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Part I Conference Schedule Summary

November 21, 2023 / Japan Standard Time (UTC+9)

14:00-20:00 On-site Registration
In front of Meeting Room 501 at Kunibiki Messe

16:00-18:00 MS Teams Online Conference Testing and Ice Breaking
MS Teams Link: <http://www.academicconf.com/teamslink?confname=nefes2023>

*** Note for offline registration:**

- Please show us your name or paper ID for registration;
- Please pick up all the conference materials at the registration desk (Name Card, Conference Program, Lunch & Dinner Tickets, etc.).

November 22, 2023 / Japan Standard Time (UTC+9)

Location: Meeting Room 601 (Morning Session), 403 (Afternoon Session), Kunibiki Messe

MS Teams Link: <http://www.academicconf.com/teamslink?confname=nefes2023>

Opening Ceremony and Keynote Speeches are chaired by:

Prof. Gernot Mueller, Institute for Mathematics, University of Augsburg, Germany

09:00-09:10 **Opening & Welcome Speech**
Prof. Qixin Guo, Synchrotron Light Application Center, Saga University, Japan

09:10-09:50 **Keynote Speech 1: Energy Sustainability: Paving the Road to Sustainable Development**
Prof. Marc A. Rosen, Faculty of Engineering and Applied Science, University of Ontario Institute of Technology, Canada

09:50-10:30 **Keynote Speech 2: Analyzing the Potential of Mass Manufactured Vacuum-Glazed Smart Windows and Decorative Vacuum Insulation Panels for the Vision of Achieving Net-Zero Energy Buildings**
Prof. Saim Memon, Department for Engineering, School of Engineering and the Built Environment, Birmingham City University, UK

10:30-10:50 **Group Photo & Coffee Break**

10:50-11:30 **Keynote Speech 3: Virtual Synchronous Generators and Power Plant's Role in More Sustainable Power Systems**
Prof. Farhad Shahnia, Discipline of Engineering and Energy, Murdoch University, Australia

11:30-12:00 **Poster Session
(Meeting Room 601)**

12:00-13:10 **Lunch Break
(Meeting Room 601)**

13:10-17:00 **Oral Session 1: Power System Operation, Biomass Energy, & Fuel Energy
(Meeting Room 403)**

November 23, 2023 / Japan Standard Time (UTC+9)

Location: Meeting Room 403, Kunibiki Messe

MS Teams Link: <http://www.academicconf.com/teamslink?confname=nfes2023>

08:30-11:40 Oral Session 2: Solar Energy, Cells, & Energy Technologies

12:00-13:10 Lunch Break

13:10-17:40 Oral Session 3: Thermal Energy, Waste to Energy, & Energy Materials

November 24, 2023 / Japan Standard Time (UTC+9)

09:30 Set off from Kunibiki Messe

09:40-10:40 Matsue Castle

10:50-11:40 Horikawa Sightseeing Boat

12:00-12:50 Lunch at Matsue Kyoragi

13:20-14:20 Matsue Vogel Park

15:00 Arrive at JR Matsue Station

Part II Keynote Speeches

Keynote Speech 1: Energy Sustainability: Paving the Road to Sustainable Development



Prof. Marc A. Rosen

Faculty of Engineering and Applied Science, University of Ontario Institute of Technology, Canada

Biography: Marc A. Rosen is a Professor at the University of Ontario Institute of Technology in Oshawa, Canada, where he served as founding Dean of the Faculty of Engineering and Applied Science. Dr. Rosen was President of the Engineering Institute of Canada. A registered Professional Engineer in Ontario, he serves as Editor-in-Chief of several journals and was a Director of Oshawa Power and Utilities Corporation. With over 60 research grants and contracts and 900 publications, Dr. Rosen is active in sustainable energy, environmental impact, and energy technology (including renewable energy and efficiency). Much of his research has been carried out for industry, and he has written numerous books. Dr. Rosen has worked for such organizations as Imatra Power Company in Finland, Argonne National Laboratory near Chicago, and the Institute for Hydrogen Systems near Toronto. Dr. Rosen has received numerous awards and honors, and is a fellow of several societies and organizations.

Abstract: Sustainable development is a critically important goal for human and societal activity. Energy sustainability is of great importance to any plans for overall sustainable development. This is particularly important given the pervasiveness of energy use, its importance in economic development and living standards, and the significant impacts that energy processes and systems have on the environment.

