

GOLDEN ACADEMY

Message from the organizers

Dear Colleagues and Friends,

We would like to invite all of you to join the APSMR 2021 Annual Meeting which will be held during Aug 20-23 2021.

The conference is intended to serve as an interdisciplinary platform for the exchange and networking between top scientists, experienced engineers, frontier researchers, and students across a wide spectrum of research fields.

Your active participation and discussion is the key to the success of this conference.



Yours Sincerely,

APSMR 2021 Annual Meeting Committee

Asia Pacific Society for Materials Science (APSMR)

www.apsmr.org



GOLDEN ACADEMY

Conference organizing committee

CONFERENCE CHAIRS

Prof. Jyh-Chiang JIANG (National Taiwan University of Science and Technology)

Prof. Masanobu KOBAYASHI (Chiba Institute of Technology)

Prof. Young-Ki KIM (Pohang University of Science and Technology)

Prof. Yuan LIN (The University of Hong Kong)

Prof. Satomi NIWAYAMA (Muroran Institute of Technology)

Prof. Thye Shen, Andrew WEE (National University of Singapore)

CONFERENCE PROGRAM DIRECTORS

Dr. Yingxue SONG (APSMR)

CONFERENCE SECRETARIAT

Ms. Yaru WU (APSMR)

Ms. Yangjun HU (APSMR)



GOLDEN ACADEMY

Conference topics

1. **Structure materials and Functional Coatings (metals, ceramics, and composites): No.37-38, No.41-45**
2. **Materials for energy (saving, conversion, transfer, storage) and environment plus electrochemistry**
 - 2.1. **Photovoltaics**
 - 2.2. **Batteries and Fuel Cells: No.10**
 - 2.3. **Materials for Thermal Management and Thermal Energy Utilization: No.6-7**
 - 2.4. **Materials for Energy and Environmental Applications: No.8-9**
3. **Optics and Photonic Materials: No.20-23, No.40**
4. **Electronic, Magnetic and Nanomaterials: No.1-3, No.14-16, No.27-32, No.46-49**
5. **Polymer Science and Molecular Chemistry: No.50-51**
6. **Organic Materials and Bio-materials: No.4-5, No.17-19**
7. **Materials Characterization and Computational Modeling: No.11-13, No.24-26, No.33-36**

Beijing/Taipei/Singapore	Tokyo/Seoul	FRI, 08/20	SAT, 08/21	SUN, 08/22	MON, 08/23
9:00-10:10	10:00-11:10	Oral Presentation			
10:10-10:20	11:10-11:20	Coffee & Tea Break			
10:20-11:30	11:20-12:30	Oral Presentation			
11:30-12:30	12:30-13:30	Lunch Break			
12:30-14:05	13:30-15:05	Oral Presentation			
14:05-14:15	15:05-15:15	Coffee & Tea Break			
14:15-16:00	15:15-17:00	Oral Presentation			

