

Room I #204 10:30-12:30**[Th-I1]** Design of Advanced Materials III**Session Chairs:**

Vijay Kumar (Shiv Nadar Univ., India),
Seungchul Kim (KIST, Korea)

Th-I1-1 [Invited] 10:30-11:00**Giant Caloric Effects in Fast-Ion Conductors**

Claudio Cazorla
UNSW Sydney, Australia

Th-I1-2 11:00-11:15**First-Principles Investigation on the Electronic Structure and Thermodynamic Properties of Equivalent Cation/Anion Doping II-VI Alloy Semiconductors**

Ming kai Li, Debing Long, Yang Cheng, Minghai Luo,
Jiakun Zhu, Dongxue Meng, and Yunbin He
Hubei Univ., China

Th-I1-3 11:15-11:30**Significant Suppression of Hydrogen Evolution Reaction in Electrochemical N₂ Reduction using Single-Atom Catalysts**

Changhyeok Choi and Yousung Jung
KAIST, Korea

Th-I1-4 [Invited] 11:30-12:00**Human vs Machine: Deciphering the Structure of Organic-Inorganic Interfaces**

Patrick Rinke
Aalto Univ., Finland

Th-I1-5 12:00-12:15**Evaluating Performance Limits of Methane Storage/ Separations of Porous Materials using Artificial Neural Network**

Sangwon Lee, Baekjun Kim, and Jihan Kim
KAIST, Korea

Room J #205 10:30-12:30**[Th-J1]** Microelectronics Packaging Materials and Processing I**Session Chairs:**

Kwang-Seong Choi (ETRI, Korea),
Sarah Eunkyung Kim (Seoul Nat'l Univ. of Sci. and Tech., Korea)

Th-J1-1 [Invited] 10:30-11:00**Power Device Bonding Technology for Electric Vehicle Applications**

Jeong-Won Yoon^{1,2}
¹KITECH, Korea, ²Univ. of Sci. and Tech., Korea

Th-J1-2 [Invited] 11:00-11:30**Thermo-Mechanical Characteristics of Solder Joints with Pillar Bump's Aspect Ratios**

Hee-Seon Bang, Han-Sur Bang, Hyeong-Cheol Kim,
Kyoung-Hak Kim, and Seong-Min Hong
Chosun Univ., Korea

Th-J1-3 11:30-11:45**Al-Ge Eutectic Bonding for MEMS: Managing The Presence of Native Oxide at the Interface**

Victor Lumineau^{1,2}, Frank Fournel^{1,3}, and Fiqiri Hodaj²
¹LETI, France, ²Univ. Grenoble Alpes, France

Th-J1-4 11:45-12:00**Characteristics of Hi Barrier Film using Polysilazane-Derived Silica Thin Films**

Sunmin Kim^{1,2}, EunHae Koo², and Daeho Yun¹
¹Sungkyunkwan Univ., Korea, ²KICET, Korea

Th-J1-5 12:00-12:15**Development of New Analysis Method with Ultrasonication for Incoming PVA Brush in Post CMP Cleaning Process**

Jun-Kil Hwang¹, Jung-Hwan Lee¹, Muthukrishnan Purushothaman¹, Kwang-Min Han¹, Shohei Shima², Satomi Hamada², Hirokuni Hiyama², and Jin-Goo Park¹
¹Hanyang Univ., Korea, ²EBARA Corp., Japan