Many factors that need to be considered and appropriately addressed in moving towards energy sustainability are examined in this talk. These include appropriate selection of energy resources bearing in mind sustainability criteria, facilitation of the use of sustainable energy resources, enhancement of the efficiency of energy-related processes, and a holistic adoption of environmental stewardship in energy activities. In addition, other key sustainability measures are addressed, such as economics, equity, land use, lifestyle, sociopolitical factors and population. Conclusions are provided related both on options for energy sustainability and on means to achieve sustainable development.

Keynote Speech 2: Analyzing the Potential of Mass Manufactured Vacuum-Glazed Smart Windows and Decorative Vacuum Insulation Panels for the Vision of Achieving Net-Zero Energy Buildings



Prof. Saim Memon

Department for Engineering, School of Engineering and the Built Environment, Birmingham City University, UK

Biography: Professor Saim Memon has world leading multidisciplinary research expertise in Electrical, Mechanical and Renewable Energy Materials Engineering. His specific research experiences are on thermal management of electric vehicles

batteries, vacuum insulation, net zero energy buildings, solar thermal collectors, renewable energy technologies, thermoelectric generators and smart-grid integration to electric-vehicles with fast charging battery mechanism.

Professor Saim is Research Specialist in Vacuum Insulation at LandVac (LandGlass) VIG Science & Technology, China and Industrial Professor of Renewable Energy Engineering at Jiangsu Sanyou Dior Energy-saving New Materials Co., Ltd, China. His current academic role is as External Examiner in School of Engineering and the Built Environment, Birmingham City University, Birmingham, UK. Recently, Saim completed his role as Visiting Professor in the Hokkaido Summer Institute at Hokkaido University, Japan. Saim worked as Deputy Head of School of Engineering at Arden University, Coventry, UK and Visiting Academic at London South Bank University, London, UK. Prior to this, Saim was Distinguished Professor of Renewable Energy Engineering at Zhejiang Ocean University, China. At the School of Computing and Engineering, University of Huddersfield, UK, Saim formerly held the position of Associate Professor in Renewable Energy Engineering. Prior to this, Saim was the Head of Solar Thermal Vacuum Engineering Research Group, Senior lecturer in Electrical Engineering and Course Director of three MEng/BEng/HND courses at School of Engineering, London South Bank University, London, UK.

Saim studied for: PhD in Mechanical, Electrical & Manufacturing Engineering as part of EPSRC Funded CALEBRE Project (Loughborough University, UK); PGCert in Teaching Qualification (University of Aberdeen, UK); MSc in Mechatronics (Staffordshire University, UK) and; BEng (Hons) in Electrical Engineering. Saim is Chartered Engineer and a Fellow of Higher Education Academy and has Qualified Teacher Status by General Teaching Council for Scotland (GTCS).

Saim published over 120+ research articles in the form of journals, book-chapters, patent-provisional, conferences, book-editor, newsletter and magazines. Saim collaborated with at least 100+ international and national scholars across 40+ countries globally. Saim raised funding of £394,853 from various national and international universities and organisations e.g., H2020, Innovate-UK, The IET/IMEchE Engineering-Education-Grant-Scheme EEGS, DAIWA-Anglo-Japanese, Royal Academy of Engineering participation and Newton-Fund participation grants. Saim currently leads international collaborations as part of Solar Thermal Vacuum Engineering Research Group. Saim has been invited and keynote speaker in numerous international conferences/workshops and presented research findings and developed collaboration with researchers in the UK, Japan, China, Egypt, Russia, Kyrgyzstan, South America, Kenya, Thailand, Malaysia, Australia, South Korea, South Africa, Belarus, Pakistan, Indonesia, Saudi Arabia, Iran, Italy, Germany, France, Algeria, India, USA, UAE, Hong Kong, Vietnam, Turkey, Taiwan, Portugal and Spain.

Saim is the founder and Editor-in-Chief of International Journal of Solar Thermal Vacuum Engineering with international collaboration of 14 countries worldwide. Saim is the International Review Board Member of the Russian Science Foundation and Expert Contributor at Vacuum Science World. Saim is a Review Editor of Frontiers in built Environment journal, Guest Editor at Sustainability and Energies of 3 Special Issues in (a) Renewable Energy and Advanced Smart Vacuum Insulations Technologies for Zero Energy Buildings (2019-2022), (b) Applied Solar Thermal Energy (2020-2022) and, (c) Sustainable Development of Solar Photovoltaic Islands' Decarbonization (2021-2022). Saim was also an Editor-in-Chief for the published book on Advanced Thermoelectric Materials for Energy Harvesting Applications, it attracted worldwide collaborations. Saim is a recognised reviewer of over 40 leading and world's top journals by Elsevier, Springer, IEEE, Taylor & Francis and MDPI publishers.

