GOLDEN ACADEMY

Message from the organizers

Dear Colleagues and Friends,

2016 International Symposium for Advanced Materials Research (ISAMR 2016) will be held in Sun Moon Lake, Taiwan during August 11-14 2016.

ISAMR 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 ISAMR 2016. Your active participation is the key to the success of this conference.

Yours Sincerely,

ISAMR 2016 Committee

Asia Pacific Society for Materials Science (APSMR)

www.apsmr.org

GOLDEN ACADEMY

Conference organizing committee

CONFERENCE CHAIRS

Prof. Mitsuhiro OKAYASU (Okayama University)

Prof. Osamu UMEZAWA (Yokohama National University)

Prof. Song-Jeng HUANG (National Taiwan University of Science and Technology)

Prof. Hong-Wen WANG (Chung-Yuan Christian University)

Prof. Rong Ho LEE (National Chung Hsing University)

Prof. Shiow-Kang YEN (National Chung Hsing University)

Prof. Vincent K. S. HSIAO (National Chi Nan University)

Prof. Genxiang CHEN (Minzu University of China)

Prof. Chien-Lung WANG (National Chiao Tung University)

Prof. Yasumasa KANEKIYO (Kitami Institute of Technology)

Prof. Kuen-Chan LEE (National Taipei University of Education)

Prof. Chuenhou OUYANG (National Tsing Hua University)

Prof. Rudder WU (National Institute for Materials Science)

CONFERENCE PROGRAM DIRECTORS

Dr. Yingxue SONG (APSMR)

Prof. Chau-Chang CHOU (National Taiwan Ocean University)

CONFERENCE SECRETARIAT

Ms. Yaru WU (APSMR)

RESEARCH·ASIA PACIFIC SOCIETY FOR MATERIALS
APSMR

GOLDEN ACADEMY

Conference topics

1. Structure materials and Functional Coatings (metals, ceramics, and composites): No. H(2, 13), No. 1(10-11, 14-22)

2. Materials for energy (saving, conversion, transfer, storage) and environment plus electrochemistry

- ***2.1. Photovoltaics: No. H(12), No. 1(25), No. 2(3-5, 14-16)***
- ***2.2. Rechargeable Batteries and Fuel Cells: No. 2(6-8, 17)***
- ***2.3. Materials for Thermal Management and Thermal Energy Utilization: No. 1(24)***
- ***2.4. Materials for Energy and Environmental Applications: No. 1(9), No. 2(9-11)***

3. Optics and Photonic Materials: No. H(4), No. 1(23), No. 3(3-8, 23-25)

4. Electronics, Magnetics and Nanomaterials: No. 3(14-21)

5. Polymer Science and Molecular Chemistry: No. H(1), No. 1(3-8)

6. Organic Materials and Biomaterials: No. H(14), No. 2(18-22)

7. Theory, Characterization and Computational Modeling of Materials: No. H(3, 15), No. 3(9-11)

<table>
<tr><th></th><th>THU, 08/11</th><th>FRI, 08/12</th><th>SAT, 08/13</th><th>SUN, 08/14</th></tr>
<tr><td>9:00 – 10:20</td><td rowspan="3">Pre-session technical and discussion forums</td><td colspan="3">Plenary Presentation</td></tr>
<tr><td>10:20 – 10:40</td><td colspan="3">Coffee & Tea Break</td></tr>
<tr><td>10:40 – 12:10</td><td colspan="3">Oral Presentation</td></tr>
<tr><td>12:15 – 13:15</td><td rowspan="3"></td><td colspan="2">Lunch Break</td><td rowspan="6">Conference Excursion</td></tr>
<tr><td>13:20 – 14:50</td><td colspan="2">Oral Presentation</td></tr>
<tr><td>14:50 – 15:00</td><td colspan="2">Coffee & Tea Break</td></tr>
<tr><td>15:00 – 16:30</td><td rowspan="2">Conference Registration</td><td colspan="2">Oral Presentation</td></tr>
<tr><td>17:00 –18:30</td><td rowspan="2"></td><td>Poster Session</td></tr>
<tr><td>19:00 –20:30</td><td></td><td>Conference Banquet (Approx. 1.5 hrs)</td></tr>
<tr><td>20:30 – 22:00</td><td>Reception</td><td colspan="3"></td></tr>
</table>

