ}	Konstantin Rushchanskii	Peter Grünberg Institut, Forschungszentrum Jülich, Germany	Temperature impact on the forming voltage distributions in polycrystalline, amorphous and aluminum doped HfO ₂ RRAM devices	Eduardo Perez	IHP-Leibniz-Institut für Innovative Mikroelektronik, Germany
15:50 – 16:05	Nanosized TiO ₂ memristive devices enabling two switching modes of opposite polarity controllable by the voltage amplitude	Susanne Hoffmann-Eifert	Forschungszentrum Jülich GmbH, Peter Grünberg Institute and JARA-Fit, Germany	Selective activation/deactivation of memristive interfaces in symmetrical devices	Diego Rubi	INN-CNEA, Argentina
16:05 – 16:20	Recent findings on memristance in human skin	Oliver Pabst	University of Oslo, Norway	Single-atom filamentary resistive switching in Nb ₂ O ₅ memristor junctions	Tímea Nóra Török	Budapest University of Technology and Economics, Hungary
16:20 – 16:35	Redox Behavior of Active Electrodes and Influence of Electrolyte Purity on Kinetics in ECM type ReRAMs	Michael Lübben	JARA-FIT & RWTH Aachen, Aachen, Germany	Characterization of the nanobattery effect in pristine ReRAM devices for conclusions on the switching behavior	Andreas Kindsmüller	RWTH Aachen, Aachen, Germany
16:35 – 16:50				Oxygen-distribution-induced improvement of resistive switching in RRAM device	Zhaonan Li	Huazhong University of Science and Technology, China
16:50 – 17:05 Farewell Ceremony						