

# GOLDEN ACADEMY

## Message from the organizers

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Dear Colleagues and Friends,

2015 International Conference for Leading and Young Materials Scientists (IC-LYMS 2015) will be held in Sanya, China, during December 24-27 2015.

IC-LYMS is being held every year and intends to provide a platform for the exchange and networking between top scientists, emerging young researchers, and students across a wide spectrum of materials science and engineering.

We would like to invite you to participate in IC-LYMS 2015. Your active participation is the key to the success of this conference.



Yours Sincerely,

IC-LYMS 2015 Committee

Asia Pacific Society for Materials Science (APSMR)

[www.apsmr.org](http://www.apsmr.org)



# GOLDEN ACADEMY

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## Conference organizing committee

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### CONFERENCE CHAIRS

Prof. Masahiko IKEDA (Kansai University)

Prof. Xiaomin LI (Shanghai Institute of Ceramics, Chinese Academy of Sciences)

Prof. Wenbo YUE (Beijing Normal University)

Prof. Zhaoyin WEN (Shanghai Institute of Ceramics, Chinese Academy of Sciences)

Prof. Jun YANG (Shanghai Jiao Tong University)

Prof. Bingsuo ZOU (Beijing Institute of Technology)

Prof. Jinshu WANG (Beijing University of Technology)

Prof. Baolong SHEN (Southeast University)

Prof. Xianyu DENG (Harbin Institute of Technology Shenzhen Graduate School)

Prof. Chuanliang FENG (Shanghai Jiaotong University)

Prof. Peng CHEN (Nanyang Technological University)

Prof. Jong Yuh CHERNG (National Chung Cheng University)

Prof. Ling ZHANG (Chongqing University)

Dr. Rudder WU (National Institute for Materials Science)



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## **Conference organizing committee (Continued from previous section)**

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### **CONFERENCE PROGRAM DIRECTORS**

**Dr. Yingxue SONG (APSMR)**

### **CONFERENCE SECRETARIAT**

**Ms. Yangjun HU (APSMR)**



# GOLDEN ACADEMY

## Conference topics

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1. **Structure materials and Functional Coatings (metals, ceramics, and composites)**
2. **Materials for energy (saving, conversion, transfer, storage) and environment plus electrochemistry**
  - 2.1. **Photovoltaics**
  - 2.2. **Batteries and Fuel Cells**
  - 2.3. **Materials for Thermal Management and Thermal Energy Utilization**
  - 2.4. **Materials for Energy and Environmental Applications**
3. **Optics and Photonic Materials**
4. **Electronic, Magnetic and Nanomaterials**
5. **Polymer Science and Molecular Chemistry**
6. **Organic Materials and Bio-materials**
7. **Materials Characterization and Computational Modeling**

	THU, 12/24	FRI, 12/25	SAT, 12/26	SUN, 12/27
9:30 – 10:30	Pre-session technical and discussion forums	Oral Presentation		
10:30 – 10:40		Coffee & Tea Break		
10:40 – 12:30		Oral Presentation		
12:30 – 13:30	Conference Registration	Lunch Break		
13:30 – 15:00		Oral Presentation		Optional Excursion
15:00 – 15:15		Coffee & Tea Break		
15:15 – 17:45		Oral Presentation		
17:45 – 18:00			Break	
18:00 – 18:30	Poster Session			
18:30 – 20:30	Conference Banquet			
20:30 – 22:00	Conference Reception			

# GOLDEN ACADEMY

## Presentation List (Room A)

	THU, 12/24	FRI, 12/25	SAT, 12/26	SUN, 12/27
9:30 – 10:30	Staff Meeting	1. Z.Q. PENG 2. L. CHEN	13. X.F. WANG 14. B.S. ZOU	25. Reserved 26. Reserved
10:30 – 10:40		Coffee & Tea Break		
10:40 – 12:30		3. C. SHEN 4. R.B. JIANG 5. W.S. YANG 6. J. SHEN	15. Y.L. CAO 16. Tao ZHANG 17. R.J. CHEN 18. X. LI	N/A
12:30 – 13:30		Lunch Break		
13:30 – 15:00		7. Q.X. GUO 8. X.D. GAO 9. X.X. GUO	19. Y. REN 20. Y.Z. ZHANG 21. J. WANG	Optional Excursion
15:00 – 15:15	Conference Registration	Coffee & Tea Break		
15:15 – 17:45		10. M. IKEDA 11. K. CHO 12. Q.X. ZHU	22. Y.S. HU 23. J.L. WANG 24. Z.J. BI	
17:45 – 18:00			Break	
18:00 – 18:30			Poster Session	
18:30 – 20:30			Conference Banquet (Approx. 2 hrs)	
20:30 – 22:00	Reception			

