

CONFERENCE PROGRAM

2026 2nd International Conference on Robotics, Engineering, Science, and Technology, RESTCON

4-6 November, 2026

WELCOME TO RESTCON 2026

Welcome to 2026 2nd International Conference on Robotics, Engineering, Science, and Technology (RESTCON 2026), hosted by Kyushu Institute of Technology, Fukuoka, Japan.

RESTCON 2026 highlights recent advances in Robotics, Engineering, Science, and Technology. The conference serves as an international meetings for researchers and engineers from academia, industry and research institute to share ideas, present findings and foster collaborations.

We are delighted to welcome all of you to Fukuoka and RESTCON 2026. We look forward to an engaging and productive conference with meaningful discussions, new connection and opportunities for collaboration.

PROGRAM AT A GLANCE

DAY 1 (17:00-18:00, Wednesday, November 4) (5th Floor Lobby)	1. Registration
DAY 2 (8:30-18:40, Thursday, November 5) (502, 503)	1. Registration 2. Opening talk by the General Chair, *Prof. Masaki Fuchiwaki (Kyushu Institute of Technology)* 3. Welcome remarks by the Honorary General Chair, *Prof. Tohru Kamiya (Kyushu Institute of Technology)* 4. Special remarks by *Dr. Punpermsak Aruni (Deputy Permanent Secretary, Ministry of Higher Education, Science, Research and Innovation of Thailand (MHESI))* *5.* Opening remarks by the co-organizer, *Assoc. Prof. Pichet Sriyanyong (Vice President for International Affairs, King Mongkut's University of Technology North Bangkok)* 6. Token exchange *7.* Invited talks by *Prof. Sergio Chiva Vicent (Universitat Jaume I)* and *Assoc. Prof. Yoann Cheny (Université de Lorraine)* 8. Parallel sessions 9. Banquet
DAY 3 (9:00-17:00, Friday, November 6) (502, 503)	1. Registration 2. Invited talk by *Assoc. Prof. Maroay Phlernjai (Sirindhorn International Institute of Technology (SIIT), Thammasat University)* 3. Parallel sessions 4. Closing ceremony *5.* Closing remarks by *Assoc. Prof. Kittichai Thanasupsin (The Dean, Faculty of Engineering, King Mongkut's University of Technology North Bangkok)* 6. Closing talk by *Prof. Masaki Fuchiwaki (Kyushu Institute of Technology)*

INVITED SPEAKERS



Dr. Sergio Chiva Vicent
Professor, Universitat Jaume I (UJI) in Castellón de la Plana, Spain
Title: From CFD to Digital Twins: Integrating Physics, Data and Artificial Intelligence for Real-Time Engineering



Dr. Maroay Phlernjai
Assistant Professor, School of Manufacturing Systems and Mechanical Engineering
Sirindhorn International Institute of Technology (SIIT), Thammasat University, Thailand
Title: From Math to Motion: Interactive Mechanism Design in Modern Workflows and Education



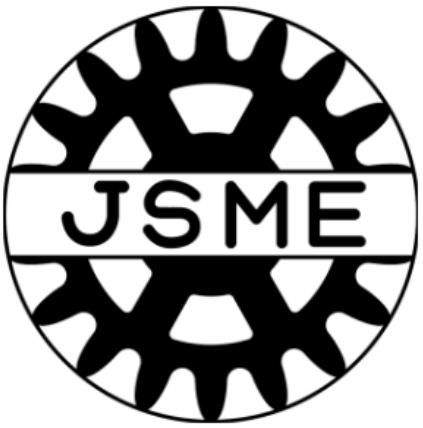
Dr. Yoann Cheny, Associate Professor, Laboratory of Energetics and Theoretical and Applied Mechanics University of Lorraine, Fracnce
Title: Solving Inverse Problems in Fluid Mechanics with Physics-Informed Neural Networks

