



Conference Program of ACPA 11

The 11th Asian-Australasian Conference on Precision Agriculture

October 14-16, 2025, Chiayi, Taiwan

Venue: Nice Prince Hotel

<https://www.ciam-tibm-conference.com/>

2025.10.14 (Day 1) Ballroom

Moderator: Prof. Ping-Lang Yen	
Time	
7:30	Registration
9:00	Opening Ceremony and Group Photo ACPA 11 Chairman: Prof. Suming Chen & CIAM President: Prof. Huaang-Youh Hurng
9:30	Keynote Speech (1) Chair: Prof. Suming Chen Precision Nutrient Management in the USA: Current Trends and Future Opportunities Prof. Steven Phillips President of ISPA Oklahoma State University USA
10:00	Keynote Speech (2) Chair: Prof. Suming Chen Embodied Agentic Artificial Intelligence for Precision Agriculture: Cross-Domain Experience from Multimodal Generative AI Dr. Nancy F. Chen Agency for Science, Technology and Research (A*STAR) Singapore
10:30	Tea Break (10:30-10:50)

2025.10.14 (Day 1) Ballroom

Session 1: Sensing and plant phenotyping 1		
Chairpersons: Prof. Shih-Fang Chen & Prof. Siva K Balasundram		
10:50	Invited Speech (1) Measure, Model, Manage: The Unfinished Revolution in Agriculture Dr. Armin Werner Lincoln Agritech Ltd New Zealand	
11:10	Invited Speech (2) Current Status and Potential of Digital Agriculture in India Prof. Manjeet Singh Dean, College of Agricultural Engineering and Technology Punjab Agricultural university India	
Time	ID No.	Title, Authors and First Author's Affiliation
11:30	SP-O01	Unlocking canopy dynamics: UAV-LiDAR-based biomass estimation in Ocimum basilicum Piero Toscano, Najwane Hamie, Andrea Berton, Antonio Rossetti, Flavio Bertinaria, Alessandro Matese, Filippo Salvatore Di Gennaro, Riccardo Dainelli National Research Council
11:40	SP-O02	Portable Solid-state LiDAR for Early-stage Crop Canopy Height Estimation Eldon DE PADUA, Shutaro KATSUMATA, Yui SHIMIZU, Ryo KASAGI, Jaehwan LEE, Eiji MORIMOTO Kobe University
11:50	SP-O03	Laser-Induced Enhancement of Seed Germination and Early Growth in Legumes Biain Jalal Mashaffeq Algayda, Prof.Chien-Fang Ding JAMES National Taiwan university
12:00	SP-O04	TOWARDS IN SITU MONITORING OF ROOT GROWTH TRAITS: COMBINING SPECTRAL IMAGING WITH TRANSPARENT BED HYDROPONICS Daisuke Yasutake, Ziyi Jin, Tadashige Iwao, Yuki Sago, Takashi Okayasu, Gaku Yokoyama, Tomoyoshi Hirota Kyushu University
12:10	Lunch (12:10-13:30)	

2025.10.14 (Day 1) Ballroom

Session 2: Agro-mechatronics, automation, and robotics 2		
Chairpersons: Prof. Ching-Hua Ting & Prof. Eiji Morimoto		
13:30	Invited Speech (3) Enhancing Rice Disease Management: Estimating Pathogen Damage Through Multispectral Imaging Analysis Prof. Anom S. Wijaya Department of Agricultural Engineering and Biosystem Udayana University Indonesia	
Time	ID No.	Title, Authors and First Author's Affiliation
13:50	AA-O08	NULL DATASET-BASED DETECTION ENHANCES ROBOTIC VISION IN GREENHOUSE CHERRY TOMATO HARVESTING, Verianti Liana, Sakir Kanmis, Shang-Wei Hsu, Chang Chiu, Ping-Lang Yen, National Taiwan University
14:00	AA-O09	DEVELOPMENT OF A MOBILE INSPECTION ROBOT FOR STACKED-CAGE LAYERS HOUSES IN TAIWAN An-Pan Cherng, Nien-Ching Huang, Chin-Lin Chu National Ilan University
14:10	AA-O10	DEVELOPMENT, DESIGN, AND INTEGRATION OF AN EGG TRAY SYSTEM WITH UNMANNED GROUND VEHICLE FOR ROBOTIC POULTRY AUTOMATION Hao-Ting Lin, Bobby Aguilar Gonzales National Chung Hsing University
14:20	AA-O11	Development of a Small-Scale Weeding Robot for Inter-Plant Areas Using Vision and Rake Mechanism Koichi Imaoka, Yusuke Iuchi, Atsuki Koshigoe, Takanori Emaru Industrial Research Institute
14:30	AA-O12	DEVELOPMENT OF AN IMU-BASED NAVIGATION SYSTEM FOR TRADITIONAL TILLAGE Vo Ngoc Thach Nguyen, Phuoc Bao Long Do, Wei-Chih Lin NSYSU
14:40	AA-O13	YOLOv7-Based Mechatronic System for Automated Potato Scab Detection Chih-Chun Fan, Hsin-Chang Chen, Kuang-Wen Hsieh, Ming-Shih Huang, Wu-Yang Sean National Chung Hsing University
15:00	Tea Break (15:00-15:25)	

2025.10.14 (Day 1) Ballroom

Session 3: Artificial intelligence and machine learning in agriculture 3		
Chairperson: Prof. Wei-Chih Lin & Dr. Nancy F. Chen		
15:25	Invited Speech (4) Adoption of Precision Agriculture in Japan Prof. Eiji Morimoto Graduate School of Agriculture Science Kobe University Japan	
Time	ID No.	Title, Authors and First Author's Affiliation
15:45	AI-O15	CABBAGE YIELD ESTIMATION USING MULTISPECTRAL UAV IMAGERY AND DEEP NEURAL SEGMENTATION Md Nasim Reza, Kyu-Ho Lee, Md Asrakul Haque, Eliezel Habineza, Samsuzzaman, Su Young Lee, Jin Sook Kim, Sun-Ok Chung Chungnam National University
15:55	AI-O16	Analysis Of Internal Abnormalities Of Tilapia Flesh Using Hyperspectral Imaging And Machine Learning Method Pin-Wei Chen, Shih-Fang Chen Natoinal Taiwan University
16:05	AI-O17	AUTOMATED IDENTIFICATION OF TOMATO DISEASES, PESTS, AND DISORDERS USING AI MODELS AND SMARTPHONE APPLICATIONS Chin-Ching Liu, Yun Lin, Shih-Fang Chen, Chu-Ping Lin, Wei-Chun Gao, Yu-Fei Shih, Zheng-Lin Lin , Yan-Fu Kuo, National Taiwan University
16:15	AI-O18	Using Floral Bract Withering to Identify Green-Ripe Pineapples with Deep Learning Guo-Fong Hong National Yang Ming Chiao Tung University
16:25	AI-O19	DETECTING AND REMOVING DEFECTIVE CARCASSES OF TAIWANESE NATIVE CHICKENS USING CONVOLUTIONAL NEURAL NETWORKS Xu-Chu Hong, Yan-Fu Kuo National Taiwan University
16:35	AI-O20	IDENTIFICATION OF CITRUS DISEASES, PESTS, AND DISORDERS USING DEEP LEARNING Yen-Tse Chen, Yan-Fu Kuo National Taiwan University