GOLDEN ACADEMY

Presentation List (Hall)

	THU, 08/11	FRI, 08/12	SAT, 08/13	SUN, 08/14
9:00 – 10:20	Pre-session technical and discussion forums	1. A. HIRAO 2. H. HARADA	12. C.T. CHEN 13. T. KVACKAJ	
10:20 – 10:40		Coffee & Tea Break		
10:40 – 12:10		3. N. OZAKI 4. M. TERAZIMA 5.	14. P.K.L. CHAN 15. Y.M. HU 16.	
12:15 – 13:15		Lunch Break		Conference Excursion
13:20 – 14:50				
14:50 – 15:00		Coffee & Tea Break		
15:00 – 16:30	Conference Registration			
17:00 – 18:30			Poster Session	
19:00 – 20:30			Conference Banquet (Approx. 1.5 hrs)	
20:30 – 22:00	Reception			

GOLDEN ACADEMY

Presentation List (No. 1 Meeting Room)

	THU, 08/11	FRI, 08/12	SAT, 08/13	SUN, 08/14
9:00 – 10:20	Pre-session technical and discussion forums			
10:20 – 10:40		Coffee & Tea Break		
10:40 – 12:10		3. Y. KANEKIYO 4. P.C. YANG 5. H. ENDO	14. M. HASEGAWA 15. Y.S. LEE 16. G. OZEKI	23. H. XU 24. S.L. CHUNG 25. L. WORANAN
12:15 – 13:15		Lunch Break		Conference Excursion
13:20 – 14:50		6. C.L. WANG 7. Y.C. CHIU 8. C.H. PENG	17. H.H. LIU 18. K. BAMBA 19. N. KOGA	
14:50 – 15:00		Coffee & Tea Break		
15:00 – 16:30	Conference Registration	9. S.C. JUN 10. J. BIDULSKA 11. C.C. LIN	20. S. TAKEUCHI 21. T. YAMASHITA 22. D.H. BAE	
17:00 – 18:30			Poster Session	
19:00 – 20:30			Conference Banquet (Approx. 1.5 hrs)	
20:30 – 22:00	Reception			

GOLDEN ACADEMY

Presentation List (No. 2 Meeting Room)

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<tr><td>9:00
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<tr><td>10:20
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10:40</td><td colspan="3">Coffee & Tea Break</td></tr>
<tr><td>10:40
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12:10</td><td>3. C.S. CHOU
4. D. CAO
5. Y.C. CHAO</td><td>14. R.H. LEE
15. T.Y. WU
16. C.P. CHEN</td><td></td></tr>
<tr><td>12:15
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13:15</td><td rowspan="3"></td><td colspan="2">Lunch Break</td><td rowspan="6">Conference Excursion</td></tr>
<tr><td>13:20
–
14:50</td><td>6. S. KAWASAKI
7. N.L. WU
8. J.S. DO</td><td>17. Y.S. YANG
18. C.K. CHEN
19. B. SAHA</td></tr>
<tr><td>14:50
–
15:00</td><td colspan="2">Coffee & Tea Break</td></tr>
<tr><td>15:00
–
16:30</td><td rowspan="2">Conference Registration</td><td>9. J. OH
10. M. HONDA
11. T. LU</td><td>20. C.Y. LIN
21. Y. SASAKI
22. E.C. CHO</td></tr>
<tr><td>17:00
–
18:30</td><td rowspan="2"></td><td>Poster Session</td></tr>
<tr><td>19:00
–
20:30</td><td></td><td>Conference Banquet
(Approx. 1.5 hrs)</td></tr>
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22:00</td><td>Reception</td><td colspan="3"></td></tr>
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GOLDEN ACADEMY

