

19th TSAE International Conference Program

7 - 10 September 2026

Nangang International Exhibition Center (TaiNex 1), Hall 1

Taipei, Taiwan, ROC

Day 1: 7 September 2026 - Online	
Time (GMT+8)	Details
Zoom ID: 97266997629 Zoom Link: https://zoom.us/j/97266997629?pwd=rw6ILKzWdwkHkyReVrgg21UVFnHx4I.1	
09.00 – 09.30	Welcome addresses by Mrs. Dares Kittiyopas, President, Thai Society of Agricultural Engineering (TSAE)
09.30 – 11.30	Parallel – online technical session 1&2
Day 2: 8 September 2026 Nangang International Exhibition Center (TaiNex 1), Hall 1	
09.30 – 12.00	The Taiwan Smart AgriWeek Exhibition Open Ceremony
12.00 – 13.00	Lunch break
13.00 – 13.20	• Welcome addresses by Mrs. Dares Kittiyopas, President, Thai Society of Agricultural Engineering (TSAE) • Group Photo
13.20 – 14.00	Keynote Topic: AI Robotics for Future Agriculture Speaker: Prof. Dr. Ping-Lang Yen Department of Biomechatronics Engineering, National Taiwan University, Taipei, Taiwan, ROC
14.00 – 14.40	Keynote Topic: Development and Application of Artificial Intelligence in Taiwan Poultry Farms Speaker: Assoc. Prof. Dr. Yao-Chuan Tsai Department of Bio-Industrial Mechatronics Engineering, National Chung Hsing University, Taichung, Taiwan, ROC
14.40 – 15.20	Keynote Topic: Towards Negative Carbon Hydroponic Vegetable Production: Integration of AIoT Automation, CCU, Micro-bubble Technology, and Climate-Resilient Greenhouse Systems Speaker: Dr. Chou, Ching-Aun Sunlit Hydroponic Farm and Moss Creek Co., Ltd.
15.20 – 16.00	Keynote Topic: Novel Approaches to the Production of Highly Stable Natural Food Colorants: From Molecular to Practical Viewpoint Speaker: Prof. Dr. Sakamon Devahastin Department of Food Engineering, Faculty of Engineering, King Mongkut's University of Technology Thonburi, Thailand
16.00 – 17.30	Networking Reception
Day 3: 9 September 2026 Nangang International Exhibition Center (TaiNex 1), Hall 1	
09.00 – 10.30	Technical session 2
10.30 – 10.45	Coffee break

10.45 – 12.00	Technical session 3
12.00 – 13.00	Lunch
13.00 – 14.30	Technical session 4
14.30 – 14.45	Coffee break
14.45 – 15.45	Technical session 5
15.45 – 16.30	Poster Session
16.30 – 17.00	Closing Ceremony
Day 4: 10 September 2026 Nangang International Exhibition Center (TaiNex 1), Hall 1	
Allday	The Taiwan Smart AgriWeek Exhibition Visit



Day 1: 7 September 2026 – Parallel - online technical session 1

Zoom ID: 97266997629

Zoom link: <https://zoom.us/j/97266997629?pwd=rw6lLKzWdwkHkyReVrgg21UVFnHx4I.1>

Chair: Prof. Dr. Sakamon Devahastin

Time (GMT+8)	ID	Title and authors
09.30 – 09.45	9	Influence of Moisture Content and Pyrolysis Temperature on the Quality of Liquid Smoke Produced from Coconut Press Cake <i>Sawanit Aichayawanich, Supachoke Saengswarn, Naruemon Sumrith</i>
09.45 – 10.00	33	Effects of Adsorption Technique during Smoking Process on pH values and the Odorant Characteristics of Smoked Chicken Tenderloin <i>Sawanit Aichayawanich, Chakaphan Ngaowthong, Jittimon Wongs, Nipon Bhuwakietkumjohn, Choocheep Kheawubon, Danuwat Thangdee</i>
10.00 – 10.15	43	Development of a Low-Cost Portable Spectrophotometer for Detection of Pesticide Residues in Orange Juices via Integration with Digital Image Analysis <i>Maturada Jinorose, Tanrada Tanakeeree, Sujiwan Kohklang, Supitchaya Khanom, Neungruthai Sengsikul, Atikarn Soparat, Sakamon Devahastin</i>
10.15 – 10.30	1	Sustainable building standards integrating energy efficiency and health science thermal comfort <i>Wirote Ritthong, Sumate Sathitbun-anan, Khongdet Phasinam, Yanzhu Huang, Zhang Pengfei, Nuparb Yamtraipat, Preeda Chantawong</i>
10.30 – 10.45	48	Optimization of Pyrolysis Temperature for Bamboo Waste Biochar to Enhance Odor and TVOC Adsorption Performance <i>Sukanya Wattana, Ratiya Thuwapanichayanan, Suratwadee Arunwarakorn, Donludee Jaisut</i>