Saim taught 41 BEng/MSc modules and supervised over 39 PhD/MEng/MSc & BEng projects. Saim was nominated for Best Supervisor, Outstanding Lecturer and Research in Action Awards by Staff and

Students for four consecutive years (2017, 2018, 2019 & 2020) at LSBU. Saim demonstrated and evidenced his excellent track record in Teaching and Supervision practices throughout his career. Saim developed and led a project that engaged local London Engineering students on Solar Car Challenge as part of the IET IMechE Engineering Education Grant Scheme. Saim also organized and chaired international and national conferences. Saim was the founder of DEEE Society at LSBU for students' academic-industrial engagement. Saim has outstanding volunteer contributions throughout his academic career as evidenced on his profile such as: he contributed to the society as elected vice-chairman of The IET Young Professionals; elected Executive Officer at Staffordshire University Students Union; elected committee member of Postgrad Taught Students at NUS UK; elected vice-chair at Loughborough University Postgraduate Association; elected honorary secretary and committee member at Vacuum Group Institute of Physics; and many more volunteer roles he held and continue to serve our global academic societies.

Abstract: The notion at which, nowadays, buildings are being aspired to achieve to be net zero-energy buildings (NZEBs) are widely recognized. The heat loss, in cold arid countries, or cooling loss, in hot arid countries, through the windows of buildings is one of the factors contributing to high energy consumption for space heating or space cooling, respectively, ensuing in preventable carbon emissions. This keynote speech presents the journey of vacuum glazing and vacuum insulation panel and to be able to see mass manufacturing of these technologies that it once was an imagination and now it is a reality. The Vacuum Glazing typically has U value of $0.8 \text{ Wm}^{-2}\text{K}^{-1}$ but recently LandVac Vacuum glazing improved the manufacturing and evacuation process by developing innovative vacuum glazing with a U value of $0.45 \text{ Wm}^{-2}\text{K}^{-1}$ with sound insulation of 36 dB. On the other hand, decorative vacuum Insulation Panel manufactured by Jiangsu Sanyou Dior levelled up the building outside feature to the next level with its thermal conductivity of $\leq 0.007 \text{ Wm}^{-1}\text{K}^{-1}$ at the thickness of about 10 mm that reduces the overall construction cost of the cavity-walls and space heating or cooling loss from the buildings.

Keynote Speech 3: Virtual Synchronous Generators and Power Plant's Role in More Sustainable Power Systems



Prof. Farhad Shahnia

Discipline of Engineering and Energy, Murdoch University, Australia

Biography: A/Professor Farhad Shahnia received his PhD in Electrical Engineering from Queensland University of Technology (QUT), Brisbane, in 2012. He is currently an A/Professor at Murdoch University. Before that, he was a Lecturer at Curtin University (2012-15), a research scholar at QUT (2008-11), and an R&D engineer at the Eastern Azarbayjan Electric Power Distribution Company, Iran (2005-08). He is currently a Fellow member of Engineers Australia, Senior Member of IEEE, and member of the Australasian Association for Engineering Education.

Farhad's research falls under Distribution networks, Microgrid and Smart grid concepts. He has authored one book and 11 book chapters and 100+ peer-reviewed scholarly articles in international conferences and journals, as well as being an editor of 6 books.

Farhad has won 5 Best Paper Awards in various conferences and has also received the IET Premium Award for the Best Paper published in the IET Generation, Transmission & Distribution journal in

2015. One of his articles was listed under the top-25 most cited articles in the Electric Power System Research Journal in 2015 while one of his 2015 journal articles has been listed under the top-5 most read articles of the Australian Journal of Electrical and Electronics Engineering. He was the recipient of the Postgraduate Research Supervisor Award from Curtin University in 2015 and the Australia-China Young Scientist Exchange Award from the Australian Academy of Technology and Engineering in 2016.

Farhad is currently a Subject Editor, Deputy Subject Editor, and Associate Editor of several journals including IEEE Access, IET Generation, Transmission & Distribution, IET Renewable Power Generation, IET Smart Grid, IET Energy Conversion and Economics, and International Transaction on Electrical Energy Systems and has served 35+ conferences in various roles such as General, Technical, Program, Publication, Publicity, Award, Sponsorship, and Special Session Chairs.

Farhad has led the IEEE Western Australia Section as the 2020-2021 Chair, and was the 2019 Founding Chair of the IEEE Western Australia Industrial Electronics Society (IES) Chapter. He is the 2023 vice-Chair of the IES's Technical Committee on Smart Grids.

