

## Program for 2025 ICAC

| Time        | Day 1 – November 30 (Sunday)  |
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| 13:00-16:00 | <b>Registration</b>   |
| 16:00-16:20 | <b>Open Remarks</b>   |
| 16:20-17:30 | <b>Session 1: Chair: Prof. Chi-Chang Hu</b>   |
| 16:20-17:00 | <b>Plenary Speaker: Prof. Hirotomo Nishihara</b><br>Title: 3D graphene materials for advanced capacitors      |
| 17:00-17:30 | <b>Keynote Speaker: Prof. Enn Lust</b><br>Title: Development of high power and energy density supercapacitors |
| 17:30-19:30 | <b>Welcome Reception</b>  |

| Time        | Day 2 – December 01 (Monday)  |
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| 08:40-10:10 | <b>Session 2: Chair: Prof. Jeng-Kuei Chang</b>  |
| 08:40-09:20 | <b>Plenary Speaker: Dr. Jon Ajuria</b><br>Title: From Interface Design to Prototyping: A Scalable Pre-Lithiation Strategy for Advanced Lithium-Ion Capacitors                                       |
| 09:20-09:50 | <b>Keynote Speaker: Prof. Katsuhiko Naoi</b><br>Title: Back to Science, Forward to Innovation - toward Next-Generation Power Architectures  |
| 09:50-10:10 | <b>Invited Speaker: Dr. Yu-Liang Chen</b><br>Title: High-Performance and High-Voltage Supercapacitors Based on Activated Carbon with Low Functional Group Derived from Mesocarbon Microbeads (MCMB) |
| 10:10-10:30 | <b>Coffee Break</b>   |
| 10:30-12:00 | <b>Session 3: Chair: Prof. Hirotomo Nishihara</b>   |
| 10:30-10:50 | <b>Invited Speaker: Prof. Scott Donne</b><br>Title: The Nature of the Electrified Interface   |
| 10:50-11:10 | <b>Invited Speaker: Prof. Daisuke Takimoto</b><br>Title: High Capacitance and Durability of Molecular Solid Electrodes  |
| 11:10-11:30 | <b>Invited Speaker: Prof. Wan-Yu Tsai</b><br>Title: Visualization of Ionic Liquid Electric Double Layer Structure by operando AFM   |
| 11:30-11:45 | <b>Oral Speaker: Dr. Yoshikiyo Hatakeyama</b><br>Title: Operando Time-Resolved SAXS and Electrochemical Dilatometry of Electric Double-Layer Capacitor Electrodes                                   |
| 11:45-12:00 | <b>Oral Speaker: Ms. Yun Ku</b><br>Title: Deciphering Self-Discharge Mechanisms in EDLCs: A Molecular-Level Perspective on Carbonate Additive Effects   |
| 12:00-14:20 | <b>Lunch</b>  |
|             | <b>Poster*50</b>  |
| 14:20-15:50 | <b>Session 4: Chair: Dr. Dr. Jon Ajuria</b>   |

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| 14:20-14:40 | <b>Invited Speaker: Prof. Masashi Okubo</b><br>Title: Pseudocapacitive MXenes for All-Solid-State Electrochemical Storage Devices   |
| 14:40-15:00 | <b>Invited Speaker: Dr. Cristian Jaimes-Paez</b><br>Title: Electrochemical Expansion as a Versatile Route for 2D Materials: From Graphene to MXenes for Energy Applications                                     |
| 15:00-15:20 | <b>Invited Speaker: Prof. Masanobu Chiku</b><br>Title: Hybrid Capacitor Using a Metal Aluminum Negative Electrode   |
| 15:20-15:35 | <b>Oral Speaker: Mr. Rajesh Kumar</b><br>Title: Porous W <sub>2</sub> N Fibrous-Nanograins and TiN Nanopyramids Framework for High Energy Density Flexible Asymmetric Supercapacitors                           |
| 15:35-15:50 | <b>Oral Speaker: Dr. Narayanamoorthi Eswaran</b><br>Title: Bimetallic Ni-Cu/NiO-Cu <sub>2</sub> O Heterostructures on N-Doped Porous Carbon as Advanced Electrodes for Non-Aqueous Li/Na-Ion Capacitors         |
| 15:50-16:10 | <b>Coffee Break</b>   |
| 16:10-18:00 | <b>Session 5: Chair: Prof. Andrea Balducci</b>  |
| 16:10-16:30 | <b>Invited Speaker: Prof. Masayuki Morita</b><br>Title: Research and Development of Zinc-based Hybrid Capacitors  |
| 16:30-16:50 | <b>Invited Speaker: Prof. Soorathep Kheawhom</b><br>Title: Co-Designing Heterointerfaces and Electrolytes for Asymmetric Supercapacitors  |
| 16:50-17:10 | <b>Invited Speaker: Dr. Adam Slesinski</b><br>Title: Aqueous iodide/iodine-based electrochemical capacitor of high energy and increased cycle life  |
| 17:10-17:30 | <b>Invited Speaker: Prof. Frederic Favier</b><br>Title: Composite electrode materials from metal hyperaccumulating plants   |
| 17:30-17:45 | <b>Oral Speaker: Ms. Rene Mary Amirtha Suthie Jeyakumar</b><br>Interface Engineering of Cu Current Collector with Mixed Electronic-Ionic Conductivity for Next-Generation Aqueous Zn-Ion Hybrid Supercapacitors |
| 17:45-18:00 | <b>Oral Speaker: Mr. Zher Yu Yu</b><br>Title: Systematic designs of single metal compounds synthesized using ammonia fluoride-based complex as structure directing agents for energy storage                    |
| 18:30-21:30 | <b>IAB Meeting &amp; Dinner</b>   |

