



# Smart Materials for Solar Energy Harvesting 2016

12 – 13 Dec 2016 (Mon – Tue)



Host: Departments of Chemistry, Electronic Engineering and Physics, The Chinese University of Hong Kong

Supported by:



25 The Chinese University of Hong Kong  
FACULTY OF ENGINEERING

Vice-Chancellor's Discretionary Fund, CUHK

Seminars: TY Wong Hall, 5/F, Ho Sin Hang Engineering Building, CUHK

Poster session: (Concurrent to seminars) Room 603, Ho Sin Hang Engineering Building, CUHK

## Day 1: Dec 12, 2016 (Monday)

9:00 – 9:15 **Opening Remarks** – Prof. CP Wong, Dean of Engineering, CUHK

### Photovoltaics: General

9:15 – 10:00 **Keynote Speech: PV Development in China and Future Forecast**  
Sicheng Wang, National Development and Reform Commission (NDRC), China

10:00 – 10:30 **Invited Speech: Synchrotron X-ray scattering based thin film solar cell studies**  
Xinhui Lu, The Chinese University of Hong Kong

10:30 – 11:00 *Coffee Break*

### Alternative Energy

11:00 – 11:45 **Keynote Speech: A Nanowire Tool Box and Emergent Macroscopic Nanowire Assemblies for Energy Conversion and Storage**  
Shuhong Yu, University of Science and Technology of China

11:45 – 12:15 **Invited Speech: Plasmonic Enhancement of Chemical Reactions**  
Jianfang Wang, The Chinese University of Hong Kong

12:15 – 13:45 *Lunch*

### Thin film Compound Semiconductor Solar Cells:

13:45 – 14:30 **Keynote Speech: Thin-Film Solar Cells and Modules based on CIGS: Cell Efficiencies of 22.6%, Highly Productive Processes and Future Aspects**  
Michael Powalla, Center for Solar Energy and Hydrogen Research, Germany

14:30 – 15:00 **Invited Speech: Surfactant and alloying strategies to reduce Zn rich secondary phases in CZTS**  
Junyi Zhu, The Chinese University of Hong Kong

15:00 – 15:30 **Invited Speech: Industrialization of CIGS-based Flexible Solar Cells**  
Jiakuan Zhu, Shine Technology, Zhejiang, China

15:30 – 16:00 *Coffee Break*

16:00 – 16:30 **Invited Speech: Sb<sub>2</sub>Se<sub>3</sub>: A Non-toxic Alternative to CdTe for Thin Film Solar Cells?** Jiang Tang, Huazhong University of Science and Technology (HUST)

16:30 – 17:00 **Invited Speech: Above 10% Efficiency Cu<sub>2</sub>ZnSn(S,Se)<sub>4</sub> Thin Film Solar Cell Fabricated by Magnetron Sputtering.** Yi Zhang, NanKai University, China

17:00 – 17:30 **Invited Speech: Comparative Study of CIGS and CZTS Thin Film Solar Cells**  
Chunlei Yang, Shenzhen Institutes of Advanced Technology (SIAT), Shenzhen

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## Day 2: Dec 13, 2016 (Tuesday)

### Pervoskite & OPV:

- |               |                                                                                                                                                                                                                                    |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30 – 10:15  | <b>Keynote Speech: Metal Halide Perovskite Solar Cells</b><br>Henry Snaith, University of Oxford, UK                                                                                                                               |
| 10:15 – 10:45 | <b>Invited Speech: A new room temperature approach for forming high performance CH<sub>3</sub>NH<sub>3</sub>PbI<sub>3</sub> solar cells with good productivity and stability</b><br>Wallace C.H. Choy, The University of Hong Kong |
| 10:45 – 11:15 | <i>Coffee Break</i>                                                                                                                                                                                                                |
| 11:15 – 12:00 | <b>Keynote Speech: Fully Printable Mesoscopic Solar Cells Based on Triple Mesoscopic Layers</b><br>Hongwei Han, Huazhong University of Science and Technology, China                                                               |
| 12:00 – 12:30 | <b>Invited Speech: Temperature dependent aggregation enables organic solar cells with efficiency up to 11.7%</b><br>Zhang Guangye, The Hong Kong University of Science & Technology                                                |
| 12:30 – 14:00 | <i>Lunch</i>                                                                                                                                                                                                                       |
| 14:00 – 14:30 | <b>Invited Speech: Novel Thienoacene-Based Semiconducting Materials for Organic Solar Cells</b><br>Ricky M.S. Wong, Hong Kong Baptist University                                                                                   |
| 14:30 – 15:00 | <b>Invited Speech: High Efficiency Perovskite-based Photovoltaic Cells Fabricated on TiO<sub>2</sub> Nanorod/FTO Substrates</b><br>Charles Surya, The Hong Kong Polytechnic University                                             |
| 15:00 – 15:30 | Poster Award Presentation                                                                                                                                                                                                          |

### Organizing Committee:

Prof. Jianbin Xu, Department of Electronic Engineering and Director of Materials Science and Technology Research Center, CUHK

Prof. Xudong Xiao, Department of Physics, CUHK

Prof. Jimmy Yu, Choh-Ming Li Professor of Chemistry and Head of United College, CUHK

Miss Mandy Tse, Project Manager, Faculty of Engineering, CUHK

**Enquiry and registration: Tel: 3943-8450; Email: [mandytse@erg.cuhk.edu.hk](mailto:mandytse@erg.cuhk.edu.hk)**