ORGANIZERS AND PARTNERS













DETAILED PROGRAM SCHEDULE

Wednesday, 4 November 2026

17:00-18:00	**Registration (5th Floor Lobby)**

Thursday, 5 November 2026

8:00-8:30	**Registration (5th floor Lobby)**	
8:30-9:00	**Opening Ceremony (502)**	
9:00-10:00	INVITED TALK 1 (502) **From CFD to Digital Twins: Integrating Physics, Data and Artificial Intelligence for Real-Time Engineering** **Prof. Dr. Sergio Chiva Vicent (Universitat Jaume I)** *Chair: Prof. Masaki Fuchiwaki*	
10:00-10:20	Coffee Break	
	Mechanical Engineering_1 (502) *Chair: Prof. Masaki Fuchiwaki*	**Chemical and Bioengineering (503)** *Chair: Assoc. Prof. Kenji Sakamoto*
10:20-10:40	A Magnet-Assisted Galloping Piezoelectric Energy Harvester for Self-Powered Monitoring Applications *Patcharakon Siriyothai*, Sirapol Nokyoongtong, *Chawalit Kittichaikarn* *(Kasetsart University)*	*Evaluation of the Mechanical Properties of Biomass-Filled Polypropylene* *Jacqueline Lease, Jin Di Wu, Chen Zhuang, Ando Yoshito* *(Kyushu Institute of Technology)*
10:40-11:00	*Effect of Fin Attachments on the Performance of a W-Shaped Bluff Body Galloping Piezoelectric Energy Harvester* *Jinnapat Pechpraw, Ajchariyapong Kamsaard, Tharathep Khomkhai, Chawalit Kittichaikarn* *(Kasetsart University)*	*Three Dimensional Effective Airfoil Shape in Forming Vortices During Flapping Motion of Butterfly Wings* *Sei Haishi, Masaki Fuchiwaki* *(Kyushu Institute of Technology)*
11:00-11:20	*Fine-Bubble Generation, Trapping, and 3D Manipulation Using a Megasonic Standing Wave* *Ryusei Tsubawara, Yuuki Ohta, Kazuma Tsunematsu, Panart Khajornrungruang* *(Kyushu Institute of Technology)*	*A Study on the Safety of Bamboo-Based Materials Utilizing Superworms* *Souwalauk Na Khampol* *(Kyushu Institute of Technology)*
11:20-11:40	*Bio-Inspired Duck's Feet Bluff Body for Enhanced Flow-Induced Vibration Piezoelectric Energy Harvest* *Tharathep Khomkhai, Ajchariyapong Kamsaard, Jinnapat Pechpraw, Chawalit Kittichaikarn* *(Kasetsart University)*	*An Improved Lightweight CNN Model for Online Tomato Ripeness Classification* *Rut Yatigul, Wisanu Jitviriya, Eiji Hayashi, Aran Blattler, Watcharin Tangsuksant, Teppakorn Sittiwanchai* *(King Mongkut's University of Technology North Bangkok, Kyushu Institute of Technology)*
11:40-12:00	*Experimental Investigation of Frequency and Oscillation Amplitude Effects on Downstream Thermal Response of Magnetically Actuated Fins* *Chartsiri Rujasiri, Chawalit Kittichaikarn* *(Kasetsart University)*	*Study on the Applicability of Evaluating the Shading Performance Green Facades Using Photo Image Analysis* *Todoroki Rin, Wanghee Cho* *(Kyushu Institute of Technology)*
12:00-13:20	Lunch	
13:20-14:20	INVITED TALK 2 (502) **Solving Inverse Problems in Fluid Mechanics with Physics-Informed Neural Networks** **Assoc. Prof. Yoann Cheny (University of Lorraine)** *Chair: Dr. Sei Haishi*	
14:20-14:40	Break	
	Mechanical Engineering_2 (502) *Chair: Prof. Kentaro Kitamura*	**Robotics (503)** *Chair: Assoc. Prof. Panart Khajornrungruang*
14:40-15:00	*Metrological Evaluation of Laser Interferometry and High-Accuracy Linear Gauge Methods for Indicator Calibrator Calibration* *Thanida Charoonroj, Wiroj Sudatham* *(National Institute of Metrology)*	*Virtual Reality-Based Learning from Demonstration for Visual-Language-Action Robot Manipulation* *Thiarasak Khamyan, Amornphun Phunopas* *(King Mongkut's University of Technology North Bangkok)*
15:00-15:20	*Design and Development of a High-Accuracy Multiple-Spectrum Earth Sensor for a Nanosatellite in LEO Using Thermopile and PSD Detectors* *Ratatamanun Subsinchai, Kitamura Kentaro* *(Kyushu Institute of Technology)*	*From Detection to Estimation: Continuous Fall Risk for Assistive Robotics* *Martin Vogel, Tomohiro Shibata* *(Kyushu Institute of Technology)*