2025.10.14 (Day 1) Ballroom

Session 4: Agricultural mechanization and management 2		
Chairperson: Prof. Hsiao-Mei Wu & Prof. Sun-Ok Chung		
16:50	Invited Speech (5) Potential of Plant Phenotyping for Data-Driven Greenhouse Horticulture Prof. Takashi Okayasu Faculty of Agriculture Kyusyu University Japan	
Time	ID No.	Title, Authors and First Author's Affiliation
17:10	SP-O12	EVALUATION OF HIGH-THROUGHPUT 3D RECONSTRUCTION METHOD FOR PLANTS AND ITS APPLICATION TO TRAITS FEATURE EXTRACTION Dong Thanh Pham, Sutan Muhamad Sadam Awal, Daisuke Yasutake, Muneshi Mitsuoka, Takenori Ozaki, Masaharu Koga, Takashi Okayasu Kyushu University
17:20	SP-O13	A Frequency-Domain FLIM Approach to Uncover Water Stress-Induced Changes in Tomato Leaf Photosynthesis Cheng-Hao Lin, Hsiao-Mei Wu National Taiwan University

19:00	Banquet (19:00-21:00), Ballroom
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2025.10.14 (Day 1) Room A

Session 5: Artificial intelligence and machine learning in agriculture 1		
Chairperson: Prof. Yi-Chieh Chiu & Dr. Manuela Zude-Sasse		
Time	ID No.	Title, Authors and First Author's Affiliation
10:50	AI-O01	COLOR IDENTIFICATION AND TEXTURE FEATURES OF PHALAENOPSIS USING DEEP LEARNING Yi-En Chen National Taiwan University
11:00	AI-O02	LAURACEAE TIMBER IDENTIFICATION USING VISION TRANSFORMER Chieh-Hsiu Teng, Chin-Mei Lee, Yan-Fu Kuo National Taiwan University
11:10	AI-O03	DUAL-CHANNEL IMAGING AND TWO-STAGE DEEP LEARNING FOR FERTILITY DETECTION OF DUCK EGGS, Chuan-Han Li, Chih-Hsiang Cheng, Yan-Fu Kuo, National Taiwan University
11:20	AI-O04	PEST AND DISEASE IMAGE-TEXT IDENTIFICATION SYSTEM OF LEAFY VEGETABLES IN URBAN COMMUNITY FARMING, Chiao-Chi Hsu, Ting-Ting Li, Ya-Ching Yang, Po-Yi Wu, Shih-Fang Chen, National Taiwan University
11:30	AI-O05	Non-Destructive Tilapia Quality Determination Using Near-Infrared Spectroscopy Pin-Wei Chen, Tzu-Yen Weng, Shih-Fang Chen National Taiwan University
11:40	AI-O06	Applying Retrieval-Augmented-Generation to Support Farmers in Pest and Disease Diagnosis Sheng-Chieh Lai, Yan-Fu Kuo National Taiwan University
11:50	AI-O07	REGRESSION MODEL FOR ESTIMATING BRANCH NUMBER OF SOYBEAN USING UAV-BASED MULTISPECTRAL IMAGES Gang-In Je, Chang-Hyeok Park, Ho-Jun Kwon, Ye-Seong Kang, Chan-Seok Ryu Gyeongsang National University
12:10	Lunch (12:10-13:30)	

2025.10.14 (Day 1) Room A

Session 6: Artificial intelligence and machine learning in agriculture 1		
Chairperson: Prof. Yi KUNG		
Time	ID No.	Title, Authors and First Author's Affiliation
13:30	SP-O05	DEVELOPMENT OF RGB AND LIDAR FUSION BASED PEAR FRUIT QUANTIFICATION AND MAPPING SYSTEM Jaehwan LEE, Meguna OHATA, Eiji MORIMOTO Kobe university
13:40	SP-O06	MOBILE-BASED AUTOMATED PHENOTYPING SYSTEM FOR ACCESSIBLE TOMATO BREEDING Ssu-Chi Chen, Guan-Hua Chen, Ya-Ping Lin, Shih-Fang Chen National Taiwan University
13:50	SP-O07	Reducing Ground Losses Using a Leaf Segmentation-Based Autonomous Sprayer for Papaya Greenhouses Nhu Tuong An Nguyen, Dang Khanh Linh Le, Wei-Chih Lin National Sun Yat-sen University
14:00	SP-O08	Portable DNA Detection Tool for Halal Monitoring Using RPA and Spectral Sensing Shauqi Abdai Lubi, Jyh Jian Chen, Dimas Firmanda Al Riza National Pingtung University of Science and Technology
14:10	SP-O09	FIELD TESTING OF A LABORATORY-MADE PORTABLE HYDROPONIC NUTRIENT ANALYZER WITH ION-SELECTIVE ELECTRODES Yuna Kwon, Joonhwan Kim, Ki Young Choi, Woo-Jae Cho, Dong-Wook Kim, Sung Kwon Park, Hak-Jin Kim Seoul National University
14:20	SP-O10	MULTI-VIEW IMAGE TO 3D RECONSTRUCTION FOR PLANT PHENOTYPING Shao-Yang Chang, Chung-Han Chen, Hang Ren, Yohei Koide, Chen-Kang Huang National Taiwan University
14:30	SP-O11	Biosynthesis of Silver Nanoparticles from <i>Platostoma palustre</i> for Agricultural Applications Dai Hoang Van Huy, Wei-Chih Lin National Sun Yat-Sen University
14:40	MP-O07	CFD EVALUATION OF UVC AIR-CLEANING INTEGRATION IN Yi-Yun Wu National Taiwan University
15:00	Tea Break (15:00-15:25)	

