First Announcement

2023 IERE-CSIRO Brisbane Hydrogen Workshop

Hydrogen in Clean Energy Transition

The Story Bridge in Brisbane, Queensland, Australia

May 22–25, 2023

Brisbane, Australia

Organized by IERE and CSIRO
Hydrogen in Clean Energy Transition

About the theme
The world is seeking for various technological pathways to support the decarbonisation of electricity, transport, and industrial sectors. Hydrogen has emerged as a real opportunity in this context: it can be used as a transport fuel, as a long-term energy storage medium, and as a vector for distribution of renewable energy from those countries with significant resources to those with fewer resources, as well as it can be utilised as a chemical reagent and reductant in various industries. While hydrogen can play a role in supporting electricity grids with greater penetration of variable renewable energy it also offers the opportunity for the electricity sector to be coupled more closely with transport and industry to support significant decarbonisation around the globe.

Who should attend?
The workshop is intended for experts actively involved in the selected themes, from IERE members and non-members, as well as all those interested in the evolution of the electrical power industry and the technology development and business development opportunities associated to this evolution. IERE will invite prominent speakers for keynote speeches.

Who is IERE
IERE is a worldwide, non-profit organisation—established in 1968 as International Electric Research Exchange—serving executives, senior managers, engineers, and researchers who are responsible for electricity and energy related R&D and solutions.

Who is CSIRO
The Commonwealth Scientific and Industrial Research Organisation (CSIRO) is an Australian Government agency responsible for scientific research. CSIRO addresses major scientific and technology challenges across a number of fields, including energy and heavy industry.
Outline Schedule:

Monday, May 22, 2023   Welcome Reception
Tuesday, May 23, 2023   2023 IERE-CSIRO Brisbane Hydrogen Workshop
                        Official Dinner
Wednesday, May 24, 2023 2023 IERE-CSIRO Brisbane Hydrogen Workshop
Thursday, May 25, 2023   Technical Visit (Optional)
                        Social Event (Optional)

Opening Session:

Opening Address: Details to Be Announced
Welcome Address: Details to Be Announced
Keynote Addresses: Details to Be Announced

Technical Session 1: Hydrogen Supply

As hydrogen is an integral part of the transition to clean energy, the reliable supply of hydrogen at scale required to support this transition is critical. The hydrogen supply chain should address not only the scale issues, but also should be sustainable (with low carbon footprint) and commercially affordable. This session will address the topics related to ensuring the hydrogen supply for clean energy transition.

Potential topics include:
1. Biological hydrogen production
2. Biomass and waste conversion
3. Direct hydrogen carrier production
4. Electrolysis
5. Fossil fuel conversion
6. Natural hydrogen
7. Photochemical and photocatalytic processes
8. Thermal water splitting
9. Separation materials and technologies

Technical Session 2: Hydrogen Storage and Distribution

Establishing large-scale hydrogen energy value chains depends on the cost and efficiency of hydrogen storage and transport. This session will explore technological solutions for storage of hydrogen at various scales and applications, such as for grid stabilisation, seasonal energy storage, or long-distance transportation.

Potential topics include:
1. Liquid hydrogen
2. Ammonia
3. LOHCs
4. Underground storage
5. Pipeline storage
6. Pipeline materials and performance
7. Pipeline design and integrity management
8. Pipeline and network operations
9. Hydrogen embrittlement
10. Hydrogen compression

**Technical Session 3: Hydrogen Utilization**

A feature of the emergence of hydrogen energy systems is the diversity of potential application pathways and industrial sectors. Commonly described as ‘Power-to-X’, there are also opportunities for industrial sectors not traditionally associated with hydrogen to play a role in production (such as the waste sector) or utilization for decarbonization (such as agriculture). This session will explore the different ways that various industry sectors can come together to both support ‘hydrogen at scale’ as well as decarbonization of industries such as metals production.

Potential topics include:
1. Electricity—grid balancing & stability, grid integration, stationary fuel cells, distributed power generation, engines & turbines
2. Export potential—shipping technology development, loading/offloading, infrastructure optimisation from production site to port loading site
3. Gas networks and appliances—appliance testing, metering, hydrogen gas separation
4. Heat storage—covers thermal batteries based on metal hydrides
5. Industrial heat processes—steel, cement, metals refining, etc.
6. Industrial feedstock processes—ammonia, synthetic fuels, and methanol production
7. Mobility—mobile fuel cells; onboard storage; refuelling stations; bunkering: land, sea, air mobility forms; vehicle/engine improvements

**Technical Session 4: Cross-Cutting Areas**

Emerging of hydrogen industry also results in several questions to be addressed to support this industry. Understanding the environmental impact of large-scale hydrogen production and transport, as well as ensuring that this new industry will have a social acceptance is very important for the deployment of hydrogen-base technologies. The appropriate policies and regulations, as well as safety standards and certification processes will ensure the smooth transition. It also requires good understanding of the socio-technical risks and techno-economic evaluation of various options.

Potential topics include:
1. Environmental impacts
2. Safety and standards
3. Public acceptance
4. Socio-technical risks
5. Techno-economic evaluation
6. Energy systems integration
7. Sector coupling
8. Supply chain integration
9. Policy and Regulations
10. Hydrogen certification schemes
Program

Program may be subject to change according to the registration of speakers and participants.

