



# Scientific Program

20<sup>th</sup> International Conference on  
**Advanced Energy  
Materials and Research**

August 13-14, 2018 | Dublin, Ireland



**UK: Conference Series llc LTD**  
47 Churchfield Road, London, W3 6AY  
Toll Free: +0-800-014-8923

# DAY-1

August 13, 2018

Meeting Hall: **Library Suite**

08:30-09:00 Registrations

## Opening Ceremony . . . . . 09:00-09:25

### KEYNOTE FORUM

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09:25-09:30 Introduction

09:30-10:10 **Title: Biomass-derived activated carbon scaffolds for electrochemical energy storage**  
Xiaodong Li, University of Virginia, USA

10:10-10:50 **Title: Hydrogen generation in metal water reaction and strategies of storage**  
Jerzy. A. Szipunar, University of Saskatchewan, Canada

### GROUP PHOTO

**Networking & Refreshments 10:50-11:05**

11:05-11:45 **Title: Controlling energy bandgap of semiconducting materials for energy and environment**  
Hyoyoung Lee, Sungkyunkwan University, Republic of Korea

### Sessions: Advanced Energy Materials

**Chair:** Xiaodong Li, University of Virginia, USA

**Co-Chair:** Klaus D. Becker, TU Braunschweig, Germany

### INTRODUCTION

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11:45-12:10 **Title:  $^{57}\text{Fe}$  Mössbauer in situ study into oxygen vacancy disorder of BSCF,  $\text{Ba}_{0.5}\text{Sr}_{0.5}(\text{Co}_{0.8}\text{Fe}_{0.2})\text{O}_{3-6}$**   
Klaus D. Becker, TU Braunschweig, Germany

12:10-12:35 **Title: Comparison of the thermophysical properties of eutectic with peritectic compounds for thermal energy storage at high temperatures**  
Fouzia Achchaq, Université de Bordeaux, France

12:35-13:00 **Title: The role of atomic bond strengths and structural disorder in MXene materials for rechargeable ion-batteries**  
Wojciech Olszewski, University of Bialystok, Poland

**Lunch Break 13:00-13:40 @ Peacock Restaurant**

13:40-14:05 **Title: Laser processing of thermoelectric oxides**  
Nuno Ferreira, Universidade de Aveiro, Portugal

- 14:05-14:30 **Title: Porous materials in heat storage and reallocation applications**  
Natasa Zabukovec Logar, National Institute of Chemistry and University of Nova Gorica, Slovenia
- 14:30-14:55 **Title: Production and characterization of electroactive nickel oxides on nickel foam and self-standing nickel nanowires by anodic oxidation in molten salt for supercapacitor electrodes**  
Mustafa Urgan, Istanbul Technical University, Turkey
- 14:55-15:20 **Title: Materials for thermochemical energy storage: Experimental investigation of cycling stability**  
Marie Gollsch, German Aerospace Center, Germany

**Sessions: Nanotechnology and Energy Materials| Solar Energy Materials**

**Chair: Hyoyoung Lee**, Sungkyunkwan University, Republic of Korea

- 15:20-15:45 **Title: Flexible reduced graphene oxide based papers: Fabrication and properties**  
Tseung-Yuen Tseng, National Chiao Tung University, Taiwan
- 15:45-16:10 **Title: Multi-striped orthogonal photon-photocarrier-propagation solar cells (MOP<sup>3</sup>SCs) with new asymmetric redirection waveguides**  
Akira Ishibashi, Hokkaido University, Japan
- 16:10-16:35 **Title: Active materials for stable perovskite solar cells**  
Antonio Abate, Helmholtz-Center, Germany

**Networking & Refreshments 16:35-16:50 @ Foyer**

## Panel Discussion

# DAY-2

**August 14, 2018**

Meeting Hall: **Library Suite**

## KEYNOTE FORUM

- 09:00-09:05 Introduction
- 09:05-09:45 **Title: Promising oxyborates for solid-oxide fuel cell applications**  
Olivier Joubert, University of Nantes, France
- 09:45-10:25 **Title: Organic biosourced phase change materials for seasonal thermal energy storage**  
Marie Duquesne, Institute of Technology of Bordeaux, France