2025.10.14 (Day 1) Room A

Session 7: Data-driven and digital farming 1		
Chairperson: Prof. Hao-Ting Lin		
Time	ID No.	Title, Authors and First Author's Affiliation
15:25	DD-O01	DEVELOPMENT OF A MEASUREMENT AND ANALYSIS SYSTEM FOR TILLAGE OPERATIONS IN PADDY FIELDS Kazuto NISHIDA, Jaehwan LEE, Hiromichi ITOH, Eiji MORIMOTO Kobe University
15:35	DD-O02	A VISION-GUIDED GANTRY ROBOT FOR EFFICIENT ORCHID BASKET REORGANIZATION IN GREENHOUSES Duc Tai Nguyen, Doan Dang Khoa Nguyen, Wei Chih Lin National Sun Yat-sen University
15:45	DD-O03	SYNTHETIC DATA-DRIVEN VALIDATION OF MULTI-STAGE FRUIT DETECTION SYSTEMS IN CONTROLLED VIRTUAL ENVIRONMENTS, Yan-An Chen, Ssu-Chi Chen, Shih-Fang Chen, National Taiwan University
15:55	DD-O04	INVESTIGATION OF SEED MONITORING POTENTIAL USING LIGHT DEPENDENT RESISTOR (LDR) FOR CELL TYPE PRECISION SEEDERS, Md Rejaul Karim, Kyu-Ho Lee, Md Nasim Reza, Md Asrakul Haque, Md Razob Ali, Tuanpeng Tu, Dae-Hyun Lee, Sun-Ok Chung, Chungnam National University
16:05	DD-O05	PRELIMINARY TESTS FOR POTATO YIELD MONITORING USING A CONTROLLED TEST BENCH, Pabel Kanti Dey, Md Nasim Reza, Kyu-Ho Lee, Md Rejaul Karim, Park Og Ran, Sun-Ok Chung, Chungnam National University
16:15	DD-O06	Development of Temperature and Humidity Sensor Calibration Procedure for Multifunctional Orchid Greenhouse Monitoring System Hsuan-Yu Chen, Hsiu-Ju Cheng, Chin-Cheng Wu, Chen-Kang Haung National Ilan University
16:25	DD-O07	RGB-BASED SOIL WATER CONTENT PREDICTION ENHANCED BY HYPERSPECTRAL CALIBRATION Minjoo Kim, Jaesung Park, Jisu Song, Eunji Jung Pusan National University

2025.10.14 (Day 1) Room A

Session 8: Modeling, and prediction analysis 1		
Chairperson: Prof. Suming Chen		
Time	ID No.	Title, Authors and First Author's Affiliation
16:50	MP-O01	Machine Learning Prediction Models for Dual-Horizon Egg Production Forecastin Tzu-Ling Wang, Shih-Fang Chen National Taiwan University
17:00	MP-O02	Fusing Deep Learning and Control Theory for Optimized Sugar Beet Yield Prediction Ahmed Amine Tabbassi, Domenic Drechsel, Stefan Henkler Hamm-Lippstadt University of Applied Sciences
17:10	MP-O03	MULTIVARIATE LINEAR REGRESSION MODELING FOR PREDICTING CHICKEN BODY WEIGHT USING AGE, UNIFORMITY, AND GROWTH RATE Suhendra; Hao-Ting Lin NCHU
19:00	Banquet (19:00-21:00), Ballroom	

2025.10.14 (Day 1) Room B

Session 9: Agro-mechatronics, automation, and robotics 1		
Chairperson: Prof. Wen-Tzong Lee		
Time	ID No.	Title, Authors and First Author's Affiliation
10:50	AA-O01	Development of Vision-Guided Autonomous Robot for Phenotypic Monitoring in Tomato Breeding Zi-Heng Jian, Ci-Ruei Bai, Ssu-Chi Chen, Ya-Ping Lin, Shih-Fang Chen National Taiwan University
11:00	AA-O02	An Intelligent Blade Balancing Control System for Steep-Terrain Tea Cutting Applications Doan Dang Khoa Nguyen, Wei-Chih Lin National Sun Yat-sen University
11:10	AA-O03	Deep Reinforcement Learning Based Robotic Arm Control For Autonomous Harvesting Shao-Yang Chang, Al Bashir, Azlan Zahid, Chen-Kang Huang National Taiwan University
11:20	AA-O04	STUDY ON CONTECT SENSOR-BASED RIDGE TRACKING TECHNOLOGY FOR PRECISION GARLIC SEEDING Jumyeong Lee, Yong-Hyun Kim, Chulwhan Yoon, Jungun Lee, Hak-Jin Kim Seoul National University
11:30	AA-O05	DESIGN OF A GARLIC SEEDING MONITORING AND MAPPING SYSTEM USING GNSS AND VISION SENSORS Jungun Lee ,Yong-Hyun Kim ,Chulwhan Yoon, Hak-Jin Kim Seoul National Univercity
11:40	AA-O06	Robotic Arm Tomato Harvesting System and Next Best View Algorithm Development Chia-Jung Yu, Shaq, Ping-Lang Yen National Taiwan University
11:50	AA-O07	HIGH-RELIABILITY NAVIGATION FOR MULTI-FUNCTIONAL ROBOTS USING RFID TRIGGERS AND 3D SLAM IN A PROTECTED HORTICULTURE Yamato Sakurai,Sutan Muhamad Sadam Awal, Ayumu Nakashima, Dong Thanh Pham, Takenori Ozaki, Masaharu Koga, Muneshi Mitsuoka, Takashi Okayasu Kyushu University
12:10	Lunch (12:10-13:30)	

2025.10.14 (Day 1) Room B

Session 10: Artificial intelligence and machine learning in agriculture 2		
Chairperson: Prof. Chen-Wei Liang		
Time	ID No.	Title, Authors and First Author's Affiliation
13:30	AI-O08	NIGHTTIME PIGLET DETECTION USING DEEP LEARNING, Bo-Ren, Chen, Yan-Fu, Kuo National Taiwan University
13:40	AI-O09	Integration of a Real-Time Dairy Cow Eye Temperature Monitoring System Based on Deep Learning and Thermal Imaging Hao-Ping Chen, Chen-Yu Liao, Jih-Tay Hsu, Ta-Te Lin National Taiwan University
13:50	AI-O10	DEVELOPMENT OF AN AUTOMATED ROSE MONITORING SYSTEM WITH DEEP LEARNING-BASED GROWTH STAGE CLASSIFICATION Yu-Shan Wang, Tzu-Ling Wang, Wei-Ling Chen, Hsing-Ying Chung National Taiwan University, Taiwan
14:00	AI-O11	DESIGN OF A COLLISION AVOIDANCE ALGORITHM FOR AUTONOMOUS TRACTORS WITH IMPLEMENTS Chulwhan Yoon, Yong-Hyun Kim, Jungun Lee, Jumyeong Lee, Hak-Jin Kim Seoul National University
14:10	AI-O12	PHALAENOPSIS SEEDLING ASSESSMENT USING LEAF CONTOUR DETECTION WITH YOLO Yung-Chi Hu, Jui-Hsiang Shao, Yan-Fu Kuo, Shu-Jen Lee National Taiwan University
14:20	AI-O13	A Physics-Informed Neural Network Approach for Simulating Laminar Flow Ting-Shiuan Gung , Fu-An Wang , Chen-Kang Huang National Taiwan University
14:30	AI-O14	Disease Symptom Recognition and Severity Assessment for Phalaenopsis Orchids Hsiu-Ju Cheng, Chun-Yu Tsai, Chen-Kang Huang National Taiwan University
15:00	Tea Break (15:00-15:25)	

