

Session A1

Date	Time	<p>N. Intelligent Computing; SE. Recent Advances in Bioinformatics; SU. Recent Advances in Artificial Intelligence and Internet of Things</p> <p><i>Session Chair: Prof. Ikuo Yamamoto ; Prof. Joy Iong-Zong Chen</i></p>
30 th Oct. (Sat.)	08:00~08:15	<p>CN102 A Mathematical Quiz Generation System Based on Subroutine Library and Markdown Language <i>Shih-Yi Yuan, Si-Rong He</i></p>
	08:15~08:30	<p>N102 Neural Networks-Based Language Analysis Model for Language Impairments <i>Byoung-Doo Oh, Jong-Dae Kim, Chan-Young Park, Yu-Seop Kim</i></p>
	08:30~08:45	<p>N103 Machine Learning-Based Sentence Generation Model for Utterance Collection Chatbot <i>Jeong-Myeong Choi, Jong-Dae Kim, Chan-Young Park, Yu-Seop Kim</i></p>
	08:45~09:00	<p>N104 The Investigation to the Improvement of Learning Limitation for Neural Network <i>Joy Iong-Zong Chen, You-Ru Li</i></p>
	09:00~09:15	<p>N106 Screening of Atrial Fibrillation by Utilizing a Neural Language Model <i>Soo-Young Seo, Chul-Ho Kim, Jong-Dae Kim, Chan-Young Park, Yu-Seop Kim</i></p>
	09:15~09:30	<p>SU101 Advanced Automated Guided Vehicles Using IoT Technology <i>Yeong-Lin Lai, Jeng-Chun Huang</i></p>
	09:30~09:45	<p>SU102 An Advanced IoT Notification System for Pressure Injury Prevention <i>Yeong-Lin Lai, Tsu-Wen Kuang</i></p>
	09:45~10:00	<p>SE107 Development of Automatic Preprocessing Equipment of Salivary Analyte for PCR Inspection of Coronavirus <i>Ikuo Yamamoto</i></p>

Session A2

Date	Time	<p>SI. Recent Advances in Surveying and Geomatics Engineering; SW. Applied Technology Education <i>Session Chair: Prof. Jae-Kang Lee</i></p>
<p>30th Oct. (Sat.)</p>	<p>08:00~08:15</p>	<p>SI105 Maritime Network Analysis Based On a Community Detection Method and Functional Data Analysis <i>Geon Kim, Haeng-Yeol Oh, Myeong-Hun Jeong</i></p>
	<p>08:15~08:30</p>	<p>SI106 Greenhouse Detection in Aerial Photographs Using Mask R-CNN <i>Haeng-Yeol Oh, Myeong-Hun Jeong, Geon Kim</i></p>
	<p>08:30~08:45</p>	<p>SI107 Autonomous Driving Assistance with Dynamic Object Using Visual Road Infrastructure <i>Kuk Cho, Dooyong Cho</i></p>
	<p>08:45~09:00</p>	<p>SI109 Bridge Image Processing and Learning Algorithm for Autonomous Bridge Inspection System <i>Jae-Kang Lee, Jung-Ok Kim</i></p>
	<p>09:00~09:15</p>	<p>SI111 Analysis of GNSS Reception in Undergrounding Sites and Proposed Next Steps for Image-Based Data Management System Development <i>Jae-Kang Lee, Jung-Ok Kim</i></p>
	<p>09:15~09:30</p>	<p>SW101 Taking Laser Processing as the Theme and Using Different Drawing Software to Develop a Laser Cutting Ability Index and System <i>Dyi-Cheng Chen, Bo-Yan Lai, Xiao-Wei Chen, Wilson Miao</i></p>
	<p>09:30~09:45</p>	<p>SW102 Use Hierarchical Linear Model to Analyze the Influence of Teacher Leadership Style on Teacher Effectiveness <i>Dyi-Cheng Chen, Bo-Yan Lai, Chin-Pin Chen</i></p>
	<p>09:45~10:00</p>	<p></p>

