

SISPAD2026 Workshop

Back to Fundamentals: Semiconductor Process and Transport Simulation

Date: September 27, 2026 (9:30-17:10)

Venue: Kumamoto City International Center, 6F

9:30 - 9:40 Welcome remark — Hiroki Tokuhira (Kioxia)

Part A: Process Simulation*Organizers: H. Tokuhira (Kioxia), K. Uchida (Univ. of Tokyo)*

9:40 - 10:20 **Mark J. Kushner** (University of Michigan)
 Overview of Integrated Plasma Reactor and Feature Scale Modeling: Algorithms and Applications to Cryogenic Etching

10:20 - 11:00 **Yoshihiro Kangawa** (Kyushu University)
 Optimal Design of MOCVD Process for AlGaIn/AlN Deep-Ultraviolet Laser Diodes: Ab Initio-Based Approach

11:00 - 11:20 *Break*

11:20 - 12:00 **Lado Filipovic** (Vienna University of Technology)
 Process Topography TCAD for Advanced Manufacturing

12:00 - 12:40 **Yury Shustrov** (STR Software)
 Multiscale Modeling of SiGe-based Device Processing

12:40 - 14:00 *Lunch*

Part B: Transport Simulation*Organizers: M. Shin (KAIST), Y.-S. Kim (Samsung)*

14:00 - 14:40 **Marco Pala** (University of Udine)
 Ab initio Transport in 2D Materials Heterojunction Devices

14:40 - 15:20 **Hong-Hyun Park** (Samsung Semiconductor Inc.)
 Simulation Development for Advanced Logic Technology at an IDM Company: Models and Tools Built to Support Real Device Issues

15:20 - 15:40 *Break*

15:40 - 16:20 **Christoph Jungemann** (RWTH Aachen University)
 Semiclassical Modeling of Electron Transport in Semiconductor Devices based on the Boltzmann Equation

16:20 - 17:00 **Junichiro Shiomi** (University of Tokyo)
 Multiscale Phonon Transport Modeling and Semiconductor Thermal Management

17:00 - 17:10 Closing remark — Mincheol Shin (KAIST)