

**Room I #204** 13:30-15:30**[Th-I2] Device Materials Modeling****Session Chairs:**

Hoon Ryu (KISTI, Korea),
Nobuya Mori (Osaka Univ., Japan)

Th-I2-1 [Invited] 13:30-14:00

Quantum Transport Device Simulation based on Real-Space Density Functional Theory and Non-Equilibrium Green's Function Method

Nobuya Mori¹, Gennady Mil'nikov¹, Jun-Ichi Iwata², and Atsushi Oshiyama²

¹Osaka Univ., Japan, ²Univ. of Tokyo, Japan

Th-I2-2 14:00-14:15**Dispersion Dynamics in HiTc**

Antony J. Bourdillon
UHRL, USA

Th-I2-3 14:15-14:30

Spin Circuit Model for Materials with Spin-Momentum Locking

S. Hong¹, S. Sayed², and S. Datta²

¹KIST, Korea, ²Purdue Univ., Korea

Th-I2-4 14:30-14:45

Origin of Negative Differential Resistance in Graphene-based Vertical Tunneling Devices: an ab Initio Study

Han Seul Kim^{1,2} and Yong-Hoon Kim²

¹KISTI, Korea, ²KAIST, Korea

Th-I2-5 [Invited] 14:45-15:15

Atomic Engineering and Atomistic Modelling of Donor-based Silicon Devices

Bent Weber^{1,2,3}

¹Nanyang Tech. Univ., Singapore, ²ARC Centre of Excellence for Quantum Computation and Communication Tech., Australia, ³Univ. of New South Wales, Australia

Room J #205 13:30-15:30

[Th-J2] Microelectronics Packaging Materials and Processing II

Session Chairs:

Hee-Seon Bang (Chosun Univ., Korea)
Kwang-Seong Choi (ETRI, Korea)

Th-J2-1 [Invited] 13:30-14:00

Various Applications of Laser based Interconnection Technology including 3D TSV Stacking Process and Flexible Modules

Kwang-Seong Choi, Leeseul Jeong, Keon-Soo Jang, Seok Hwan Moon, Hyun-Cheol Bae, and Yong-Sung Eom
ETRI, Korea

Th-J2-2 [Invited] 14:00-14:30

Carbon-based Nanocomposites for Electronic Packaging Applications

Kwang-Seok Kim
KITECH, Korea

Th-J2-3 14:30-14:45

Waste Heat Recovery using Interfacial Electrical Double Layers from Oscillating Heat Pipes

Qingchen Shen, Chao Chang, Peng Tao, Ziyang Ning, Shujian Rong, Yanming Liu, Chengyi Song, Jianbo Wu, Wen Shang, and Tao Deng
Shanghai Jiao Tong Univ., China

Th-J2-4 14:45-15:00

Characterization of Cu-Inhibitor Complex Layer with AFM and Fluidics Chip System

Yeonah Jeong¹, Heon-Yul Ryu¹, Byoung-Jun Cho¹, Kwang-Min Han¹, Shohei Shima², Satomi Hamada², Hirokuni Hiyama², Tae-Gon Kim³, and Jin-Goo Park¹
¹Hanyang Univ., Korea, ²EBARA Corp., Japan, ³IMEC, Belgium