Session B1

Date	Time	B. Mechatronic and robotics Engineering; C. Electrical & Electronic Engineering; H. Industry 4.0 & Automation Engineering <i>Session Chair: Prof. Hyeung-Sik Choi ; Prof. Hariyanto Gunawan</i>
30th Oct. (Sat.)	10:15~10:30	CH101 How to Use AI to Detect the Leak of the Long-Distance Pipeline: A Case of AI High-Precision Pipeline Leak Detection System <i>Te-Kwei Wang, Yu-Hsun Lin, Jian-Yuan Shen</i>
	10:30~10:45	H101 Air Cutting Optimization for Milling Process <i>Hariyanto Gunawan, Didik Sugiono, Shih-Ming Wang, Ren-Qi Tu</i>
	10:45~11:00	H109 An Investigation into the Effect of Moisture on the Plasticization Stage in an Injection Molding Process <i>Shia-Chung Chen, Jibin Jose Mathew, Hariyanto Gunawan</i>
	11:00~11:15	CC102 Analysis of SpO2 Concentration Measurement Based on Multi-Wavelength with CNN and DNN Model <i>Wei-Lun Chen, Chih-Hsiung Shen</i>
	11:15~11:30	C101 Isomorphic Circuits of Independent Amplitude Tunable Voltage-Mode Bandpass Filters and Quadrature Sinusoidal Oscillators <i>San-Fu Wang, Hua-Pin Chen, Yi-Tsen Ku, Wei-Yuan Chen</i>
	11:30~11:45	C102 Design and Experiment of Electronically Tunable Voltage-Mode Biquad and Output Current Amplitude Oscillator <i>San-Fu Wang, Hua-Pin Chen, Yitsen Ku, Fang-Yu Liu</i>
	11:45~12:00	B102 The Development of Sound Discriminator for Adopting to Control a Smart Caterpillar-Robot over Restricted Environments with DNN-LSTM <i>Joy Iong-Zong Chen, Ten-Lin Liou</i>
	12:00~12:15	B104 Design and Motion Simulation of an Underwater Glider in the Vertical Plane <i>Jiafeng Huang, Hyeung-Sik Choi, Dong-Wook Jung, Ji-Hyeong Lee, Myung-Jun Kim, Ki-Beom Choo, Hyun-Joon Cho, Han-Sol Jin, M.D</i>

Session B2

Date	Time	A. Civil & Structure Engineering; G. Green Technology & Civil Engineering; O. Other Engineering and Technology related topics <i>Session Chair: Prof. Kimio Oguchi ; Prof. Chen-Kang Huang</i>
30th Oct. (Sat.)	10:15~10:30	TA106 Building Information Modeling (BIM): Benefits, Risks, Barriers and Approaches in Philippine Construction Projects <i>Jerome Jordan F. Famadico</i>
	10:30~10:45	TA107 Safety Climate Management: Effects and Implications to the Occupational Safety and Health Program in the Philippine Construction Industry <i>Crispin S. Licatao</i>
	10:45~11:00	G103 Evaluation of Lateral Capacity for Flexible Drilled Shafts in Sandy Soils <i>Ssu-An Chou, Yit-Jin Chen, Anjerick Topacio</i>
	11:00~11:15	CG105 Behaviour of Built-Up Cold-Formed Steel Stub Column Infilled with Washed Bottom Ash Concrete <i>Mohd Syahrul Hisyam Mohd Sani, Fadhluhartini Muftah, Nor Maslina Mohsan, Bishir Kado</i>
	11:15~11:30	O101 A Cross-Zone Navigation System for Combatting Lost in the Elder People within a 3D Virtual Store <i>Cheng-Li Liu, Shiaw-Tsyur Uang</i>
	11:30~11:45	O107 Experimental Results of Radish Sprout Growth under LED Pulsation Lighting <i>Kimio Oguchi, Tatsuya Kasuga, Hidehisa Shimada</i>
	11:45~12:00	O109 A Visual Navigation and Object Detection System Based on Embedded Platforms for Autonomous Vehicles <i>Cheng-Kai Wang, Yi-Jie Lin, Ying-Ren Cheng, Yu-Fang Wang, Yun-Ling Chang</i>
	12:00~12:15	O111 Parameter Estimation of Antoine Equations for Liquid Desiccants <i>Kai-Jen Tsai, Kirk D. Dolan, Chen-Kang Huang</i>