Presentation List (No. 3 Meeting Room)

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<tr><td>10:20
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10:40</td><td colspan="3">Coffee & Tea Break</td></tr>
<tr><td>10:40
–
12:10</td><td>3. C.Y. CHEN
4. C.P. YU
5. I.C. LIN</td><td>14. T. MATSUDA
15. W. JUNG
16. P.H. LEE</td><td>23. W.Z. WANG
24. H.S. PENG
25. S. FENG</td></tr>
<tr><td>12:15
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13:15</td><td rowspan="3"></td><td colspan="2">Lunch Break</td><td rowspan="6">Conference Excursion</td></tr>
<tr><td>13:20
–
14:50</td><td>6. I. LO
7. T. MATSUSHITA
8. M.K. LEUNG</td><td>17. K. KADOWAKI
18. Y.L. LAI
19. K. OKA</td></tr>
<tr><td>14:50
–
15:00</td><td colspan="2">Coffee & Tea Break</td></tr>
<tr><td>15:00
–
16:30</td><td rowspan="3">Conference Registration</td><td>9. P.L. LIU
10. Y.J. HUNG
11. C.H. HSIAO</td><td>20. J.U. PARK
21. P. LIU
22. Reserved</td></tr>
<tr><td>17:00
–
18:30</td><td rowspan="2"></td><td>Poster Session</td></tr>
<tr><td>19:00
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</table>

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Presentations for ISAMR 2016

FRIDAY 08/12

Hall

1. Living anionic polymerization of 1,4-divinylbenzene and its derivatives (A. HIRAO)
2. **Advanced high temperature materials for next generation aeroengines and gas turbines (H. HARADA)**
3. High axial resolution imaging of optical coherence tomography using a broadband near-infrared superluminescent diode based on self-assembled InAs quantum dots (N. OZAKI)
4. Advanced light sensing natural proteins that can detect light intensity (M. TERAZIMA)

Meeting Room No 1

3. Dye-displacement strategies for colorimetric sensing toward various compounds (Y. KANEKIYO)
4. Synthesis and chemosensory properties of conjugated polymers containing terminal terpyridine moiety through raft living polymerization and coupling reaction (P. C. YANG)

5. Bio-inspired multifunctional wrinkled film based on mechanical buckling instability (H. ENDO)
6. Conformations and self-organization of morphable molecular nanoparticles (C.L. WANG)
7. Intrinsically stretchable and healable semiconducting polymer for wearable organic transistors (Y.C. CHIU)
8. From CMRP to ATRP: the synthesis and application of conjugated-unconjugated block copolymers (C. H. PENG)
9. Nanostructured cobalt hydroxide (1d and 2d) decorated freestanding 3d graphene foam for high performance supercapacitor (S.C. JUN)
10. Different formation routes of pore structure in aluminium pm alloy processed by various processing routes (J. BIDULSKA)
11. Effect of WS2 inorganic nanotubes on mechanical properties and microstructure of Mg alloy composites (C.C. LIN)

Meeting Room No 2

3. Applications of TiO_2/ CZTSe/bamboo-charcoal-powder composite particles in dye-sensitized solar cells to increase the photoelectron current and voltage (C.S. CHOU)

4. Synthesis and photovoltaic performance of the phenothiazine-based organic dyes (D. CAO)
5. Optoelectronic device based on polymer and perovskite materials (Y.C. CHAO)
6. Functional molecules encapasulated in single-walled carbon nanotubes for post Li ion batteries (S. KAWASAKI)
7. Study on microstrucutral evolution of working Li-ion battery electrodes with in-operando synchrotron transmission X-ray microscopy (N.L. WU)
8. A facile electrochemical and calcination route to prepare binder free CoO/polypyrrol anode for lithium ion battery (J.S. DO)
9. Efficient silicon photoelectrochemical cells for solar CO_2 reduction (J. OH)
10. Heterogeneous ceo2-based catalysts for the direct CO_2 conversion to carbonates and carbamates (M. HONDA)
11. CO_2 and viscosity breaker assisted steam huff and puff technology for horizontal wells in a super-heavy oil reservoir (T. LU)