| Time        | Day 3 – December 02 (Tuesday)  |
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| 08:40-10:10 | <b>Session 6: Chair: Prof. Soshi Shiraishi</b>   |
| 08:40-09:20 | <b>Plenary Speaker: Prof. Jeng-Kuei Chang</b><br>Title: Electrolyte Formulations and Prelithiated Electrode Design for High-Performance Activated-Carbon Supercapacitors |
| 09:20-09:50 | <b>Keynote Speaker: Prof. Pooi See Lee</b><br>Title: Rapid ions transfer driven electrochemical energy storage systems   |
| 09:50-10:10 | <b>Invited Speaker: Prof. Shinichi Komaba</b><br>Title: Exploring Highly Concentrated Electrolytes for K-Ion Batteries and Capacitors                                    |
| 10:10-10:30 | <b>Coffee Break</b>  |

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| 10:30-12:00 | <b>Session 7: Chair: Prof. Thierry Brousse</b>  |
| 10:30-10:50 | <b>Invited Speaker: Prof. Bruce Dunn</b><br>Title: New Directions for Niobate Electrochemical Materials   |
| 10:50-11:10 | <b>Invited Speaker: Prof. Daniel Chua</b><br>Title: Supercapacitors based on Carbon and Carbide based Nanomaterials   |
| 11:10-11:30 | <b>Invited Speaker: Prof. Masashi Ishikawa</b><br>Title: High Capacitance Arising from Specific Anion Storage at Poorly Graphitized Carbon Cathodes   |
| 11:30-11:45 | <b>Oral Speaker: Mr. Chuang Kai Jie</b><br>Title: Fast Fabrication of High-Performance Supercapacitor Electrodes Based on Two-Dimensional Trimetallic Zinc Manganese Cobalt Layered Double Hydroxide Nanosheets Derived from Metal-Organic Frameworks                   |
| 11:45-12:00 | <b>Oral Speaker: Mr. Mohammad Saquib</b><br>Title: First report of Bridgman-type crystal puller-assisted synthesis of polycrystalline SnTe/MWCNT for dual energy storage and sensing, integration of flexible microsupercapacitors and humidity sensors in one platform |
| 12:00-13:30 | <b>Lunch</b>  |
| 13:30-15:30 | <b>Session 8: Chair: Prof. Bruce Dunn</b>   |
| 13:30-13:50 | <b>Young Scholar Speaker: Prof. Han-Yi Chen</b><br>Title: Toward Durable and Multifunctional Zinc-Based Capacitors for Next-Generation Energy Storage Applications  |
| 13:50-14:10 | <b>Young Scholar Speaker: Prof. Yasuyuki Kondo</b><br>Title: Electrochemical Properties of High-Voltage Aqueous Hybrid Capacitors   |
| 14:10-14:30 | <b>Young Scholar Speaker: Prof. Che-Ning Yeh</b><br>Title: Facile Synthesis of MOF-derived NiMn Oxides/rGO Hybrid Architectures for Supercapacitor Electrodes   |
| 14:30-14:50 | <b>Young Scholar Speaker: Prof. Keisuke Muramatsu</b><br>Title: Charge Storage Capability of Layered Ruthenates with Different Interlayer Hydration States  |
| 14:50-15:10 | <b>Young Scholar Speaker: Prof. Prasit Pattanauwat</b><br>Title: Engineering Bismuth-Based Materials for Photo-Assisted Charge Storage in Supercapacitors   |
| 15:10-15:30 | <b>Young Scholar Speaker: Dr. Andrés Parejo-Tovar</b><br>Title: Tracking of ion population changes in the electrical double-layer electrode of a lithium-ion capacitor while extending the polarization beyond its cathodic stability potential                         |
| 15:30-15:50 | <b>Coffee Break</b>   |
| 15:50-17:50 | <b>Session 9: Chair: Prof. Hiroki Habazaki</b>  |
| 15:50-16:10 | <b>Young Scholar Speaker: Dr. Omar Gómez Rojas</b><br>Title: Electrolyte-Driven Solid-Electrolyte Interphase (SEI) Evolution on Graphite Anodes Under Rapid Cycling   |
| 16:10-16:25 | <b>Oral Speaker: Dr. Cheng Jie Chng</b><br>Title: Impact of electrochemical preconditioning of highly porous activated carbon cathode on Si-based Li-ion capacitors   |

