

**International Workshop of Energy Conversion 2023**

IWEC2023 Program (tentative)

Kambaikan Building, **Muromachi Campus**,

**Doshisha University**, Kyoto

**レンガ造りの建物

中程度の精度で自動的に生成された説明**＜March 15, Wednesday＞

**Reception and Welcome party**

13:00-18:30 Reception at reception desk

19:00-20:30 Welcome party

＜March 16, Thursday＞

**Opening ceremony**

09:00-09:10 **Opening**

09:10-09:20 **Opening speech**

Prof. Minoru Inaba

Director of Energy Conversion Research Center, Doshisha University

09:20-09:30 Short break (Preparation of talk)

**Session 1: Energy Storage and Transportation of Energies 1**

09:30-09:50 **Talk 01**

P. Yu

09:50-10:10 **Heat transfer characteristics in Rayleigh-Bénard convection of temperature sensitive magnetic fluid with fluid-particle interaction**

M.-F. Chen

10:10-10:30 **Convection in bidisperse porous media**

S. Saravanan

10:30-10:50 Coffee break

**Session 2: High Efficiency Energy Conversion Systems**

10:50-11:10 **Development of La0.6Sr0.4CoO3-δ anode for oxygen generation by molten salt electrolysis**

S. Tanaka1, Y. Suzuki1, T. Fukumoto2, T. Goto2

1Office for Research Initiatives and Development, Doshisha University, Kyoto, Japan

2Faculty of Science and Engineering, Doshisha University, Kyoto, Japan

11:10-11:30 **Solar energy to electric energy**

P. Kandaswamy

11:30-11:50 **Talk 06**

C. Pumaneratkul

**Session 3: Keynote lecture**

11:50-12:20 **Numerical simulations of ferrofluid droplets and surface instabilities in ferrofluid layers**

X.-D. Niu1,2, J.-X. Zhou1,2, H.-W. Xiao1,2, A. Khan1,2, M.-F. Chen3, D.-C. Li4, H. Yamaguchi5

1Key Laboratory of Intelligent Manufacturing Technology, Shantou University, Guangdong, China

2College of Engineering, Shantou University, Guangdong, China

3College of Physics and Electromechanics Engineering, Longyan University, Longyan, China

4Department of Mechanical Engineering, Tsinghua University, Beijing, China

5Energy Conversion Research Center, Doshisha University, Kyoto, Japan

12:20-13:30 Lunch

**Session 4:** **Energy Conversion and Related Research Topics 1**

13:30-13:50 **Medium scale distribution chains for hydrogen**

P. Nekså1,2, M. Z. Saeed2, S. Trædal1, I. Snustad1, I. Koshelkov2 ,L. D. Jacobsen 2

1SINTEF Energy Research, Trondheim, Norway

2NTNU, Department of Energy and process engineering, Trondheim, Norway

13:50-14:10 **Recycling of fisheries waste**

H. Kobatake, S. Tanaka, Y. Suzuki, T. Goto

Doshisha University, Kyotanabe, Japan

14:10-14:30 **Reduction in energy consumption in water purification technology with water**

T. Kuwahara

Department of Mechanical Engineering, Nippon Institute of Techinology, Saitama, Japan

14:30-14:50 **Neural Networks and support vector regression in building energy prediction**

F. Magoules

14:50-15:10 Coffee break

**Session 5:** **Flow and Heat transfer Session**

15:10-15:30 **Talk 12**

H. Yamasaki

15:30-15:50 **Heat transpot characteristics of a closed two phase thermosyphon by water with air mixed (effect of the internal structure)**

T. Kitamura, T. Kubota, S. Shuchi

Department of Mechanical Engineering, Akita Prefectural University, Akita, Japan

15:50-16:10 **Interfacial behaviors of magnetic multiphase flows in microscale**

X. Li

16:10-16:30 Coffee break

**Session 6:** **Energy Storage and Transportation of Renewable Energies 2**

16:30-16:50 **Prediction of nozzle jet using physics-informed neural networks**

Y.-Z. Wang

16:50-17:10 **Energy storage method based on carbon dioxide**

Y. Nie

17:10-17:30 **Innovative approach to recover thermal storage tanks losses during standstill demands period. A numerical study.**

H. Elarga

17:30-17:40 Announcement

18:00-20:30 **Banquet**

＜March 17, Friday＞

**Session 7:** **Energy Storage and Transportation of CO2**

09:30-09:50 **CERN CO2 primary cooling – Project roadmap and first operational units**

P. Barroca1, A. Hafner1, B. Verlaat2, P. Hanf2

1Norwegian University of Science and Technology

2European Organization for Nuclear Research (CERN), Geneva, Switzerland

(NTNU), Trondheim, Norway

09:50-10:10 **Performance improvement strategies for CO2 based experimental Rankine cycle for better sustainability**

O. Kizilkan

10:10-10:30 **MW-scale supercritical CO2 power generation system and efficiency**

L. Chen

10:30-10:50 Coffee break

**Session 8:** **Energy Conversion and Related Research Topics 2**

10:50-11:10 **One-step reduction process of silica to silicon by molten salt electrolysis**

Y. Suzuki1, S. Tanaka1, T. Goto2

1Organization for Research Initiatives and Development, Doshisha University, Kyoto, Japan

2Department of Science of Environment and Mathematical Modeling Graduate School of Science and Engineering, Kyoto, Japan

11:10-11:30 **PM removal characteristics in magnetic fluid filter with dielectric barrier discharge**

Y. Asaka, T. Kuwahara

Department of Mechanical Engineering, Nippon Institute of Technology, Saitama, Japan

11:30-11:50 **Talk 23**

Y. Iwamoto

11:50-13:00 Lunch

**Session 9:** **Keynote lecture**

13:00-13:30 **Keynote lecture 24**

H. Yamaguchi

**Closing ceremony**

13:30-13:40 **Closing speech**

Prof. Hiroshi Yamaguchi

Organizer of IWEC 2023, Doshisha University

13:40-13:50 **Closing**