ACBS2025 Scientific Program

October 9th, 2025

Opening ceremony 9:20-9:30

Oral presentation 9:30-12:20, 14:30-17:30

Session OA: Gasification and Combustion

Chair: TBA

09:30 OA-1 Comparative investigation on steam gasification performances of giant miscanthus and pruned apple tree in a two-stage gasification system
LIANFENG ZHU, Xiaowen Zhou, Penglong Jia, Pattreeya Panpian, Zixiao Ma, DongJin Kang, Abuliti Abudula, Guoqing Guan *
(Hirosaki University, Japan)

09:45 OA-2 The synergistic effect of Napier grass biochar-supported Ni-Fe bimetallic catalysts during the steam co-gasification of herbaceous biomass
Yushani Alahakoon, Lianfeng Zhu, Pattreeya Panpian, Xiaowen Zhou, Jia Penglong, Dong-Jin Kang, Abuliti Abudula, Guoqing Guan *
(Hirosaki University, Japan)

10:00 OA-3 Catalytic Performance of Ru/CNT Paper in Supercritical Water Gasification of Glucose
MENGLI ZHANG [a,*], Mizuki Kodama [a], Takashi Noguchi [b], Shuhei Inoue [c], Yukihiko Matsumura [a]
([a] Hiroshima University, Japan
[b] Toyo Koatsu Co., Ltd., Japan
[c] KINDAI University, Japan)

10:15 OA-4 Synergistic Stabilization Mechanism of Arsenic by CaO/Fe2O3 during Sewage Sludge Gasification
Yujia Du [a], Yuhong Qin [a,*], Shugang Guo [b], Guixuan Wu [c], Qizhi Guo [a]
([a] Taiyuan University of Technology, China
[b] State Key Laboratory of Coal Conversion, Institute of Coal Chemistry, Chinese Academy of Sciences, China
[c] Shanxi Provincial Center for Disease Control and Prevention, China)

(Break 10:30-10:45)

10:45 OA-5 Biohydrogen Production from Rice Straw by Solid Alkaline Treatment
YASMIN CRISTHINE DE SOUZA MELO, Takashi Hosoya, Hisashi Miyafuji
(Kyoto Prefectural University, Japan)

11:00 OA-6 Agglomeration Control of Biomass Ash during Circulating Fluidized Bed Combustion
Nozomi Tauchi [a], Kazuhiro Miyashita [a], Junichi Shigeta [a], Hui Zhang [b], Toyoko Demachi [b], Ryo Yoshiie [c], Yasuaki Ueki [d], Ichiro Naruse [b]
([a] IHI Inspection & Instrumentation Co., Ltd., Japan

[b] Nagoya University, Japan
[c] Gifu University, Japan
[d] Aichi Institute of Technology, Japan)

11:15 OA-7 Reaction Kinetics of Rice Husk Chemical Looping with Natural Fe_2O_3
Azaria Haykal Ahmad [a, b], Muhammad Aziz [a, b, c]
([a] Mechanical Engineering, The University of Tokyo, Japan
[b] Institute of Industrial Science, The University of Tokyo, Japan
[c] RIKEN Center for Sustainable Resource Science, Japan)

(Break 11:30-11:40)

Keynote lecture
Chair: TBA

11:40 PL-1 Thermochemical Conversion of Biomass for Value-Added Fuels and Materials
Shurong Wang
(Zhejiang University, China)

(Photo 12:20-12:30)
(Lunch 12:30-13:20)

(Poster presentation 13:20-14:20)

(Break 14:20-14:30)

Session OB: Production of Liquid Fuels and Chemicals
Chair: TBA

14:30 OB-1 Oxygen-activation driven SnW-MnOx/Na_2WO_4/SiO_2 catalysts for low-temperature Oxidative Coupling of Methane
Li Ling [a,b], Guangwen Xu [a,b] *
([a] Shenyang University of Chemical Technology, China
[b] Institute of Industrial Chemistry and Energy Technology, Shenyang University of Chemical Technology, China)

