
Innovative Application Research and Education

Regular Session: 1

RS1 Actuator, Control and Application

Chair: Takashi Kuremoto (Nippon Institute of Technology)

Dec. 16, 10:30 - 12:00 (Tokyo Time) / 9:30 - 11:00 (Beijing Time)

1 An Enhanced Bouc-Wen Model-Based Long Short-Term Memory for Modeling Dynamics of Pneumatic Muscle Actuators

Taicen Liu, Kakeru Matsui, Fumitake Fujii (Yamaguchi University)

2 Position control of pneumatic servo system using particle swarm optimization type neural network

Yuki Kamenno, Shenglin Mu, Satoru Shibata, Tomonori Yamamoto (Ehime University)

3 Study on performance of ultrasonic scalpel affected by active movement of basket mechanism

Takahiko Katahira, Minoru Morita, Zhongwei Jiang (Yamaguchi University)

4 Surface Defect Detection of Steel Strips using Improved YOLOX-S Network

Hao Cheng, Rui Yang, Tianhong Pan (Anhui University)

5 Development of Aeroponic Cultivation System with IoT Technology

Yudai Yokoyama, Zhongwei Jiang, Ryosuke Kamitani, Minoru Morita (Yamaguchi University)

6 Heart sound analysis utilizing time-frequency diagram

Guo Zijian, Fang Yu, Wang weibo, Liu Dongbo, Liu Yong (Xihua University)



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Regular Session: 2

RS2 Health Care and Monitoring

Chair: Shenglin Mu (Ehime University)

Dec. 16, 14:00 - 15:15 (Tokyo Time) / 13:00 - 14:15 (Beijing Time)

1 The first stage of collection of hand grip strength in Southwest China: a brief report of a large-scale sample

Taojin Xu, Xu Li, Jianyin Yan, Xiaoran Wang (Chongqing University of Posts and Telecommunications)

Assessment of Frailty by Accelerometer in SS-5 Test

2 Takeru Mishima, Zhongwei Jiang, Takumi Nunokawa, Minoru Morita, Keiko Doi, Tsunahiko Hirano, Kazuto Matsunaga (Yamaguchi University)

Research on the relationship between flexion characteristics and fall modes in human

3 Junyi Li, Takashi Saito (Yamaguchi University)

Heart sound classification via Bispectrum analysis

4 Zhiyuan Huang, Yu Fang, Weibo Wang, Dongbo Liu, Yong Liu (Xihua University)

Study on prediction of the risk of falls by 6-minute walking test

5 Xingchi Shui, Yunjin Zhang, Zhongwei Jiang (Yamaguchi University)



Innovative Application Research and Education

Regular Session: 3

RS3 Deep Learning and Data Application

Chair: Tianhong Pan (Anhui Univeristy)

Dec. 16, 15:30 - 17:00 (Tokyo Time) / 14:30 - 16:00 (Beijing Time)

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| 1 | Development of Caregiving Posture Load Assessment System
Xin Han, Zhongwei Jiang, Minoru Morita, Yunjin Zhang (Yamaguchi University) |
| 2 | Tumor Segmentation from markless SyncTraX color fluoroscopic images via U-Net based cascade model
Yan Yongxuan, Fujii Fumitake, Shiinoki Takehiro, Liu Shengping (Yamaguchi University) |
| 3 | Machine learning-based lunar calendar estimation using the lunar images
Yuto Ikenoue, Takashi Kuremoto, Shingo Mabu (Nippon Institute of Technology) |
| 4 | Sleep State Evaluation by Respiration Analysis Focusing on the First Cycle of Sleep
Yuma Okazaki, Zhongwei Jiang, Lurui Wang, Minoru Morita (Yamaguchi University) |
| 5 | Recognition of Guqin Notation using Deep Learning
Bowen Yang, Makoto Sato, Shun Kuremoto, Mamiko Koshiba, Shingo Mabu, Hiroo Hieda, Takashi Kuremoto (Nippon Institute of Technology) |
| 6 | Comparison of Image denoising methods for the Histology images
Khongorzul Dashdondov, Anudari Khishigdelger, Hyun-Soo Kang, Mi-Hye Kim (Chungbuk National University) |
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Innovative Application Research and Education

Organized Session: 1

OS1 Alternative Energy Innovation

Chair: Hiroaki Yamada (Yamaguchi University)

Dec. 17, 10:30 - 11:45 (Tokyo Time) / 9:30 - 10:45 (Beijing Time)

1 A Power Supply with Piezoelectric Transformer for Cooling System in Eldercare Application

Kyohei Tomioka and Hiroaki Yamada (Yamaguchi University)

2 Ringing Suppression Method in Ultrasonic Sensor Drive Circuit

Yuki Koga and Hiroaki Yamada (Yamaguchi University)

3 Comparative Study of DC Active Filters for DC Microgrid

Ryoken Nagamine And Hiroaki Yamada (Yamaguchi University)

4 Symple-Fuel (Styrofoam and Plastic Waste Fuel) : Styrofoam and Plastic Waste Conversion to Gasoline with Pyrolysis Method as Alternative Energy Innovation

Refuji Nurhakikie, Fathony Nur Iskandar, Rasyaulina Puri Bidaffani, Andy Abdul Azis, Muhammad Murdhani (PEM AKAMIGAS, Indonesia)

Innovative Application Research and Education

Organized Session: 2

OS2 Power Electronics

Chair: Fuka Ikeda (National Institute of Technology, Ube College)

Dec. 17, 14:00 - 15:15 (Tokyo Time) / 13:00 - 14:15 (Beijing Time)

A RED Cell Simulator Using a General-Purpose DC Power Supply with Python

- 1 Ryota Hatate, Yuriko Kakihana, Hiroaki Yamada, Mitsuru Higa, and Toshihiko Tanaka (Yamaguchi University)
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Experimental Validation of Constant DC-Capacitor Voltage-Control-Based Strategy for an Active Power-Line Conditioner

- 2 Yuka Sabi, Hiroaki Yamada, and Toshihiko Tanaka (Yamaguchi University)
Fuka Ikeda and Masayuki Okamoto (National Institute of Technology, Ube College)
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Response Evaluations of Smart Charger for EVs With Constant DC-Capacitor Voltage Control Under Voltage Dip

- 3 Shohei Mitsunaga, Jin Wakasugi, Fuka Ikeda, and Masayuki Okamoto (National Institute of Technology, Ube College)
Hiroaki Yamada and Toshihiko Tanaka (Yamaguchi University)
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