2025.10.14 (Day 1) Room B

Session 11: Agricultural mechanization and management		
Chairperson: Prof. Yao-Chuan Tsai		
Time	ID No.	Title, Authors and First Author's Affiliation
15:25	AM-O01	Improving depth accuracy by using a real-time monitoring system for traditional tillage machinery Phuoc Bao Long Do, Vo Ngoc Thach Nguyen National Sun Yat Sen University
15:35	AM-O02	Quantitative Assessment of Discharge Depth Effects on Lithium-Based Batteries LTO, LFP, and NCM Li-Ya Hsiao, Pin-Hsien Chang, Chen-Kang Huang National Taiwan University
15:45	AM-O03	EVALUATION OF PLANTING ACCURACY AND EARLY GROWTH UNIFORMITY OF SPRING CABBAGE IN GREENHOUSES Kyu-Ho Lee, Md Nasim Reza, Su Young Lee, Jin Sook Kim, Sun-Ok Chung Chungnam National University
15:55	AM-O04	INNOVATING IRRIGATION: AFFORDABLE SMART SOLUTIONS FOR WATER SUSTAINABILITY Alessandro Matese, Najwane Hamie, Davide Cini, Andrea Berton, Riccardo Dainelli, Piero Toscano and Salvatore Filippo Di Gennaro CNR - National Research Council
16:05	AM-O05	ENHANCING SUSTAINABLE FARMING OF NH: MECHANIZATION OF PLANTING AND POST HARVEST CLEANING Somnath Kale, Cong-Chuan Pham, Wei-Chih Lin National Sun Yat-Sen University
16:15	AM-O06	Development of an Integrated Harvesting Machine for Taro Fields Shiang-Rong Chen, Bo-Jui Chen, Pi-Chia Hsieh, Yi-Lin Hsu, Wei-Cheng Chen National Pingtung University of Science and Technology
16:25	AM-O07	Development of a Labor-Saving Organic Fertilizer Applicator for Orchards Bo-Jui Chen, Shiang-Rong Chen, Pi-Chia Hsieh, Yu-Hsin Huang, Wei-Cheng Chen National Pingtung University of Science and Technology

2025.10.14 (Day 1) Room B

Session 18: Data-driven and digital farming 2		
Chairperson: Prof. Ching-Hua Ting		
Time	ID No.	Title, Authors and First Author's Affiliation
16:50	DD-O08	Design and development of UECS-based environmental monitoring and control platform without coding Masafumi Horimoto, Amin Nayeem Al , Daisuke Yasutake, Takenori Ozaki, Masaharu Koga, Muneshi Mitsuoka, Takashi Okayasu Kyushu University
17:00	DD-O09	CLASSIFICATION OF GOAT BEHAVIORS USING VIBRATION DATA FROM INERTIAL SENSOR Tadafumi Sugi, Eizo Tira, Kazuyuki Namihira, Takeshi Eto, Yuya Aoyagi, Takashi Okayasu, Muneshi Mitsuoka Kyushu University
17:10	BA-O01	Modeling the Effects of Greenhouse Environmental Factors on Soft Rot Incidence in Phalaenopsis Chun-Yu Tsai, Jiunn-Feng Su, Hsiu-Ju Cheng, Chen-Kang Huang National Taiwan University
19:00	Banquet (19:00-21:00), Ballroom	

2025.10.15 (Day 2) Ballroom

Moderator: Prof. Hsiao-Mei Wu	
Time	
9:00	Keynote Speech (3) Chair: Prof. Ching-Hua Ting A New Paradigm of Datadriven Agrifood Systems Prof. Sakae Shibusawa Tokyo University of Agriculture and Technology Japan
9:30	Keynote Speech (4) Chair: Prof. Ching-Hua Ting Close-Range Remote Sensing Data for Optimizing Horticultural Production Processes Dr. Manuela Zude-Sasse Leibniz Institute for Agricultural Engineering and Bioeconomy (ATB) Germany
10:00	Tea Break (10:00-10:20)

2025.10.15 (Day 2) Ballroom

Session 12: Agro-mechatronics, automation, and robotics 3		
Chairperson: Prof. Kuo-Chi Liao & Prof. Manjeet Singh		
10:20	Invited Speech (6) Application of Image Processing and Artificial Intelligence (AI) for Cabbage Cultivation Monitoring Prof. Sun-Ok Chung Chungnam National University Korea	
Time	ID No.	Title, Authors and First Author's Affiliation
10:40	AA-O15	Development of a Compact Autonomous Robot for Intra-Row Weeding Using Actuated Tines Koichi Imaoka, Yusuke Iuchi, Atsuki Koshigoe, Takanori Emaru Hokkaido Research Organization
10:50	AA-O16	Development of an Electric-Assisted Handling System for Pig Farm Zaifei Jiang, Muneshi Mitsuoka, Akinori Ozaki, Takashi Okayasu Kyusyu University
11:00	AA-O17	Evaluating Flight Path Strategies for UAV-Based Phenotyping of Individual Muskmelon Plants In Greenhouse Environments Tian-Yi Lu, Jing-Heng Lin, Kuan-Chen Lin, Ta-Te Lin National Taiwan University
11:10	AA-O18	PERFORMANCE EVALUATION OF AGRICULTURAL SPRAY NOZZLE UNDER DIFFERENT PRESSURE CONDITIONS BY IMAGE ANALYSIS Zaifei Jiang, Muneshi Mitsuoka, Akinori Ozaki, Takashi Okayasu Kyusyu University
11:20	WI-O01	Development of a LoRaWAN wireless node for monitoring smart greenhouses Hongbin Jin, Emmanuel Bicomumakuba, Md Aminur Rahman, Md Nasim Reza, Kyu-Ho Lee, Sun-Ok Chung Chungnam National University
11:30	WI-O02	Signal Characterization of Sensors for Operational Status Monitoring in Smart Vertical Farms Gusti Ayu Putri Mei Ulianti, Hongbin Jin, Md Nazim Reza, Sakib Robin, Ezatullah Zakir, Jin Sook Kim, Sun-Ok Chung Chungnam National University
11:40	WI-O03	SIGNAL CHARACTERIZATION FOR ACTUATOR OPERATION STATUS MONITORING IN SMART VERTICAL FARMS Ezatullah Zakir, Emmanuel Bicomumakuba, Md Nasim Reza, Kyu-Ho Lee, Su Young Lee, Jin Sook Kim, Sun-Ok Chung Chungnam National University
12:00	Lunch (12:00-13:30)	