15:20-15:40	*Failure-Aware Benchmarking of Fiducial Marker Detectors for Six-Degree-of-Freedom Vehicle Pose Estimation Using Simulated Unmanned Aerial Vehicle Imagery* *Jaewoo Kim, Eun-Kuk Kim, Tae-Ho Han, Hyunggun Kim* *(Sungkyunkwan University, Korea Agriculture Technology Promotion Agency,)*	*High-Accuracy Low-Complexity Minimax-Type Odd-Order Tunable Bandpass Filter* *Noboru Ito (Tian-Bo Deng)* *(Toho University)*
15:40-16:00	*Investigating the Influence of Wearable Architecture on Kinesthetic Motion Guidance* *Warawarin Nitirojntanad, Wataru Fujita, Tomohiro Shibata* *(Kyushu Institute of Technology)*	*Altitude Regulation of a Flapping-Wing Micro Air Vehicle: A Comparative Study Between Pitch Control and Flapping Frequency Modulation* *Jiraphatr Jiraborvornpongsa, Hiroshi Ohtake* *(Kyushu Institute of Technology)*
16:00-16:20	*Influence of Angle of Attack and Substrate Material on Duck's Feet Galloping Energy Harvesting* *Ajchariyapong Kamsaard, Tharathep Khomkhai, Jinnapat Pechpraw, Chawalit Kittichaikarn* *(Kasetsart University)*	*Simulation-Based Machine Vision Framework for Single-Particle Hydrodynamic Diameter Estimation from Dark-Field Microscopy Images* *Spun Choeisuwan, Aran Blattler, Teppakorn Sittiwanchai, Wisanu Jitviriya, Amornphun Phunopas, Watcharin Tangsuksant* *(King Mongkut's University of Technology North Bangkok)*
16:20-16:40	*Flow Characteristics in a Chamber and of Outlet Jets* *Asuka Kondo, Masaki Fuchiwaki* *(Kyushu Institute of Technology)*	*Multiclass Classifier Analysis for SEMG-Based Hand Injury Level Detection in SPBA Robotic Glove Control* *Mark Joseph B. Enojas, Aldrin Joseph M Tadifa, Manuel Jr. Ramos* *(University of the Philippines)*
16:40-17:00	Break	
	Life Science (502) *Chair: Prof. Chikamune Wada*	
17:00-17:20	*The Effects of Lung Cancer-Derived Soluble Factors on the Transformation of Human Mesenchymal Stem Cells (MSCs) into Cancer-Associated Fibroblasts (CAFs)* *Pakpoom Kheolamai, Sirikul Manochantr, Chairat Tantrawatpan, Siriwan Noiaiam, Duangrat Tantikanlayaporn* *(Thammasat University)*	
17:20-17:40	*Inhibitory Effect of Exosome from SMAS-Associated Adipose Tissue Mesenchymal Stem Cells on the Proliferation and Migration of Cholangiocarcinoma Cells* *Thirawut Miprawat, Tanachapa Jantalika, Pakpoom Kheolamai, Sirikul Manochantr, Duangrat Tantikanlayaporn, Chairat Tantrawatpan* *(Thammasat University)*	
17:40-18:00	*Performance Analysis of Gallium Arsenide and Perovskite Solar Cells for Nanosatellite Applications* *Fatimah Zaharah Ali, Ahmad Ashraf Ahmad Hafiz, MHuzaimy Bin Jusoh, Mardeni Roslee* *(Universiti Teknologi MARA, MMU)*	
18:00-18:20	*Bandwidth Enhancement of an Aperture-Coupled Microstrip Patch Antenna Using a Mushroom-like Electromagnetic Bandgap Structure* *Fatimah Zaharah Ali, Wan Nur Masturina Binti Wan Sulaiman, MHuzaimy Bin Jusoh, Mardeni Roslee* *(Universiti Teknologi MARA, MMU)*	
18:20-18:40	*An IoT-Enabled Portable ECG Monitoring System with Quantized 1D-CNN Mobile Edge AI for Real-Time Arrhythmia Classification* *Indra Hermawan, Ghea Geltra, Maqrefa Akbar, Naora Adhani, Shanazsiva Nasra, Asep Kurniawan, Chandra Wirawan* *(Politeknik Negeri Jakarta)*	
19:30-21:30	**Banquet**	

