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# International Conference on Innovative Application Research and Education (ICIARE2020)

## Program & Schedule

### 19 December (Saturday)

Beijing Time (Tokyo Time)

8:00-8:30 (9:00-9:30) ICIARE and CEDC 2020 Opening Ceremony

8:30-9:00 (9:30-10:00) Photo Time

9:00-10:30 (10:00-11:30) Plenary talk and ICIARE Sessions

10:30-11:45 (11:30-12:45) ICIARE Sessions

12:00-13:00(13:00-14:00) Lunch Break

13:00-16:30(14:00-17:30) ICIARE Sessions / CEDC preparing and setting

### 20 December (Sunday)

Beijing Time (Tokyo Time)

8:00-11:30 (9:00-12:30) CEDC Presentation & Evaluation

11:30-13:00 (12:30-14:00) Lunch Break

13:00-15:10 (14:00-16:10) CEDC Presentation & Evaluation

15:10-16:30 (16:10-17:30) Evaluation Committee and Preparing

16:30-17:30 (17:30-18:30) Awards and Closing Ceremony

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## Session Schedule

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**Dec. 19**                                 **10:30 – 16:25** (Beijing Time) **11:30 – 17:25** (Tokyo Time)

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Room A                                 **10:30 – 11:45** (Beijing Time) **11:30 – 12:45** (Tokyo Time)

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General Session 1: Mechanics & Control I

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Room A                                 **13:00 – 14:15** (Beijing Time) **14:00 – 15:15** (Tokyo Time)

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General Session 2: Mechanics & Control II

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Room A                                 **14:25 – 15:40** (Beijing Time) **15:25 – 16:40** (Tokyo Time)

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General Session 3: Medicine & Health

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Room B                                 **10:30 – 11:45** (Beijing Time) **11:30 – 12:45** (Tokyo Time)

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General Session 4: Artificial Intelligence

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Room B                                 **13:00 – 14:30** (Beijing Time) **14:00 – 15:30** (Tokyo Time)

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General Session 5: Education I

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Room B                                 **14:40 – 16:25** (Beijing Time) **15:40 – 17:25** (Tokyo Time)

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General Session 6: Education II

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Room C                                 **13:30 – 14:30** (Beijing Time) **14:30-15:30** (Tokyo Time)

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Organized Session 1: Power Electronics I

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Room C                                 **15:00 – 16:00** (Beijing Time) **16:00-17:00** (Tokyo Time)

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Organized Session 2: Power Electronics II

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# General Session 1: Mechanics & Control I

GS-1

**Chair:** Prof. Jaejeong HWANG, Kunsan National University, Korea

**Room A, 10:30 – 11:45** (Beijing Time) **11:30 – 12:45** (Tokyo Time)

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An Adaptive Edge Detector with a New Feature Image and a Selection-criteria for Optimal Hysteresis Thresholds

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1

Yunhao Cui, Wei Sun, Yi An, Xueguan Song, Xiangji Chen, Junming Hei, Qi Li Shenyang Dalian University of Technology (DUT), China

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Study on evaluation method of vascular coagulation performance

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2

Yuichiro Danda, Minoru Morita, Daisuke Ikki, Zhongwei Jiang  
Yamaguchi University (YU), Japan

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Atmospheric Pressure Cold Plasma Jet Assisted Micro Machining TC4 Titanium Alloy

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3

Yang Chen, Yuyang Zhou, Boxi Chen, Yuheng Li, Xin Liu  
Dalian University of Technology (DUT), China

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A Novel hydrostatic guideway system with magnetorheological fluid for controlling machine vibration

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4

Zhang Zhong-Kui  
Weifang University of Science and Technology (WFUST), China

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Vector-rotor plant protection airship

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Zhengyang Huang, Jiajun Wang, Jiaqi Chen  
Jiangsu University (JSU), China

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## General Session 2: Mechanics & Control II

GS-2

**Chair:** Prof. Zhong Luo, Northeastern University, China

**Room A, 13:00 – 14:00** (Beijing Time) **14:00 – 15:00** (Tokyo Time)

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Hydrophilic modification of PEEK by water-mixing nitrogen atmospheric pressure plasma jet and time stability of surfaces

1

Naiqiao Guan, Yuyang Zhou, Yuheng Li, Boxi Chen, Xin Liu

Dalian University of Technology (DUT), China

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Analysis of transient fluid slosh in partly-filled fuel tanks

2

Dong Xueqing, He Ren

Jiangsu University (JSU), China

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Intelligent self-tracing cars based on RT1064 and TC264 control system

3

Yuetong Wang, Lin H

Jiangsu University (JSU), China

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Multi-rotor linearly arranged aircraft