2025.10.15 (Day 2) Ballroom

Session 13: Wireless communication and IoT monitoring 1		
Chairperson: Prof. Yao-Chuan Tsai & Prof. Takashi Okayasu		
13:30	Invited Speech (7) Estimation of Crop Coefficient in Malaysian Durian Using Satellite Data and Machine Learning Prof. Siva K Balasundram Department of Agricultural Technology Universiti Putra Malaysia Malaysia	
Time	ID No.	Title, Authors and First Author's Affiliation
13:50	WI-O04	SIGNAL CHARACTERIZATION OF ICT COMPONENTS FOR MALFUNCTION DETECTION FOR OPEN-FIELD IRRIGATION SYSTEMS Md Rafiul Islam, Md Aminur Rahman, Kyu-Ho Lee, Md Nasim Reza, Su Young Lee, Jin Sook Kim, Sun-Ok Chung Chungnam National University
14:00	WI-O05	POWER CONSUMPTION SIGNAL CHARACTERIZATION OF BLDC-BASED AGRICULTURAL FANS FOR MALFUNCTION DETECTION FOR SMART GREENHOUSES Md Aminur Rahman, Emmanuel Bicamumakuba, Hongbin Jin, Kyu-Ho Lee, Md Nasim Reza, Sun-Ok Chung Chungnam National University
14:10	WI-O06	SMARTPHONE APPLICATION FOR REAL-TIME ENVIRONMENT MONITORING OF SMART GREENHOUSES Emmanuel Bicamumakuba, Md Nasim Reza, Eliezel Habineza, Kyu-Ho Lee, Sakib Robin, Sun-Ok Chung Chungnam National University
14:20	WI-O07	Development of a Low-Power Wireless Communication System Using LoRa for Structural Monitoring in Greenhouse Foundations Gunhui Park, Junghwa Park, Eunji Jung, Jaehun Lee, Jaesung Park, Seokcheol Yu, Seongyoon Lim Pusan National University
14:30	WI-O08	SIGNAL CHARACTERIZATION OF ENVIRONMENTAL SENSORS FOR ABNORMALITY DETECTION IN HOT TEMPERATURE GREENHOUSES Sakib Robin, Hongbin Jin, Md Nasim Reza, Md Aminur Rahman, Su Young Lee, Jin Sook Kim, Sun-Ok Chung Chungnam National University

2025.10.15 (Day 2) Ballroom

Session 14: Artificial intelligence and machine learning in agriculture 5		
Chairperson: Prof. Wen-Tzong Lee & Prof. Anom S. Wijaya		
14:50	Invited Speech (8) AI for Genomic Agriculture — from Sequence to Field Impact Prof. Chien-Yu Chen Department of Biomechatronics Engineering National Taiwan University Taiwan	
Time	ID No.	Title, Authors and First Author's Affiliation
15:10	AI-O29	Unsupervised Anomaly Detection of Tipburn in Leafy Vegetables Using DRAEM Ki-Su Park, Woo-Joo Choi, Myongkyoon Yang Jeonbuk National University
15:20	AI-O30	IDENTIFICATION OF CUCUMBER PESTS, DISEASES, AND DISORDERS USING DEEP LEARNING Wen-Fang Yen, Tsung-Chun Lin, Chu-Ping Lin, Jin-Hsing Huang Nation Taiwan University
15:30	AI-O31	Monitoring Chicken Houses with AI Surveillance System Yu-Chi Shih, Kai-Rong Chang, Yan-Fu Kuo National Taiwan University
15:40	AI-O32	Apple Weight Prediction based on Lifecycle Growth Information, Chang-Hyeok Park, Gang-In Je, Ho-Jun Kwon, Ye-Seong Kang, Chan-Seok Ryu GyeongSang National University
15:50	Tea Break (15:50-16:15)	

Closing & Award Ceremony (Ballroom)		Moderator: Prof. Hsiao-Mei Wu
16:15	Closing Ceremony ACPA 11 Chairman: Prof. Suming Chen & CIAM President: Prof. Huaang-Youh Hurng	
16:25	Awards	
16:35	Announcement of ACPA 12	

2025.10.15 (Day 2) Room A

Session 15: Artificial intelligence and machine learning in agriculture 4		
Chairperson: Prof. Wei-Chih Lin & Prof. Chien-Yu Chen		
Time	ID No.	Title, Authors and First Author's Affiliation
10:20	AI-O21	PLANTSAGA: INTEGRATING SEGMENT ANYTHING MODEL WITH GAUSSIAN SPLATTING FOR ZERO-SHOT PLANT ORGAN-LEVEL 3D SEGMENTATION Kuan-Chen Lin, Jieng-Heng Lin, Ta-Te Lin National Taiwan University
10:30	AI-O22	DEEP LEARNING-BASED INSECT DETECTION ON STICKY TRAPS CAPTURED VIA MOBILE PHONES UNDER FIELD LIGHTING CONDITIONS,Ting-Hsuan Kuo, Jieng-Heng Lin, Yih-Lin Liu, Kuan-Chen Lin, Ta-Te Lin National Taiwan University
10:40	AI-O23	YOLO STRAWBERRY MATURITY CLASSIFICATION AND HARVEST PRIORITY WITH 3D CAMERA Jihyeon Yang, Ki-su Park, Woo-joo Choi, Seong-Hwan Lee, Yeong-Jin Kim, Dokyun Jung, Myongkyoon Yang Jeonbuk National University
10:50	AI-O24	Automating Wood Species Identification Using Deep Learning and Line Chatbot Yu-Zhan Yen, Pei-Chi Yang, Chin-Mei Lee, Yan-Fu Kuo National Taiwan University
11:00	AI-O25	SMARTFLOW: AI OPTIMIZATION OF DESALINATION FOR SUSTAINABLE AGRICULTURAL WATER MANAGEMENT Mukhammad Jamaludin, Isnaeni Nurjannah, Wu-Chia Hao, Wu-Yang Sean National Chung Hsing University
11:10	AI-O26	Development of AI-Based Energy Management Strategy of Pressure in Seawater Desalination Plant Based on Physical Modeling Chia-Hao Wu, Wu-Yang Sean, Isnaeni Nurjanah, Jamaludin Mukhammand, You-Chen Huang National Chung Hsing University
11:20	AI-O27	AUTOMATIC COUNTING OF CHICKENS AROUND FEEDERS USING CONVOLUTIONAL NEURAL NETWORKS Zi-Yuan Chen National Taiwan University
11:30	AI-O28	AUTOMATED SELECTION OF TAIWAN NATIVE BREEDING CHICKENS USING MACHINE VISION AND DEEP LEARNING Wei-Han Yu, Yan-Fu Kuo National Taiwan University
12:00	Lunch (12:00-13:30)	