Session C3

Date	Time	SX. Dynamics and Autonomous Technology in Naval Architecture <i>Session Chair: Prof. Jeong-Bin Yim</i>
30th Oct. (Sat.)	12:45~13:00	SX101 Evaluation of Rudder Order Delay Affecting Collision Avoidance of Autonomous Ships <i>Joo-Young Jeon, Jeong-Bin Yim</i>
	13:00~13:15	SX102 Estimation of Correlation between Encounter Situation and Collision Sector to Assess Situational Collision Risk <i>Woo-Lee Jeong, Jeong-Bin Yim</i>
	13:15~13:30	SX103 Improved Accuracy of Maneuverability Estimation Considering Fishing Vessel Hull-Form Characteristics <i>Su-Hyung Kim, Chun-Ki Lee</i>
	13:30~13:45	SX104 Designing Human-Machine Interaction System for Remote Maneuvering of Autonomous Ships <i>Hong-Jin Kim, Jeong-Bin Yim, Deuk-Jin Park</i>
	13:45~14:00	SX105 Estimating Minimum Latency for Collision Avoidance in Remote Maneuvering of Autonomous Vessels <i>Jeong-Bin Yim, Deuk-Jin Park, Chun-ki Lee</i>
	14:00~14:15	SX106 A Numerical Study on the Ship-Bank Interaction at Various Water Depths of an Autonomous Surface Ship <i>Thi Loan Mai, Myungjun Jeon, Anh Khoa Vo, Hyeon-Kyu Yoon</i>
	14:15~14:30	SX107 Experimental Investigation on Hydrodynamic Derivatives of an Unmanned Underwater Vehicle Using Captive Model Tests <i>Myungjun Jeon, Hyeon-Kyu Yoon, Ji-Hwan Shin</i>
	14:30~14:45	SX108 Experimental and Numerical Simulation on Dynamics of a Moored Semi-Submersible in Various Wave Directions <i>Thi Thanh Diep Nguyen, Van Minh Nguyen, Jiwon Park, Hyeon-Kyu Yoon</i>
	14:45~15:00	SX109 Model Reference Adaptive Control Based Autonomous Berthing of an Unmanned Surface Vehicle under Environmental Disturbance <i>Seung-Dae Baek, Joo-Hyun Woo</i>
	15:00~15:15	SX110 Reactive Collision Avoidance of an Unmanned Surface Vehicle Using Gaussian Mixture Model <i>Dong-Woo Lee, Joo-Hyun Woo</i>
	15:15~15:30	SX111 A Study on Control System Design for X-Plane Submarine <i>Jong-Yong Park, Hyunjae Jo, Surim Kim, Hyeon-Kyu Yoon, Myungjun Jeon, Youngjun You, Joohyun Woo</i>

Session D1

Date	Time	<p>A. Materials Engineering; F. Computer & Information Engineering; J. Mechanical Engineering; SF. System Development, Control, and Optimization; SK. Recent Advances in Fuzzy System and Application; SN. Innovations on Control and Its Applications</p> <p><i>Session Chair: Prof. Wen-Cheng Yeh</i></p>
31 st Oct. (Sun.)	08:00~08:15	<p>SF109 Application of Fuzzy Logic and Taguchi Method for Numerical Simulation of Natural Convection over a Horizontal Cylinder in Porous Media <i>Ken-Ming Tu, Heng-Pin Hsu, Kuo-Ann Yih</i></p>
	08:15~08:30	<p>SK101 Stability of Virtual Reality Haptic Feedback Incorporating Fuzzy-Passivity Control <i>Yung-Te Chen, Ping-Nan Chen</i></p>
	08:30~08:45	<p>F106 The Design of Actions for a Reinforcement Learning Agent to Improve the Code Coverage of Web Crawler <i>Chien-Hung Liu, Woei-Kae Chen, Shing-Chern You, Ying-Chieh Chiu</i></p>
	08:45~09:00	
	09:00~09:15	<p>SN104 Photocatalysis Effect of Nano Silver Colloid Prepared by Electrical Spark Discharge Method <i>Kuo-Hsiung Tseng, Chaur-Yang Chang, Yagus Cahyadi, Meng-Yun Chung</i></p>
	09:15~09:30	<p>J109 Meshfree Method for Analysis of Fatigue Crack and the Retardation with Stop Holes <i>Wen-Cheng Yeh</i></p>
	09:30~09:45	<p>A107 Sensitivity Analysis of Hole/Crack for Structural Health Monitoring of a Large Composite Plate <i>Yun-Ping Sun, Yen-Chu Liang</i></p>
	09:45~10:00	

