

PROGRAM

Location **Session room D (Room D12 at 1st Flr., Building D for General Education)**

10:00-10:10 **Opening address**

Yoshitsugu Kojima (*Hiroshima University, Japan*)

Haruyuki Inui (*President, JIM, Japan, Kyoto University, japan*)

<Chairpersons: Yoshitsugu Kojima and Young Whan Cho >

10:10-10:40 (KJS-1) **Keynote; Research on Li ion battery and hydrogen storage materials in China**

Xingguo Li (Special lecturer invited from overseas)

Peking University, China

1. Materials for Batteries

10:40-11:00 (KJS-2) Invited; **Ionic conduction in metal borohydrides and their application to all-solid-state secondary batteries**

Hitoshi Takamura

Tohoku University, Japan

11:00-11:20 (KJS-3) Invited; **Interface controlled lithium ion conductors based on LiBH₄-oxide mixtures**

Young-Su Lee¹, Yong Seok Choi², Young Whan Cho¹

1 Korea Institute of Science and Technology, Korea

2 Hyundai Motor Group, Korea

11:20-11:40 (KJS-4) Invited; **Synthesis and energy-related function of advanced complex hydrides**

Hiroyuki Oguchi, Sangryun Kim, Shin-ichi Orimo

Tohoku University, Japan

11:40-12:00 (KJS-5) Invited; **Developing electrode materials for Li-ion batteries: high rate capability**

Minkyu Kim, Minkyung Kim, Byoungwoo Kang

Pohang University of Science and Technology (POSTECH), Korea

12:00-12:20 (KJS-6) Invited; **Systematic studies on metal hydrides for anode of all-solid-state Li-ion batteries**

Takayuki Ichikawa¹, Keiji Takagishi¹, Yasuhiro Matsumura¹, Fernando Cano-Banda^{1,2},

Jean-Pierre Bonnet^{1,3}, Ankur Jain¹, Hiroki Miyaoka¹, Yoshitsugu Kojima¹

1 Hiroshima University, Japan

2 Universidad de Guanajuato, Mexico

3 CNRS, Université de Picardie, France

12:20-13:20 Lunch

<Chairpersons: Hitoshi Takamura and Eun Seon Cho >

13:20-13:40 (KJS-7) Invited; **Future battery systems using multivalent-ion carrier towards safety and high-energy density storage**

Tetsu Ichitsuho, Kohei Shimokawa, Hongyi Li, Norihiko L. Okamoto

Tohoku University, Japan

2. Materials for Hydrogen Storage, Separation and Conversion

13:40-14:10 (KJS-8) **Keynote; Hydrogen storage materials and systems for stationary and mobile applications**

Pratibha Sharma

Indian Institute of Technology Bombay, India

14:10-14:30 (KJS-9) Invited; **Engineering interface structure for environmentally stable solid-state hydrogen storage**

Eun Seon Cho

Korea Advanced Institute of Science and Technology (KAIST), Korea

14:30-14:50 (KJS-10) Invited; **Development of innovative hydrogen separation device from energy carriers based on vanadium alloy membrane**

Chikashi Nishimura¹, Hideo Yoshinaga², Hiroshi Yukawa³, Yoshihisa Matsumoto⁴, Tomonori Nambu⁵

1 National Institute for Materials Science, Japan

2 Taiyo Koko Co. Ltd., Japan

3 Nagoya University, Japan

4 National Institute of Technology, Oita College, Japan

5 National Institute of Technology, Suzuka College, Japan

14:50-15:10 (KJS-11) Invited; **Hydrogen isotope separation in confined nanospace: carbons, zeolites, metal-organic frameworks, and covalent organic frameworks**

Hyunchul Oh¹, Jin Yeong Kim², Hoi Ri Moon²

1 Gyeongnam National University of Science and Technology (GNTECH), Korea

2 Ulsan National Institute of Science and Technology (UNIST), Korea

15:10-15:20 Break

<Chairpersons: Chikashi Nishimura and Moon-Ho Cho >

15:20-15:40 (KJS-12) Invited; **Hydrogen desorption properties of hydride/ hydroxide systems**

Shigehito Isobe, Fuga Tanaka, Yuki Nakagawa, Naoyuki Hashimoto

Hokkaido University, Japan

15:40-16:00 (KJS-13) Invited; **Catalytic ortho-to-para hydrogen conversion by magnetic ion contained metal-organic framework materials**

Yong Nam Choi, He Hyun Kim

Korea Atomic Energy Research Institute, Korea

3. Materials for Hydrogen Production and Utilization

16:00-16:20 (KJS-14) Invited; **Directly assembled 3D molybdenum disulfide on silicon wafer for efficient photoelectrochemical water reduction**

Gangtae Jin¹, Chang-Soo Lee¹, Dinsefa Mensur Andoshe², Ho Won Jang², Moon-Ho Jo¹

1 Pohang University of Science and Technology (POSTECH), Korea

2 Seoul National University, Korea

16:20-16:40 (KJS-15) Invited; **Proton-conducting oxide as solid oxide fuel cells electrolyte**

Yoshihiro Yamazaki

Kyushu University, Japan

16:40-17:00 (KJS-16) Invited; **Hydrogen production using vacuum-assisted steam methane reforming in Pd composite membrane reactor**

Chang-Hyun Kim^{1,2}, Jae-Yun Han^{1,2}, Han-Young Do^{1,3}, Hankwon Lim⁴, Shin-Kun Ryi¹

1 Korea Institute of Energy Research (KIER), Korea

2 Korea University, Korea

3 Yonsei University, Korea

4 Ulsan National Institute of Science and Technology (UNIST), Korea

17:00-17:10

Closing remarks

Young Whan Cho (*Korea Institute of Science and Technology, Korea*)

Sung-Joon Kim (*President KIM, Korea, Pohang University of Science and Technology (POSTECH), Korea*)