# GOLDEN ACADEMY

## Presentation List (Room B)

	THU, 12/24	FRI, 12/25	SAT, 12/26	SUN, 12/27
9:30 – 10:30	Staff Meeting	1. Q.B. WANG 2. J. JIN	13. W.C. WANG 14. J. SUN	25. Reserved 26. Reserved
10:30 – 10:40		Coffee & Tea Break		
10:40 – 12:30		3. D.A. WANG 4. W. CHEN 5. J. JIANG 6. Q. CHEN	15. C.J. XU 16. C.M. WANG 17. C. YANG 18. W.L. SONG	N/A
12:30 – 13:30		Lunch Break		
13:30 – 15:00		7. D.J. CHENG 8. C.L. LI 9. T.M. WANG	19. M.F. SHIH 20. J. DU 21. L.T. HOU	Optional Excursion
15:00 – 15:15	Conference Registration	Coffee & Tea Break		
15:15 – 17:45		10. J.H. XU 11. C. SHI 12. L. LI	22. D.P. YAN 23. J. PENG 24. Ting ZHANG	
17:45 – 18:00			Break	
18:00 – 18:30			Poster Session	
18:30 – 20:30			Conference Banquet (Approx. 2 hrs)	
20:30 – 22:00	Reception			

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## Presentations for IC-LYMS 2015

### FRIDAY 12/25

#### LIST ROOM A

1. Oxygen Electrochemistry in Aprotic Li-O<sub>2</sub> Batteries (Z.Q. PENG)
2. High-Voltage Aqueous Metal-ion Batteries: Looking Beyond Li-ion Technology (L. CHEN)
3. In situ AFM study of solid electrolyte interface in lithium-ion batteries (C. SHEN)
4. Visible-light directional scattering of colloidal moderate-refractive-indexed Cu<sub>2</sub>O nanospheres (R.B. JIANG)
5. Controllable synthesis of carbon-based nanomaterials for energy storage and conversion based on interlayer confined reaction (W.S. YANG)
6. The Research of Magnetocaloric Materials and Magnetic Refrigerators (J. SHEN)
7. Epitaxial Growth and Characterization of Nitride Semiconductors for Multi-Junction Tandem Solar Cells (Q.X. GUO)
8. Design and Manipulation of Photovoltaic Nanostructures Towards Enhanced Light-Harvesting Capacities (X.D. GAO)
9. Rechargeable Li batteries and their combination with photovoltaics (X.X. GUO)
10. Effect of Zr addition on Phase Constitution and Heat Treatment behavior of Ti-25mass%Nb alloys (M. IKEDA)
11. Improvement of strength—ductility balance of  $\beta$ -type Ti alloys using a nano-sized  $\omega$  phase and twinning-induced plasticity (K. CHO)

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12. Interfacial coupling mechanism in magnetoelectric composite films based on high-performance PMN-PT ferroelectric single crystals (Q.X. ZHU)

## **LIST ROOM B**

1. Ag<sub>2</sub>S Quantum Dot: A New Near-Infrared-II Fluorescence Nanoprobe for In Vivo Bioimaging (Q.B. WANG)
2. Porous Membranes: Design, Fabrication, and Application (J. JIN)
3. Living Hyaline Cartilage Graft (LhCG) for Cartilage Repair and Anti-Arthritis Drug Evaluation (D.A. WANG)
4. Smart Materials for Energy Storage and Conversion: Carbon Nanotube and Graphene based Bio-inspired Electrochemical Actuators (W. CHEN)
5. Controlled Synthesis of Au-CuS Heterodimers with Enhanced Light Absorption for Photothermal Therapy in the Second NIR Window (J. JIANG)
6. Hybrid Double Network Hydrogels with High Strength and Toughness (Q. CHEN)
7. Transition metal alloy surfaces and nanoalloys as catalysts for fuel cell application (D.J. CHENG)
8. Exploring novel structure prototype and reaction mechanism: From Li- to Na-based batteries (C.L. LI)
9. Real time and In Situ Imaging on Solidification Behavior of Metallic Alloy (T.M. WANG)
10. Multiphase flow control in microfluidics for novel functional materials preparation (J.H. XU)



