

## Detail Program on Session

**SESSION (I)**  
**Oral & Virtual conference**

**SI of IJFS (I)**  
**Chairman: Prof. Jin-Tsong Jeng**  
**Co-Chairmen: Prof. Ching-Chih Tsai**

**Time: 10/6 PM 12:50-15:40**  
**(WA-1) 【PUYUMA 卑南 I, 2F】**  
**#1026, #1035, #1049, #1054, #1096, #1104**

**Virtual conference software: Zoom**

**<https://zoomtw.zoom.us/j/3028700793?pwd=bWJZQ3ZpUXVuR2I1OHkrN0F2bWhzUT09>**

#1026	A Cyber-Security Contribution: Estimation and Event-Based Control Scheduling Co-Design for Polytopic & T-S Models	Souad BEZZAOUCHA REBAI
#1035	Fuzzy Broad Learning Adaptive Control for Voice Coil Motor Drivers	Chun-Fei Hsu, Bo-Rui Chen, Bing-Fei Wu
#1049	Design for A Fluidic Muscle Active Suspension Using Parallel-Type Interval Type-2 Fuzzy Sliding Control to Improve Ride Comfort	I-Hsum Li
#1054	Fuzzy Correlation Analysis for Foreign Exchange Reserve Study	Jin Hee Yoon, Yoo Yong Koo, Dae-Jong Kim
#1096	Fuzzy Integral with Particle Swarm Optimization for CNN-Based Motor-Imagery EEG Classification	Jian-Xue Huang, Chia-Ying Hsieh, Ya-Lin Huang, Chun-Shu Wei
#1104	Course-grained Multi-scale EMD based Fuzzy Entropy for Multi-target classification during Simultaneous SSVEP-RSVP Hybrid BCI Paradigm	Sandeep Vara Sankar Diddi, Li-Wei Ko, Bo-Yu Tsai

**SESSION (II)**  
**Oral & Virtual Conference**

**iFUZZY2021 Best Student Paper Award Competition & iFUZZY2021 Best Paper Awards  
Competition**

**Chairman: Wei-Yen Wang,**  
**Co-Chairmen: Chia-Feng Juang and Prof. Jau-Yang Chang**

**Time: 10/6 PM 13:00-15:30**  
**(WA-2) 【AMIS, 阿美 I, 2F】**  
**#1028, #1040, #1087, #1109**  
**#1077, #1105, #1129**

**Virtual conference software: Zoom**

<https://zoomtw.zoom.us/j/5082538675?pwd=NlZmb1BVZENDL2pTSWhaeXpuVFRldz09>

#1028	Serret-Frenet Frame-based Path Tracking Stabilization of a Powered Paraglider Type UAV with Input Constraints	Yutoku Takahashi, Kai-Yi Wong, Motoyasu Tanaka, Kazuo Tanaka
#1040	Image Feature Extraction and Feature Point Matching Based Robot Indoor Positioning Fuzzy Algorithm	Chun-Yu, Lien, Mei-Yung, Chen
#1087	Technology Roadmapping for the GAA-FETs Based on the Methods of Patent Mining, Fuzzy Knapsack Problem, and Fuzzy Competence Set Expansion	Chi-Yo Huang, Ying-Ting Kuo, Liang-Chieh Wang, Yi-Hao Hsiao, Chia-Lee Yang
#1109	Adaptive Fuzzy-Basis-Function-Network Trajectory Tracking for a Terrain-Adaptive Self-Balancing Two-Wheeled Mobile Robot	Hsiu-Ting Chang, Hsiu-Ting Chang, Ching-Chi Tsai
#1077	Adaptive Fuzzy K-Means for Determining Structural Postures of Medical Beds with MultiAxial Actuators	Ching-Chi Tsai, Chin-Sung Liu, Feng-Chun Tai
#1105	Design and Implementation of a Single-phase Bidirectional Inverter Based on Novel Polynomial Fuzzy Model	W.-C. Hsu, Gwo-Ruey Yu , T.-S. Tseng, P.-L. Chen, H.-Y. Jiang
#1129	Actuator Saturated Robust Fuzzy Control for T-S Fuzzy Models with Multi-Requirements	Wen-Jer Chang, Yann-Horng Lin