Meeting Room No 3

3. Si nanostructures for advanced optoelectronic applications (C.Y. CHEN)
4. Optically tunable fiber devices by using photoresponsive photonic crystals (C.P. YU)
5. Potential applications of graphene (I.C. LIN)

6. Fabrication of InGaN/GaN microdisks for RGB micron light-emitting diodes (I. LO)
7. Recent progress of AlGaAs wavelength conversion devices (T. MATSUSHITA)
8. Design of high efficiency host molecules for blue PHOLED (M.K. LEUNG)
9. Ab initio quantum mechanical studies for hetero-epitaxial integration of dissimilar crystalline films (P.L. LIU)
10. Revisit band diagram and field distribution on a squarely-modulated slab metallic gratings (Y.J. HUNG)
11. Domain wall pinning on strain relaxation defects (stacking faults) in nanoscale (001) oriented FePd/MgO thin films (C.H. HSIAO)

SATURDAY 08/13

Hall

12. Bromide surfactant additive in cathode interlayer for enhacing efficiency of polymer and perovskite photovoltaics (C.T. CHEN)
13. Structural characteristics of cryo rolled steel (T. KVACKAJ)
14. High performance organic chemical transistor for saliva glucose sensing (P.K.L. CHAN)
15. Resistive switching mechanism of Au/Ta2O5/n-Si film device (Y.M. HU)

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Meeting Room No 1

14. Delamination property of air plasma-sprayed thermal barrier coatings: effect of difference in microstructure of bond coat layer (M. HASEGAWA)
15. Effect of solid-solution strengthening on fatigue strength of spinal fixation device using β-type titanium alloys (Y.S. LEE)
16. Effect of crystal orientation on creep crack growth behavior for directionally solidified Ni-base superalloy based on numerical analysis (G. OZEKI)
17. Microstructural and texture evolution in Ti-6Al-4V joints fabricated by friction stir welding below beta-transus temperature (H.H. LIU)
18. A study of domain switching characteristics of PZT ceramics (K. BAMBA)
19. Visualization of strain distribution in deformed metal materials by digital image correlation method (N. KOGA)
20. Material properties of cast Al-Mg alloy (hydronalium) (S. TAKEUCHI)
21. A review of the stability of retained austenite and transformaton behavior in trip steels at low temperature (T. YAMASHITA)
22. Assessing mechanical properties and electro-chemical corrosion characteristics of dissimilar material weld between alloy617 and 12Cr steel (D.H. BAE)

Meeting Room No 2

14. Organic semiconductor materials for electro-optical applications (R.H. LEE)
15. The developments and applications of conjugated polymers in electrochromic devices (T.Y. WU)
16. Enhanced performance of organic and perovskite photovoltaics from device engineering (C.P. CHEN)
17. Sealant for intermediate temperature solid oxide fuel cell: Effects of Al_2O_3 on (SrO-SiO_2-B_2O_3)-Al_2O_3 glass (Y.S. YANG)
18. Polylactide as a versatile nanoplatform for therapeutic agent delivery (C.K. CHEN)
19. Reduced graphene oxide based biosensor for detection of pH and bacteria (B. SAHA)
20. Nanostructured copper bismuth oxide in photoelectrocatalytic and electrocatalytic applications (C.Y. LIN)
21. Self-organization of reconfigurable topological defect arrays in nematic liquid crystals (Y. SASAKI)
22. The anti-ROS capacity and biocompatibility of novel titanium dioxide nanomaterials (E.C. CHO)