14:45 OB-2 Long-term stability and improved selectivity of transition metal-modified HZSM-5@AlKIT-6 catalysts in bio-oil upgrading
Pattreeya Panpian, Penglong Jia, Zhihua Zhang, Yushani Alahakoon, Lianfeng Zhu, Abuliti Abudula, Guoqing Guan
(Hirosaki University, Japan)

15:00 OB-3 Catalytic oxidative lignin fractionation of palm kernel shell with Co-Cu bimetallic catalyst
Chanatip Samart [a], Kamrul Islam [a], Suwadee Kongparakul [a], Guoqing Guan [b]
([a] Thammasat University, Thailand
[b] Hirosaki University, Japan)

15:15 OB-4 Catalytic activity of Ni/Al_2O_3 for plant oil hydrodeoxygenation operated under hydrothermal condition
Tomokatsu Sakata, Ayaka Uchikoshi, Monique Joice Abrau Auguis, Masato Kouzu
(Tokyo City University, Japan)

15:30 OB-5 Effects of fatty acid composition on plant oil hydrodeoxygenation operated under hydrothermal condition
Ayaka Uchikoshi, Tomokatsu Sakata, Monique Joice Abrau Auguis, Masato Kouzu
(Tokyo City University, Japan)

(Break 15:45-16:00)

Session OC: Pyrolysis and Valorization
Chair: TBA

16:00 OC-1 Study on the flow, heat transfer and reaction behavior in a swirl fast pyrolyzer
Xiaogang Hao
(Taiyuan University of Technology, China)

16:15 OC-2 Study on heat and mass transfer within particle flow in the swirl fast pyrolyzor
Jingxuan Yang
(Taiyuan University of Technology, China)

16:30 OC-3 Polycyclic aromatic hydrocarbon formation from lignin during slow pyrolysis: a evidence from pinoresinol model
Jiaqi WANG [a], Eiji Minami [b], Haruo Kawamoto [b]
([a] The University of Tokyo, Japan
[b] Kyoto University, Japan)

16:45 OC-4 Supercapacitor Electrode from Biogas Wastewater
Suwadee Kongparakul, Supapit Rawisod, Chanatip Samart
(Thammasat University, Thailand)

17:00 OC-5 Biomass ash utilization for producing cement concrete and geopolymer concrete in Indian current scenario
Yoshimitsu Uemura*, Partheeban Pachaivannan, Kavitha Andiappan
(Chennai Institute of Technology, India)

17:15 OC-6 "Transform Used Disposed Diapers into Fuel to Save the Earth"
A Patented Japanese Technology for Circular Waste Management
Noboru Yamamoto [a], Yukihiro Kimura [b]
([a] NPO Nouto-Kaigi, (Biomass Conference), Japan
[b] Super-Faiths Co., Ltd., Japan)

(Break 17:30-17:45)

Closing Remarks 17:45-18:00

Banquet 18:30-20:30

Poster presentation 13:20-14:20

P-01 High-yield hydrogen production from a novel alkaline treatment process of biomass
Haruto Ogiya [a, *], Liuyun Li [a], Tadaaki Shimizu [a], Guoqing Guan [b], Kejing Wu [c]
([a] Niigata University, Japan
[b] Hirosaki University, Japan
[c] Sichuan University, China)

P-02 Supplementary heat supply performance on heat carriers with ash deposition in a biomass gasification system
Mayu Hamazaki, Kiyoshi Dowaki
(Tokyo University of Science, Japan)

P-03 Catalytic effect of Ru-supported carbon nanotubes on supercritical water gasification of barley residue and yeast culture supernatant
Kosuke Yamada [a], Hendrik Setiawan [b], Tomohiko Nomura [b], Koji Suzuki [b], Yukihiko Matsumura [a]
([a] Hiroshima University, Japan
[b] Asahi Quality and Innovations, Ltd., Japan)

P-04 Comparative Study on Thermal Efficiency of a Two-Stage Gasification System Using Aspen Plus Simulation
Zixiao Ma, Lianfeng Zhu, Xiaowen Zhou, Yushani Alahakoon, Penglong Jia, Pattreeya Panpian, Dong-Jin Kang, Abuliti Abudula, Guoqing Guan
(Hirosaki University, Japan)