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Presentation List

Beijing/Taipei /Singapore	Tokyo/Seoul	FRI, 08/20	SAT, 08/21	SUN, 08/22	MON, 08/23
9:00-10:10	10:00-11:10	1. Y. SHIRATSUCHI 2. H. YAMANE 3. Y. AOKI & S. UCHIDA	15. K. KOBAYASHI 16. Y. NAKAYAMA 17. H. NAGATA	29. Y. HUANG 30. D. QI 31. Z. WANG	43. T. HATTA 44. Z. JIAO 45. M. TATENO
10:10-10:20	11:10-11:20	Coffee & Tea Break			
10:20-11:30	11:20-12:30	4. W. NAKANISHI 5. S. MANABE 6. M. ITO	18. S. NIWAYAMA 19. A.L. SHAIKH 20. T. ISONO	32. C.G. KIM 33. M. LI 34. R. MAHENDIRAN	46. S. TAKAHASHI 47. Y. YAMASHITA 48. H. SAWADA
11:30-12:30	12:30-13:30	Lunch Break			
12:30-14:05	13:30-15:05	7. H. TOKORO 8. K. KAMATA 9. T.C. WU 10. T. HIGUCHI	21. Y.K. KIM 22. E. BBUKUSOGLU 23. H. NAKAJIMA 24. C. CHEN	35. B. GONG 36. X. WEI 37. B.X. TANG 38. C.F. WAN	49. S. CHO 50. T. UCHINO 51. S. KOSHIBA 52. S. WANG
14:05-14:15	15:05-15:15	Coffee & Tea Break			
14:15-16:00	15:15-17:00	11. J. JEONG 12. K. ZENG 13. A. PRAMANICK 14. S. ZHANG	25. C.W. PAO 26. C.H. YEH 27. S. KOZLOV 28. RESERVED	39. T. KATO 40. H. FUJIMORI 41. Z.H. XIE 42. RESERVED	53. K. TERAO 54. T. AKITSU 55. K.B. ZHENG 56. RESERVED

GOLDEN ACADEMY

FRIDAY 08/20

1. Antiferromagnetic domain control by magnetoelectric effect (Y. SHIRATSUCHI)
2. Surface plasmon resonances on perpendicular magnetic nanolayers for chemical sensing applications (H. YAMANE)
3. Hydrogen generation reaction of multi-junction solar cells with a platinum catalyst. (Y. AOKI & S. UCHIDA)
4. Manipulation of molecular conformations and motions at interfaces (W. NAKANISHI)
5. Anomerization reaction of glycosides: Evidence of endocyclic cleavage reaction and syntehtic utility (S. MANABE)
6. Thermoelectric properties of β -FeSi₂ prepared by directly applied pulsed electric current sintering (M. ITO)
7. Pressure-sensitive heat storage materials using a thermal bistability (H. TOKORO)
8. Development of Crystalline Mixed Oxide Catalysts for Selective Oxidation Reactions (K. KAMATA)
9. Factors Controlling the Performance of Thermal Insulation Materials and Heat Barrier Coatings (T.C. WU)
10. Material Designs of Oxide Electrolyte and Anode Electrode Films for Solid Oxide Fuel Cell Operating at Medium Temperature (T. HIGUCHI)

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11. High-resolution neutron imaging for in-situ characterization of materials at non-equilibrium (J. JEONG)
12. Nanoscale Ferroelectric Characterization with Advanced Multi-Frequency Scanning Probe Microscopies (K. ZENG)
13. Characterization of local atomic structure in Pb-free relaxor ferroelectrics using quantum beams (A. PRAMANICK)
14. Two-dimensional materials for membrane-based molecular separations (S. ZHANG)

SATURDAY 08/21

15. Determination of charge centroid locations of electrons and holes trapped in silicon nitride charge-trap layers (K. KOBAYASHI)
16. Physicochemical properties of epitaxially-grown well-defined molecular heterojunctions built on an organic semiconductor pentacene (Y. NAKAYAMA)
17. Piezoelectric Properties and Depolarization Temperature on Quenched (Bi_{1/2}Na_{1/2})TiO₃-based Lead-free Piezoelectric Ceramics (H. NAGATA)
18. Highly Efficient and Practical Selective Monohydrolysis Reactions of Symmetric Diesters and Their Applications (S. NIWAYAMA)
19. Synthesis of 1-amino-3-borono-cycloheptanecarboxylic acid (ABCHC) and its isomeric and stereoisomeric forms (Cis-S, Cis-D, Trans-S, and Trans-D) in B16 melanoma and F98Glioma model. (A.L. SHAIKH)

