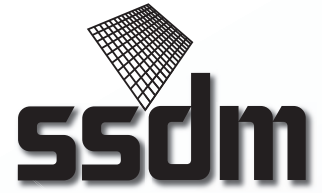


# 2018

## INTERNATIONAL CONFERENCE ON



# SOLID STATE DEVICES AND MATERIALS

### Sep. 9 (Sun)- 13 (Thu), 2018

### The University of Tokyo, Hongo Campus Tokyo, Japan



## Topics of Interest

- 1 **Advanced CMOS: Material Fundamentals, Process Science and Device Physics**  
(Chair : O. Nakatsuka, Nagoya Univ.)
- 2 **Advanced / Emerging Memories and New Applications**  
(Chair : T. Sakamoto, NEC Corp.)
- 3 **Interconnection / 3D Integrations / MEMS**  
(Chair : M. B. Takeyama, Kitami Inst. of Tech.)
- 4 **Power / High-speed Devices, and Materials**  
(Chair : D. Hisamoto, Hitachi, Ltd.)
- 5 **Advanced Photonics: Devices, Integration and Related Technology**  
(Chair : N. Nishiyama, Tokyo Tech)
- 6 **Photovoltaic / Energy Harvesting / Battery-related Technology**  
(Chair : M. Ikegami, Toin Univ. of Yokohama)
- 7 **Organic / Molecular / Bio-electronics**  
(Chair : T. Shimada, Hokkaido Univ.)
- 8 **Low Dimensional Devices and Materials**  
(Chair : K. Kawaguchi, Fujitsu Labs. Ltd.)
- 9 **Novel Functional / Quantum / Spintronic Devices and Materials**  
(Chair : J. Nitta, Tohoku Univ.)
- 10 **Thin Film Electronics: Oxide, Non-single Crystalline and Novel Process**  
(Chair : S. Higashi, Hiroshima Univ.)
- 11 **Advanced Materials Synthesis and Advanced Characterization**  
(Chair : A. Kikuchi, Sophia Univ.)

### Special

**Advanced Circuits / Systems Interacting with Innovative Devices & Materials**  
(Chair : R. Kuroda, Tohoku Univ.)

## Plenary Session



**Motoko Kotani**  
(Tohoku Univ.)

A mathematical challenge to a new phase of materials science



**Ian Young**  
(Intel Corp.)

Exploration for Beyond CMOS Integrated Circuit Technology for Computing



**Zhenan Bao**  
(Stanford Univ.)

Skin-Inspired Electronics with Organic Materials and Devices

## Submission Deadline

### Friday April 27th, 2018

### Organizing Committee

Chair : A. Toriumi (Univ. of Tokyo)  
Vice-Chair : H. Amano (Nagoya Univ.)

### Steering Committee

Chair : T. Kondo (Univ. of Tokyo)  
Vice-Chair : J. Suda (Nagoya Univ.)

### Program Committee

Chair : M. Koyama (Toshiba Memory Corp.)  
Vice-Chairs: H. Fujioka (Univ. of Tokyo)  
: F. Boeuf (STMicroelectronics)

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## Short Courses

This year's "Short Courses" are organized for experts as well as newcomers, on Sunday September 9th. Students are also welcome to join. Lectures will be given in English.

### A. Li-ion battery and Fuel cell technology: Fundamentals and Beyond

(Organizer: Masashi Ikegami, Toin University of Yokohama)

### B. Breaking technology in thin film electronics

(Organizer: Seiichiro Higashi, Hiroshima University)

## Invited Speakers

### Advanced CMOS: Material Fundamentals, Process Science and Device Physics (Area 1)

Suman Datta (Univ. of Notre Dame)  
Hans Mertens (IMEC)  
Kazuo Nojiri (Lam Research Co., Ltd.)  
Hiroyuki Ota (AIST)  
Kazuo Tsutsui (Tokyo Tech)

### Advanced / Emerging Memories and New Applications (Area 2)

Takahiro Hanyu (Tohoku Univ.)  
ChiaHua Ho (Winbond Electronics Corp.)  
Soo Gil Kim (SK Hynix Inc.)  
Hang-Ting Lue (Macronix International Co., Ltd.)  
Jianhua (Joshua) Yang (Univ. of Massachusetts)  
Hyangkeun Yoo (SK Hynix Inc.)

