

| INPEC 2025                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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| June 30 (Mon.)                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 18:30-20:30                                              | Welcome Reception                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| July 1 (Tue.)                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 09:00-09:50                                              | Registration                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 09:50-10:00                                              | Opening                                                                                                                                                                                                                                                                                                                                                                                                                                  | Awards (Distinguished Contribution Awards)                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Plenary [B153] Chair - Dong-wook Kim (Ewha Womans Univ.) |                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 10:00-10:30                                              | Mun Seok Jeong (Hanyang University) 'Investigation of Nanoscale Structural Deformations of 2D Materials with Correlative Nanoscopy and AI Spectroscopy'                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 10:30-11:00                                              | Jiaqin Liu (Beijing University of Chemical Technology) 'Design and Mechanisms of electrocatalysts for SRR/SER in Alkali metal-sulfur Batteries'                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 11:00-11:20                                              | Coffee Break                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 11:20-12:20                                              | <b>Session A1 [B153] Chair - Kwangdong Roh (Ewha Womans Univ.)</b><br>Su-Hyun Gong (Korea Univ.) 'Guided exciton polariton in 2D layered semiconductors'<br>Weiqiang Ding (Harbin Inst. of Tech.)<br>Jinghua Sun (Dongguan Univ. of Tech.) 'Nanocrystal-in-glass composite (NGC) containing organic phosphors for high-speed LIFI communication'                                                                                         | <b>Session A2 [153] Chair - Xiaopeng Li (Donghua University)</b><br>Joondong Kim (Incheon National Univ.) 'Next-Generation Transparent Energy Technology: Integrating Energy Conversion with Bio-Applications'<br>Ambrose Seo (Univ. of Kentucky) 'Transparent Conducting Oxides via Metastable Hydrogenation of Oxide Interfaces'<br>Qi Xiao (Donghua University) 'Cocatalyst Engineering for Efficient Photocatalysis'                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                                                          | 12:20-13:30 Lunch                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                                                          | 13:30-14:20                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Tutorial (I) [B153]</b><br>Quinn Qiao (Syracuse Univ.) 'Short Course on Lithium-ion Battery'                                                                                                                                                                                                                                                                                                                                                                                        | <b>Tutorial (II) [153]</b><br>Woo Hee Kim (Hanyang Univ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                                          | 14:20-14:40                                                                                                                                                                                                                                                                                                                                                                                                                              | Break                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 14:40-15:40                                              | <b>Session B1 [B153] Weiqiang Ding (Harbin Inst. of Tech.)</b><br>Chang-Hee Cho (DGIST) 'Tunable Polariton Rabi Oscillation in Phase-Changing Perovskite Microcavities'<br>Liming Qian (Nanjing Univ. of Info. Sci. Tech.) 'Tunable Rabi splitting between epsilon-near-zero and Fabry-Perot cavity modes'<br>Liangtao Hou (Harbin Inst. of Tech., Weihai) 'Fabrication and sensing characteristics of film optical fiber microcavities' | <b>Session B2 [153] Zhongyi Guo (Hefei Univ. of Tech.)</b><br>Kyoung-Duck Park (POSTECH) 'Tip-enhanced strong coupling and nano-optical trapping spectroscopy of single quantum dots'<br>Gaige Zheng (Nanjing Univ. of Info. Sci. Tech.) 'Wide-angle nonreciprocal thermal radiation based on Weyl Semimetals'<br>Jicheng Wang (Jiangnan Univ.) 'Measurement of microwave meta-quaternion vortex arrays enabling imaging encryption'                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                                                          | 15:40-16:00 Coffee Break                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                                                          | 16:00-17:20                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Session C1 [B153] Su-Hyun Gong (Korea Univ.)</b><br>Junho Choi (Kyung Hee Univ.) 'Emergence of composite 6-particle hexiton states in charge-tunable monolayer semiconductors'<br>Soungmin Bae (Tohoku Univ.) 'Chemical doping strategy and universal small polaron formation in MoS2'<br>Keya Zhou (Harbin Inst. of Tech.) 'All-dielectric meta-waveguides for on-chip integration'<br>Zhengjun Liu (Harbin Inst. of Tech.) 'Lens-Free Imaging with Computational Optical Methods' | <b>Session C2 [153] Joondong Kim (Incheon National Univ.)</b><br>Xiaopeng Li (Donghua University) '2D ordered micro- and atomic-structure for efficient electrocatalysis'<br>Han-Don Um (Kangwon Univ.) 'Advances in Silicon 3D Structure Fabrication for Energy Devices'<br>Jinjian Lin (Guilin Univ. of Electron. Tech.) Application of Optical Fiber Micro-nano Functional Devices in Microfluidics<br>Yi Liu (Harbin Inst. of Tech., Weihai) 'Optical fiber sensors based on optical fluid technology'                                                                     |