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- 20. Oligosaccharide-based Block Copolymers: Synthesis, Self-Assembly, and Applications (T. ISONO)
- 21. Design of Interactive Meta-Holographic Display using Liquid Crystallinity (Y.K. KIM)
- 22. Nanoparticle Adsorption Induced Ordering Transitions in Nematic Liquid Crystal Droplets (E. BBUKUSOGLU)
- 23. An iron-based photoCORM with a protonatable ligand that regulates the wavelength for releasing CO (H. NAKAJIMA)
- 24. Near-Field Photoluminescence Imaging of the Lateral MoS₂/WS₂ Heterostructures (C. CHEN)
- 25. Fast and Accurate Machine Learning Energy Models for Microstructures of Complex Materials (C.W. PAO)
- 26. Theoretical Investigations on the Sensing Property of Volatile Organic Compounds over Janus 2D Monolayers (C.H. YEH)
- 27. Computational characterization of nanocomposite materials for catalysis (S. KOZLOV)
- 28. RESERVED

SUNDAY 08/22

- 29. Room temperature intrinsic and extrinsic ferromagnetism in two-dimensional transition metal chalcogenides (Y. HUANG)

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30. Enabling Diamond Nanoelectronics by Solid-State Surface Transfer Doping (D. QI)
31. Hybrid 2D Materials for Applications in Optics, Optoelectronics and Electrocatalysis (Z. WANG)
32. High sensitive Planar Hall magnetometer for novel applications (C.G. KIM)
33. Multiple Exciton Generation and Collection in Perovskite Quantum Dots (M. LI)
34. Giant magnetoimpedance: From Mn-perovskites to organic molecules (R. MAHENDIRAN)
35. Modelling and simulations of mechanical behaviors of cytoskeletal networks (B. GONG)
36. Computational analysis of viscoelasticity of 3D biopolymer cross-linked networks (X. WEI)
37. Cross-linker properties and defect size regulated rupture behavior of biopolymer networks (B.X. TANG)
38. A molecular dynamics simulation assisted crystal plasticity modelling study of the precipitate hardening in Inconel 718 superalloy (C.F. WAN)
39. Preparation of aluminum nitride by nitridation of aluminum with ammonium chloride (T. KATO)
40. Raman Spectroscopic System for Simultaneous Measurement of anti-Stokes and Stokes in the Region of Low Frequency (H. FUJIMORI)

GOLDEN ACADEMY

41. On the thermal diffusion conditions of electroplated Pt-diffusion bond coat for thermal barrier coatings (Z.H. XIE)

42. RESERVED

MONDAY 08/23

43. Development of the Novel Imidazole-based Materials for Emission Layer of OLED ~ Bipolar Hosts and Non-doped Emitters Simplifying the Device Structure of Multi-layered OLED~ (T. HATTA)

44. Synergistic alloying effects and nanoscale co-precipitation in ultrahigh-strength stainless steels (Z. JIAO)

45. Effects of Metal Thickness on Bonding Strength of Ceramics to Metal Joint Systems (M. TATENO)

46. Dependence of Useful Interface Edge Shape on Bonding Temperature Conditions (S. TAKAHASHI)

47. Estimation of Residual Stress on Wire-Electrical-Discharged-Machined Surface of Electric Conductive Ceramics (Y. YAMASHITA)

48. Preparation and Applications of Two Fluoroalkyl End-capped Oligomeric Composites (H. SAWADA)

49. Thickness-Controlled Black Phosphorus Tunnel Field-Effect Transistor for Low Power Switches (S. CHO)

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50. Proximity effect and vortex matter in superconducting nanograins with fractal distributions (T. UCHINO)
51. Polycrystalline Nitride Semiconductors composed of Nano-columnar on Silicon (001) substrates (S. KOSHIBA)
52. Wafer scale 2D materials growth and device application (S. WANG)
53. Conformation and molecular recognition of cyclic amylose derivatives (K. TERAO)
54. How to apply mathematical or data-driven methods for materials coordination chemistry or bioinorganic chemistry? (T. AKITSU)
55. Development of rare earth doped high entropy ceramics coatings. (K.B. ZHENG)
56. RESERVED