# AWPP2025 Program

#### Monday, December 1, 2025

| Welcoming   |               | Kanazawa New Grand Hotel |
|-------------|---------------|--------------------------|
| 17:00-18:00 | Registration  |                          |
| 18:00-20:00 | Welcome Party |                          |

### Tuesday, December 2, 2025

| Opening Cere  | mony                                                                                                                                                       | Hall                                                                                                                           |  |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|--|
| 9:00-9:10     | Opening Remarks and Welcome Speech  Prof. Kentaro Taki (Kanazawa University                                                                                |                                                                                                                                |  |
| 3.00 3.10     |                                                                                                                                                            |                                                                                                                                |  |
| Plenary Lectu | re 1 Chair: Prof. Kentaro Taki Hall                                                                                                                        |                                                                                                                                |  |
| 9:10-10:00    | Targeted Orthopedic Treatment                                                                                                                              | le 3D-Printed Biodegradable Implants: A New Frontier in thopedic Treatment  Prof. Shih-Jung Liu (Chang Gung University)        |  |
| 10:00-10:15   | Coffee Break                                                                                                                                               |                                                                                                                                |  |
|               | Session 1A Room A                                                                                                                                          | Session 1B Room B                                                                                                              |  |
|               | Chair: Yuya Sasai                                                                                                                                          | Chair: Takumitsu Kida                                                                                                          |  |
| 10:15-10:45   | Keynote 1  Al Driven Frontiers in Polymer  Processing: Multimodal Deep  Learning, Autonomous  Experimentation, and Large  Language Models  Dr. Shun Muroga | Keynote 2 Regeneration of Polyolefin Structure towards the Next Generation of Plastic Circular Economy  Dr. Patchiya Phanthong |  |
| 10:45-11:05   | A-101 Transfer Learning to Predict Injection Molded Part Quality Across Machines  Ming-Shyan Huang                                                         | B-101  Mechanistic Insights into Strength Evolution of CMF/PP Composite Materials  Sho Muneta                                  |  |

| 11:05-11:25<br>11:25-11:45 | A-102 Influence of Secondary Weld Lines on Appearance in Injection Molded Filler-Containing Materials  Atsushi Mizutani  A-103 Injection Molding of Plastic Manifolds Using Ice Core Technology | B-102 Coextrusion multilayered films of polypropylene homo- and copolymers  Masataka Sugimoto  B-103 Liquid-Crystalline Polymer (LCP) Alloy Design: From In-Situ Polymerization to Reactive Blending |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                            | Chung-Chih Lin                                                                                                                                                                                  | with Poly(Phenylene Ether) (PPE) <u>Gosuke Washino</u>                                                                                                                                               |
| 11:45-13:00                | Lunch                                                                                                                                                                                           |                                                                                                                                                                                                      |
| Plenary Lectu              | re 2 Cha                                                                                                                                                                                        | air: Prof.Takushi Saito Hall                                                                                                                                                                         |
| 13:00-13:50                | Slurry Coating for Battery Electrode Manufacturing  Prof. Jaewook Nam (Seoul National University)                                                                                               |                                                                                                                                                                                                      |
| 13:50-14:00                | Coffee Break                                                                                                                                                                                    |                                                                                                                                                                                                      |
|                            | Session 2A Room A                                                                                                                                                                               | Session 2B Room B                                                                                                                                                                                    |
|                            | Chair: Kenji Yoshimoto                                                                                                                                                                          | Chair: Asae Ito                                                                                                                                                                                      |
| 14:00-14:15                | Student Oral A1  Effect of Heat Generation Behavior on CFRTP-Steel Joint Performance in Induction Heating Direct Joining  Jiaxing Ren                                                           | Student Oral B1  Modification of Dimensional Changes for Poly(lactic acid) by Addition of Polytetrafluoroethylene  Dai Hoang-Giang Vo                                                                |
| 14:15-14:30                | Student Oral A2  Effects of Surface Treatments on the Water and Moisture Resistance in Metal-Polymer Direct Joints  Mei Jiajie                                                                  | Student Oral B2 Improving Heat Resistance and Transparency of Polystyrene-Based Blends for Food Container Applications  Kota Suto                                                                    |
| 14:30-14:45                | Student Oral A3  Drug-Eluting Nano-Hydroxyapatite Reinforced Resorbable Nanofibrous Scaffolds for Pelvic Floor Repair: in vitro and in vivo Evaluation  Yihua Kuo                               | Student Oral B3 Fabrication of Gradient Structure for Polystyrene with Dibutyl Phthalate Thi Kim Thoa Huynh                                                                                          |