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Zhang Nian, Wang Dewei, Xie Yuxi

Jiangsu University (JSU), China

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## General Session 3: Medicine & Health

GS-3

Chair: Prof. Beomkeun KIM, Inje University, Korea

Room A, 14:25 – 15:40 (Beijing Time) 15:25 – 16:40 (Tokyo Time)

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Development of Force-Balance Plate Sensor System for SS-5 Test

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- 1 Hiroki kinoshita, Zhongwei Jiang, Minoru Morita, Takumi Nunokawa  
Yamaguchi University (YU), Japan
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Generation of Digitally Reconstructed Radiographs for marker-less Localization of lung tumor in X-ray image

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- 2 Xiaoke Ran, Fumitake Fujii, Takehiro Shiinoki  
Yamaguchi University (YU), Japan
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Overnight Breath and Heart Sound Monitoring with Agglomerative Hierarchical Clustering Method

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- 3 Lurui Wang, Zhongwei Jian  
Yamaguchi University (YU), Japan
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Fractal Geography of Dental Hospitals in Seoul

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- 4 Do-Yul Park, Chae-Young Kim, Hyung-jung Kim  
Inje University (IJU), Korea
- 

A digital art projection promoted children's social interaction

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- 5 Zhudi Hua, Ting Tao, Yoshimasa Kamei, Mamiko Koshiba  
Yamaguchi University (YU)
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## General Session 4: Artificial Intelligence

GS-4

**Chair:** Prof. Tianhong PAN, Anhui University, China

**Room B, 10:30 – 11:45** (Beijing Time) **11:30 – 12:45** (Tokyo Time)

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Influence of “play tool” presence on social learning in a primate model – a common marmoset behavioral study

1

Mayuko Yoda, Ting Tao, Yoshimasa Kamei, Mamiko Koshiba

Juntendo University, Japan; Yamaguchi University (YU), Japan

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Modeling Method for Near-Infrared Spectroscopy Based on One-dimensional Convolution Neural Networks

2

Menghu Li, Tianhong Pan

Anhui University (AHU), China

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Study on Data Augmentation in Thoracic CT Images Using Adversarial Generative Networks (GANs) for Opacity Classification of Diffuse Lung Diseases

3

Kaito Akagi, Shingo Mabu, Takashi Kuremoto

Yamaguchi University (YU), Japan

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A Smart Car For Body Temperature Measuring

4

Chu Wu, Mengqi Jia, Kai Xue

Jiangsu University (JSU), China

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A study on the fine-tuning of Deep Belief Net for time series forecasting

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Takashi Kuremoto, Masahumi Furuya, Shingo Mabu

Yamaguchi University (YU), Japan

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## General Session 5: Education I

GS-5

**Chair:** Prof. Yi ZHU, Jiangsu University, China

**Room B, 13:00 – 14:30** (Beijing Time) **14:00 – 15:30** (Tokyo Time)

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Construction of Online and Offline Blended Teaching Model for the Engineering Thermodynamics Course

1

Zhang Xian-zhen, Wang Cui-hua, Zhan Hong-ren, Kou Li-ping, Liu Peng

Shenyang University of Chemical Technology (SUCT), China

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Design and practice of online teaching resources for “Engineering Fluid Mechanics” course based on OBE concept

2

Li Yaxia, Gong Bin, Zhan Hongren, Zhang Jing, Zhang Chunmei, Che Shuai, Liu Yanchao

Shenyang University of Chemical Technology (SUCT), China

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Innovation thoughts on education and teaching skills

3

Teng yunnan, Wen quan, Zhao fei

Northeastern University (NEU), China

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Innovative Research on Engineering Practical Teaching of Construction Industrialization Under the Background of New Engineering

4

TONG Shenghao, SHI Huaitao, TAN Zhiwen

Shenyang Jianzhu University (SJZU), China

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Research and Exploration on teaching method of interchangeability principle and technical measurement course

5

Wen Quan, Teng Yunna

Northeastern University (NEU), China

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Research on Improvement of Teaching Method Based on the Course of Steam Turbine Principle

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Shuai Che, Yaxia Li, Hongren Zhan, Xianzhen Zhang, Yanchao Liu

Shenyang University of Chemical Technology (SUCT), China

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## General Session 6: Education II

GS-6

**Chair:** Prof. Huaitao SHI, Shengyang Jianzhu University, China  
**Room B, 14:40 – 16:25** (Beijing Time) **15:40 – 17:25** (Tokyo Time)

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The differentiated cultivation of professional and academic master students

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- 1 Xiaotian Bai, Huaitao Shi  
Shenyang Jianzhu University (SJZU), China
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Research on the cultivation of practical ability of graduate students majoring in Mechanical Engineering