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| 16:25-16:40 | <b>Oral Speaker: Mr. Ching-Yu Hu</b><br>Title: Electrolyte Engineering to Regulate Li <sup>+</sup> Solvation and Strengthen Interphases in Wide-Temperature Lithium-Ion Capacitors                  |
| 16:40-17:10 | <b>Keynote Speaker: Prof. Lu-Yin Lin</b><br>Title: Engineering Nanostructured Derivatives from Zeolitic Frameworks Using Novel Chemical Modulators for Electrochemical Energy Storage               |
| 17:10-17:50 | <b>Plenary Speaker: Prof. Andrea Balducci</b><br>Title: Development of new methodologies to elucidate the influence of electrolyte in degradation processes occurring in electrochemical capacitors |
| 18:30-21:30 | <b>Banquet</b>  |

| Time        | Day 4 – December 03 (Wednesday)  |
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| 08:40-10:10 | <b>Session 10: Chair: Prof. Chi-Hsien Huang</b>  |
| 08:40-09:20 | <b>Plenary Speaker: Prof. Yoong Ahm Kim</b><br>Title: Engineering Edge Structures in Porous Carbon: A Versatile Strategy for Optimizing Energy Storage Devices   |
| 09:20-09:50 | <b>Keynote Speaker: Prof. Krzysztof Fic</b><br>Title: Intriguing Role of Electrolyte in Hybrid Capacitors  |
| 09:50-10:10 | <b>Invited Speaker: Prof. Hiroki Habazaki</b><br>Title: Defect and Interface Engineering in Enhancing the Breakdown Voltage of PEDOT:PSS Solid Al Capacitors   |
| 10:10-10:30 | <b>Coffee Break</b>  |
| 10:30-12:00 | <b>Session 11: Chair: Prof. Jarrn-Horng Lin</b>  |
| 10:30-10:50 | <b>Invited Speaker: Prof. Thierry Brousse</b><br>Title: How to optimized the electrochemical properties of vanadium nitride thin films for micro-supercapacitors?  |
| 10:50-11:10 | <b>Invited Speaker: Prof. Jeng-Yu Lin</b><br>Title: Solvent-Free Synthesis of Zeolitic Imidazolate Framework-derived Carbon Composites for Micro-supercapacitors   |
| 11:10-11:30 | <b>Invited Speaker: Prof. Soshi Shiraishi</b><br>Title: Seamless Activated Carbon Electrode ~Toward Further Enhancing Durability~  |
| 11:30-11:45 | <b>Oral Speaker: Prof. Jarrn-Horng Lin</b><br>Title: Potential Route for CCU to Green Nanocarbons and Porous Carbons Used in Supercapacitors   |
| 11:45-12:00 | <b>Oral Speaker: Dr. Selvakumar Muthu</b><br>Title: Screen-Printed rGO–CNF Nanocomposite Inks Enabling Flexible Strain Sensors, Sensitive Paracetamol Detection, and High-Performance Microsupercapacitors |
| 12:00-13:30 | <b>Lunch</b>   |
| 13:30-15:00 | <b>Session 12: Chair: Prof. Jeng-Yu Lin</b>  |
| 13:30-13:50 | <b>Invited Speaker: Prof. Olivier Crosnier</b><br>Title: Tuning perovskite materials for high power energy storage   |

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| 13:50-14:10 | <p style="text-align: center;"><b>Invited Speaker: Olivier Fontaine</b></p> <p style="text-align: center;">Title: Distortion-Aware Electrochemical Computing and Spatially Resolved Marcus Theory in Nanoporous Electrodes</p>     |
| 14:10-14:25 | <p style="text-align: center;"><b>Oral Speaker: Mr. Shun-Feng Kuan</b></p> <p style="text-align: center;">Title: Cobalt–Manganese Glycerate Derived Sulfides for Efficient Energy Storage in Supercapacitors</p>                   |
| 14:25-14:40 | <p style="text-align: center;"><b>Oral Speaker: Dr. Gurumurthy Sangam</b></p> <p style="text-align: center;">Title: One-Dimensional Nickel Cobalt Bimetallic Oxide Nanostructures for High-Stability Supercapacitor Electrodes</p> |
| 14:40-15:00 | <p style="text-align: center;"><b>Invited Speaker: Prof. Wataru Sugimoto</b></p> <p style="text-align: center;">Title: Strategic modification to increase the pseudocapacitance</p>  |
| 15:00-15:30 | <p style="text-align: center;"><b>Awards / Close Remarks (Prof. Wataru Sugimoto)</b></p>   |