P-05 Gasification of woody biomass to produce syngas using a two-stage gasification with ultra-low tar yield
Xiaowen Zhou, Lianfeng Zhu, Yushani Alahakoon, Abuliti Abudula, Guoqing Guan
(Hirosaki University, Japan)

P-06 Improvement of hydrogen yield in chemical looping process using direct reduction of iron oxide with biomass
Sei Motoki, Mori Takayuki, Tadaaki Shimizu, Liuyun Li
(Niigata University, Japan)

P-07 Efficient electrochemical oxidation of 5-hydroxymethylfurfural to 2,5-furandicarboxylic acid over calcium-modified cobalt-copper electrocatalyst
Byan Baihaqi, Yusrin Ramli, Rui Yang, Peng Luo, Wenjia Zhou, Abuliti Abudula, Guoqing Guan *
(Hirosaki University, Japan)

P-08 Upgrading of woody-biomass with the help of APR reaction
Yuto Asaumi, Yui Kawashima, Yukichi Sato, Yuito Nakano, Masato Kouzu
(Tokyo City University, Japan)

P-09 Effect of support acidity on catalytic activity for hydrothermal hydrodeoxygenation of plant oil
Monique Joice Abrau Auguis, Ayaka Uchikoshi, Tomokatsu Sakata, Masato Kouzu

(Tokyo City University, Japan)

P-10 Catalytic hydrogenation of anisole in an aqueous solution of glucose as a hydrogen source
Yuito Nakano, Yui Kawashima, Yukichi Sato, Yuto Asaumi, Masato Kouzu
(Tokyo City University, Japan)

P-11 Effects of solid base additive on glucose APR combined with cresol hydrogenation
Yukichi Sato, Yui Kawashima, Yuto Asaumi, Yuito Nakano, Masato Kouzu
(Tokyo City University, Japan)

P-12 Catalytic activity of Pt/hydrotalcite for glucose APR combiened with cresol hydrogenation
Yui Kawashima, Yukichi Sato, Yuto Asaumi, Yuito Nakano, Masato Kouzu
(Tokyo City University, Japan)

P-13 Catalytic Fast Pyrolysis of Biomass over HZSM-5 Zeolite with Spatially Dispersed Hydrophobic SiO_2
Penglong Jia, Rui Yang, Zhihua Zhang, Pattreeya Panpian, Lianfeng Zhu, Abuliti Abudula, Guoqing Guan
(Hirosaki University, Japan)

P-14 Synthesis of CoBi-based catalyst for electrooxidation of of 5-(hydroxymethyl)furfural (HMF) to2,5-furandicarboxylic acid (FDCA)
Yusrin Ramli, Byan Baihaqi, Rui Yang, Peng Luo, Wenjia Zhou, Abuliti Abudula, Guoqing Guan
(Hirosaki University, Japan)

P-15 A green route for hydrogen production from alkaline-chemical reaction of biomass with carbon storage
Houfang Lu [a], Guojie Liu [b], Kejing Wu [a], Guoqing Guan [c], Bin Liang [a]
([a] Sichuan University, China
[b] Tianfu Yongxing Laboratory, China
[c] Hirosaki University, Japan)

P-16 Design of ultra-large hollow hierarchical ZSM-5 zeolite catalysts via controlled desilication for efficient bio-oil upgrading
Zhihua Zhang, Penglong Jia, Pattreeya Panpian, Wenjia Zhou, Zhenyan Ma, Abuliti Abudula, Guoqing Guan *
(Hirosaki University, Japan)

P-17 Effect of feedstock concentration on hydrochar yield for hydrothermal carbonization of starch
Muhammad Haqqiyuddin Robbani, Yukihiko Matsumura
(Hiroshima University, Japan)

P-18 Analysis and Evaluation of the Potential of Biochar Production from Palm Oil Residues in Indonesia
Kazuhiro Mochidzuki [a], Novi Syaftika [b], Gissa Navira Sevie [b], Imron Masfuri, [b] Chihiro Fushimi [c], Yukihiko Matsumura [a]
([a] Hiroshima University, Japan
[b] National Research and Innovation Agency, Indonesia

[c] Tokyo University of Agriculture and Technology, Japan)

