

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

Robert Steinberger-Wilckens (Univ. of Birmingham, UK),  
Byungchan Han (Yonsei Univ., Korea)

**We-J1-1 [Invited]** 10:30-11:00**Unravelling the Oxygen Reduction Mechanism of Fe-N-C Catalysts**

Hyung-Kyu Lim<sup>1</sup>, Chang Hyuck Choi<sup>2</sup>, and Hyungjun Kim<sup>3</sup>  
<sup>1</sup>Kangwon Nat'l Univ., Korea, <sup>2</sup>GIST, Korea, <sup>3</sup>KAIST, Korea

**We-J1-2 [Invited]** 11:00-11:30**Oxygen Evolution Reaction on Ni-based Two-Dimensional (2D) Titanate Nanosheets**

Rahul Ramesh and Jinwoo Lee  
POSTECH, Korea

**We-J1-3** 11:30-11:45**Heterogeneous Doping, a Novel in-situ Synthesis of Supported Metal Nanocatalysts**

No Woo Kwak, SeungJin Jeong, WooChul Jung, Pilgyu Byeon, and Sung-Yoon Chung  
KAIST, Korea

**We-J1-4 [Invited]** 11:45-12:15**Breakthrough Performance and Scalability of Protonic Ceramic Fuel Cells**

Jong-Ho Lee<sup>1</sup>, Hyegsoon An<sup>1,2</sup>, Ho-Il Ji<sup>1</sup>, Dongwook Shin<sup>2</sup>,  
Kyung Joong Yoon<sup>1</sup>, Mansoo Park<sup>1</sup>, Hyoungchul Kim<sup>1</sup>,  
Ji-Won Son<sup>1</sup>, Byung-Kook Kim<sup>1</sup>, and Hae-Weon Lee<sup>1</sup>  
<sup>1</sup>KIST, Korea, <sup>2</sup>Hanyang Univ., Korea

**We-J1-5** 12:15-12:30**Effects of Pd Incorporation on Internal Steam Reforming of n-Butane in Thin-Film-based Solid Oxide Fuel Cell at Low Temperatures ( $\leq 600$  °C)**

Cam-Anh Thieu<sup>1,2</sup>, Mansoo Park<sup>1</sup>, Ho-Il Ji<sup>1</sup>, Hyoungchul Kim<sup>1</sup>,  
Kyung Joong Yoon<sup>1</sup>, Jong-Ho Lee<sup>1,2</sup>, and Ji-Won Son<sup>1,2</sup>  
<sup>1</sup>KIST, Korea, <sup>2</sup>Korea Univ. of Sci. and Tech., Korea

**Room A #101** 13:30-15:30**[We-A2] Na-ion Batteries****Session Chairs:**

Denis Yu (City Univ. of Hong Kong, China),  
Yuki Yamada (The Univ. of Tokyo / Kyoto Univ., Japan)

**We-A2-1 [Invited]** 13:30-14:00**Improving Stability and Capacity of Sodium-Ion Cathode Materials**

Denis Yu, Jiaolong Zhang, and Bizhe Su  
City Univ. of Hong Kong, China

**We-A2-2 [Invited]** 14:00-14:30**Fire-Extinguishing Organic Electrolytes for Safe Batteries**

Yuki Yamada<sup>1,2</sup>, Jianhui Wang<sup>1</sup>, and Atsuo Yamada<sup>1,2</sup>  
<sup>1</sup>The Univ. of Tokyo, Japan, <sup>2</sup>Kyoto Univ., Japan

**We-A2-3** 14:30-14:45**Preparation of Hard Carbons Derived from Waste Tea Bag Powder as Anodes for Sodium Ion Battery**

Arenst Andreas Arie<sup>1</sup>, Burak Tekin<sup>2</sup>, and Rezan Demir Cakan<sup>2</sup>  
<sup>1</sup>Parahyangan Catholic Univ., Indonesia, <sup>2</sup>Gebze Technical Univ., Turkey

**We-A2-4** 14:45-15:00**Facile Synthesis and High Capacitance Performance of Copper Sulfide Nanotubes as Electrode Materials for Symmetric Supercapacitor**

Ting kai Zhao, Wenbo Yang, Xin Zhao, and Tiehu Li  
Northwestern Polytechnical Univ., China

**We-A2-5** 15:00-15:15**Synthesis of the 3D Porous Carbon-Manganese Oxide Nanocomposite (3D-C@MnO) and Its Supercapacitor Behavior Study**

Rakesh Kumar Sahoo<sup>1</sup>, Arya Das<sup>2</sup>, Saurabh Singh<sup>1</sup>, Saroj K. Singh<sup>2</sup>, Je Moon Yun<sup>1</sup>, Rajaram S. Mane<sup>1</sup>, and Kwang Ho Kim<sup>1</sup>  
<sup>1</sup>Pusan Nat'l Univ., <sup>2</sup>CSIR- Inst. of Minerals and Materials Tech., India