**SESSION (I)**  
**Oral & Virtual conference**  
**SI of IJFS (II)**

**Chairman: Prof. Shun-Feng Su**  
**Co-Chairmen: Prof. Chen-Chia Chuang**

**Time: 10/6 PM 15:40-17:40**

**(WA-5) 【PUYUMA 卑南 I, 2F】**

**#1052, #1053, #1068, #1070, #1088**

**Virtual conference software: ZOOM**

**<https://zoomtw.zoom.us/j/3028700793?pwd=bWJZQ3ZpUXVuR2I1OHkrN0F2bWhzUT09>**

#1052	Soft Subspace Fuzzy Clustering with Dimension Affinity	Yingying Guo, Jin Zhou, Hui Jiang, Shiyuan Han, Tao Du, Ke Ji, Ya-ou Zhao, and Kun Zhang
#1053	Analysis of Chaotic Behavior for the Confliction Model with Fuzzy External Force	Jin Hee Yoon, Linyun Huang, Young-Chul Bae
#1068	F-EvoRecSys: Fuzzy Inference meets Evolutionary Approach for Personalized Well-being Recommendations	Ivan Palomares, Hugo Alcaraz-Herrera, Kao-Yi Shen, Shabbir Syed-Abdul, Shwetambara Malwade
#1070	Fuzzy Transform and Least-Squares Fuzzy Transform: Comparison and Application	Hye-Young Jung, Hyu-Ju Han, Chang-Hee Park, Hee-Jun Min, Jae-Won Shim
#1088	Autonomous Vehicle Trajectory Combined Prediction Model based on C-LSTM	Zherui Zhong, Runmei Li, Jin Chai, Jian Wang

**SESSION (III)**  
**Oral conference**

**SS10: An Intelligent System: Applications to Mechanical and Electrical Engineering**

**Chairman: Prof. I-Hsum Li and Lian-Wang Lee**

**Time: 10/6 PM 15:40-17:20**

**(WA-6) 【AMIS, 阿美 II, 2F】**

**#1006, #1050, #1097, #1107**

#1006	High-Payload Data Hiding Scheme Based on Ordered Shifting of AC Coefficients for JPEG Images	Chin-Chen Chang, Ji-Hwei Horng, Jui-Feng Chang
#1050	A Robot and Safe Control Algorithm that Can Synchronously Assist in Naturalistic Gait During Body-Weight-Supported Gait Training	Yu-Bin Hsu, Hsin-Han Chiang, I-Hsum Li, Chun-Wen Wang, Lian-Wang Lee
#1097	A Effective Algorithm for Skew Correction in Text Images	Cheng-Ta Chuang , Hung-Shin Lin
#1107	Applying Novel Semi-supervised Learning for Alcohol QCM Sensor Dataset	Kuo-Ping Lin

**SESSION (I)**  
**Virtual & Oral conference**

**SS05: Design and implementation of Artificial Intelligence Systems**

**Chairman: Prof. Yih-Guang Leu**

**Time: 10/7 AM 08:50-10:00**

**(TM-1) 【PUYUMA 卑南 I, 2F】**

**#1060, #1062, #1079, #1091**

**Virtual conference software: ZOOM**

**<https://zoomtw.zoom.us/j/3028700793?pwd=bWJZQ3ZpUXVuR2I1OHkrN0F2bWhzUT09>**

#1060	Discussion on Fuzzy Control and Stability of Quadcopter	Hao-Lin Chung, Chi-Hsun Wu, Yih-Guang Leu
#1062	Four-wheeled vehicle with function of avoiding dynamic pedestrian	Wei-Chuan Wang, Sheng-Pin Kuo, Yih-Guang Leu
#1079	Solar Irradiance Prediction base on All-Sky Image with Optical Flow	Jia-Hong Guo, Tsai-Ping Chu, Yih-Guang Leu
#1091	Solar Power and Solar Irradiance Estimation base on All-Sky Image Analysis	Jia-Hong Guo, Tsai-Ping Chu, Yih-Guang Leu

