GOLDEN ACADEMY

Message from the organizers

Dear Colleagues and Friends,

2018 Symposium for the Promotion of Applied Research Collaboration in Asia (SPARCA 2018) will be held in Okinawa, Japan, during Feb 09 - 12 2018.

SPARCA stands for the Symposium for the Promotion of Applied Research Collaboration in Asia (SPARCA 2018), which is aimed at providing an international 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 SPARCA 2018. Your active participation is the key to the success of this conference.

Yours Sincerely,

SPARCA 2018 Committee

Asia Pacific Society for Materials Science (APSMR)

www.apsmr.org

GOLDEN ACADEMY

Conference organizing committee

CONFERENCE CHAIRS

Prof. YannWen LAN (National Taiwan Noraml University)

Prof. Shih-Chieh HSU (Tamkang University)

Prof. Shen-Ming CHEN (National Taipei University of Technology)

Prof. Seong Chan JUN (Yonsei University)

CONFERENCE PROGRAM DIRECTORS

Dr. Yingxue SONG (APSMR)

CONFERENCE SECRETARIAT

Ms. Yaru WU (APSMR)

Ms. Yangjun HU (APSMR)

RESEARCH·ASIA PACIFIC SOCIETY FOR MATERIALS
APSMR

GOLDEN ACADEMY

Conference topics

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. Rechargeable 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. Electronics, Magnetics and Nanomaterials

5. Polymer Science and Molecular Chemistry

6. Organic Materials and Bio-materials

7. Theory, Characterization and Computational Modeling of Materials

<table>
<tr><th></th><th>FRI, 2/9</th><th>SAT, 2/10</th><th>SUN, 2/11</th><th>MON, 2/12</th></tr>
<tr><td>9:10 -10:30</td><td rowspan="3">Pre-session technical and discussion forums on international collaboration</td><td colspan="3">Oral Presentation</td></tr>
<tr><td>10:30 – 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>12:10 – 12:50</td><td rowspan="4"></td><td colspan="2">Lunch Break</td><td rowspan="6">Optional Excursion</td></tr>
<tr><td>13:00 – 14:30</td><td colspan="2">Oral Presentation</td></tr>
<tr><td>14:30 – 14:40</td><td colspan="2">Coffee & Tea Break</td></tr>
<tr><td>14:40 – 16:50</td><td colspan="2">Oral Presentation</td></tr>
<tr><td>17:00 – 18:30</td><td>Conference Registration & Reception</td><td></td><td>Poster Session</td></tr>
<tr><td>19:00 – 20:30</td><td></td><td></td><td>Conference Banquet</td></tr>
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GOLDEN ACADEMY

Presentation List (Room A)

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<tr><td>9:10
–
10:30</td><td rowspan="3">Pre-session technical and discussion forums on international collaboration</td><td>1. S.H. KIM
2. Y.H. KIM</td><td>13. J. KURAWAKI
14. T.H. CHUANG</td><td>25. T. IKEDA
26. Y.R. CHO</td></tr>
<tr><td>10:30
–
10:40</td><td colspan="3">Coffee & Tea Break</td></tr>
<tr><td>10:40
–
12:10</td><td>3. A.H.W. NGAN
4. Y.J. JEONG
5. B.M. CHENG</td><td>15. Z.F. HUANG
16. J.Y. LIN
17. M. KIM</td><td>27. J.J. SHIM
28. D. WHANG
29. R. WU</td></tr>
<tr><td>12:10
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12:50</td><td rowspan="5"></td><td colspan="2">Lunch Break</td><td rowspan="6">Conference Excursion</td></tr>
<tr><td>13:00
–
14:30</td><td></td><td>18. Y.K. SHEN
19. S. KANECO
20. D.S. TSAI</td></tr>
<tr><td>14:30
–
14:40</td><td colspan="2">Coffee & Tea Break</td></tr>
<tr><td>14:40
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16:50</td><td></td><td>21. Y.W. LAN
22. C.I. LU
23. J. MOON
24. G.H. JEONG</td></tr>
<tr><td>17:00
–
18:30</td><td>Conference Registration & Reception</td><td rowspan="2"></td><td>Poster Session</td></tr>
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(Approx. 1.5 hrs)</td></tr>
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GOLDEN ACADEMY

