

**Room I #204** 10:30-12:30**[Tu-I1] Hybrid Materials and Processing Technologies III****Session Chairs:**

Junghoon Lee (Pukyong Nat'l Univ., Korea),  
Jong Min Yuk (KAIST, Korea)

**Tu-I1-1 [Invited]** 10:30-11:00**Omniphobicity and Corrosion-Resistance of Oil-Impregnated Nanoporous Anodic Oxide Layer of Aluminum**

Junghoon Lee<sup>1</sup> and Chang-Hwan Choi<sup>2</sup>

<sup>1</sup>Pukyong Nat'l Univ., Korea, <sup>2</sup>Stevens Inst. of Tech., USA

**Tu-I1-2** 11:00-11:15**Using Magnetic Fields to Design and Build Transparent, Conducting and Flexible Graphene-based Composites**

Hortense Le Ferrand

Nanyang Technological Univ., Singapore

**Tu-I1-3** 11:15-11:30**Plasma-Assisted Multi-Metallic Oxyhydroxides for Efficient Electrocatalytic Oxygen Evolution Reaction**

Byeong Cheul Moon and Jeung Ku Kang

KAIST, Korea

**Tu-I1-4 [Invited]** 11:30-12:00**In-Situ Electron Microscopy of Energy Materials**

Jong Min Yuk

KAIST, Korea

**Tu-I1-5** 12:00-12:15**3-Dimensional Nanorod & Nano Array Structure using Nano-mold Process**

Je Won Kim

Namseoul Univ., Korea

**Tu-I1-6** 12:15-12:30**Pressure-Light Bimodal Sensor based on Long-Term Stable MAPbI<sub>3</sub> Thin Films by CVD**

Ji-Ho Eom<sup>1</sup>, Hye-Jin Kim<sup>2</sup>, and Soon-Gil Yoon<sup>1</sup>

<sup>1</sup>Chungnam Nat'l Univ., Korea, <sup>2</sup>ETRI, Korea

**Room J #205** 10:30-12:30**[Tu-J1] Fuel Cell & Electrolyzer Materials I****Session Chairs:**

Rak-Hyun Song (KIER, Korea),

Hyungjun Kim (KAIST, Korea)

**Tu-J1-1** 10:30-10:45**Experimental Analysis on Operation Conditions of Open Cathode Polymer Electrolyte Fuel Cells**

Beom Jun Kim<sup>1</sup>, Jun-Young Kang<sup>2</sup>, Jeong-Wook Yang<sup>2</sup>, and Young Gi Yoon<sup>1</sup>

<sup>1</sup>KIER, Korea, <sup>2</sup>Chonbuk Nat'l Univ., Korea

**Tu-J1-2 [Invited]** 10:45-11:15**First-Principles Computational and Machine Learning Approach to Design Highly Functional Catalysts Materials for Fuel Cells**

Byungchan Han, Seunghyo Noh, and Jeemin Hwang

Yonsei Univ., Korea

**Tu-J1-3** 11:15-11:30**Theoretical Insights on the Electrode-Electrolyte Microstructure in the Proton Exchange Membrane Fuel Cells**

Chi-Young Jung, Hyungkuk Choi, Suwon Choi, Younggi Yoon, and Tae-Young Kim

KIER, Korea

**Tu-J1-4** 11:30-11:45**Design of Promotion Effects of CeO<sub>x</sub> on Pt Electrodes in PEFCs**

Toshiyuki Mori<sup>1</sup>, Shipra Chauhan<sup>1</sup>, Akira Suzuki<sup>1</sup>, Shunya Yamamoto<sup>2</sup>, Tomohiro Kobayashi<sup>3</sup>, and Noriko Isaka<sup>1</sup>

<sup>1</sup>NIMS, Japan, <sup>2</sup>Nat'l Inst. for Quantum and Radiological Sci. and Tech., Japan, <sup>3</sup>RIKEN, Japan

**Tu-J1-5 [Invited]** 11:45-12:15**Phase Transformation of Metal Phosphide Nanoparticles for Hydrogen Evolution Reaction Catalysis**

Don-Hyung Ha

Chung-Ang Univ., Korea

**Tu-J1-6** 12:15-12:30**A Technological and Economic Points of Power to Gas Project**

Wonchul Cho, Hyun-Seok Cho, Sang-Kyung Kim, and Chang Hee Kim

KIER, Korea

**Tu-J1-7** 12:30-12:45**Efficient Photoelectrochemical Hydrogen Generation using Molybdenum Disulfide Film on Black Si Photocathode via Wafer-Scale Atomic Layer Deposition**

Dae Woong Kim, Dae Hyun Kim, and Tae Joo Park

Hanyang Univ., Korea