|                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                          | 17:20-17:30 Photo Session                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| July 2 (Wed.)                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 09:30-10:50                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Session D1 [B153] Keya Zhou (Harbin Inst. of Tech.)</b><br>Yan Zhang (Capital Normal Univ.) 'Efficient Polarization Conversion with Double-Layer Metal Metasurface'<br>Teun-Teun Kim (Univ. of Ulsan) 'Non-Hermitian Metasurfaces for Sensitive Optical Systems'<br>Zehao He (Capital Normal Univ.)<br>Maixia Fu (Henan Univ. of Tech.) 'Enhancement of electromagnetic field by terahertz metasurface based on near-field coupling and quasi-BIC'                                  | <b>Session D2 [153] Han-Don Um (Kangwon Univ.)</b><br>Se Yun Kim (Gyeongsang National University) 'High-Yield Exfoliation of RuO2 via Two-Step Intercalation and Ultrasonication for Flexible Transparent Electrodes'<br>Woongkyu Lee (Soongsil University) 'Synthesis of High-k Perovskite SrTiO3 Thin Films Using Atomic Layer Deposition of SrF2'<br>Gangtae Jin (Gachon University) 'Dimensional Scaling of Topological Transition Metal Phosphides for Advanced Interconnect'<br>Byoung Hoon Lee (Ewha Womans Univ.) 'Polarizer-Free Polarimetric Organic Photodetectors' |
|                                                          | 10:50-11:00 Coffee Break                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                                                          | 11:00-12:00                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Session E1 [B153] Jinghua Sun (Dongguan Univ. of Tech.)</b><br>Huan Zhao (Beijing Inst. of Tech.) 'Metasurface-Based Image-Hiding Device with Decoupled Amplitude, Phase, and Polarization Channels'<br>Yan Li (Harbin Inst. of Tech., Weihai) 'Multichiral Vortex Beam for Optical Information Application'<br>Wenfeng Sun (Capital Normal Univ.) 'Plasma Distribution Characterization by Terahertz Focal Plane Imaging Technique'                                                | <b>Session E2 [153] Heejun Yang (KAIST)</b><br>Bongyoung Yoo (Hanyang Univ.) 'Cu Local Interconnection for Advanced Semiconductor Packaging'<br>SangHoon Shin (Hanyang Univ.) 'Bridging Front-End and Back-End Reliability in Advanced Semiconductor Packaging: A Unified Perspective'<br>Jae-Hong Lim (Gachon Univ.) 'Electrodeposited Copper on CNT Fiber with Additives and the Improvement of Electrical Properties'                                                                                                                                                       |
|                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                          | 12:00-13:10 Lunch                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 13:10-14:00                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Tutorial (III) [B153]</b><br>Hoe Tan (Australian National Univ.)                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Tutorial (IV) [153]</b><br>Woo Hee Kim (Hanyang Univ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 14:00-14:20                                              | Break                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Plenary [B153] Chair - Mun Seok Jeong (Hanyang Univ.)    |                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 14:20-14:50                                              | Jie Lin (Harbin Institute of Technology) 'Metasurface Optical Elements: Design and Application'                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 14:50-15:05                                              | Break                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 15:05-16:05                                              | <b>Session F1 [B153] Linbao Luo (Hefei Univ. of Tech.)</b><br>Yan Wang (Hefei Univ. of Tech.) 'Low-dimensional Perovskites for Neuromorphic Electronics'<br>Kwangdong Roh (Ewha Womans Univ.) 'Optical Feedback Structures for Achieving Efficient Light Amplification from Solution Processed Semiconductors'<br>Yutong Li (Harbin Inst. of Tech.) 'Computational Optical Imaging via Accelerated Parameter Modulation'                 | <b>Session F2 [153] Huan Zhao (Donghua Univ.)</b><br>Xiang Zhang (Hefei Univ. of Tech.) 'UV-NIR Dual-Band Organic Conversion Device and its applications'<br>Jae Hyun Kim (DGIST) 'Inorganic Filler-Enhanced Composite Polymer Electrolytes: Emerging Developments and Innovations'<br>Sambhaji Shinde (Hanyang Univ.) 'Design Strategies for Practical Zinc-Air Batteries Toward Electric Vehicles and beyond'                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                                                          | 16:05-16:20 Coffee Break                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                                                          | Plenary [B153] Chair - Jung-Ho Lee (Hanyang Univ.)                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                                                          | 16:20-16:50                                                                                                                                                                                                                                                                                                                                                                                                                              | Plenary4: Tae Joo Park (Hanyang University) 'Advanced ALD and its applications'                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 16:50-17:20                                              | Plenary5: Yong Zhang (Hefei University of Technology) 'Low-dimensional nanostructures for electrocatalytic and photocatalytic applications'                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 17:20-17:30                                              | Closing                                                                                                                                                                                                                                                                                                                                                                                                                                  | Awards(Outstanding Organizer Award)                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 18:00-20:00                                              | Banquet                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| July 3 (Thu.)                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Campus & Lab. Tour                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

Poster Session

Poster Session