Presentation List (Room C)

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<tr><td>9:10
–
10:30</td><td rowspan="3">Pre-session technical and discussion forums on international collaboration</td><td>1. T. YAMATO
2. H. YOON</td><td>13. Y.E. SUNG
14. J.C. LEE</td><td>25. S. NISHIHARA
26. M.J. PARK</td></tr>
<tr><td>10:30
–
10:40</td><td colspan="3">Coffee & Tea Break</td></tr>
<tr><td>10:40
–
12:10</td><td>3. E.T. KANG
4. B. JEONG
5. C.M. KIM</td><td>15. Y.B. SHIM
16. J. KIM
17. S.C. LUO</td><td>27. S.S. SUN
28. W. YOON
29. Y.G. CHOI</td></tr>
<tr><td>12:10
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<tr><td>13:00
–
14:30</td><td>6. H. KIM
7. C.C. TING
8. J. BAE</td><td></td></tr>
<tr><td>14:30
–
14:40</td><td colspan="2">Coffee & Tea Break</td></tr>
<tr><td>14:40
–
16:50</td><td>9. D. LIM
10. G.M. KIM
11. S. LEE
12. S.H. CHAO</td><td></td></tr>
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GOLDEN ACADEMY

Presentations for SPARCA 2018

SATURDAY 2/10

LIST ROOM A

1. The Development of Smart Biomimetic Materials by Novel Hybrid Coating Process: Application I: Hemostatic Materials (S.H. KIM)
2. Effect of the HNTs on the Adhesive Interface of GFRP Repaired by Stepped Patch Method (Y.H. KIM)
3. High performing electrochemical actuators made from nickel hydroxide (A.H.W. NGAN)
4. The Effect of Twist on the Mechanical Properties of Carbon Nanotube Fibers (Y.J. JEONG)
5. Switchable Structural Modification Accompanying Altered Optical Properties of a Zwitterionic Polysquaraine (B.M. CHENG)

SATURDAY 2/10

LIST ROOM C

1. Calixarene Based Fluorescent Chemosensors (T. YAMATO)
2. Deformation of High Aspect Ratio Structures for Bio-Inspired Applications (H. YOON)
3. Antifouling Polymer Brush Coatings via Biological and Biomimetic Anchors (E.T. KANG)

4. Biodegradable Thermogels for Biomedical Applications (B. JEONG)
5. Resonances Localized on Marginally Unstable Periodic Orbits (C.M. KIM)
6. Preparation of a graphitic carbon-supported Pt bimetallic catalyst with a Pt-rich shell using a protective coating method (H. KIM)
7. Optoelectronic Properties of Graphene Composite Materials (C.C. TING)
8. Reserved (J. BAE)
9. Applicability of Artifical Joint Porous Coating by using Direct Metal Tooling-based Additive Manufacturing Technology: For Reducing Fracture of Ceramic Liner of Acetabular Cup in Total Hip Arthroplasty (D. LIM)
10. Enhanced drug delivery using porous biopolymer coating on metal microneedle (G.M. KIM)
11. Imperceptible and gas permeable electronics for bio-medical applications (S. LEE)
12. The Study of the Novel Patterned Sapphire Substrate Applied for Enhancing the Efficiency of the GaN-based Light-emitting Diodes (S.H. CHAO)

SUNDAY 2/11

LIST ROOM A

13. Novel Synthesis and spectroscopic characterization of gold and silver nanoparticles with fatty acid based benzenethiiol derivatives (J. KURAWAKI)
14. Non-collinear Domain Wall Spin-Structure at Ultrathin Magnetic Interfaces and its evolution Induced by Oxygen Adsorption (T.H. CHUANG)