**SESSION (II)**  
**Oral conference**

**SS04: IOT and Its Application**  
**Chairman: Prof. Mei-Yung Chen and Prof. Po-Hsiang Tsai**  
**Time: 10/7 AM 08:50-10:00**  
**(TM-2) 【AMIS, 阿美 I, 2F】**

**#1086, #1094, #1131, #1132, #1071**

#1086	A Social Assistance System for Augmented Reality Technology to Redound Face Blindness with 3D Face Recognition	Wen-Hau, Jian, Mei-Yung, Chen
#1094	Real-time Visual Relationship Detection and 3D Map Reconstruction based AIoT Environment Surveillance-oriented Security System	Chao-Yuan Chung, Meng-Xue Chen, and Tzue-Hseng S. Li
#1131	Markerless Motion Evaluation via Openpose and Fuzzy Activity Evaluator	Kai Hsiao, Paul P. Lin, Tung Kuan Liu
#1132	Smart Production Managemet System Based on Intelligent PDCA	Tung-Kuan Liu, Chao-Nan Chen, Chiung-Yu Yang, Zhi-Zhong Cai, Hao-Chin Chang
#1071	Humanoid Robot Learning of Ball Kicking Through Genetic Fuzzy Control	Ching-Ju Chen, Chia-Feng Juang, Guan-Ren Pan

**SESSION (I)**  
**Oral/Virtual conference**

**Fuzzy Systems and Intelligent Systems**

**Chairmen: Prof. Hsu-Chih Huang**

**Time: 10/7 PM 13:00-14:20**

**(TA-1) 【PUYUMA 卑南 I, 2F】**

**#1010, #1025, #1030, #1098, #1008, #1051**

**Virtual conference software: Zoom**

**<https://zoomtw.zoom.us/j/3028700793?pwd=bWJZQ3ZpUXVuR2I1OHkrN0F2bWhzUT09>**

#1010	Fuzzy Truth Maintenance System for NonMonotonic Reasoning	Poli Venkata Subba Reddy
#1025	Generalized Fuzzy Logic with Twofold Fuzzy Set: Learning through Neural Net and Application to Business Intelligence	Poli Venkata Subba Reddy
#1030	An Event-based Control & Observer Co-Design of Power Networks Under Data-deception Attacks	Souad BEZZAOUCHA REBAI
#1098	Classification of Financial Indicators by PCA and Graphical Lasso	Masaaki Ida
#1008	A short Survey on The Polytopic T-S Multiple-Models Representation	Souad BEZZAOUCHA REBAI
#1051	Fault Detection Method Using Inverse Distance Weight-based Local Outlier Factor	Minseok Kim, Seunghwan Jung, Sungshin Kim

**SESSION (II)**  
**Oral conference**

**SS06: Computational Intelligence in Brain Technologies**

**Chairmen: Prof. Li-Wei Ko**

**Time: 10/7 PM 13:00-14:20**

**(TA-2) 【AMIS, 阿美 I, 2F】**

**#1063, #1089, #1090, #1101**

**Virtual conference software: Zoom**

<https://zoomtw.zoom.us/j/5082538675?pwd=NlZmb1BVZENDL2pTSWhaeXpuVFRldz09>

#1063	Near-zero Phase-lag Hyperscanning Approach in a Novel Wireless EEG System	Po-Hsun Peng, Hao-Che Hsu, Chun-Hsiang Chuang
#1089	Apply the Object Detection Approach to Fracture Detection in Pelvic X-ray Images	Meng-Fang Wu, I-Fang Chung
#1090	Spread through Air Spaces Detection Using RetinaNet	Min-Yan Yeh, Yi-Chen Yeh, Yu-Chao Wang, I-Fang Chung
#1101	Application of Transfer Learning in Field Verification for Children in Attention Deficit Hyperactivity Disorder	Jo-Wei Lin, Yang Chang, Chih-Hao Chang, Li-Wei Ko