10.45 – 11.00	61	Development of Small-Scale Steam Pasteurizer Utilizing Heat from Rice Hull Gasifier for Mushroom Fruiting Bag <i>Elman C. Torres, Monalyn L. Oloroso, Ramonita C. Verano, Joaquin B. Berdon Jr., Marilyn L. Bernabe, Efren L. Linan</i>
11.00 – 11.15	15	Experimental Determination of Cutting Energy of Cassava Stems for Precision Stem Cutting Device Development <i>Somsak Kramchote, Pisut Maichoon, Siramet Veerasakulwat</i>



Day 1: 7 September 2026 - Parallel - online technical session 2

Zoom ID: 96286480029

Zoom Link: <https://zoom.us/j/96286480029?pwd=mldH33daFWbZxka3KY1rR4jkUdnQr4.1>

Chair: Assoc. Prof. Dr. Watcharapol Chayaprasert

Time (GMT+8)	ID	Title and authors
09.30 – 09.45	16	The biological effectiveness of drip irrigation for cotton in the conditions of Karakalpakstan <i>Bakhtiyar Matyakubov, Rukhia Primbetova</i>
09.45 – 10.00	45	Agricultural Transformation and Farm Economic Efficiency under Water Scarcity: Evidence from Karakalpakstan, Uzbekistan <i>Bakhit Mambetnazarov, Bayramgul Jubanova, Zamira Shaniyazova, Saule Ibragimova, Berdiyar Seylbekov, Bakhitgul Aydaniyazova, Sayyora Murtazayeva</i>
10.00 – 10.15	46	Digital Transformation of Water Management in Dehkan Farms under Water Scarcity: Evidence from the Aral Sea Region, Uzbekistan <i>Bakhit Mambetnazarov, Alimbay Shamshetov, Abatbay Zhuzbaev, Miyasar Zarikeyeva, Parakhat Allaniyazov, Nargiza Allasheva, Gulchekhra Allamuratova</i>
10.15 – 10.30	57	Feasibility of Laboratory X-ray Fluorescence for Estimating Extractable Soil Macronutrients in a Heterogeneous Soil Archive <i>Sakrin Boonlum, Tharathip Nuamyakul, Weerayut Inboonma, Jawanchanok Preesong, Sukunya Yampracha, Vasu Udompetaikul</i>
10.30 – 10.45	7	The Application of Electric Motor as Driving Power Source for Tractor-Mounted Cassava Planter <i>Supachoke Saengswarn, Phakhawat Dadphong, Thanavat Pomamnuaychok, Surasak Wongprated, Sirasa Thangdee</i>
10.45 – 11.00	14	Comparison of the Effects of Fertilizer Types on <i>Wolffia globosa</i> Quality under Equal Electrical Conductivity (EC) Conditions <i>Siramet Veerasakulwat, Patcharapon Kaiwong, Kongkidakorn kitjarid, Somsak Kramchote, Prapat Athipanjan, Pisut Maichoon</i>
11.00 – 11.15	47	A Novel Continuous Mango Wrapping Device for Deploying Three Protective Bags from a Single Loading <i>Tripob Aksornchai, Suparek Roengjittree, Sittiporn Maneewan, Piyapong Sriwongras, Ratiya Thuwapanichayanan, Supakit Sayasoonthorn</i>
11.15 – 11.30	60	Physical Properties of Sinking Shrimp Feed Pellets for the Design of a Feed Broadcaster: A Case Study for Shrimp Farmers in Nakhon Pathom, Thailand <i>Sirasa Thangdee, Danuwat Thangdee, Sittipoom Sintae, Thakool Changkrachang, Watcharit Gadcharoen</i>

Day 3: 9 September 2026 - Nangang International Exhibition Center (TaiNex 1), Hall 1