2025.10.15 (Day 2) Room A

Session 16: Modeling, and prediction analysis 1		
Chairperson: Prof. Yi-Chich Chiu		
Time	ID No.	Title, Authors and First Author's Affiliation
13:30	MP-O04	Development of Cultivar-Optimized NIR Spectroscopy Model for Cherry Tomato Sweetness Assessment Yung-Yi Tsai, Shih-Fang Chen , Shu-I Lin National Taiwan University
13:40	MP-O05	Unsupervised Hyperspectral Image Segmentation Using Deep Global Clustering Yu-Tang Chang, Pin-Wei Chen, Shih-Fang Chen National Taiwan University
13:50	MP-O06	MODELING AND CHARACTERIZATION OF UNIMODAL AND BIMODAL DIURNAL POLLEN FORAGING PATTERNS IN HONEYBEE COLONIES Jhih-Cing Huang, Ta-Te Lin National Taiwan University
14:00	MP-O08	AUTOMATIC CALIBRATION OF CROP GROWTH MODELS FOR PREDICTING CORN ECONOMIC OPTIMUM NITROGEN RATES Yuxin Miao, Xiaoxing Zhen, Yanbo Huang, Gary Feng University of Minnesota
14:10	EP-O01	A Simulation-Based Matching System for Utilizing Clean Energy from Agri-livestock Waste Li-Heng Ko, Yin-Hao Lai, An-Chi Liu National Taiwan University

2025.10.15 (Day 2) Room A

Session 17: Wireless communication and IoT monitoring		
Chairperson: Prof. Shih-Fang Chen		
Time	ID No.	Title, Authors and First Author's Affiliation
14:50	WI-O09	EDGE-AI-BASED DAIRY CALF BEHAVIOR MONITORING SYSTEM USING COMPUTER VISION AND IOT TECHNOLOGIES Jui-Yuan Liao, Po-Lin Chen, Jih-Tay Hsu, Ta-Te Lin National Taiwan University
15:00	WI-O10	Development of a Smart Low-Carbon Greenhouse Integrated Plasma_xfffe_Activated Water and Second-Life EV Batteries Chiao-Yin Tu, Yulian Fatkur Rohman, Muhammad Bilhaq Ashlah, Wu-Yang Sean, Chia-Chiang Chang, Hong-Yi Wang, Jung-Tsan Lin, Chen-Yang Tai, Ya-Shih Chen National Chung Hsing University
15:10	WI-O11	Low-Code Development Environment and Middleware for Ubiquitous Environment Control Systems Tsuneo Nakanishi Fukuoka University
15:20	AM-O08	Optimizing Power Delivery in Electric Farm Machinery Using a Hybrid Battery and Ultracapacitor System Yulian Fatkur Rohman, Muhammad Bilhaq Ashlah, Chiao-Yin Tu, Sean Wu-Yang, Cheng Wei-Lin, Chiang Yi-Hsien national chung hsing university
15:30	AM-O09	Development of a Smart Agriculture Platform for Modern Management of Longan Orchards Phutakrit Chueapradit, Sunate Subkar, Parawee Kanjanaphachoat, Yu-Hsin Cheng, Choatpong Kanjanaphachoata National Pingtung University of Science and Technology
15:40	AI-O33	Smart Poultry Health Monitoring: Outlier Detection in Chicken Abnormalities Using Hampel Filter Anisa Fitri Santosa, Wu-Yang Sean National Chung Hsing University
15:50	Tea Break (15:50-16:15)	

Closing & Award Ceremony (Ballroom)		Moderator: Prof. Hsiao-Mei Wu
16:15	Closing Ceremony ACPA 11 Chairman: Prof. Suming Chen & CIAM President: Prof. Huaang-Youh Hurng	
16:25	Awards	
16:35	Announcement of ACPA 12	

