

# Technical Program of the ChinaRRAM International Workshop

## (Soochow University, June 12<sup>th</sup>-13<sup>th</sup>, 2017)



JUNE 12th					
Time	Session name	Contribution	Speaker	Institution	Abstract title
8:00-8:50	REGISTRATION				
8:50-9:00	Introduction (Chair Mario Lanza)	Opening	Mario Lanza	Soochow University	Welcome Message
9:00-9:30		Invited talk	H.-S. Philip Wong	Stanford University	Resistive Switching Memory
9:30-10:00		Invited talk	Hakim Meskine	Wiley-VCH	Publishing with Wiley: A Journey through Scientific Writing and Peer-Review
10:00-10:30	COFFEE/TEA BREAK				
10:30-11:00	Advanced characterization (Chair Yuchao Yang)	Invited talk	Paul C. McIntyre	Stanford University	Probing Local Oxygen Deficiency and Resistance Switching Phenomena in Amorphous Titanium Oxide Films using Liquid Electrolyte Contacts
11:00-11:30		Invited talk	Kin Leong Pey	Singapore University of Technology & Design	Latest Development of Study of Switching Mechanisms in RRAM Using STM/AFM and In-Situ TEM Analysis
11:30-12:00		Invited talk	Anthony Kenyon	University College London	Intrinsic Bulk Resistance Switching in Silicon Oxide
12:00-12:15		Regular talk	Sungjun Kim	Seoul National University	Resistive Switching Characteristics and Mechanisms in Silicon Oxide and Silicon Nitride Memristors
12:15-14:00	LUNCH				
14:00-14:30	Neuromorphic systems (Chair Francesco Puglisi)	Invited talk	Huaqiang Wu	Tsinghua University	RRAM based Neuromorphic Computing: Challenges and Demonstrations
14:30-15:00		Invited talk	Hyunsang Hwang	Pohang University of Science & Technology	ReRAM-Based Analog Synapse Devices for Neuromorphic System
15:00-15:30		Invited talk	Jinfeng Kang	Peking University	RRAM-based Computing Paradigm and Applications for IOT
15:30-15:45		Regular talk	Gang Niu	Xian Jiaotong University (IHP/UAB)	Integrated HfO <sub>2</sub> RRAM Arrays: Crystallinity and Residual Carbon Impacts
15:45-16:15	COFFEE/TEA BREAK				
16:15-16:45	Ionic movement (Chair Shibing Long)	Invited talk	Wei Lu	The University of Michigan	Memory and Computing Systems Based on Resistive Switching Devices: Merging Electronics with Ionics
16:45-17:15		Invited talk	Yuchao Yang	Peking University	Ion Transport in Memristive Oxides and Its Computing Applications
17:15-17:45		Invited talk	Runwei Li	NIMTE (Ningbo)	Fabrication of Artificial Nanostructures in Oxide Films by Electric Field and Resistive Switching Effects
17:45-18:00		Regular talk	Mark Buckwell	University College London	Conductance Tomography of Intrinsic SiO <sub>x</sub> RRAM Devices
18:00-20:30	POSTERS SESSION (COCKTAIL DINNER WILL BE SERVED)				

JUNE 13th					
Time	Session name	Contribution	Speaker	Institution	Abstract title
8:00-8:45	REGISTRATION				
8:45-9:15	Simulation and Modeling (Chair Raghavan Nagarajan)	Invited talk	Ernest Wu	IBM	Time-Dependent Clustering Model for Dielectric Breakdown and RRAM Applications
9:15-9:30		Regular talk	Yu Li	IMECAS	Dynamic Analysis on Three-Stage Evolution in SET Switching Process of RRAM Devices
9:30-10:00		Invited talk	Luca Larcher	University of Modena and Reggio Emilia	A Multiscale Modeling Platform for Engineering RRAM Devices and Materials
10:00-10:15		Regular talk	Marco A. Villena	Soochow University	SIM2RRAM: New Physical Model and Simulator for Resistive RAM
10:15-10:45	COFFEE/TEA BREAK				
10:45-11:15	2D materials in RRAMs (Chair Felix Palumbo)	Invited talk	Ming Liu	IMECAS	Reliability Issues on Oxide-Based RRAM
11:15-11:45		Invited talk	Deji Akinwande	The University of Texas at Austin	Monolayer Non-Volatile Devices
11:45-12:15		Invited talk	Mario Lanza	Soochow University	Resistive switching in multilayer h-BN: a novel mechanism
12:15-12:30		Regular talk	Yuanyuan Shi	Soochow University	Multilayer h-BN for Multilevel RRAMs
12:30-14:15	LUNCH				
14:15-14:45	Device technology (Chair Ernest Wu)	Invited talk	Gabriele Navarro	CEA LETI	Non-Volatile Resistive Memory: a Quest From Material Development Towards the Memory of the Future
14:45-15:30		Invited talk	Jordi Suñe	Universitat Autònoma de Barcelona	Volume Resistive Switching in Perovskite Oxides
15:30-15:45		Regular talk	Tae-Hyeon Kim	Seoul National University	Fabrication of Nano-cone RRAM and Analysis of its Electrical Concentration Effect
15:45-16:15	COFFEE/TEA BREAK				
16:15-16:45	Charge trapping in RRAM (Chair Mario Lanza)	Invited talk	Weidong Zhang	Liverpool John Moores University	Characterization of Non-Filamentary Amorphous-Si/TiO <sub>2</sub> (a-VMCO) RRAM Device
16:45-17:00		Regular talk	Boris Hudec	National Chiao-Tung University	Fully Analog ALD-Grown Memristor Utilizing Charge-Trapping Resistive Switching
17:00-17:30		Invited talk	Francesco Puglisi	University of Modena and Reggio Emilia	The 'Value Chain' of Random Telegraph Noise in RRAM Devices
18:00- 21:00	GALA DINNER BY THE LAKE				