**SESSION (I)**  
**Oral/Virtual conference**

**SS09: Intelligent Control for Robotic Systems**

**Chairmen: Prof. Tsu-Tian Lee, Chun-Fei Hsu, Prof. Chien-Feng Wu**

**Time: 10/7 PM 14:30-15:40**

**(TA-4) 【PUYUMA 卑南 I, 2F】**

**#1036, #1045, #1046, #1074, #1095, #1031**

**Virtual conference software: Zoom**

**<https://zoomtw.zoom.us/j/3028700793?pwd=bWJZQ3ZpUXVuR2I1OHkrN0F2bWhzUT09>**

#1036	Fuzzy Logic Application to a Quadruped Robot for Balancing Control Performance	Ren-Jie Ou, Chun-Fei Hsu, Yang-Ting Ding, Tsu-Tian Lee
#1045	Robust $H_\infty$ Control Design for a Nonlinear Stochastic Mean-field Jump-diffusion System Driven by Compensated Poisson Processes	Chien-Feng Wu, Chi-Kuang Hwang
#1046	Control of Mecanum-Wheeled-Based SelfBalancing Robots via Fuzzy Control Approach	Tzu-Chun Lin, Chun-Fei Hsu, Xi-Fang Hunag, Tsu-Tian Lee
#1074	CNN-LSTM Learning for Human Action detection: Application to an Automated Guided Vehicle	Shi-Ting Wang, I-Hsum Li, Pei-Yun Hsu, Wei-Yen Wang
#1095	Spatial-Temporal Transformer and Self-Attention Convolutional Neural Network for Quoridor	Yuan-Chih Chen, Yi-Ting Hsieh, and Tzoo-Hseng S. Li
#1031	Pose Detection of a Mobile Robot Based on LiDAR Data	Ming-An Chung, Chia-Wei Lin

**SESSION (II)**  
**Oral/Virtual conference**

**SS08: Power Electronics Converters and Intelligent Electronic Systems**

**Chairmen: Prof. Ching-Chun Chuang**

**Time: 10/7 PM 14:30-15:40**

**(TA-5) 【AMIS, 阿美 I, 2F】**

**#1038, #1041, #1057, #1128**

**Virtual conference software: Zoom**

<https://zoomtw.zoom.us/j/5082538675?pwd=NlZmb1BVZENDL2pTSWhaeXpuVFRldz09>

#1038	The Detection of Change-Point of Partial Discharges on Power Cable Joints	Chien-Kuo Chang and Bharath-Kumar Boyanapalli
#1041	High Power Dual Active Bridge Converter in Wide Voltage Range Application	Ta-Wei Huang, Shih-Hao, Kuo, Chia-Cheng Wang, Huang-Jen Chiu
#1057	ZVS Modulation Scheme for multi-level Clamp-Switch TCM DC-DC Buck Converter	Chuanting Chen
#1128	Study on an Model Reference Fuzzy Position Control for a DC Brushless Motor	Ching-Chun Chuang, Chun-Jen Yao

**SESSION (I)**  
**Oral conference**

**SS13: FUZZY MCDM**

**Chairmen: Prof. James Liou and Prof. Chi-Yo Huang**

**Time: 10/7 PM 16:00-17:30**

**(TA-7) 【PUYUMA 阜南 I, 2F】**

**#1065, #1080, #1081**

**Virtual conference software: Zoom**

**<https://zoomtw.zoom.us/j/3028700793?pwd=bWJZQ3ZpUXVuR2I1OHkrN0F2bWhzUT09>**

#1065	Interactive Stepwise Fuzzy Portfolio Optimization: A Preliminary Framework	Kao-Yi Shen, Huai-Wei Lo, Gwo-Hshiung Tzeng
#1080	Exploring a Sustainable Successor-selecting Model for a Family-owned Traditional Manufacturing Business: a Neutrosophic DANP-mV Approach	Ching Ching Fang, Sun-Weng Huang, James J.H. Liou, Chih- Chiang Chung, Gwo Hshiung Tzeng, Sun-Weng Huang
#1081	Determining Key Criteria Shaping University Social Responsibility (USR) in Taiwan – a non-additive DANP-mV Model	Hai-Yen Chang, Sun-Weng Huang, James J.H. Liou, Jessica. C.Y. Ma, Te-Nien Chien, Gwo Hshiung Tzeng