Abstract: Electricity systems around the world are experiencing a radical transition as the consequence of replacing fossil fuels, used for electricity production, by sustainable and cleaner energies. The growing penetration of renewable energies requires smarter techniques capable of handling the uncertainties of these intermittent sources. Along with this change, traditionally centralised power systems are also converting into distributed self-sufficient systems, often referred to as microgrids, that can operate independently. Virtual power plants are frameworks under which microgrids can be deployed within communities and enable energy transaction amongst retailers, customers and private investors. Within this concept, virtual synchronous Generators or grid forming power electronics converters are the enabling technologies that provide the essential functionalities for the proper operation of the system. This talk will focus on the role of virtual synchronous Generators and virtual power plants in decarbonization of the energy sector.

Part III Poster Presentations

Poster Presentation Guidelines

Materials Provided by the Conference Organizer:

- X Racks & Base Fabric Canvases
- Adhesive Tapes or Clamps

Materials Provided by the Presenters:

- Home-Made Posters
- Posters Printed by Conference

Requirement for the Posters:

- Material: not limited
- Size: W1200*H2100**



Display Rack

List of Posters

FES2989	Waste Biomass to Value Added Product for Adsorption Refrigeration System <i>Mr. P. R. Chauhan, Solar - Biomass Thermal Science Laboratory, Department of Energy Science and Engineering, Indian Institute of Technology Delhi, India</i>
FES2990	Strategic Implementation of Integrated Process Analysis for Energy Efficiency in Foundry Plants <i>Dr. Jeonghoon Han, Korea Institute of Energy Research, Korea</i>
FES2994	Analysis on the Effect of Drying Kinetics Model Selection on Conveyor-Belt Dryer Design <i>Dr. Sooyoung Chang, Korea Institute of Energy Research, Korea</i>
FES3004	Exploring the Possibilities of CO₂-Based Alternative Working Fluids in Energy Systems <i>Mr. Xuwu Wei, Mechanical Engineering (Robotics), Guangdong Technion-Israel Institute of Technology, China</i>
FES2980	A Study on Improving After-Combustion Using Spray Water Flow Rate at the De-Superheater in CFBC <i>Mr. Jeong-seon Shin, Graduate School of Energy Science and Technology, Chungnam National University, Korea</i>

Part IV Oral Presentations

General Guidelines

- ✚ All presentation times are shown in Japan Standard Time (UTC+9);
- ✚ Duration for Invited Oral Presentation: 25 Minutes of Presentation, including 3-5 Minutes of Q&A;
- ✚ Duration for Regular Oral Presentation: 15 Minutes of Presentation, including 2-3 Minutes of Q&A;
- ✚ All presenters are requested to reach the Session Room prior to the scheduled time and complete their presentation on time;
- ✚ Presenters should prepare Power Pointer or PDF Files for Presentation with Paper ID (FES****) marked on the last page;
- ✚ A signed and stamped presentation certificate will be issued after the presentation.

Offline Oral Presentation Guidelines

Devices Provided by the Conference Organizer:

- ✚ Laptops (with MS-Office & Adobe Reader) & Projectors & Screen
- ✚ Laser Sticks
- ✚ Microphones
- ✚ Please send us the PowerPoint once it is ready and have the PPT back up in a U-disk. For presenters who do not send the PowerPoint, please save it in the laptop of the corresponding session 15 min in advance. Kindly tell the Session Chair (before the start of your session) that you are present.

Online Oral Presentation Guidelines

- ✚ Online Oral Presentation will be conducted via Microsoft Teams Meeting.
- ✚ If a presenter is not able to show up via Teams, the session chair/conference secretary will play the pre-recorded video presentation during his/her scheduled presentation time. If listeners have questions about the presentation, please contact the conference secretary to forward the questions.
- ✚ If a presenter cannot show up on time or has a problem with the internet connection, the session chair has the right to rearrange his/her presentation and let the next presentation start.

Best Oral Presentation Selection Procedure

ONE best presentation will be selected from EACH session based on the following criteria:

- | | | |
|---------------------|----------------------------|-------------------------|
| ✓ Research Quality | ✓ Presentation Performance | ✓ Presentation Language |
| ✓ PowerPoint Design | ✓ Effective Communications | |

Selection Procedure

- An assessment sheet (see picture) will be delivered to listeners before the session starts;
- When the session finishes, each listener is required to fill out the sheet (he/she can vote for two excellent presentations) and give it to the Session Chair;
- For the online presenters, the assessment sheet would be sent in advance via e-mail. Kindly send us the filled form in electronic version within ONE HOUR after the session is completed;
- The Session Chair will count the votes and select the best oral presentation with the most votes. If

there is a tie, the Session Chair will make the final decision.