15. Plasmonic Helical Nanoparticles with Sub-10-nm Helical Pitch (Z.F. HUANG)
16. Strategies to Improve the Electrochemical Properties of Li4Ti5O12 Anode Materials in Li-ion Batteries (J.Y. LIN)
17. Modeling, optimization and energy harvesting with thermal properties of composites (M. KIM)
18. Thermo-responsive Material Applied on 4D Printing (Y.K. SHEN)
19. Visible Light Induced Photocatalytic Oxidation of As(III) with WO3 in the presence of Cu ion and CuO (S. KANECO)
20. RC Time Constants before and after Soft Sparking Transition in Plasma Electrolytic Oxidation of Aluminum Alloys (D.S. TSAI)
21. Novel Two Dimensional Materials Nanoelectronics (Y.W. LAN)
22. Studies of Magnetic Domains in Co/MoS2 Heterostructure (C.I. LU)
23. Advanced in-situ Surface Analysis System in KBSI and its Application (J. MOON)
24. Low Temperautre Growth and Effective Doping on Nanocarbon Materials using Plasma-Based Hybrid CVD Process (G.H. JEONG)

SUNDAY 2/11

LIST ROOM C

13. Nanoscale Design for Highly Durable and Active Electrocatalyst (Y.E. SUNG)
14. Theoretical and Experimental Studies for Designing High Performance Anode Materials: Lessons from the Na-Sn Battery (J.C. LEE)

15. Nanostructured Materials and Conducting Polymer Composites for Electrochemical Energy Conversion and Biosensor Applications (Y.B. SHIM)
16. Catalytic activity of dendrimer-encapsulated Pt nanoparticles for dehydrogenation of hydrogen storage chemicals (J. KIM)
17. Surface Manipulation of Poly(3,4-ethylenedioxythiophene) for Multifunctional Conductive Biointerfaces (S.C. LUO)

POSTER SESSION

P1. Revealing the characteristics of the SEI layer on the Graphite anode (J.H. PARK)
P2. Synthesis of bi-functionalized terthiophene-based polymer and its applications to the electrochemical biosensor (W.C. LEE)
P3. Synthesis of glod nanoparticle decorated organic-inorganic hybrid nanoflower for the electrochemical application (J.M. MOON)
P4. Energy Density Increment in Li-ion rechargeable battery using LiCoO2/LiV3O8 and graphite/Li-metal composite electrode cell (K.Y. BAE)
P5. Correlating Light Absorption with Various Nanostructure Geometries in Vertically Aligned Si Nanowire Arrays (J.S. LEE)
P6. Controlled Growth of Tungsten Diselenide Domains via Chemical Vapor Deposition (J.S. LEE)

MONDAY 2/12

LIST ROOM A

25. Microstructure Control of Bulk Thermoelectric Materials via Phase Transformations (T. IKEDA)
26. Thermal Conductivity of Multi-Layered Clad Metal for Heat Exchanger and Cookware Application (Y.R. CHO)
27. Reserved (J.J. SHIM)
28. Monolayer graphene with controlled crystallinity and morphology: Synthesis and Electronic Applications (D. WHANG)
29. Factors Controlling the Performance of Thermal Insulation Materials and Heat Barrier Coatings (R. WU)

MONDAY 2/12

LIST ROOM C

25. Rational Design of Novel Molecular Devices (S. NISHIHARA)
26. Design Rules of High-Conductivity Polymer Electrolytes (M.J. PARK)
27. Stimuli-responsive Fluorescent Organogelating Materials (S.S. SUN)
28. Li-powder Anode for Li-metal Rechargeable Battery (W. YOON)
29. Recent Advances on Chalcogenide Glasses for Use in Long-Wavelength Infrared-Transmitting Lens Applications (Y.G. CHOI)