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**International Workshop on  
Materials Science & Device Physics for  
Advanced Electron Devices**

**Mar. 19 (Tue), 2019  
Sanjo Conference Hall, The Univ. of Tokyo**

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# Workshop Digest

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## International Workshop of Materials Science and Device Physics for Advanced Electron Devices

### Place

Workshop: Main Conference Room, 2F, Sanjo Conference Hall, Hongo campus,  
The Univ. of Tokyo

Banquet: Discourse Hall, 1F, Sanjo Conference Hall

### Time and date

Mar. 19 (Tue), 2019

Workshop: 12:00 – 17:30

Banquet: 18:00 – 20:00

### Committees:

Koji Kita, Kosuke Nagashio, Tomonori Nishimura, Takeaki Yajima

2019ws@adam.t.u-tokyo.ac.jp

[http://www.adam.t.u-tokyo.ac.jp/workshop2019\\_en.pdf](http://www.adam.t.u-tokyo.ac.jp/workshop2019_en.pdf)

**This workshop is supported by JST-CREST.**

# Workshop Program

Tuesday, March 19, 2019

Main Conference Hall (2F) @Sanjyo Conference Hall

**12:00 – 12:05**    **Opening remarks**

**Session 1    12:05 – 15:00**

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12:05 – 12:45    **My Favorite Things**

Akira Toriumi, Dept. Materials Engineering, UTokyo

12:45 – 13:30    **Nanoscale III-V Electronics: InGaAs FinFETs and Vertical Nanowire MOSFETs**

Jesús A. del Alamo, Microsystems Technology Laboratories, MIT

13:30 – 14:15    **“Remote phonon scattering”, hybridized interface excitations, and dielectric environment in MOSFETs and 2D nanostructures**

Massimo V. Fischetti, Dept. Materials Science Engineering, UT. Dallas

14:15 – 15:00    **Challenge for the future NAND Flash Memory**

Nobuo Hayasaka, Toshiba Memory

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**15:00 – 15:30**    **Break**

**Session 2    15:30 – 17:45**

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15:30 – 16:15    **Fermi Level Pinning at Semiconductor interfaces and the Contact Resistance Problem**

John Robertson, Dept. Engineering, Cambridge

16:15 – 17:00    **The Golden Age of Materials Innovations: From High- $\kappa$ /Metal Gate to AI Hardware**

Vijay Narayanan, T.J. Watson Research Center, IBM

17:00 – 17:45    **Ferroelectric Hafnium and Zirconium Oxide: Enablers for New Device Concepts**

Uwe Schroeder, NaMLab

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**17:45 – 18:00**    **Closing remarks**

**18:00 – 20:00**    **Banquet @ 1F Hall**

# Campus Map

## Hongo Campus