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- 2 Huaitao Shi, Xiaotian Bai  
Shenyang Jianzhu University (SJZU), China
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The Teaching Method of Engineering Drawing Aided by 3D Software UG

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- 3 Sha SHA, Ping ZHANG, Zhihao JIN  
Shenyang University of Chemical Technology (SUCT), China
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Exploration of Online Teaching Mode Based on OBE Mode under Background of Emerging Engineering

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- 4 Dong Xin, Gong Bin, Feng Ying  
Shenyang University of Chemical and Technology (SUCT), China
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Practical Exploration and Research on Scientific Research Results

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- 5 Lida Zhu, Hao Lu, Zongze Jiang, Hao Lu  
Northeastern University (NEU), China
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Practice and Experience of Digital Open Course Construction

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- 6 Zhong LUO, Fei Wang, Qingwen YU, Shujun MA  
Northeastern University (NEU), China
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Changing Traditional Engineering Curriculum through the Problem-Based Learning

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- 7 Yuee Zhao, Xufang Zhang  
Shenyang University, Northeastern University (NEU), China
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# Organized Session 1: Power Electronics I

**OS1**

## **Power Electronics I**

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**Chair:** Prof. Hiroaki YAMADA (Yamaguchi Univ., Japan)

**Room C (Zoom Live), 13:30-14:30 (Beijin Time) 14:30-15:30 (Tokyo Time)**

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| 1 | Variable Modulation Index Control of the VSI in Stand-Alone Wind Power Generation System With DAB Converter Based Battery Charge<br>Yuto Takayama and Hiroaki Yamada<br>(Yamaguchi University)           |
| 2 | Modular Multilevel Converter based Single-Phase Grid-Tied Wind Power Generation System With Multiple Wind Power Generators<br>Kousei Ishibashi and Hiroaki Yamada<br>(Yamaguchi University)              |
| 3 | A Frequency Control of Generator by Isolated SEPIC in Modular Multilevel Converter based Micro-Hydroelectric Power Generation System<br>Shinnosuke Nakamura and Hiroaki Yamada<br>(Yamaguchi University) |
| 4 | SEPIC based Piezoelectric Element based Vibration System With an Equivalent Resistance and Constant Voltage Controls<br>Naotaka Nakahigashi and Hiroaki Yamada<br>(Yamaguchi University)                 |
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# Organized Session 2: Power Electronics II

**OS2**

**Power Electronics II**

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**Chair:** Prof. Fuka IKEDA (National Institute of Technology, Ube College, Japan)

**Room C (Zoom Live), 15:00-16:00 (Beijin Time) 16:00-17:00 (Tokyo Time)**

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Power Quality Compensation with an Active Power-Line Conditioner in Three-Phase Four-Wire Distribution Feeders

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1 Yuya Kihara<sup>1</sup>, Hiroaki Yamada<sup>1</sup>, Toshihiko Tanaka<sup>1</sup>, Fuka Ikeda<sup>2</sup>, Masayuki Okamoto<sup>2</sup>, and Seong Ryong Lee<sup>3</sup>

<sup>1</sup>Yamaguchi University, Japan

<sup>2</sup>National Institute of Technology, Ube College, Japan

<sup>3</sup>Kunsan National University, Republic of Korea

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Power Quality Compensation with Smart Charger for Electric Vehicles in Single-Phase Three-Wire Distribution Feeders Considering Impedances of Low-Voltage and Service Wires

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2 Fuka Ikeda<sup>1</sup>, Shun Okamoto<sup>1</sup>, Masayuki Okamoto<sup>1</sup>, Hiroaki Yamada<sup>2</sup>, and Toshihiko Tanaka<sup>2</sup>

<sup>1</sup>National Institute of Technology, Ube College, Japan

<sup>2</sup>Yamaguchi University, Japan

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Harmonics Compensation with an Add-on Active Power-Line Conditioner for General-Purpose Inverters

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3 <sup>1</sup>Yuki Yamashita, Hiroaki Yamada<sup>1</sup>, Toshihiko Tanaka<sup>1</sup>, Fuka Ikeda<sup>2</sup>, and Masayuki Okamoto<sup>2</sup>

<sup>1</sup>Yamaguchi University, Japan

<sup>2</sup>National Institute of Technology, Ube College, Japan

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A Practical Control Strategy for Hybrid Static Var Compensator

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4 <sup>1</sup>Yuta Otori, Hiroaki Yamada<sup>1</sup>, Toshihiko Tanaka<sup>1</sup>, Fuka Ikeda<sup>2</sup>, and Masayuki Okamoto<sup>2</sup>

<sup>1</sup>Yamaguchi University, Japan

<sup>2</sup>National Institute of Technology, Ube College, Japan

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