Best Oral Presentations Award

The Best Oral Presenter from each session will receive an official certificate and complimentary registration to the NEFES 2024.

Sample of Assessment Sheet

NEFES 2023 Oral Presentation Assessment

Dear participants,

After carefully listening to the presentations of this session, please kindly recommend two excellent Oral Presentations with reference to the following evaluation criteria.

The Session Chair will count the votes from each presentation and select ONE Best Oral Presentation in this session. If there is a tie, the Session Chair will make the final decision.

The winner will be announced at the official website after the conference.

You can refer to the following criteria for best oral selection:

Items	Assessment
Content	Right, Logical, Original, Well-Structured
Language	Standard, Clear, Fluent, Natural
Performance	Spirited Appearance, Dress Appropriately, Behaves Naturally
PowerPoint	Layout, Structure, Typeset, Animation, Multimedia
Reaction	Build a Good Atmosphere, Speech Time Control Properly

Please write down the paper ID and give reasons for your recommendation:

Paper ID	Reasons

Evaluated by: _____

Paper ID: _____

Note: Please fill it out and give it to the Session Chair or assistant so that the Best Oral Presentation could be selected.

Oral Session 1: Power System Operation, Biomass Energy, & Fuel Energy

Time: 13:10-17:00, November 22, 2023. (Japan Standard Time UTC+9)

Location: Meeting Room 403, Kunibiki Messe

Session Room Link: <http://www.academicconf.com/teamslink?confname=nefes2023>

Session Chair: Dr. Richao Cong, Institute of Environmental Science and Technology, University of Kitakyushu, Japan

13:10-13:35	FES2962	Risk Management for Intraday Electricity Markets <i>Prof. Gernot Mueller, Institute for Mathematics, University of Augsburg, Germany</i>
13:35-14:00	FES2997	How and Why Did Fossil Fuel Use Change in Fukushima Prefecture Before and after the Great East Japan Earthquake? <i>Dr. Richao Cong, Institute of Environmental Science and Technology, University of Kitakyushu, Japan</i>
14:00-14:25	FES2996 Online	Effect of Turbine Resistance and Positioning on Performance of Aerofoil Wing Building Augmented Wind Energy Generation <i>Prof. Abdel Rahman Elbakheit, College of Architecture and Planning, King Saud University, Saudi Arabia</i>
14:25-15:40	FES2949	Impact of Lightning-Induced Wildfires on Power System Based on Satellite Data and Climatological Projections <i>Dr. Amalija Božiček, Adnet d.o.o., Croatia</i>
15:40-15:55	FES2967	Effect of Solvent Systems on the Efficient RCF of Pine to Obtain Monomer and High Purity Cellulose over NaOH <i>Dr. Xi Li, Southeast University, School of Energy and Environment, China</i>
15:55-15:10	FES3002 Online	Mutual Benefit Analysis of Price-Responsive Demand Response Program for Demand-Side Load Management Through Heuristic Algorithm by Scheduling of Multi-Classifer Residential Unit under TOU Tariff Regulation <i>Dr. Shahid Nawaz Khan, Department of Computer Science, Lahore University of Management Sciences, Pakistan</i>
15:10-15:25	Coffee Break	
15:25-15:40	FES3003 Online	A Non PMU-Based WAN Protection Scheme for Swing Detection and Stability Enhancement in Power Systems <i>Dr. Ehab A. El-Metwally, Faculty of Engineering, Ain Shams University, Egypt</i>
15:40-15:55	FES2945	Solar Power Generation, Battery Storage and Hydrogen, an Effective Way to Replace Fossil Fuel-Based Thermal Energy <i>Mr. Takeshi Sase, Building Research Institute, Japan</i>
15:55-16:20	FES3014 Online	Microgrid Energy Management Consideration Based on Load Requirements <i>Dr. Amer Nasr A. Elghaffar, Electrical Engineering Department, Minia University, Egypt</i>

16:20-16:45	FES3026	Energy Analysed and Management of Ventilation System Designed <i>Prof. Sheng-Hung Wu, Research center for energy technology and strategy, National Cheng Kung University, Taiwan</i>
16:45-17:00	FES2989	Optimization Strategy for the Synthesization of Carbonaceous Adsorbent from Waste Biomass for Sustainable Energy Applications <i>Mr. P. R. Chauhan, Solar - Biomass Thermal Science Laboratory, Department of Energy Science and Engineering, Indian Institute of Technology Delhi, India</i>

