



# IWECC2026 Program

Shizuoka Institute of Science and Technology  
Shizuoka, Japan

## <September 11, Friday>

15:30–18:00     **Registration** at Hotel Kanze

16:00–18:00     IWECC committee meeting

## <September 12, Saturday>    Place:CV202

10:00–10:20     **Opening ceremony (Chair: Zhu Ning)**

Prof. Masakazu Kimura

*President of Shizuoka Institute of Science and Technology*

10:20–10:30     Break

## Session 1: Energy Conversion and Thermal Systems

Chair: T. Kuwahara

10:30–10:50     **A New Method for Controlling of CO<sub>2</sub> Super Heat Pump**

H. Yamaguchi<sup>1,2</sup>

<sup>1</sup>Doshisha University, Japan, <sup>2</sup>SCEBT (Beijing U.) Co., Ltd., China

- 10:50–11:10      **Thermomagnetic Energy Conversion for Pump-Free Heat Transport**  
Y. Iwamoto<sup>1</sup>, Y. Sanda<sup>1</sup>, Y. Ido<sup>1</sup>, S. Asai<sup>2</sup>, and Y. Hirota<sup>2</sup>  
<sup>1</sup>*Nagoya Institute of Technology, Japan*  
<sup>2</sup>*Ferrotec Corporation, Japan*
- 11:10–11:30      **Design of a Compact Rotary Desiccant Dehumidification Device Based on Air Self-Circulation inside Ring Main Units**  
G. Xi  
*Nantong Institute of Technology, China*
- 11:30–13:00      Lunch

### Keynote Lecture

Chair: Y. Iwamoto

- 13:00–14:00      **My Research on Angle Measurement**  
Tadashi Masuda
- 14:00–14:20      Coffee break

### Session 2: Sustainable Fuels and Hydrogen Systems

Chair: G. Xi

- 14:20–14:40      **BDF Synthesis by Flow Type Microwave Reactor**  
J. N. Liu, Y. Suzuki, and N. Zhu  
*Shizuoka Institute of Science and Technology, Japan*
- 14:40–15:00      **Microwave-Driven BDF Synthesis and Subsequent Conversion to SAF**  
J. N. Wang<sup>1</sup>, Y. Suzuki<sup>1</sup>, Y. H. Wong<sup>2</sup>, A. A. Idrus<sup>3</sup>, Y. H. Taufiq-Yap<sup>3</sup>, and N. Zhu<sup>1</sup>  
<sup>1</sup>*Shizuoka Institute of Science and Technology, Japan*  
<sup>2</sup>*Nissan Automotive Technology Co., Ltd., Japan*  
<sup>3</sup>*Universiti Putra Malaysia, Malaysia*
- 15:00–15:20      **System-Level Modeling and Experimental Assessment of Hydrogen Supply and Protection Behavior in a PEM Fuel Cell**  
Z. Y. Liu, Y. T. Chen, Y. Shibata, and N. Zhu  
*Shizuoka Institute of Science and Technology, Japan*

15:20–15:40 Coffee break

### Session 3: Energy Storage and Electronic Device Technologies

Chair: Z. Ning

15:40–16:00 **Transient Output Characteristics of Aged Lithium-Ion Capacitors Interfaced with a DC-DC Converter for Lithium-Ion Battery/Capacitor Hybrid Energy Storage Systems**

T. Watanabe and T. Tojo

*Toyohashi University of Technology, Japan*

16:00–16:20 **Short Pulse Hybrid Time-of-Flight CMOS Image Sensors**

K. Mars<sup>1,2</sup>, T. Okuyama<sup>1,2</sup>, K. Itaba<sup>1</sup>, K. Yasutomi<sup>1</sup>, K. Kagawa<sup>1</sup>, S. Kawahito<sup>1,2,3</sup>

<sup>1</sup>*Shizuoka Institute of Science and Technology, Japan*, <sup>2</sup>*Shizuoka University, Japan*,

<sup>3</sup>*Toyohashi University of Technology, Japan*

17:30–20:00 Banquet

**<September 13, Sunday> Place:CV202**

10:00–13:00 Technical Tour (Lunch included)

### Session 4: Sustainable Energy and Thermal Systems

Chair: O. Kizilkan

14:00–14:20 **Concept of an Energy-Efficient Water Treatment Technology Using Water as a Raw Material**

T. Kuwahara

*Nippon Institute of Technology, Japan*

14:20–14:40 **A Sectoral Exergy Efficiency Assessment of Thailand's National Energy System: Recycling Loops and Recovery Potential**

C. Pumaneratkul

*National Institute of Development Administration (NIDA), Thailand*

14:40–15:00 **Volume Reduction Behavior of Natural Refrigerant R290 in PAG Oil Mixtures**

P. Thepsongsang, M. Fukuta, M. Motozawa and W. Rakpakdee

*Shizuoka University, Japan*

15:00–15:20 Coffee break

## Session 5: Environmental and Hydrogen Technologies

Chair: K. Mars

- 15:20–15:40      **CO<sub>2</sub> Fuel Conversion Technology Using a Wet-type Nonthermal Plasma Reactor**  
H. Yamasaki<sup>1,2</sup>  
*<sup>1</sup>Doshisha University, Japan, <sup>2</sup>Osaka Metropolitan University, Japan*
- 15:40–16:00      **Beyond Hydrogen: Oxygen-Fed Ozone Generation and Direct Oxygenation in a Solar-Powered PEM Electrolysis Platform for Aquaculture**  
O. Kizilkan  
*Isparta University of Applied Sciences, Türkiye*
- 16:00–16:10      **Closing ceremony (Chair: Prof. Z. Ning)**

### <September 14, Monday>

- 9:00–11:00      IWECC committee meeting