Session D2

Date	Time	<p>B. Mechatronic and Robotics Engineering; D. Optical Engineering; M. Innovation Management; SO. Intelligent Technology Management <i>Session Chair: Prof. Donyau Chiang</i></p>
<p>31st Oct. (Sun.)</p>	<p>08:00~08:15</p>	<p>SO116 Research on Hybrid Modeling Method for Soft Sensing of Key Process Parameters in Chemical Industry <i>Hong Zhou, Kun-Ming Yu, Huan-Po Hsu</i></p>
	<p>08:15~08:30</p>	<p>M101 A Study of Factors on Continuance Intention of Cloud ERP: An Information Systems Success Model <i>Chan-Sheng Kuo, Yowei Kang</i></p>
	<p>08:30~08:45</p>	<p>M102 A Study of Influential Factors on Repurchase Intention of Smart Speaker Based on Expectation Confirmation Theory <i>Chan-Sheng Kuo, Yowei Kang</i></p>
	<p>08:45~09:00</p>	<p>D103 Chebyshev Apodized Fiber Bragg Gratings <i>Nai-Hsiang Sun, Min-Yu Tsai, Jiun-Jie Liau, Jung-Sheng Chiang</i></p>
	<p>09:00~09:15</p>	<p>D104 The Effect of Process Variables on Internal Modification Morphologies in Glasses Induced By Nano-Second Laser Pulses <i>Hsuan-Ya Hou, Wen-Tse Hsiao, Pi-Ying Cheng, Po-Kai Chiu, Donyau Chiang</i></p>
	<p>09:15~09:30</p>	<p>B103 Fault Data Expansion through GAN and Comparison of LSTM Neural Network Based Underwater Thruster Fault Detection Performance between Extended Data and Real Data <i>Myung-Jun Kim, Hyun-Joon Cho, Ki-Beom Choo, Huang Jiafeng, Ji-Hyeong Lee, Dong-Wook Jung, Jung-Hyeun Park, Sang-Ki Jeong, Dae-Hyeong Ji, Hyeung-Sik Choi</i></p>
	<p>09:30~09:45</p>	
	<p>09:45~10:00</p>	

