

# The 15<sup>th</sup> International Workshop on Regional Innovation Studies ( IWRIS2023: October 12-13, 2023)

Workshop Room: Regional Innovation Hall, Building D, Regional Innovation Center, Mie University

Presentation time: total 15 minutes (presentation: 10 minutes + discussion: 5 minutes)

Bell Timing: 8 minutes, 10 minutes, 14 minutes

## I. First Day: October 12 (Thursday)

### 10:30-10:35 **Opening**

Keita Suwabe (Dean of Graduate School of Regional Innovation Studies, Mie University)

### **Session 1 Social Engineering for Regional Innovation**

#### 1) 10:35-10:55

Study of Procedures for Creating Action Cards to be used by Local Government Officials  
After an Emergency Gathering

Hiroyuki Fujiwara<sup>1,2</sup>

<sup>1</sup>Crisis management division, Ise City Local Government

<sup>2</sup> Graduate School of Regional Innovation Studies, Mie University

#### 2) 10:55-11:15

Reconsideration of the Meaning of "Work" in Arguments on Inclusive Societies: From the  
Viewpoint of Real Libertarians

Satoko Hirai

Graduate School of Regional Innovation Studies, Mie University

#### 3) 11:15-11:35

Family Structure Disparities in the Sense of Effort Effectiveness Focused on Learning Time ;  
A Comparison of Single-Parent and Two-Parent Families

Ryo Konishi, Takaya Kato, HyeSooK Park and Norihiro Nishimura

Graduate School of Regional Innovation Studies, Mie University

#### 4) 11:35-11:55

Compilation and Publication Status of Manuscripts on the Drifting Record of

Shishu Boatman Koheiji in the Seventh Year of the Hōreki Era

Tiantian Tian

Graduate School of Regional Innovation Studies, Mie University

5) 11:55-12:15

Empirical Study on the Relationship Between Understanding of Employment

Rules and Japanese Companies and Employment Success

——Focusing on Chinese International Students——

Fangzhou Li, Hye-Sook Park, Norihiro Nishimura

Graduate School of Regional Innovation Studies, Mie University

12:15-13:45 Lunch Time

### **Invited Lecture**

Presentation time: total 30 minutes (presentation: 20 minutes + discussion: 10 minutes)

(I-1) 13:45-14:15

Carbon Neutrality and SDG in Korea

Jeongin Kim

Chung-Ang University, South Korea

14:15-14:30 Break

### **Session 2 Bio-Science for Regional Innovation**

6) 14:30-14:50

Effect of Rhamnan Sulfate on Macrophage Polarization

Masahiro Yamada<sup>1</sup>, Liqing Zang<sup>1</sup>, Yasuhito Shimada<sup>2,3</sup>, Masahiro Terasawa<sup>4</sup> and Norihiro Nishimura<sup>1</sup>

<sup>1</sup>Graduate School of Regional Innovation Studies, Mie University

<sup>2</sup>Graduate School of Medicine, Mie University

<sup>3</sup>Mie University Zebrafish Research Center, Mie University

<sup>4</sup>Konan Chemical Manufacturing Co., Ltd.

7) 14:50-15:10

Image-based obesogenic screening using zebrafish larvae

Yasuhito Shimada<sup>1-3</sup>, Hiroko Nakayama<sup>3,4</sup>, Zang Liqing<sup>3,4</sup>, Izumi Matsuoka<sup>4</sup>, Kosei Tsukamoto<sup>5</sup>, Kazutake Fukada<sup>5</sup>, Shohei Yuasa<sup>5</sup>, Masunori Kumazawa<sup>5</sup>, Hirotaka Katsuzaki<sup>6</sup> and Norihiro Nishimura<sup>3,4</sup>

<sup>1</sup> Graduate School of Medicine, Mie University

<sup>2</sup> Department of Bioinformatics, Mie University Advanced Science Center

<sup>3</sup> Mie University Zebrafish Research Center, Mie University

<sup>4</sup> Graduate School of Regional Innovation Studies, Mie University

<sup>5</sup> Rohto Co. Ltd.

<sup>6</sup> Graduate School of Bioresources, Mie University

8) 15:10-15:30

Quality analysis of rice- and barley-miso produced in wooden barrel and plastic tank

Mayuko Inari<sup>1</sup>, Marino Takeuchi<sup>1</sup>, Misa Shiraishi<sup>1</sup>, Itsuki Atooka<sup>1</sup>, Naoki Kohno<sup>2</sup>, Masafumi Inoue<sup>2</sup>, Masatsugu Kato<sup>2</sup>, Yoshio Nishida<sup>1</sup>

<sup>1</sup> School of Health and Nutrition, Tokaigakuen University

<sup>2</sup> Kioke Miso Consortium

16:30-18:00 **Banquet**

## II. Second Day: October 13 (Friday)

### Session 3 Engineering I for Regional Innovation

9) 10:30-10:50

Reduction of Loss of Flow through T-shaped Branch Pipe by Installing Small Obstacles