Oral Session 2: Solar Energy, Cells, & Energy Technologies

Time: 08:30-11:40, November 23, 2023. (Japan Standard Time UTC+9)

Location: Meeting Room 403, Kunibiki Messe

Session Room Link: <http://www.academicconf.com/teamslink?confname=nefes2023>

Session Chair: Prof. Koushik Biswas, Department of Metallurgical and Materials Engineering, Indian Institute of Technology Kharagpur, India

08:30-08:45	FES3012 Online	Performance Analysis of a Carbon Dioxide Transcritical Two-Stage Compression Refrigeration System <i>Mr. Zhiyong Wei, College of Food Science and Technology, Shanghai Ocean University, China</i>
08:45-09:10	FES2946	A Multi-Level Characteristic Analysis of Urban Agglomeration Energy-Related Carbon Emission: A Case Study of the Pearl River Delta <i>Prof. Linyu Xu, School of Environment, Beijing Normal University, China</i>
09:10-09:35	FES2959	Li-Ion Battery (LIB): Design Guidelines, State-of-the-Art and Future Sustainable Solution <i>Prof. Koushik Biswas, Department of Metallurgical and Materials Engineering, Indian Institute of Technology Kharagpur, India</i>
09:35-09:50	FES3009	Excellent Radiation Resistance of Perovskite Solar Cells <i>Ms. Yu Miyazawa, Space Exploration Innovation Hub Center, Japan Aerospace Exploration Agency, Japan</i>
09:50-10:05	FES3005	Redox-Active Organic Electrodes Capable of Capturing and Releasing CO₂ <i>Dr. Go Iijima, DENSO CORPORATION/Advanced Research and Innovation Center, Japan</i>
10:05-10:20	FES3006	C-Axis Orientation Behaviour of Lanthanum Silicate Oxy-Apatite Thin Film Grown by Magnetron Sputtering <i>Mr. Shigekazu Hidaka, Department of Materials Design Innovation Engineering, Nagoya University, Japan</i>
10:20-10:35	FES3007	Identification and Analysis of Barriers to the Implementation of Solar Photovoltaic Technology in Ghana <i>Mr. Kofi Addo-Nyarko Dokyi, Hiroshima University, Japan</i>
10:35-10:50	Coffee Break	

10:50-11:15	FES3023	Enterprise Energy Requirements Management Towards Digital Sustainability <i>Prof. Shuichiro Yamamoto, Department of Information Technology, IPUT in Nagoya, Japan</i>
11:15-11:40	FES2998	Renewable Energy Policy Planning for Low-Carbon Economy <i>Assoc. Prof. Jan Kazak, Institute of Spatial Management, Wroclaw University of Environmental and Life Sciences, Poland</i>

Oral Session 3: Thermal Energy, Waste to Energy, & Energy Materials

Time: 13:10-17:40, November 23, 2023. (Japan Standard Time UTC+9)

Location: Meeting Room 403, Kunibiki Messe

Session Room Link: <http://www.academicconf.com/teamslink?confname=nefes2023>

Session Chair: Dr. Robin Faust, Chemistry and Chemical Engineering, Chalmers University of Technology, Sweden

13:10-13:35	FES2953	RHF-EAF a Sustainable Route of Steelmaking: An Exergy Analysis <i>Prof. Gour Gopal Roy, Metallurgical & Materials Engineering, Indian Institute of Technology Kharagpur, India</i>
13:35-14:00	FES2984	The Physical Design of the Thorium-Based Molten Salt Fast-Neutron Energy Amplifier <i>Dr. Zuokang Lin, Shanghai Institute of Applied Physics, Chinese Academy of Sciences, China</i>
14:00-14:15	FES2951	Alkali-Induced Corrosion for Alloys Used for Superheaters in Conditions Relevant to Chemical Looping Combustion <i>Dr. Robin Faust, Chemistry and Chemical Engineering, Chalmers University of Technology, Sweden</i>
14:15-14:30	FES2970	Performance Enhancement in Refrigeration and Air-Conditioning Systems Assisted by a Thermal Storage Tank Coupled with a Radiation-Enhanced Heat Pipe <i>Dr. Mingzhen Wang, School of Electrical and Mechanical Engineering, the University of Adelaide, Australia</i>
14:30-14:45	FES2986	Development of Safety Design Technologies for Sodium-Cooled Fast Reactor Coupled to Thermal Energy Storage System with Sodium-Molten Salt Heat Exchanger <i>Dr. Hidemasa Yamano, Japan Atomic Energy Agency, Japan</i>
14:45-15:00	FES3020	Perovskite Micro-Nano Cage SrTiO₃: Formation Mechanism, Vacancy Analysis, and Exciton Dynamics <i>Dr. Chuyu Wang, CAS Key Laboratory of Green Process and Engineering, Institute of Process Engineering, Chinese Academy of Sciences, China</i>
15:00-15:15	FES2954 Online	Electricity, Exergy and Economic Growth in Mozambique <i>Dr. Teles Huo, Department of Economics, Eduardo Mondlane University, Mozambique</i>