Friday, 6 November 2026

9:00-10:00	INVITED TALK 3 (502) **From Math to Motion: Interactive Mechanism Design in Modern Workflows and Education** **Assoc. Prof. Maroay Phlernjai (Thammasat University)** *Chair: Assoc. Prof. Panart Khajornrungruang*	
10:00-10:20	Coffee Break	
	Artificial Intelligence_1 (502) *Chair: Dr. Sei Haishi*	**Industrial, Production and Materials (503)** *Chair: Prof. Keisuke Suzuki*
10:20-10:40	*A Multimodal Heritage Tourism Recommendation Framework Integrating Vector Databases and GIS for Personalized Cultural Heritage Exploration* *Sathit Prasomphan* *(King Mongkut's University of Technology North Bangkok)*	*Development of Optical Detection Method for Micro-Tool Tip Height Position in Micro/Nano-Scale Using Fluorescence Propagation Light Excited by Evanescent Field in Ultra-Precision Machining* *Koki Ogata, Yutaka Terayama, Yuuki Ohta, Panart Khajornrungruang* *(Kyushu Institute of Technology)*
10:40-11:00	*Temporal Changes in Facial and Gaze Features Immediately Before Isolated Errors in a Mental Arithmetic Task* *Ryota Ochi* *(Kyushu Institute of Technology)*	*Rice Husk Silica in Polyurethane Polishing Pads for Sapphire CMP* *Natthaphon Bun-Athuek, Pipat Phaisalpanumas, Keisuke Suzuki, Sethavut Duangchan* *(King Mongkut's University of Technology North Bangkok, Kyushu Institute of Technology)*
11:00-11:20	*Evaluating the Similarity Between Multimodal LLM and Human Annotations in Scene Understanding and Hazard Assessment for Visually Impaired People* *Panas Thongtaweechaikij, Watcharin Tangsuksant, Chikamune Wada* *(Kyushu Institute of Technology)*	*Development of Cu-Based Coatings via Cold Spray for anti-Fouling Protection of Marine Applications* *Torsak Boonthai, Peerawatt Nunthavarawong, Masaki Fuchiwaki, Jirasak Tharajak* *(King Mongkut's University of Technology North Bangkok, Kyushu Institute of Technology, Rajamangala University of Technology Phra Nakhon)*
11:20-11:40	*Mixed-Precision Integer Quantization of PointPillars for Low-Cost LiDAR 3D Object Detection on Raspberry Pi 5 with Hailo-8* *Ninnart Fuengfusin, Keisuke Yoneda, Naoki Suganuma* *(Kanazawa University)*	*Simple Modeling of the Equivalent Stress and Strain Relationship of Structural Steel for Finite Element Analysis* *Toshikazu Takai, Rikuto Kagawa* *(Kyushu Institute of Technology)*
11:40-12:00	*Grasp by Ear: Real-Time Cookware Segmentation and Clock-Face Audio Guidance on Edge Devices for Visually Impaired Cooks* *Hiroki Katayama, Krisna Pinasthika, Ainandafiq Muhammad Alqadri, Chikamune Wada* *(Kyushu Institute of Technology)*	*Data Centre Design Validation Related to Electricity: A Review* *Muhamad Khaidir, Chairul Gagarin Irianto* *(Universitas Trisakti)*
12:00-12:20	*A Safety-First Conceptual Design and No-Code Prototype for a Bilingual Snake-Identification Chatbot* *Sirikalaya Thanasupsin, Teppakorn Sittiwanchai* *(Darunsikkhalai Science School, SCiUs program affiliated by King Mongkut's University of Technology Thonburi & King Mongkut's University of Technology North Bangkok)*	*Implementation of Monolithic Architecture for Website Monitoring in IoT Flood Water Monitoring* *Indra Hermawan, Yazmin Nuraini, Susana Dwi Yulianti, Natanael Siwalette, Dea Fauziah Lestari, Wafana Mumtaza Dzauqiyah* *(Politeknik Negeri Jakarta)*
12:20-13:40	Lunch	
	Artificial Intelligence_2 (502) *Chair: Prof. Tomohiro Shibata*	**Electrical and Control Engineering (503)** *Chair: Assoc. Prof. Akiyoshi Baba*
13:40-14:00	*Comparative Investigation on Machine Learning Models with Data Augmentation to Predict EDM Performance Measures for Die Sinking EDM Processes of EN31 Steel* *Phiraphon Khamsuk, Watcharin Tangsuksant, Pramuk Jenkittiyon, Komkamol Chongbunwatana* *(King Mongkut's University of Technology North Bangkok)*	*Terminal Sliding Mode Disturbance Observer-Based Position Control for a PAM System* *Jedsadakorn Chainarapipat, Arsit Boonyaprapasorn, Suwat Kuntanapreeda* *(King Mongkut's University of Technology North Bangkok)*
14:00-14:20	*Rapid Development of a GNU Radio-Based CCSDS OQPSK Receiver Using Generative AI Assistance* *Daisuke Nakayama, Kenta Tomonaga, Satoi Kubuki, Tetsuro Harada, Tomoko Arai* *(Kyushu Institute of Technology, Chiba Institute of Technology)*	*Harmonic Mitigation in a Grid-Forming Inverter Using an Active Power Filter Under Weak and Strong Grid Conditions* *Nottakorn Sukmanont, Dhamrongsak Khakkharho, Kanet Katchasuwanmanee, Thongchart Kerdphol* *(Kasetsart University)*
14:20-14:40	*Domain-Adapted DeBERTa for Healthy Building Risk Extraction from Hotel Reviews* *Syamsul Bahri, Purnawansyah, Hadriana Iddas, Abdul Rachman Manga, Bart J Dewancker, Harlinda Lahuddin* *(Kitakyushu University, Universitas Muslim Indonesia)*	*Efficiency and Power Loss Analysis of Integrated Buck Converter with on-Chip Inductor* *Pattarawin Nakharamaoleerat, Thurdsak Leauhatong, Kriangkrai Sooksood* *(King Mongkut's University of Technology North Bangkok)*

