

**Room H #108** 16:00-18:00

**[We-H3]** Nanomaterials/Compound  
Semiconductors

**Session Chair:**  
Jang-Sik Lee (POSTECH, Korea)

**We-H3-1 [Invited]** 16:00-16:30

Thermoelectric Transport of 1D or 2D Semiconducting  
Nanomaterials

Jae Yong Song and Ho Sun Shin  
*KRISS, Korea*

**We-H3-2 [Invited]** 16:30-17:00

GaN and SiC FET Power Amplifiers for 5G Wireless  
Communications

Eunsoo Nam  
*ETRI, Korea*

**We-H3-3 [Invited]** 17:00-17:30

Spin Transport in Low Dimensional Nanostructures

Joonyeon Chang  
*KIST, Korea*

**We-H3-4 [Invited]** 17:30-18:00

In-situ Electrical Characterization of Atomic Layer  
Deposition (ALD) on 2D Materials

Jiyoung Kim  
*Univ. of Texas at Dallas, USA*

**Room I #204** 16:00-18:00

**[We-I3]** Design of Advanced Materials II

**Session Chairs:**  
Kyung-Jin Lee (Korea Univ., Korea),  
Aloysius Soon (Yonsei Univ., Korea)

**We-I3-1 [Invited]** 16:00-16:30

Atomic-Layer Alignment Tuning of Metalthin-Film  
Multilayer for Perpendicular Magnetocrystalline  
Anisotropy and Its Electric Field Modification

K. Nakamura<sup>1,2</sup>, A. -M. Pradipto<sup>1</sup>, T. Akiyama<sup>1</sup>, T. Ito<sup>1</sup>, and  
T. Oguch<sup>2,3</sup>  
<sup>1</sup>Mie Univ., Japan, <sup>2</sup>NIMS, Japan, <sup>3</sup>Osaka Univ., Japan

**We-I3-2** 16:30-16:45

First-Principles Study on Structural and Electronic  
Properties of Ge-based Hybrid Perovskites

Narasak Pandech<sup>1,2,3</sup>, Thanundon Kongnok<sup>1,2</sup>, Sukit  
Limpijumng<sup>1,2</sup>, and Walter R. L Lambrecht<sup>3</sup>  
<sup>1</sup>Suranaree Univ. of Tech., Thailand, <sup>2</sup>Synchrotron Light  
Research Inst., Thailand, <sup>3</sup>Case Western Reserve Univ.,  
USA

**We-I3-3** 16:45-17:00

Effects of Ligands on the Stability and Electronic  
Properties of Tin Halide Perovskite Layers: An Ab  
Initio Study

Anu Bala<sup>1</sup> and Vijay Kumar<sup>1,2</sup>  
<sup>1</sup>Shiv Nadar Univ., India <sup>2</sup>Dr. Vijay Kumar Foundation,  
India

**We-I3-4 [Invited]** 17:00-17:30

Electric-Field Controlled Magnetism Inrare-Earth  
based Oxide Heterostructures

Anderson Janotti  
*Univ. of Delaware, USA*

**We-I3-5** 17:30-17:45

Mechanism of Resistance Switching in MAPbI<sub>3</sub>-based  
Memristor from First-Principles Calculations

Seong Hun Kim and Donghwa Lee  
*POSTECH, Korea*