15:15-15:30		Coffee Break
15:30-15:55	FES3016	Development of High-Temperature Sensible and Latent Heat Storage Device Using Ceramics <i>Prof. Hideki Kita, Department of Chemical Systems Engineering, Graduate School of Engineering, Nagoya University, Japan</i>
15:55-16:20	FES2979 Online	Charge Transportation from Functional Materials and Structure Designs for High-Voltage Ion Discharge Applications <i>Prof. Jianxiong Zhu, School of Mechanical Engineering, Southeast University, China</i>
16:20-16:45	FES2982 Online	Thermoelectric Refrigerators: A Flexible Solution for Energy Services <i>Dr. Diana Enescu, Valahia University of Targoviste, Romania</i>
16:45-17:10	FES3017 Online	Viability of Liquid Hydrogen in a Hydrogen Economy: Potential and Problems <i>Prof. SA Sherif, Department of Mechanical and Aerospace Engineering, University of Florida, USA</i>
17:10-17:25	FES3013	Performance of Pyrolyzer–Compression Ignition Engine–Generator, and Pyrolyzer–Spark Ignition Engine–Generator Using Waste Medical Gloves as Feedstock <i>Mr. Jonathan Ramirez Medrano, Department of Mechanical Engineering, University of the Philippines Diliman, Philippines</i>
17:25-17:40	FES2999	Waste Heat Utilization of the Alkali Metal Thermal to Electric Converter (AMTEC) <i>Dr. Gang Guo, School of Energy and Environment, Southeast University, China</i>

Part V Conference Venue

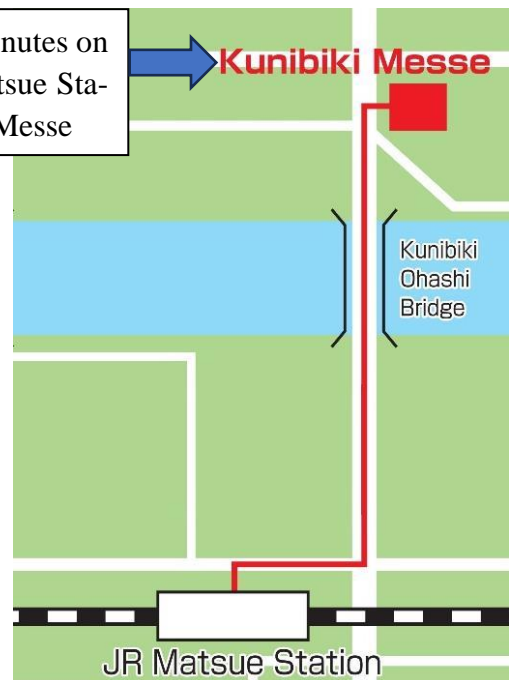
Kunibiki Messe **(Shimane Prefectural Convention Center)**

The biggest convention center in Shimane prefecture, Kunibiki Messe, is located in the center of Matsue City. There are Exhibition Hall (4,018 sqm), Multipurpose Hall (686 sqm), International Conference Hall (510 sheets), and 19 meeting rooms.

Free Wi-Fi is available in building.