**SESSION (II)**  
**Oral conference**

**Machine Learning Applications in Embedded Systems**

**Chairmen: Prof. Hui-Kai Su**  
**Time: 10/7 PM 16:00-17:30**  
**(TA-8) 【AMIS, 阿美 I, 2F】**

**#1110, #1111, #1112, #1113**

#1110	Indoor Positioning Based on Artificial Intelligence	Chia-Hsin Cheng, Kuo-Ting Huang, Kun-Heng Xie, Yi-Xuan Xu
#1111	Malicious Flows Generator Based on Data Balanced Algorithm	I-Hsien Liu, Cheng-En Hsieh, Wei-Min Lin, Chu-Fen Li, Jung-Shian Li
#1112	Fruit Tree Abnormal Alert in the Orange Grove Using Artificial Intelligence Object Detection Methods	Wen-Yen Lin, Min-Chih Chen, Shih-Kuan Liao, Hao-Chun Chang
#1113	Real-Time Slippers Detection Based on YOLOv3	Hui-Kai Su, Yu-Wei Li

**Online Web Poster Session (III)**  
**iFUZZY2021**

**Chairmen: Prof. Jin-Tsong Jeng and Prof. Chen-Chia Chuang**  
**Time: 10/8 AM 10:00-11:30**

#1029  
#1076, #1117  
#1084, #1085  
#1055, #1130  
#1119, #1120, #1121  
#1058, #1064, #1047, #1072

#1029	A Descriptor-LPV Approach for Modelling, Stability and Stabilisation of Power Networks Under Data-deception Attacks	Souad BEZZAOUCHA REBAI
#1076	Bipedal Humanoid Robot Gait Adjustment Walking on Dynamic Slope Plane by Using Elman Neural Network	Chien-Wu Lan, Kuang-Hsiung Tan, Kuang-Chun Li
#1117	Archery Task by Humanoid Robot with Vision and Reinforcement Learning System	Shu-Yin Chiang, Yu-Kai Zhuo
#1084	Base Station Deployment Strategy for Internet of Things Systems	Jau-Yang Chang, Zhen-Yin Lin
#1085	Multiple-Hop Based Charging Strategy for Wireless Sensor Networks	Jau-Yang Chang, Yen-Chen Shang
#1055	Car Lights Inspection System in Tunnel	Chen-Chia Chuang, Yu-Feng Kao, Wei Cheng
#1130	Robust Fuzzy Modeling with Locally Approximation Based on Rough Set	Chih-Ching Hsiao, Jin-Tsong Jeng, Chen-Chia Chuang
#1119	A Detection Method for Object Head Direction with Broad Learning System	Ying-Peng Wang, Jin-Tsong Jeng
#1120	Calculate the Cultivation Density of Shrimp by Object Detection	Hao-Dong Huang, Jin-Tsong Jeng
#1121	Speech I/O based on Improved Chinese Word2Set	Sheng-Jie Hung, Jin-Tsong Jeng
#1058	Intelligent Object Arrangement Detection System	Jeng-Dao Lee, Chia-Ying Hsieh, En-Shuo Cheng, Li-Yin Chen, Chen-Huan Chang, Kuo-Yi Chen
#1064	The IOT Jumping Rope Counter Based on the Kalman Filter	Kuo-Yi Chen, Shu-Yuan, Xu, Jeng-Dao Lee
#1047	Deep Learning Control of Intelligent Robots	Hsu-Chih Huang, Yung-Feng Chang, Han-Lung Kuo, Chao-Sheng Liu, Pei-Hua Huang and Fang-Tsen Tseng
#1072	Design and Implementation of Fuzzy-based Position and Attitude Controller for A Hexacopter	Jyuan-Bo Lin, Chia-Wen Chang, Chin-Wang Tao