Technical Session 3: Information Technology for Agricultural Engineering and

Land and Water Engineering		
Chair	Assoc. Prof. Dr. Prathuang Usaborisut	
Time (GMT+8)	ID	Title and authors
09.00 – 09.15	40	Stochastic On-the-Fly Augmentation for Mango Leaf Disease Detection Using YOLO and RT-DETR Architectures <i>Rattakate Numcharoen, Thanakorn Promkhotka, Supachok Pongpanit, Nattapat Sonjai, Manaschai Timthae, Tanatya Kenkhunthot, Artit Pongtip, Pranot Maniin, Banyat Saitthiti, Padiwarada Anantasiri</i>
09.15 – 09.30	41	Geospatial and Climate-Based Predictive Modeling for Cassava Mosaic Disease Outbreak Forecasting in Thailand: An Open-Source Framework with Preliminary Validation <i>Amarin Chanpariyavatevong, Aphilak Lonklang, Kontorn Chamniprasart, Jittima Varakul, Anawin Pechbooranin</i>
09.30 – 09.45	56	Model-based scenario analysis for reducing turning losses in sugarcane harvesting <i>Apidul Kaewkabthong, Vasu Udompetaikul</i>
09.45 – 10.00	5	Assessment of Uncertainty in Landsat 8–9, Sentinel-1, and Sentinel-2 Data for Reservoir Storage Estimation: A Case Study of Sirindhorn Dam, Thailand <i>Jurawan Nontapon, Nopanom Kaewhanam, Pragya Pant, Praveen Kumar Regmi, Siwa Kaewplang</i>
10.00 – 10.15	13	Monthly Quantile Mapping for Bias Correction of Gridded Precipitation Products in the Phetchaburi–Prachuap Khiri Khan Basin, Thailand. <i>Napassakorn Chulee, Chuphan Chompuchan</i>
10.15 – 10.30	37	Seasonal Storage and Crop-Timing Flexibility in Farmer-Led Shallow Groundwater Use Across the Chanasutr Irrigation Scheme, Thailand <i>Supaporn Pattanakaew, Chuphan Chompuchan, Thundorn Okwala</i>
10.30 – 10.45	Coffee break	
Technical Session 4: Plant, Animal and Aquacultural Production Engineering		
Chair	Asst. Prof. Dr. Vasu Udompetaikul	
Time (GMT+8)	ID	Title and authors
10.45 – 11.00	21	Energy Consumption Analysis of Fixed and Adaptive Threshold ON-OFF Control for Aquaculture Dissolved Oxygen: A Simulation Study <i>Jedsada Saijai, Vasu Udompetaikul, Jiraporn Onmankhong, Charatchai Yenphayab, Jeerayut Hongwiangjan</i>
11.00 – 11.15	39	Effects of Different Fertilizer Rates Combined with Electrolyzed Water on Growth and Yield Components of Red Banana <i>Musa acuminata</i> (AAA Group) ‘Kluai Nak’ <i>Napassorn Nanontai, Pranot Maniin, Thanakorn Promkhotka, Artit Pongtip, Banyat Saitthiti</i>
11.15 – 11.30	53	Technical Feasibility of Low-Power Laser Application for Precision Weed Control <i>Prud Netsawang, Ninlawan Chaitanoo, Anuwat Srinoun, Chalorm Yawilat, Nattakarn Pianpanit, Sureewan Rajchasom, Teerayut Cordkaew, Ronnachart Munsin</i>
11.30 – 11.45	54	Comparison of Thai and Japanese Rice Combine Harvester Operations Using a Simulation Model <i>Marisa Ogino, Piyapong Sriwongras, Masami Matsui, Yuya Aoyagi, Prysathryd Sarabhorn, Phuthadhol Rattanapornapat, Minn Thet Mon San</i>
11.45 – 12.00	11	Coffee Roaster Using Hot Air Fluidized Bed Technique Combined with Infrared Lamp <i>Phruektinai Buakhiao, Nuttapong Ruttanadech, Kittisak Phetpan, Natrapee Nakawajana, Ronnachart Munsin, Pramote Kuson, Apiluck Eiad-ua, Rattapong Suwalak</i>
12.00 – 13.00	Lunch	