Soichiro Suzuki<sup>1</sup>, Toshitake Ando<sup>2</sup>, Toshihiko Shakochi<sup>2</sup>, Koichi Tujimoto<sup>2</sup> and Mamoru Takahashi<sup>2</sup>

<sup>1</sup> Graduate School of Regional Innovation Studies, Mie University

<sup>2</sup> Graduate School of Engineering, Mie University

10) 10:50-11:10

Evaluation and Visualization of Compressor Oil Behavior and Heat Transfer Characteristics of Evaporator in a CO<sub>2</sub> Refrigerator

Jyoji Keeni<sup>1</sup>, Naoki Maruyama<sup>1,2</sup>, Koji Takiguchi<sup>3</sup> and Tadao Watanabe<sup>3</sup>

<sup>1</sup> Graduate School of Engineering, Mie University

<sup>2</sup> Graduate School of Regional Innovation Studies, Mie University

<sup>3</sup> Fuji Electric Co. Ltd.

11) 11:10-11:30

Direction of permanent NH<sub>3</sub> mono-firing power generation introduction to semiconductor industry considering compensation for NH<sub>3</sub> price difference

Jota Fukuhara<sup>1,2</sup>, Masaaki Bannai<sup>1</sup>, Naoki Maruyama<sup>1</sup> and Hideto Miyake<sup>3</sup>

<sup>1</sup>Graduate School of Regional Innovation Studies, Mie University

<sup>2</sup> Kioxia Corporation/Planning Department

<sup>3</sup>Graduate School of Engineering, Mie University

12) 11:30-11:50

Investigation of Local Air Temperature Profile around a Serpentine Copper Pipe Heat Exchanger

Thiri Shoon Wai<sup>1</sup>, Napassawan Khammayom<sup>2</sup>, Chatchawan Chaichana<sup>2</sup>, Naoki Maruyama<sup>1,3</sup> and Masafumi Hirota<sup>4</sup>

<sup>1</sup>Graduate School of Engineering, Mie University

<sup>2</sup>Department of Mechanical Engineering, Faculty of Engineering, Chiang Mai University, Thailand

<sup>3</sup>Graduate School of Regional Innovation Studies, Mie University

<sup>4</sup>Department of Mechanical Engineering, Aichi Institute of Technology

11:50-13:20 Lunch Time

### **Invited Lectures**

Presentation time: total 30 minutes (presentation: 20 minutes + discussion: 10 minutes)

(I-2) 13:20-13:50

Life Cycle Assessment of Carbon Capture and Utilization for Methanol Production

Worathitanon Chayet<sup>1</sup> and \*Varabuntoonvit Viganda<sup>1,2</sup>

<sup>1</sup> Department of Chemical Engineering, Kasetsart University, Thailand

<sup>2</sup>Center of Excellence on Petrochemical and Materials Technology, Department of Chemical Engineering, Kasetsart University, Thailand

(I-3) 13:50-14:20

Carbon Capture and Storage (CCS) in Thailand

Chatchawan Chaichana<sup>1</sup>, Senaka Bandara<sup>2</sup> and Nilubon Luangchosiri<sup>3</sup>

<sup>1</sup>Renewable Energy and Energy Conservation Laboratory, Department of Mechanical Engineering, Faculty of Engineering, Chiang Mai University, Thailand

<sup>2</sup>Master's Degree Program in Energy Engineering, Department of Mechanical Engineering, Faculty of Engineering, Chiang Mai University, Thailand

<sup>3</sup>Graduate School of Energy Science, Kyoto University

14:20-14:35 Break

#### **Session 4 Engineering II for Regional Innovation**

13) 14:35-14:55

Influence of Response Function Approximation on Learning Performance of Multilayer Spiking Neural Networks

Masaya Yasui<sup>1</sup>, Haruhiko Takase<sup>2</sup> and Hidehiko Kita<sup>2</sup>

<sup>1</sup>Graduate School of Regional Innovation Studies, Mie University

<sup>2</sup>Graduate School of Engineering, Mie University

14) 14:55-15:15

A Study on Generation of Unknown Defect Patterns Using VAE/GAN for Wafer Maps Classification

Kenji Kanda<sup>1</sup>, Takumi Kitajima<sup>1</sup>, Seima Sakaguchi<sup>1</sup>, Hiroharu Kawanaka<sup>1</sup>, Tetsushi Wakabayashi<sup>2</sup>

<sup>1</sup>Department of Electrical and Electronic Eng., Graduate School of Engineering, Mie University

<sup>2</sup>Department of Information Eng., Graduate School of Engineering, Mie University

15) 15:15-15:35

A Study on Fovea Features of Macula for Prognostic Visual Acuity Estimation of Epi-Retinal Membrane Patients

Koki Imai<sup>1</sup>, Takumi Kitajima<sup>1</sup>, Hiroharu Kawanaka<sup>1</sup>, Akiko Ota<sup>2</sup>, Yoshitsugu Matsui<sup>2</sup>

Graduate School of Engineering, Mie University

Graduate School of Medicine, Mie University

15:35-15:40 **Closing**

Masao Aoki (Vice Dean of Graduate School of Regional Innovation Studies, Mie University)