Meeting Room No 3

14. Evaluation of defects in oxide semiconductors using electron spin resonance (ESR) (T. MATSUDA)

15. Ultraconformal contact transfer of monolayer graphene on metal to various substrates (W. JUNG)
16. New double-perovskite antiferromagnetic insulators: $BiPbCrMnO_6$ and $BiPbCrTcO_6$ (P.H. LEE)
17. Coherent terahertz emitters for the next generation: high-Tc superconducting synchronized IJJ devices (K. KADOWAKI)
18. ESD plasma etching for TFT LCDs (Y.L. LAI)
19. Temperature-independent, large dielectric constant induced by vacancy and partial anion order in the oxyfluoride pyrochlore Pb2Ti2O6−δF2δ (K. OKA)
20. Stretchable, transparent devices for wearable electronics (J.U. PARK)
21. Electrochromic properties of an organic–inorganic composite material (P. LIU)

POSTER SESSION

P1. Phase texture of austenite stainless steels after the permanent deformation (S. TOMIDA)

P2. Effect of microstructural formation on the mechanical properties of copper alloys (T. MURANAGA)

P3. Influence of additional particles on the mechanical properties of aluminum alloys produced by several casting technologies (N. SAHARA)

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P4. Newly developed die-casting metal sleeve for creation of high quality cast metals (S.H. WU)

P5. Texture formation of alumina coating by aerosol deposition and subsequent heat treatment (M. KOMURO)

P6. Effects of SiC contents on the fatigue crack growth behavior of as-cast and extruded SiC - reinforced AZ61 metal matrix composite (A. NEGASH)

P7. Enhanced photovoltaic performance of P3HT:PC61BM based inverted polymer solar cells by incorporating graphene nanosheet/AgNPs nanohybrids (S.H. WANG)

P8. Photovoltaic performance of dye-sensitized solar cell with transparent macroporous anti-ultraviolet photonic crystal coatings (H.Y. CHU)

P9. High performance stretchable organic solar cells (C.Y. CHIANG)

P10. Silver nanowire electrodes in flexible organic solar cells using PDMS as substrate (Y.R. DING)

P11. Enhanced efficiency of organic photovoltaics from plasmonic effects of polyhedron silver nanoparticles (I.C. LI)

P12. An X-ray diffraction analysis method for determination of the orientation parameter in the amorphous regions of PET fibers (B.H. LAI)

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P13. The molecular nanoparticles prepared in POSS-based nano-reactors (Y.F. HUANG)

P14. Molecular recognition of reactive oxygen species and nucleosides by fluorescent boronic acid polymers (K. TAKESHIMA)

P15. Highly sensitive colorimetric glucose sensors created by combining boronic acid-containing thin films with enzymes (H. NAKAHASHI)

P16. Carboxyfullerene-modified titanium dioxide nanoparticles in superoxide ions and hydroxyl radicals scavenging activities (K.C. YANG)

P17. Evaluation of the biomedical applications of carbon nano-materials modified by chitosan (P.Y. LO)

P18. Effects of composition change on the dielectric properties of $CaCu_3Ti_4O_{12}$ (C. BAEK)

P19. Solid state electrolyte of lithium ion battery: Effects of Li_2O on thermal, electrical and optical properties in xLi_2O-B_2O_3-SiO_2 glasses (M. KIM)

P20. Enhancement of spontaneous emission from InAs quantum dots embedded in photonic crystal waveguides via the Purcell effect and its application to an ultra-small multi-wavelength light source (S. UCHIDA)

P21. The magnetic phase transition in Mn2-xFexB Alloys: First-Principles Calculations (Y.F. CHIEN)

SUNDAY 08/14

Meeting Room No 1

23. Phosphine-involved thermally activated delayed fluorescence materials (H. XU)
24. A comprehensive study on the thermal conductivity of AlN-filled epoxy resin composites (S.L. CHUNG)
25. Morphology control studies of TiO_2 microstructures via surfactant-assisted hydrothermal process for dye-sensitized solar cell applications (L. WORANAN)

Meeting Room No 3

23. P-n junction heterostructures for photoelectronchemical water splitting and photocatalysis dye degradation (W.Z. WANG)
24. Construction of hybrid soft nanoparticles for biomedical applications (H.S. PENG)
25. A lab-in-a-photonic-crystal biosensor architecture for enhanced mutiplex disease diagnostics (S. FENG)