| 14:45-15:00                | Student Oral A4  Modification of Rheological Properties for Biodegradable Polyester  Nantinee Tassakarn                                                       | Student Oral B4  Analyzing Microstructure of LIB  Anode Slurry with Microfluidic  Extensional Rheological Methods  Jeongwook Lim                            |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 15:00-15:15                | Student Oral A5  Deformation Behavior of Semi- Crystalline Polymer Conducted Heat- Elongation under High-Pressure CO <sub>2</sub> Mamoru Endo                 | Student Oral B5 Simulation for Particle Dynamics using 3D Immersed Lattice Boltzmann Method Gwanhee Jeong                                                   |
| 15:15-15:30                | Student Oral A6 Fabrication and Characterization of Transparent Quartz Glass by using 3D Printing with High-Filler Silica Composite Materials Kazuma Kurosawa | Student Oral B6  Effect of Length of Cellulose Nanofibers on Tensile Strength of 3D- Printed Continuous Natural Fiber Reinforced Composites  Yuichiro Handa |
| 15:30-15:45                | Student Oral A7  Research on the Mechanical  Properties of Same-Polymer-Family  Long-Fiber-Reinforced Thermoplastic  Composites  Keita Nishizono              | Break                                                                                                                                                       |
| 15:45-15:50                | Coffee Break                                                                                                                                                  |                                                                                                                                                             |
| 15:50-16:30                | Poster Session (C                                                                                                                                             |                                                                                                                                                             |
| 16:30-17:10                | Poster Session (E                                                                                                                                             | •                                                                                                                                                           |
| 17:10-18:00<br>18:00-20:00 | Banquet                                                                                                                                                       | eak Kanazawa Castle                                                                                                                                         |

## Wednesday, December 3, 2025

| Plenary Lectu | re 3                                                                                                                                                         | Chair: Prof. Hiroshi Ito Hall                                                                                                                                         |  |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| 9:00-9:50     | Mechanical Properties of Thermoplastic Vulcanizate-Based Plastic/Rubber Blends                                                                               |                                                                                                                                                                       |  |
|               | Prof. Toshiaki Ougizawa (Institute of Science Tokyo)                                                                                                         |                                                                                                                                                                       |  |
| 9:50-10:00    | Coffee                                                                                                                                                       | e Break                                                                                                                                                               |  |
|               | Session 3A Room A                                                                                                                                            | Session 3B Room B                                                                                                                                                     |  |
|               | Chair: Masayuki Yamaguchi                                                                                                                                    | Chair: Yusuke Kajihara                                                                                                                                                |  |
| 10:00-10:30   | Keynote 3 Enhancement of Mechanical Properties through Flow Control of Molten Resin Reservoir  Prof. Hiroki Uchiyama                                         | Keynote 4 Twisted Polyimide Aerogel Fiber Bundles with Enhanced Strength, Superior Flexibility and Thermal Insulation for Extreme Environments  Prof. Hani Naguib     |  |
| 10:30-10:50   | A-201 Surrogate Model of Fluid Analysis for Twin-Screw Extruder Yuya Sasai                                                                                   | B-201 Compression Properties of Carbon Fibers Wataru Takarada                                                                                                         |  |
| 10:50-11:10   | A-202  Numerical Simulation of Capillary  Extrudate Swell of Vulcanized SBR  Rubber Composites with Wall Slip  Effect  Shuichi Tanoue                        | B-202 Effect of Glycol Lignin Addition on the Mechanical Properties of in-situ Polymerizable Thermoplastic Epoxy / Carbon Fiber Reinforced Composites  Wataru Okumura |  |
| 11:10-11:30   | A-203 Rubber Nanocomposites Fabricated by Mixing under High-Pressure CO <sub>2</sub> Shin-ichi Kihara                                                        | B-203  Review on Developments in Twin  Screw Extrusion Technology to Bridge  to SDGs in the Polymer Industry                                                          |  |
| 11:30-12:40   | Lunch                                                                                                                                                        |                                                                                                                                                                       |  |
| Plenary Lectu | ure 4 Chair: Prof. Kentaro Taki Hall                                                                                                                         |                                                                                                                                                                       |  |
| 12:40-13:30   | Continuous Catalyst Cracking in Twin-Screw Extrusion: A New Approach to Upcycling at Scale of Polyolefins  Prof. Joao Maia (Case Western Reserve University) |                                                                                                                                                                       |  |
| 13:30-13:40   | Coffee Break                                                                                                                                                 |                                                                                                                                                                       |  |