Technical Session 5: Agro–Processing and Food Engineering, and Energy and Biomass Engineering		
Chair	Asst. Prof. Dr. Jittimon Wongsu	
Time (GMT+8)	ID	Title and authors
13.00 – 13.15	3	Low-Cost Enhancement of Industrial Cassava Chip Open-Sun Drying Using a 10-cm Elevated Platform: Airflow Improvement, Drying Kinetics, and Energy Efficiency <i>Sopa Cansee, Sarawut Saenkham, Ling Fang, Shenghua Hu, Teerasad Kanasri</i>
13.15 – 13.30	10	Comparison of Vacuum-assisted Infrared Drying and Hot Air Drying on Drying Characteristics and Oil Quality of Rice Bran Pellet <i>Jiraporn Sripinyowanich Jongyingcharoen</i>
13.30 – 13.45	20	Insights into conversion-dependent kinetic behavior and reaction mechanisms during pyrolysis of silica-rich rice husk <i>Suluh Pambudi, Wanphut Saechua</i>
13.45 – 14.00	36	Effect of Hot-Air Drying Temperature on Drying Characteristics and Quality Attributes of Chewy Namwa Banana <i>Wanvisa Taweechuensakul, Charoonsak Somphong, Wipada Runmai, Woraporn Taemkrathok, Warangkana Klaidon, Sirikanya Hongcharoen</i>
14.00 – 14.15	50	Fermentation Monitoring of Banana Cider from Pakchong 50 Cultivar as a Basis for Developing an Automated Fermentation System <i>Aekrat Krasaelap, Kiatkamjon Intani, Phuthadhol Rattanapornapat, Theera Thurakit, Pramuan Saithong, Kunlayanee Suvittawat</i>
14.15 – 14.30	38	Influence of particle size on near infrared spectroscopic characterization of heating value prediction of wood chips <i>Suluh Pambudi, Natchapol Prukjinda, Dechthus Muadcheangka, Varakorn Chinmetheepithak, Wanphut Saechua</i>
14.30 – 14.45	Coffee break	
Technical Session 6: Non–Food Biological Material Engineering		
Chair	Dr. Martin Boruvka	
Time (GMT+8)	ID	Title and authors
14.45 – 15.00	17	Process Development of Flame-Retardant Hemp Fiber Composites for Automotive Door Panels <i>Chakaphan Ngaowthong, Naruemon Sumrith, Thanya Parametthanuwat, Martin Borůvka, Jittimon Wongsu</i>
15.00 – 15.15	42	Chitosan-Coated Silica Particles as Anion Trapper for Anticorrosion Coating <i>Thanadol Jaruraksa, Sasiprapa Rattananukul, Teeraporn Suteewong</i>
15.15 – 15.30	44	Machine Learning-Based Classification and Interpretation of Compressive Strength in Fired Clay Bricks Incorporating Sugarcane Leaf Fibers <i>Anawin Pechbooranin, Aphilak Lonklang, Kontorn Chamniprasart, Sorada Khaengkarn, Kamonlak Kesmanee, Auttachoke Poophanchit, Amarin Chanpariyavatevong</i>
15.30 – 15.45	52	Production of Biomass Pellets and Biochar from Peanut Shells <i>Natchanon Chaipakaporn, Kiatkamjon Intani, Jetsada Authapun, Donludee Jaisut, Piyapong Sriwongras, Supakit Sayasoonthorn</i>
Poster Session		
15.45 – 16.30	28	Comparative Study of Edge-Cutting and Non-Edge-Cutting Forming Machines for Jackfruit Leaf Cup Production <i>Nonglak Lekrungroenggid, Pimpan Pruengam</i>

29	Experimental Evaluation of Soil Compaction Under Repeated Tractor Traffic with Different Organic Matter Placement Depths <i>Prathuang Usaborisut, Tippawan Saengthong, Watcharachan Sukcharoenvipharat, Chaiya Jantra, Pawin Thanpattranon, Sirisak Choedkiatphon, Wanrat Abdullakasim</i>
30	Agricultural Waste to Renewable Energy: A Case Study of Biogas Production from Water Chestnut Peels <i>Pimpan Pruengama, Nonglak Lekrungronggid</i>
31	Development of Predictive Equations for Coconut Husk Moisture Content Related to Internal Crack Classification Using Near-Infrared Spectroscopy <i>Pacharaphon Chiangngoen, Sirinad Noypitak, Kietsuda Luengwilai, Anupun Terdwongworakul</i>
32	Effects of Processing Conditions on the Expansion of Rice Produced by a Flat-Plate Puffing Machine <i>Siwalak Pathaveerat, Chanida Buppata, Prasertsak Pakdeewong</i>
58	Preparation of Hollow Silica-Lignin Nanoparticles as a UV Filter <i>Sitrathip Bunruang, Kulthida Chongko, Siriboonya Sartsuthi, Teeraporn Suteewong</i>