



澳門大學
UNIVERSIDADE DE MACAU
UNIVERSITY OF MACAU



應用物理及材料工程研究院
INSTITUTO DE FÍSICA APLICADA E ENGENHARIA DE MATERIAIS
INSTITUTE OF APPLIED PHYSICS AND MATERIALS ENGINEERING

UM Global Academic Symposium 2024

Parallel Session: Applied Physics and Materials Engineering

Program (Group A)

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| Dec 2 nd (Monday) | |
| Meeting Room 4018, N23 Building, University of Macau | |
| Parallel Session (I) Chair: Prof. Huaiyu Shao, University of Macau | |
| 10:15-10:40 | Integrating Materials for Robust Proton Exchange Membrane Fuel Cells <i>Prof. Denial Chua, National University of Singapore</i> |
| 10:40-11:05 | Memristors as Synaptic and Neuronal Devices <i>Prof. Prof. Wen Siang Lew, Nanyang Technological University</i> |
| 11:05-11:30 | Hydrogen Storage Technology Beyond the Fuel Cell Cars <i>Prof. Sammy Chan, University of New South Wales</i> |
| 11:30-11:55 | Molecular Transport Through Porous 2D Membranes <i>Prof. Pengzhan Sun, University of Macau</i> |
| 12:05-14:05 | Lunch Venue: Grand Plaza, N1-G006, University of Macau |
| Parallel Session (II) Chair: Prof. Hui Kwun Nam, University of Macau | |
| 14:20-14:45 | Our Advances in Rational Design of Perovskite Materials for Energy Storage and Conversion <i>Prof. Zongping Shao, Curtin University</i> |
| 14:45-15:10 | New Form of High-k Dielectric Materials for 2D Transistors <i>Prof. Sean Li, University of New South Wales</i> |
| 15:10-15:35 | Hydrogen vs. LIBs for Energy Storage -from Mobile to Stationary Applications <i>Prof. Huaiyu Shao, University of Macau</i> |
| 15:35-15:55 | Tea Break Venue: N23-4016, University of Macau |



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| Parallel Session (III) Chair: Prof. Pengzhan Sun, University of Macau | |
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| 15:55-16:20 | Non-adiabatic Excited-state Time-dependent GW Molecular Dynamics (TDGW) Simulation for Photolysis of Methane <i>Dr. Ryoji Sahara, National Institute for Materials Science, Japan</i> |
| 16:20-16:45 | Ion Transport Along Electrified Graphene-electrolyte Interfaces: A Perspective of Iontronics <i>Prof. Dan Li, University of Melbourne</i> |
| 16:45-17:10 | Advances in Potassium-ion Batteries: Materials Design and Solid Electrolyte Interface Analysis <i>Prof. Hui Kwun Nam, University of Macau</i> |
| 17:10-17:35 | Aqueous Zinc Batteries for Safe Energy Storage <i>Prof. Qing Li, University of Macau</i> |
| 18:15 | Banquet |
| Dec 3 rd (Tuesday) Morning | |
| 09:30-10:00 | Lab Tour |
| 10:10-11:50 | Visit IAPME Exhibition Room and Collaborative Discussions |
| 12:45 | City Tour + Lunch |

UM Global Academic Symposium 2024

Parallel Session: Applied Physics and Materials Engineering Program (Group B)

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| Dec 2 nd (Monday) | |
| Meeting Room 1004b, N23 Building, University of Macau | |
| Parallel Session (I) Chair: Prof. Guichuan Xing, University of Macau | |
| 10:15-10:40 | Compound Semiconductor Nanowire Arrays – Materials, Devices and Applications <i>Prof. Lan Fu, The Australian National University</i> |
| 10:40-11:05 | Modulation of Charge Transport Layer Interface for High-Performance QLED <i>Prof. Shuangpeng Wang, University of Macau</i> |
| 11:05-11:30 | Controlling THz Emission in Topological Materials <i>Prof. Elbert Chia, Nanyang Technological University</i> |
| 11:30-11:55 | Nonlinear Hall Effects in 2D Electronic Devices <i>Prof. Shen Lai, University of Macau</i> |
| 12:05-14:05 | Lunch Venue: Grand Plaza, N1-G006, University of Macau |
| Parallel Session (II) Chair: Prof. Shuangpeng Wang, University of Macau | |
| 14:20-14:45 | A Decade of Energy Migration Upconversion: From Discovery to Diverse Applications <i>Prof. Xiaogang Liu, National University of Singapore</i> |
| 14:45-15:10 | Single-pixel Imaging and Its Applications <i>Prof. Hongchao Liu, University of Macau</i> |
| 15:10-15:35 | Topological Physics with Light, Sound, and Machine Learning <i>Prof. Baile Zhang, Nanyang Technological University</i> |
| 15:35-15:55 | Tea Break Venue: N23-1004a, University of Macau |



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| Parallel Session (III) Chair: Prof. Hongchao Liu, University of Macau | |
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| 15:55-16:20 | Quantum Light Sources with 2D Materials <i>Prof. Weibo Gao, Nanyang Technological University</i> |
| 16:20-16:45 | Perovskite for Light Harvesting and Light Emission <i>Prof. Guichuan Xing, University of Macau</i> |
| 16:45-17:10 | Tailoring Carbon Materials for Energy and Environmental Applications <i>Prof. Yuan Chen, The University of Sydney</i> |
| 17:10-17:35 | Plasmonic-based “Rainbow” Chip for Dual-functional Intelligent Spectrometer <i>Prof. Haomin Song, University of Macau</i> |
| 18:15 | Banquet |
| Dec 3 rd (Tuesday) Morning | |
| 09:30-10:00 | Lab Tour |
| 10:10-11:50 | Visit IAPME Exhibition Room and Collaborative Discussions |
| 12:45 | City Tour + Lunch |