|             | Session 4A Room A                                                                                                                                                                  | Session 4B Room B                                                                                                                                      |
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|             | Chair: Yusuke Hiejima                                                                                                                                                              | Chair: Wataru Takarada                                                                                                                                 |
| 13:40-14:10 | Keynote 5  Molecular Simulations on Semicrystalline Polymers: A Virtual Microscopy Approach to Crystallization, Entanglement, and Mechanical Behavior  Dr. Mohammed Althaf Hussain | Keynote 6 In-line Near Infrared Spectroscopy for Quantitative Monitoring of Composition during Polymer Processing <u>Dr. Yuta Hikima</u>               |
| 14:10-14:30 | A-204  Delamination of Metal–Polymer  Composites Using Foaming  Technology for Material Recycling  Rajesh Kumar Sharma                                                             | B-204 Kinetic Monte Carlo Prediction of Molecular Weight Distribution in Chain-Extended Poly(lactic acid) under Thermal Degradation  Itsuki Yoshikawa  |
| 14:30-14:50 | A-205  Re-joining Strength Evaluation of Polymer-Metal Direct Joining  Shuohan Wang                                                                                                | B-205 Theoretical Study on Product Behavior using Quantum Chemical Computation of Plastic Pyrolysis Mechanisms in a Twin-Screw Extruder  Yusuke Mitani |
| 14:50-15:10 | A-206 Relationship between Thermal Resistance and Adhesive Force at Contact Surface of Dissimilar Materials  Takushi Saito                                                         | B-206 In-situ Observation of Enzymatic Degradation of Polyester Thin Films Hisao Matsuno                                                               |
| 15:10-15:30 | A-207 Synthesis and Characteristics of Polymer Gels with High Adhesion to Polytetrafluoroethylene  Jin Gong                                                                        | B-207 Application and Validation of an Anisotropy-Based Viscosity Model for Compression Molding of Laminated Composites  Daisuke Itakura               |
| 15:30-15:50 | Coffee                                                                                                                                                                             | Break                                                                                                                                                  |

|                       | Session 5A Room A                                                                                  | Session 5B Room B                                                                                |  |
|-----------------------|----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|--|
|                       | Chair: Takeshi Sato                                                                                | Chair: Itsuki Yoshikawa                                                                          |  |
|                       | Keynote 7                                                                                          |                                                                                                  |  |
|                       | Accelerated Curing of One-                                                                         | Keynote8                                                                                         |  |
|                       | Component Moisture-Curing                                                                          | Sustainable Polymer Packaging                                                                    |  |
| 15:50-16:20           | Polyurethane Adhesive using                                                                        | Materials based on Ternary Polymer                                                               |  |
|                       | Microcrystalline Cellulose and                                                                     | Blends with High Barrier                                                                         |  |
|                       | Sawdust Additions                                                                                  | <u>Prof. Abdellah Ajji</u>                                                                       |  |
|                       | Prof. G.D. Janaki Ram                                                                              |                                                                                                  |  |
| 16:20-16:40           | A-208  Rheological Behaviour and Gelatinization Dynamics of Corn Starch under Controlled Hydration | B-208  Analysis and Modelling of Temperature and Stress Dependence of Tensile Creep Phenomena in |  |
|                       | Priyanka Sharma                                                                                    | Different Types of Polypropylenes                                                                |  |
|                       | ,                                                                                                  | <u>Yasuhiko Otsuki</u>                                                                           |  |
|                       | A-209 Roll-to-Roll Coating Machine for                                                             | B-209 Coarse-Grained Elongation Simulations for Crystalline Polymer                              |  |
| 16:40-17:00           | Perovskite Solar Cells                                                                             | Solid: Structural Deformation and Its                                                            |  |
|                       | <u>Wataru Shimoji</u>                                                                              | Relation to Mechanical Behavior                                                                  |  |
|                       |                                                                                                    | <u>Takashi Uneyama</u>                                                                           |  |
|                       | <u>A-210</u>                                                                                       |                                                                                                  |  |
|                       | Cradle-to-gate Carbon Footprint                                                                    | <u>B-210</u>                                                                                     |  |
| 17:00-17:20           | Evaluation of Stainless-Steel                                                                      | Structural Analysis of Polyurethane                                                              |  |
| 17.00-17.20           | Manufacturing via Injection Moulding                                                               | Elastomers with Various Polyols                                                                  |  |
|                       | (IM) and 3D Printing Techniques                                                                    | <u>Go Matsuba</u>                                                                                |  |
|                       | Kanjanawadee Singkronart                                                                           |                                                                                                  |  |
|                       | <u>A-211</u>                                                                                       | <u>B-211</u>                                                                                     |  |
|                       | Tailoring Binder Formulations to                                                                   | Molecular Orientation and Mechanical                                                             |  |
| 17:20-17:40           | Enhance the Printability of 316L                                                                   | Properties of Biomass-Derived                                                                    |  |
|                       | Stainless Steel Filaments in Metal 3D                                                              | Aliphatic Polyamide by High-Pressure                                                             |  |
|                       | Printing                                                                                           | and Hot Compression Molding                                                                      |  |
|                       | Bongkot Hararak                                                                                    | Keisuke Ura                                                                                      |  |
| Closing Ceremony Hall |                                                                                                    |                                                                                                  |  |
| 17:40-17:50           | Closing Speech                                                                                     | Kontaro Taki (Kanazawa Universita)                                                               |  |
|                       | Prof. Kentaro Taki (Kanazawa University)                                                           |                                                                                                  |  |

### Thursday, December 4, 2025

| Labo Tour   |                                | *** |
|-------------|--------------------------------|-----|
| 10:00-12:00 | Lab Tour (Kanazawa University) |     |
| Excursion   |                                |     |
| 13:00-17:00 | Excursion                      |     |