**Networking & Refreshments 10:25-10:40 @ Foyer**

Sessions: Polymer Materials| Electrical, Optical and Magnetic Materials| Mining, Metallurgy and Materials Science

Chair: Marie Duquesne, Institute of Technology of Bordeaux, France

## INTRODUCTION

- 10:40-11:05 **Title: Graphene-Silicon Schottky heterojunctions for optoelectronic applications**  
Antonio Di Bartolomeo, University of Salerno, Italy
- 11:05-11:30 **Title: Polyacetylene: Myth, reality and a way forward**  
Bruce S. Hudson, Syracuse University, USA
- 11:30-11:55 **Title: A sustainable technology for extraction of cobalt and nickel from laterite ores**  
Guangqing Zhang, University of Wollongong, Australia
- 11:55-12:20 **Title: The phenomenological energy model of orthotropic nonlinear elastic material on the example of rolled sheet of cylindrical tank**  
Maciej Obst, Poznan University of Technology, Poland
- 12:20-12:45 **Title: The modeling of selected mechanical properties of plastic materials under influence of complex external load state**  
Dariusz Kurpisz, Poznan University of Technology, Poland

Lunch Break 12:45-13:20 @ Peacock Restaurant

Sessions: Advanced Nanomaterials |Advanced Graphene Materials| Hydrogen Energy

Chair: Jerzy. A. Szpunar, University of Saskatchewan, Canada

- 13:20-13:45 **Title: Recent progressive of two-dimensional materials for terahertz detection**  
Lin Wang, Shanghai Institute of Technical Physics, China
- 13:45-14:10 **Title: Towards sensitive terahertz detection via thermoelectric manipulation in graphene transistors**  
Gang Chen, Shanghai Institute of Technical Physics, China

## YRF

- 14:10-14:25 **YRF: Superior hydrogenation/dehydrogenation kinetics of MgH<sub>2</sub> nanopowders upon mechanical doping with amorphous Zr<sub>2</sub>Ni**  
Fahad Al-Ajmi, Kuwait Institute for Scientific Research, Kuwait
- 14:25-14:40 **YRF: Window ventilation system with Artificial neural network for reducing fine dust indoors**  
Young Kwon Yang, Chung-Ang University, South Korea

## POSTER SESSION @ LUCAN ROOM 14:40-15.40

Poster Judge: Antonio Di Bartolomeo, University of Salerno, Italy

- AEM-01 **Title: TEM studies of epitaxial oxide films for advanced all-solid Li-ion batteries**  
Leonid A. Bendersky, National Institute of Standards and Technology, USA

AEM-02

**Title: Asymmetric rolling of polycrystalline metals: modification of microstructure and mechanical properties**

Krzysztof Wierzbanski, AGH University of Science and Technology, Poland

AEM-03

**Title: Water contained ionic liquid medium for V(III)(acac)<sub>3</sub> reduction: A paired electrolysis and application studies.**

Il-Shik Moon, Suncheon National University, South Korea

AEM-04

**Title: New approach for local treatment of defects on glazed ceramics by CO<sub>2</sub> laser**

Nuno Ferreira, Universidade de Aveiro, Portugal

AEM-05

**Title: Supportless Ag-Rh bimetallic nanostructures as efficient cathodic electrocatalyst for dioxygen reduction in alkaline fuel cells**

Il-Shik Moon, Suncheon National University, South Korea

AEM-06

**Title: Advances in room temperature fluoride-ion batteries**

Palanivel Molaiyan, Tallinn University of Technology, Estonia

Networking & Refreshments 15:40-16:00 @ Foyer

## PANEL DISCUSSION

## Awards & Closing Ceremony

# Bookmark your Dates

## 21<sup>st</sup> International Conference on Advanced Energy Materials and Research

July 11-12, 2019 | Zurich, Switzerland

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