Session E1

Date	Time	<p>A. Biocomputing and Bioinformatics; C. Health Care Technology; D. Medical Devices, Biomedical Materials, Measurement and Instrumentation; O. Other Engineering and Technology related topics; SY. Recent Advances in Healthcare Technology Innovation</p> <p><i>Session Chair: Prof. Jeong-Dong Kim</i></p>
31 st Oct. (Sun.)	10:15~10:30	<p>WA101 Using Machine Learning to Determine the Correlation between Physiological and Environmental Parameters and the Induction and Aggravation of Mountain Sickness <i>Chih-Yuan Wei, Ping-Nan Chen, Shih-Sung Lin</i></p>
	10:30~10:45	<p>WA104 GCRNN: Graph Convolutional Recurrent Neural Net-Work for Compound-Protein Interaction Prediction <i>Ermal Elbasani, Soualihou Ngnamsie Njimbouom, Tae-Jin Oh, Eung-Hee Kim, Hyun Lee, Jeong-Dong Kim</i></p>
	10:45~11:00	<p>WA106 Discriminating the Reaction Types of Plant Type III Polyketide Synthases Based on Convolutional Kernel Networks <i>Ermal Elbasani, Woo-Haeng Lee, Eung-Hee Kim, Tae-Jin Oh, Jeong-Dong Kim</i></p>
	11:00~11:15	<p>WC101 Novel Physiological Monitoring System Interface for Intensive Care Units <i>Ke-Feng Lin, Ping-Nan Chen, Shih-Sung Lin</i></p>
	11:15~11:30	<p>WD101 Mechanical Properties of Artificial Hip Prosthesis Acetabular Insert and Femoral Head Gap Simulated in an Elastic Cartilage Pad <i>Cheng-Ping Lin, Kun-Kuang Tsou, Hsu-Wei Fang, Kuo-Yuan Hwa</i></p>
	11:30~11:45	<p>SY101 Human Lifelog Monitoring for Stress Behavior Recognition Based on Deep Learning <i>Phataratah Sa-nguannarm, Ermal Elbasani, Jeong-Dong Kim</i></p>
	11:45~12:00	<p>CO103 The Application of AI Face Recognition Technology in the Hospital Swiping Card System for Protecting Personal Information and Prevent on-Behalf-of Swiping Cards <i>Te-Kwei Wang, Yu-Hsun Lin, Kai-Ping Li</i></p>
	12:00~12:15	<p>CO104 Development of Non-Contact Real-Time Monitoring System for Animal Body Temperature <i>Kuo-Hsiung Tseng, Meng-Yun Chung, Wei-Hong Jhou, Wei-Jer Chang, Chen-Han Xie</i></p>

Session E2

Date	Time	<p>I. Control Engineering; ST. Recent Advances in Polymer and Composite; SV. Intelligent Manufacturing and Forming Technology; TB. Electromagnetic/Magnetic Devices and Electric Machinery <i>Session Chair: Prof. Wan-Tsun Tseng ; Prof. Stephen Chang</i></p>
<p>31st Oct. (Sun.)</p>	<p>10:15~10:30</p>	<p>ST102 Multiobjective Optimization of Vacuum Assisted Manufacturing of Composite Parts Based on Predictive Assessment of Objectives <i>Sergey Shevtsov, Shun-Hsyung Chang, Igor Zhilyaev, Jiing-Kae Wu, Natalia Snezhina</i></p>
	<p>10:30~10:45</p>	<p>STB102 Harmonic Losses Analysis of Power Transformer by a Factory <i>Wan-Tsun Tseng, Chun-Yi Lin</i></p>
	<p>10:45~11:00</p>	<p>SV101 Using Finite Element Analysis the Depth of Extruding and Forming of Servo Stamping Curve <i>Dyi-Cheng Chen, Yu-Kuan Yeh</i></p>
	<p>11:00~11:15</p>	<p>SV102 Application of Mold Flow Analysis to the Study of Plastic Gear Rack Injection Molding Warpage <i>Dyi-Cheng Chen, Rih-Sheng Yang</i></p>
	<p>11:15~11:30</p>	<p>I103 Dynamic Interception Point Guidance Algorithm Based on Particle Swarm Optimization <i>Yi-Wei Chen</i></p>
	<p>11:30~11:45</p>	<p>I105 Robust Controller Synthesis for Unmanned Ground Vehicles in Path Following Mission <i>Yun-Ping Sun, Yen-Chu Liang</i></p>
	<p>11:45~12:00</p>	<p>I106 XXY Positioning Stage Using Long Short-Term Memory for Enhancing Particle Swarm Optimization on PID Controller <i>Yi-Cheng Huang, Ming-You Ma</i></p>
	<p>12:00~12:15</p>	<p>I107 Yolo Based Deep Learning on Needle-Type Dashboard Recognition for Autopilot Maneuvering System <i>Yi-Cheng Huang, Yuan-Dean Liou, Shang-En Shen, Chia-Ming Chang, Pei-Jou Yu, Yu-Wen Chen, Ting-Hsueh Chuang</i></p>