14:40-15:00	*Towards User Verification Based on Holding Behavior of Communication Robot* *Tomonori Matsuo, Kanako Yoshinobu, Yuta Tsukahara, Isao Nakanishi* *(Tottori University)*	*A Low-Cost Automatic Medication Dispensing Machine with Size-Aware Convolutional Neural Network Visual Inspection for Multi-Pill Verification in Elderly Care* *Daranee Hormdee, Siraporn Sakphrom, Aran Blattler, Kriangkrai Sooksood* *(Khon Kaen University, Walailak University, King Mongkut's University of Technology North Bangkok)*
15:00-15:20	*Low-Complexity Gunshot Detection Using Machine Learning and Physics-Based Acoustic Features for anti-Poaching Monitoring in the Gobi Desert* *Erdenebaatar Dashdondog, Javkhlan Tserenchimed, Altansukh Mainbayar, Munkh-Erdene Jamsran, Turtogtokh Tumenjargal, Begzsuren Tumendemberel* *(National University of Mongolia)*	
15:40-16:00	*IoT-Based Smart Waste Management System with Real-Time Monitoring and Web-Based Decision Support* *Indra Hermawan, Muhammad Kaizen Bhagaskara, Deni Nawal Alfian, Ayu Rosyida Zain, Iik Muhamad Malik Matin, Anita Hidayati* *(Politeknik Negeri Jakarta, Institut Teknologi Bandung, Jakarta State Polytechnic)*	
16:00-16:30	Break	
16:30-17:00	**Award & Closing ceremony**	