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11. Highly Active  $\alpha$ -MoC<sub>1-x</sub> Supported Metal Catalysts for Low Temperature Water Gas Shift Reaction (C. SHI)

12. Carbon Membranes for Gas Separation: Synthesis, Structure and Properties (L. LI)

## **SATURDAY 12/26**

### **LIST ROOM A**

13. TBA (X.F. WANG)

14. Optical properties of several dilute magnetic semiconductor nanostructures (B.S. ZOU)

15. Study on Cathode and Anode Materials for Sodium Ion Batteries (Y.L. CAO)

16. From Li-oxygen to Li-air batteries: new materials and devices (Tao ZHANG)

17. Key materials for lithium sulfur batteries with high specific energy (R.J. CHEN)

18. The application of plasma treatment for Ti<sup>3+</sup> modified TiO<sub>2</sub> nanowires film electrode with enhanced lithium-storage properties (X. LI)

19. Multi-dimensional materials for Li-ion batteries (Y. REN)

20. Broadband high photoresponse graphene photodetector (Y.Z. ZHANG)

21. Effect of anisotropic lattice strain in complex oxides (J. WANG)

22. Development of Stationary Sodium-ion Batteries (Y.S. HU)

23. Critical Materials for Lithium Sulfur Batteries (J.L. WANG)

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24. A novel nanocomposite of WO<sub>3</sub> modified Al-doped ZnO nanowires with enhanced electrochromic performance (Z.J. BI)

## **LIST ROOM B**

13. Multiscale modeling and preparations of nano-porous materials: H<sub>2</sub> storage and CO<sub>2</sub> capture (W.C. WANG)
14. Strategy on the design of Graphene-based composites for lithium ion batteries (J. SUN)
15. Cell Labeling and Imaging with Smart Nanoparticles (C.J. XU)
16. Modulation of innate immune cells with polymer tools for therapeutic applications (C.M. WANG)
17. Nickel Nanowire Nonwoven Cloth for Supercapacitor Applications (C. YANG)
18. The researches on cells adhesion on the biocompatible polymer surface with superwettability (W.L. SONG)
19. Possible mechanisms of di(2-ethylhexyl) phthalate (DEHP)-induced MMP-2 and MMP-9 expression and cell migration in rat A7r5 aorta vascular smooth muscle cells (M.F. SHIH)
20. A highly sensitive DNA biosensor based on polycation-chaperoned system for single-base mismatch detection (J. DU)
21. From spin coating to doctor blading: A systematic study on the photovoltaic performance of an isoindigo-based polymer (L.T. HOU)
22. Tailoring Molecular Solid-state Luminescent Properties by the Use of Cocrystal Formation (D. P. YAN)

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23. Synthesis, Nanostructure Control and Properties of Conjugated Polymer Based Block Copolymers (J. PENG)

24. Flexible Electronic Skins based on Carbon Nanomaterials for Wearable/attachable Health Applications (Ting ZHANG)

## **POSTER SESSION**

P1. Multifunctional PEI-entrapped gold nanoparticles enable efficient delivery of therapeutic siRNA into glioblastoma cells (L.D. KONG)

P2. A gel-ceramic multi-layer electrolyte for long-life lithium sulfur batteries (Q. S. WANG)

P3. Highly Efficient Perovskite Solar Cells with Magnetron Sputtered TiO<sub>2</sub> Blocking Layer Based on Poly(3-hexylthiophene) Hole Transport Layer (S.D. ZHANG)

P4. A novel contrast agent based on alginate nanogels for dual mode MR/CT imaging (W.J. SUN)

P5. A novel doped carbon catalyst derived from nori biomass with graphene-like structure for high performance Li-Oxygen batteries (X.Y. ZENG)

P6. Microstructure and band gap modulation of SrSn<sub>1-x</sub>CoxO<sub>3</sub> epitaxial thin films via pulsed laser deposition (X.M. HU)

P7. A New PAA-Modified Polymer Binder for Silicon Anodes in Lithium-ion Batteries (Z.X. XU)