P-19 Effect of cellulose nanofibers addition on liquid culture of Lactobacillus reuteri
Akihiro Hideno
(Ehime University, Japan)

P-20 Tradeoff evaluation between woody biomass energy potential and economic values of ecosystem services
Koyo Kikuchi, Takaaki Furubayashi
(Akita University, Japan)

Access to the venue

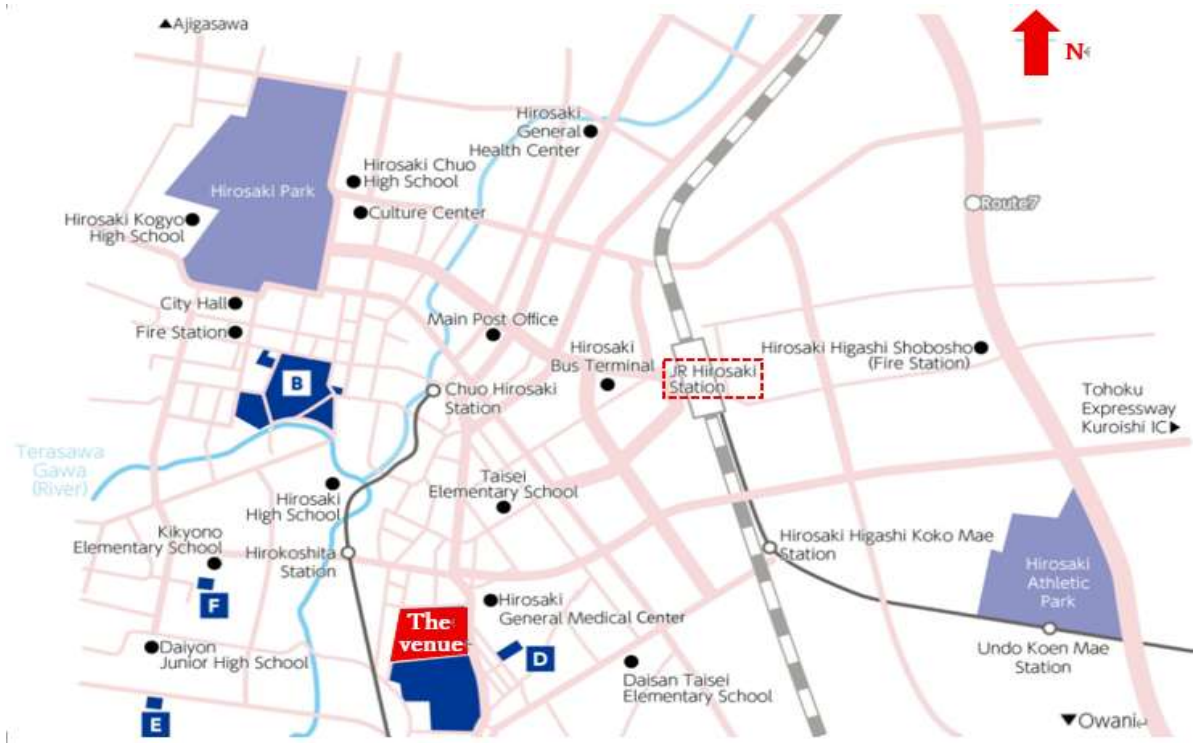
Access to the venue from the JR Hirosaki Station:
20-minute walk from the West Exit of the JR Hirosaki Station.
Please refer to the map at the bottom of this page.

Transportation to the JR Hirosaki Station from Tokyo by train:
JR Tokyo Station → JR Hirosaki Station(via. Ohu Line; JPY18,000, 4h 5min)

Access to the venue area from the Aomori Airport:

1. Airport Limousine Bus
   (Aomori Airport → JR Hirosaki station;
   ≈JPY1400, 50-55 min)
2. Taxi (Aomori Airport → Venue; ≈JPY7,500, ≈40 km)

The venue:
Hirosaki University 50th Anniversary Memorial Hall
1Bunkyo-cho, Hirosaki-City, Aomori, Japan
Tel: +81-172-39-3490



Floor plan

Hirosaki University 50th Anniversary Memorial Hall

1F
(Oral· Presentation Place)

2F
(Poster Session Place)