Poster Session A

14 October, 2025

14:00~15:35

ID No.	Title	Author's name, and First Author's affiliation
AI-P01	PRECISE STRAWBERRY STEM LOCALIZATION VIA TWO-STAGE 3D DEEP LEARNING	Rui-Yi Xu, Chung-Liang Chang National Pingtung University of Science and Technology
AI-P02	Development a deep learning-based laser disturbance system for behavioral modulation in cage-free laying hens	Fu-Kai Chang, Ming-Kun Hsieh, Yao-Chuan Tsai National Chunghsing University
AI-P03	Deep Learning-Based Prediction of Methane Production in Anaerobic Digestion under Mesophilic and Thermophilic Conditions	Siou-Cih Liao, Cheng-Ying Chou , An-Chi Liu, Chu-Yang Chou, Yin-Hao Lai, Joe-Air Jiang National Taiwan University
AI-P04	AI_A Review on Structural Enhancements and Domain-Specific Adaptation of YOLO for Crop-Weed Recognition Oral Sohyeon-Kang	Sohyeon Kang, JaeSung Park, Jisu Song, Seokyeong Park Pusan National University
AI-P05	DEEP LEARNING-BASED IMAGE RECOGNITION FOR THE DETECTION OF NATURAL BEHAVIORS IN LAYING HENS	Chang-Chi Huang, Yu-Chieh Chen, Yun-Jung, Chiu, Chia-Jung Chang, Hsiao-Chieh Wang, and Yao-Chuan Tsai National Chung Hsing University
AI-P06	Lameness Detection in Side-View Videos of Dairy Cows Based on Pose Estimation and Deep Learning	Chi-Heng Chu, Hong-Yi Lee, Shih-Te Chuang, Hsin-I Chiang and Yao-Chuan Tsai National Chung Hsing University
AI-P07	Development of a 3D Segmentation Model for Precision Monitoring of Strawberry Plants	Seong-Hwan Lee, Woo-Joo Choi, Ki-Su Park, Yeong-Jin Kim, Dokyun Jung, Wonjin Kim, Jihyeon Yang, Myongkyoon Yang Jeonbuk national University
AI-P08	EARLY WARNING SYSTEM BASED ON DEEP LEARNING FOR MULTI-TYPE ABNORMAL CHICKEN COMB DETECTION	Yun-I Chu, Ming-Wen Wu, Kuang-Wen Hsieh, Ming-Kun Hsieh and Tsai Yao-Chuan National Chung Hsing University
AI-P09	A FIELD MACHINE FOR AUTOMATED QUANTIFICATION OF SWEET POTATO PHENOTYPIC TRAITS	Shang-Yu Hsieh, Ting-Han Lin, Kuang-Wen Hsieh, Chin-Ying Yang, Po-Hsien Lu, Yao-Chuan Tsai National Chung Hsing University
AI-P10	DEEP LEARNING-BASED DETECTION AND QUANTITY OF LIVESTOCK CARCASSES	Ching-Hung Chuang, Yu-Chieh Chen, Ku-Shou Chou and Yao-Chuan Tsai National Chung Hsing University
AI-P11	AUTOMATED ANALYSIS OF DAIRY COW BEDDING BEHAVIOR PATTERNS BASED ON DEEP LEARNING TECHNOLOGY	Cheng-Kai Chang, Hsin-I Chiang, Wu-Yang Sean, and Yao-Chuan Tsai National Chung Hsing University
AI-P12	DEVELOPMENT OF BAGGED GUAVA QUALITY GRADING SYSTEM USING IMAGE RECOGNITION AND GENERATIVE ADVERSARIAL NETWORKS(GANS)	Chen-Wei Chang*, Zhi-Xuan Dai, and Yao-Chuan Tasi National Chung Hsing University
AI-P13	INTRA-ROW MECHANICAL CABBAGE WEEDING BASED ON MACHINE VISION	Hsin-Yu Lin, Wel-Ti Huang , Jung-Chi Chang , Shu-Yun Chen and Yao-Chuan Tsai National Chung Hsing University
AI-P14	Optimizing Frost Prediction with a Multi-Window CNN-XGBoost Soft-Voting Ensemble	Jongyeop Kim, Uk Tae Choi, Min Gyeong Kim, DaeHee Kim Korea Institute of Future Agriculture
AI-P15	Deep Learning-Based Vocal Signature Analysis for Rumination Belching Identification	YU-HSUAN SHEN, Kai-Feng Cheng, Jin-Chern Chiou, Yi-Chieh Chiu, Chin-Cheng Wu National Ilan University
AI-P16	DETECTION OF PINEAPPLE PLANT CENTER BASE ON YOLO MODELS	Shih-Peng Kuo, Hong-Sheng Syu, Huaang-Youh Hurng, Wei-Jen Huang, Ying-Jen Huang National Chiayi University
AI-P17	Development of a Handheld Fruit Tree Disease and Pest Recognition Device Based on Transformer Models	Yin-Hao Lai, Li-Heng Ko, Ching-Ching Hsu, Yi-Chen Chen, An-Chi Liu, Joe-Air Jiang National Taiwan University
AI-P18	APPLICATION OF DEEP LEARNING FOR SYMPTOM DETECTION AND LOCALIZATION IN PHALAENOPSIS PLANTLETS	Zhi-Yuan Chen, Hong-Sheng Syu, Yu-Sheng Zeng, Ying-Jen Huang National Chiayi University
SP-P01	Thermoelectric Infrared Sensor Integrated with SHA Absorber	Yu-Nuo Liu , Zhi-Xuan Dai National Chung Hsing University
SP-P02	PREDICTION OF LETTUCE SPAD VALUE DURING GROWTH BY A MULTI-SPECTRAL IMAGE SENSOR USING MACHINE LEARNING MODEL	Hyun-Kwon Noh, Byeong-Hyo Cho ChungBuk National University

Poster Session B

14 October, 2025

15:55~17:30

ID No.	Title	Author's name, and First Author's affiliation
SP-P03	DEVELOPMENT OF AN IN-LINE SC-ISE SENSOR SYSTEM FOR CLOSED HYDROPONIC NUTRIENT MONITORING	Yeong-Hyeon Shin, Je-Min Park, Muhammad Amjad, Young-Kyun Jang, Woo-Jae Cho GyeongSang National Univ.
SP-P04	Establishment of spatial information for soybean cultivation complex through drone image analysis	Jinki Park, Chiyong An, Hongseok Lee, Hoejeong Jeong, Mihye Jeong, Jongsu Ryu Rural Development Administration
SP-P05	A rapid non-invasive capacitive platform for in vitro assessment of insecticide-induced skin corrosion	Yu-Ke LIN, Yi KUNG National Chiayi University
SP-P06	A Dilution-Free Capacitive Sensing Platform for Rapid Detection of Honey Adulteration	Kai-Xuan CHAN, YI KUNG National Chiayi University
SP-P07	Automatic Air-Exchange Whole-Plant Carbon Sequestration Measurement System in Potted Native Taiwanese Plant Applications	Ling-An Chien, Syuan-You Lin and Yao-Chuan Tsai National Chung Hsing University
SP-P08	Development of Light-Normalized Crop Monitoring Framework Using RGBD Imaging and Spatial Light Regression	Woo-Joo Choi, Wonjin Kim, Myongkyoon Yang Jeonbuk National University
AA-P01	Multi-System Enhancement of Autonomous Field Vehicles for Reliable Crop Monitoring Applications	Ci-Ruel Bai, Zi-Heng Jian, Shih-Fang Chen National Taiwan University
AA-P02	Development of a Drone-Mounted Device for Aerial Application of Mating Disruption Agents in Agriculture	Doyeon Im, Sung Min Kim, Uk Tae Choi, Su Hwan Song Korea Institute of Future Agriculture
AA-P03	Application of Automation Technology in Mushroom Stem-Cutting: A Case Study from Xinshe, Taiwan	Swami Nath Maurya, Ching-Li Liu, Kun-Ying Li, Ting-Lun Su, Cheng-Yen Lin National Chin-Yi University of Technology
AA-P04	Six-Axis Robotic Arm and Object 3D Detection Technique for Supporting Mobility-Limited People on Grasping Objects	Din-Yuen Chan, Chao-Min Hsu, Joseph E. Chou National Chiayi University
AA-P05	Development of Weeding Robots using AI Image Recognition Technology	Hui Min Shin, Joon Mo Kang, Hyuck Joo Kim Sunchon National University
AA-P06	FABRICATION OF LASER-INDUCED GRAPHENE HEATER INTEGRATED INTO FLEXIBLE PRINTED CIRCUIT BOARDS	Chen-Wei Wang, Xiang-Han Ji, Yao-Chuan Tsai National Chung Hsing University
AA-P07	DESIGN AND PERFORMANCE ANALYSIS OF A FLEXIBLE LIG THIN-FILM HEATER	Xiang-Han Ji*, Chen-Wei Wang, Yao-Chuan Tsai National Chung Hsing University
AA-P08	Theoretical Analysis of Deflection in Deformed Silicone Components for Dried Longan Peeling	Cheng-Han Li, Ko-Jung Huang, Chia-Chun Lai, Ching-Wei Cheng National Taichung University of Science and Technology
AM-P01	YOLOX-BASED MONITORING FOR HUMANE POULTRY SLAUGHTER	Hao-Ting Lin, Yu-Chuan Ho National Chung Hsing University
AM-P02	THEORETICAL POWER ANALYSIS OF A DRIVING UNIT FOR A SWEET POTATO HARVESTER UNDER DEVELOPMENT	Md Nasim Reza, Gusti Ayu Putri Mei Ulianti, Sakib Robin, Emmanuel Bicamumakuba, Su Young Lee, Pabel Kanti Dey, Md Aminur Rahman, Sun-Ok Chung Chungnam National University
AM-P03	Development of an Electric-Assisted Handling System for Pig Farm	Fu-Yuan Cheng, Bo-Jui Chen, Shiang-Rong Chen, Wei-Cheng Chen National Pingtung University of Science and Technology
AM-P04	A 3D CAMERA-BASED FERTILIZER RESIDUE MONITORING SYSTEM WITH ISOBUS FOR PRECISION AGRICULTURE	Changho Yun, Gookhwan Kim, Changju Yang, Kyung-do Kwon, Choung-keun Lee National Institute of Agricultural Sciences, RDA
BA-P01	HMI-Integrated Environmental Sensing for Poultry Water-Intake Forecast	Hao-Ting Lin, Hung-Yu Chen National Chung Hsing University
EP-P01	A Simulation-Based Matching System for Utilizing Clean Energy from Agri-livestock Waste	Li-Heng Ko, Yin-Hao Lai, An-Chi Liu, Joe-Air Jiang National Taiwan University

