SISPAD2017 Workshop 1

# Application of Atomistic Approaches in Semiconductor Devices

Date: September 6, 2017 (9:15-16:35)

Organizer: Y. Kamakura (Osaka Univ.) and H. Minari (Sony)

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9:15 - 9:20 *Welcome remark*

9:20 - 10:00 **T. Kotani** (Tottori Univ.)
First principles calculation with QSGW method (Tentative)

10:00 - 10:40 **M. Shin** (KAIST)
First principles based NEGF simulations of low dimensional semiconductor devices

10:40 - 11:10 *Break*

11:10 - 11:50 **A. Afzalian** (TSMC)
Efficient atomistic tight-binding mode-space NEGF model including electron-phonon scattering for up to million atoms III-V nanowire MOSFETs and broken gap TFETs simulations

11:50 - 12:30 **K. Nishio** (AIST)
First-principles calculations of Si/O superlattices and amorphous metal oxides with OpenMX

12:30 - 14:00 *Lunch*

14:00 - 14:40 **T. El-Sayed** (TU Wien)
Atomistic modeling of defects in SiO2 for reliability predictions

14:40 - 15:20 **S. Hamaguchi** (Osaka Univ.)
Process simulation with molecular dynamics method (Tentative)

15:20 - 15:50 *Break*

15:50 - 16:30 **H. Kino** (NIMS)
Descriptive, predictive and prescriptive works in materials informatics

16:30 - 16:35 *Closing remark*