It takes only 7 minutes on foot from JR Matsue Station to Kunibiki Messe



Kunibiki Messe

Address: 1-2-1 Gakuen Minami Matsue City, Shimane,
JAPAN 690-0826

Tel: +81+852-24-1111

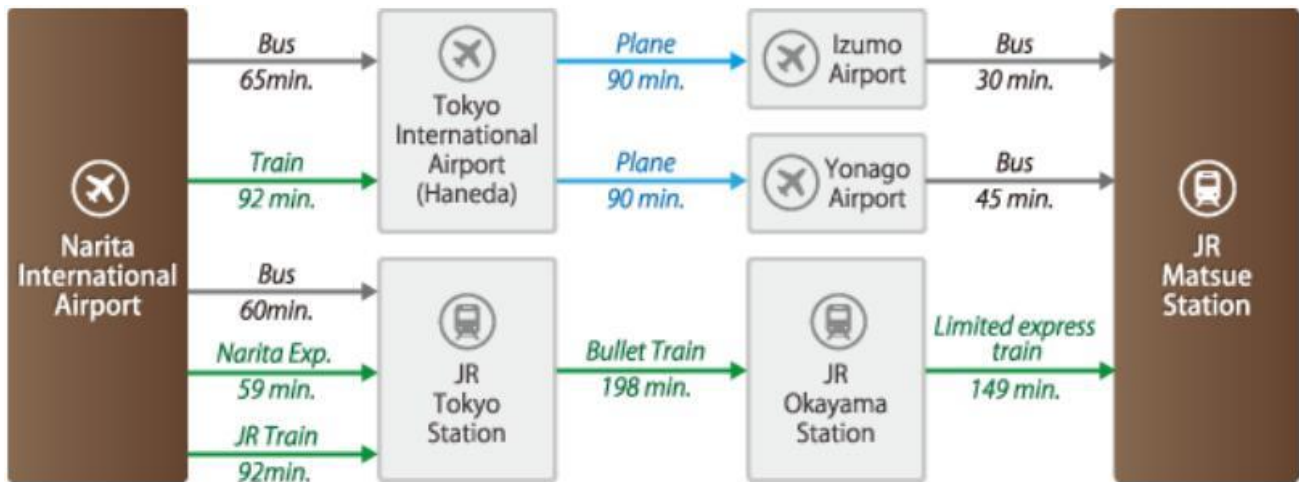
Fax: +81+852-22-9219

E-mail: kunibiki@kunibikimesse.jp

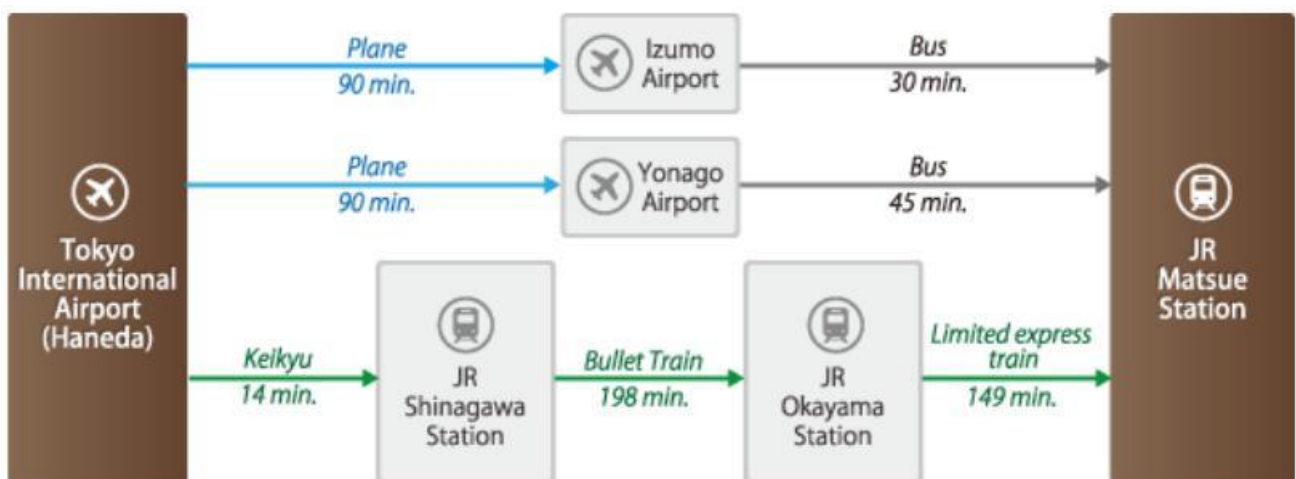
Access to JR Matsue Station:



1. From Narita International Airport



2. From Tokyo International Airport



3. From Kansai International Airport



Part V Acknowledgements

On behalf of the NEFES 2023 Organizing Committee, we would like to take this opportunity to express our sincere gratitude to our participants. We would also like to express our acknowledgements to the Technical Program Committee members who have given their professional guidance and valuable advice as reviewers. For those who contribute to the success of the conference organization without listing the name below, we would love to say thanks as well.

Conference General Chairs

Prof. Qixin Guo, Synchrotron Light Application Center, Saga University, Japan

Prof. Farhad Shahnian, Discipline of Engineering and Energy, Murdoch University, Australia

Advisory Chair

Prof. Soteris A. Kalogirou, Department of Mechanical Engineering and Materials Science and Engineering, Cyprus University of Technology, Cyprus

Technical Program Committee Chairs

Prof. Fuqiang Wang, Harbin Institute of Technology (Weihai), China

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