Poster Session C

15 October, 2025

10:20~12:10

ID No.	Title	Author's name, and First Author's affiliation
DD-P01	How to maximize China maize yields in 2050 - from a data-driven interpretable machine learning strategy	Yueying Wang, Qianjing Jiang, Yong He Zhejiang University
DD-P02	COARSE-TO-FINE NAVIGATION FOR ROBOTIC FEED DELIVERY IN PRECISION LIVESTOCK FARMING	Jing-Wei Huang, Yu-Chia Chang, Yu-Jun You, Chung-Liang Chang National Pingtung University of Science and Technology
DD-P03	Development of Efficient CO ₂ Enrichment Technique Based on a Simple Photosynthesis Model of Strawberries	Kota Hidaka (NARO), Daisuke Yasutake (Kyushu University), Kazuhiro Dan (NARO), Shintaro Ono (NARO), Takashi Okayasu (Kyushu University) National Agriculture and Food Research Organization (NARO)
DD-P04	SWEET POTATO SKIN COLOR ANALYSIS ALGORITHM BASED ON IMAGE PREPROCESSING AND COLOR MODELS	Ting-Han Lin, Shang-Yu Hsieh, Kuang-Wen Hsieh, Chin-Ying Yang, Po-Hsien Lu, Yao-Chuan Tsai National Chung Hsing University
DD-P05	UWB-IMU System Application and Analysis in Cucumber Greenhouses	Jing-Xiang Chen, Wei-Chih Lin, Takashi Okayasu National Sun Yat-sen University
DD-P06	An Intelligent Poultry Health Monitoring System Based On Multimodal Sensing Technologies	Yu-Jen Shih, Jen-Hung Huang, Ming-Wen Wu, Li-Yun Huang, Yan-Siang Chen, Ming-Kun Hsieh, and Yao-Chuan Tsai National Chung Hsin University
MP-P01	HOW DO DIFFERENT DATA INTERVALS IN EXPONENTIAL SINE MODEL AFFECT PREDICTION OF STRAWBERRY FLOWERING DYNAMICS?	Shintaro Ono, Daisuke Yasutake, Tadasige Iwao, Kota Hidaka, Gaku Yokoyama, Tomoyoshi Hirota Japan
MP-P02	The effects of thermal aging and ultraviolet radiation aging on the performance of greenhouse plastic films with different thicknesses	Cheng-Chang Lien , Wen Ho, Mei Jun-Han National Chiayi University
MP-P03	THE STUDY OF NON-CONTACT RESPIRATION AND TEMPERATURE HUMIDITY INDEX FOR DAIRY COW HEAT STRESS MONITORING	PO-HAN CHEN, YI-SEN HUANG, SHIH-AN KAO, YUN-TI LIAO, HSIN-I CHIANG, WEN-LIN CHU National Chung Hsing University
MP-P04	AI-DRIVEN EVAPOTRANSPIRATION PREDICTION USING PLANT WEARABLE SENSOR FOR SMART IRRIGATION	Muhammad Amjad, Yeong-Hyeon Shin, Je-Min Park, Jin Woo Nam, Mi Young Lim, Ji Woong Bang, Woo-Jae Cho Gyeongsang National University
MP-P05	Eye-Tracking Analysis of the Relationship Between Visual Attention and Clinical Scales in Dementia Patients	Shiu Yi-Shr, Wu Shin-Huei, Chen Shiuan-Ju, Jang You-Jia, Chia-Chin Hsu, Pei-Jen Chen National Chung Hsing University
MP-P06	ASSESSMENT OF LIGHT INTERCEPTION CONSIDERING PLANT ARCHITECTURE IS IMPORTANT FOR YIELD PREDICTION IN STRAWBERRY	Asaya Takahashi, Daisuke Yasutake, Kota Hidaka, Shintaro Ono, Hiromi Nakai, Shigehiro Kubota, Gaku Yokoyama, Tomoyoshi Hirota Kyushu University
MP-P07	AUTOMATED QUALITY DETERMINATION OF BROCCOLI AND CAULIFLOWER USING DEEP LEARNING	Han-Sheng Chang, Ya-ping Lin, Shih-Fang Chen National Taiwan University
WI-P01	Simulation and Control of Brushless DC Motors Based on Fuzzy PID for Unmanned Vehicles in Poultry Houses	Hao-Ting Lin, Zhong-Xian You National Chung Hsing University
WI-P02	Development of an Autonomous Navigation and Obstacle Avoidance Robot for Poultry Sheds	Hao-Ting Lin , Jung-Hsuan Chang National Chung Hsing University
WI-P03	Energy Harvesting and Application of a Tubular Triboelectric Nanogenerator Driven by Water Flow	Pin-Hsu Liao*, Yen-Hao Chiu, Wu-Yang Sean and Yao-Chuan Tsai National Chung Hsing University
WI-P04	DEVELOPMENT OF METHANE MONITORING SYSTEM FOR DAIRY COW ERUCTATION	Chung-Yen Chuang ¹ , Chang-Lung Tsai ¹ , Yi-Chieh Chiu ¹ , Jin-Chern Chiou ² , Jen-Jie Chieh ³ , Chin-Cheng Wu ¹ , National Ilan University
WI-P05	The Development of a Real Time Monitoring System through IoT Based Sensor Technology	Joon Mo Kang, Hui Min Shin Sunchon National University
WI-P06	Performance Study of Triboelectric Nanogenerator with Laser-Induced Graphene Electrodes	Jia-Yun Wu, Yong-Ran Lin, Yen-Hao Chiu, Shun-Wei Chiu, Yu-Ting Chiu and Yao-Chuan Tsai National Chung Hsing University