### Interconnection / 3D Integrations / MEMS (Area 3)

Subramanian S. Iyer (UCLA)  
Akitsu Shigeto (NIMS)  
Devika Sil (IBM Research)  
Zsolt Tokei (IMEC)  
Hiroshi Toshiyoshi (Univ. of Tokyo)

### Power / High-speed Devices, and Materials (Area 4)

Colombo Bolognesi (ETH Zurich)  
Shizuo Fujita (Kyoto Univ.)  
Thomas Laska (Infineon Technologies AG)  
Munetaka Noguchi (Mitsubishi Electric Corp.)  
Tomas Palacios (MIT)  
Hitoshi Umezawa (AIST)

### Advanced Photonics: Devices, Integration and Related Technology (Area 5)

Tatsuro Hiraki (NTT Corp.)  
Fumio Koyama (Tokyo Tech)  
Dabing Li (Chinese Academy of Sci.)  
Yichen Shen (MIT)  
TBD

### Photovoltaic / Energy Harvesting / Battery-related Technology (Area 6)

Michael Adachi (Simon Fraser Univ.)  
Tim Holme (Quantumscape Corp.)  
Ji-Young Lee (Merck Performance Materials Ltd.)  
Yang Longkai (LeadAdvanced PV)  
Naoaki Yabuuchi (Tokyo Denki Univ.)

### Organic / Molecular / Bio-electronics (Area 7)

Takhee Lee (Seoul National Univ.)  
Takamichi Nakamoto (Tokyo Tech)  
Ada Poon (Stanford Univ.)  
Damien Thompson (Univ. of Limerick)

### Low Dimensional Devices and Materials (Area 8)

Anthony Bennett (Cardiff Univ.)  
Stephan Hofmann (Cambridge Univ.)  
Tony Low (Minnesota Univ.)  
Xinran Wang (Nanjing Univ.)  
Helge Weman (NTNU/CrayoNano)

### Novel Functional / Quantum / Spintronic Devices and Materials (Area 9)

Tetsuo Endoh (Tohoku Univ.)  
WanJun Jiang (Tsinghua Univ.)  
Roland Kawakami (The Ohio State Univ.)  
Motohiro Suzuki (RIKEN)  
Diederik Verkest (IMEC)  
Hiroaki Yoda (Toshiba Corp.)

### Thin Film Electronics: Oxide, Non-single Crystalline and Novel Process (Area 10)

Toshinori Matsushima (Kyushu Univ.)  
Osamu Nakatsuka (Nagoya Univ.)  
Makoto Nakazumi (Nikon Corp.)  
Eric Pop (Stanford Univ.)

### Advanced Materials Synthesis and Advanced Characterization (Area 11)

Gregor Koblmüller (Technical Univ. of Munich)  
Yasuo Koide (NIMS)  
Seiichi Miyazaki (Nagoya Univ.)  
TBD  
TBD

### Advanced Circuits / Systems Interacting with Innovative Devices & Materials (Special)

#### (Topical session 1: Ion/photon coupled systems)

Koichiro Miyamoto (Tohoku Univ.)  
Kiichi Niitsu (Nagoya Univ.)  
Jun Ohta (NAIST)  
Kazuaki Sawada (Toyohashi Tech)  
TBD  
TBD

#### (Topical session 2: Innovative device based circuits)

Meng-Fan Chang (National Tsing Hua Univ.)  
Vijaykrishnan Narayanan (The Pennsylvania State Univ.)  
Tatsuya Onuki (Semiconductor Energy Lab.)  
Massoud Pedram (Univ. of Southern California)  
Lian-Mao Peng (Peking Univ.)  
Gong Xiao (National Univ. of Singapore)

Invited speakers may change

Several events are now planned to commemorate the 50th anniversary of SSDM2018.

One of the most important of the upcoming events is the Special Symposium scheduled at Yasuda Auditorium on Monday September 10th, which will include video-messages from semiconductor device giants. The past and future of solid state devices and materials will be discussed.

Please join us!

## Further Information

For any questions or further information, please contact: Secretariat for SSDM2018

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