

# 9<sup>th</sup> International Workshop on Characterization and Modeling of Memory devices

September 27<sup>th</sup> - 28<sup>th</sup> 2018

University of Milano-Bicocca, Building U6, Room U6-09 (Ground Floor)  
Piazza dell'Ateneo Nuovo 1, Milan (Italy)

## SCHEDULE

### SEPTEMBER 27<sup>th</sup>

#### 9.30 a.m. Registration

10.10 a.m. **Welcome**

Marco **Martini**, Director of the Department of Materials Science, University of Milano-Bicocca

#### 10.20 a.m. 1st Session: Plenary Talks

10.20 a.m. *Integrating CMOS and emerging memories for machine learning* - Yussuf **Leblebici** - EPFL, Lausanne - Switzerland

11.05 a.m. *Spin-Transfer-Torque MRAM: the Next Revolution in Memory* - Daniel C. **Worledge** - IBM Almaden Research Center - USA

11.50 a.m. *Scaling Perspectives of 3D NAND* - Akira **Goda** - Micron Technology, Boise - USA

12.35 a.m. **Lunch**

#### 2.00 p.m. 2<sup>nd</sup> Session: Phase Change and Ovonic Materials

2.00 p.m. *Ab initio Guided Design of an Ultrafast Phase-Change Material* - Riccardo **Mazzarello** - Aachen University - Germany

2.35 p.m. *Exploiting Nanoscale Effects in Phase-Change Memories* - Martin **Salinga** - Aachen University - Germany

3.10 p.m. *Terahertz Studies in Phase Change Materials: Toward Ultrafast Phase Change Operation and Photonics* - Kotaro **Makino** - AIST, Tsukuba - Japan

3.45 p.m. *Ovonic Threshold Switching Selector and Non-Volatile Resistive Memory Co-Integration Towards 3D PCM and RRAM Crossbar Memory Featuring High Density and High Endurance Performance* - Gabriele **Navarro** - CEA, LETI, Grenoble - France

4.20 p.m. **Coffee Break**

### SEPTEMBER 28<sup>th</sup>

#### 9.00 a.m. 3<sup>rd</sup> Session: Oxide RRAM

9.00 a.m. *Cross-layer Design Strategy for Accelerating Deep Learning Using Emerging Resistive Memory Technology* - Tuo-Hung **Hou** - National Chiao Tung University - Taiwan

9.35 a.m. *Multiscale Modeling of Novel Memory Devices: Linking Materials to Devices for Accurate Performance and Reliability Predictions* - Luca **Larcher** - University of Modena and Reggio Emilia - Italy

10.10 a.m. *Oxide RRAM for Spiking Neural Networks* - Sabina **Spiga** - CNR-IMM, Agrate Brianza - Italy

10.45 a.m. **Coffee Break**

#### 11.15 a.m. 4<sup>th</sup> Session: Ferroelectrics and Ferromagnetics

11.15 a.m. *A Potential Alternative for DRAM and NAND: Ferroelectric HfO<sub>2</sub> Thin Film* - Karine **Florent** - KU Leuven - Belgium

11.50 a.m. *Current Status of FeRAM Technologies and Prospects for Beyond Memory Application* - Stefan **Slesazeck** - NaMLab, Dresden - Germany

12.25 a.m. *Towards High Density STT-MRAM at sub-20nm Nodes* - Bernard **Diény** - Université Grenoble Alpes - France

1.00 p.m. **Lunch & Adjourn**

*More info available on the workshop website at [www.iwcm2.eu](http://www.iwcm2.eu)*

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