**May 22, 2023**
**Welcome Reception**
Registration and Welcome Reception in the evening

**May 23, 2023**
**Opening Session**
Opening Address: To Be Determined
Welcome Speech: To Be Determined
Keynote Speech: To Be Determined

**Technical Session 1: Hydrogen Supply**
**Technical Session 2: Hydrogen Storage and Distribution**

(Poster Session)
To Be Determined

**Official Dinner**

**May 24, 2023**
**Technical Session 3: Hydrogen Utilization**
**Technical Session 4: Cross-Cutting Areas**

Panel Session, Special Session, (Poster Session)
To Be Determined

**May 25, 2023**
**Technical Visit (Optional) a.m.**
Griffith University Sir Samuel Griffith Center H2 Facilities
Details to Be Announced

**Social Event (Optional) p.m.**
Lone Pine Koala Sanctuary and Lunch
Details to Be Announced
Call for Papers (Closed)

<<Abstract Submission: No later than March 17, 2023>>

You are kindly invited to submit abstracts for the Oral Session or Poster Session for the 2023 Brisbane Hydrogen Workshop via E-mail by March 17, 2023 to:

register (at) iere.jp [Please substitute “ (at) ” with “@”]
IERE Central Office
2-11-1 Iwado Kita, Komae-shi, Tokyo 201-8511, Japan
Phone: +81-3-5438-1717 Fax: +81-3-3488-5100

As for the format of the abstract, please refer to “Events” page on IERE website.

https://www.iere.jp/events/workshop/2023-brisbane/forspeakers.html

- You may be asked to change your Oral/Poster depending on the number of abstracts registered.
- Abstract will be uploaded to IERE’s website and open to the public.
- The official language of the IERE Workshop is English.

Note: This workshop has been postponed three times due to COVID-19. Those who have submitted abstracts in the past are required to submit new ones again according to the new session theme.

<< Presentation Files Submission: No later than April 28, 2023>>

You are kindly requested to submit presentation files (PowerPoint) via E-mail by April 28, 2023.

- Presentation file will be uploaded to IERE website and opened to all participants before the Workshop.
- The official language of the IERE Workshop is English.

Also, you are kindly requested to submit Speaker’s Information and Copyright Permission via E-mail by April 28, 2023.
Registration
Total number of participants is limited to 90 persons.
If possible, please register using the method (a) below. If you are unable to use Google Forms due to limitations in your system environment or other reasons, please register using method (b) below.
(a) On-Line Registration (Google Forms)
   URL: https://forms.gle/h75WJ7tberY8W99b9
or
(b) Submit a Registration Form (Format 1) to IERE Central Office via E-mail

Photos and videos taken by IERE at this Event will be used for publication on websites and/or in magazines. Therefore, at the time of your application of the registration, IERE deems you have granted IERE the right to use the above photos or videos.

Registration Fee
The Registration fee will cover attendance at both workshop days (include lunches & refreshments at coffee breaks), welcome reception on May 22, official dinner on May 23 and conference package:

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<th>Category</th>
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Recommended Options

Technical Visit (Optional) May 25 a.m.: Free of Charge
   · Griffith University Sir Samuel Griffith Center H2 Facilities
   *The maximum number of participants is up to 70.
   ** This offer is on a first-come-first-served basis.

Social Event (Optional) May 25 p.m.: AUD 100
   · Lone Pine Koala Sanctuary and Lunch
   *The maximum number of participants is up to 70.
   ** This offer is on a first-come-first-served basis.

Payment
On-Line Credit Card Payment is available.

[On-Line Credit Card Payment]
URL: https://events.csiro.au/2023-IERE-CSIRO
VISA

For participants from some countries needing a VISA to enter Australia, please check the below or consult with travel agent in your country for the details.


If you need an Invitation Letter*, please send ‘Invitation Letter for VISA Request Form’ to IERE Central Office via E-mail by April 14, 2023.

* CSIRO may be able to issue an invitation letter for participants who need to apply for Visa. It may take a few weeks to complete the procedures in CSIRO, so please submit the form as soon as possible.

Disclaimer: CSIRO reserves the right to fulfill or decline, at CSIRO’s discretion, requests for letters of invitation for visa application support purpose.
Conference Venue & Accommodations

Stamford Plaza Brisbane, Queensland
Location: Edward St, Brisbane City, Queensland, Australia
Website: https://www.stamford.com.au/spb
Rooms of the Stamford Plaza at special rate (AUD 230 per night) has been available for conference participants between May 21-26, 2023.

- Visit this website for reservation at special rate.

* Please make reservations as early as possible if you need.
** Please be sure to read cancellation policy of the form before application.

https://goo.gl/maps/3kW4xkBeBaYD7eXz6
# Submission Items & Deadlines

## For Participants [including Speakers]

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The formats (No.1 and 5) can be downloaded from IERE website.  
URL: [https://www.iere.jp/events/workshop/2023-brisbane/register.html](https://www.iere.jp/events/workshop/2023-brisbane/register.html)

## For Speakers

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The formats (No.2 to 4) can be downloaded from IERE website.  
URL: [https://www.iere.jp/events/workshop/2023-brisbane/forspeakers.html](https://www.iere.jp/events/workshop/2023-brisbane/forspeakers.html)

Speakers are kindly requested to submit their Speaker’s Information, Copyright Permission and Presentation Slides (PowerPoint File) **by April 28, 2023.**
## IERE Members List (as of March 1, 2023)

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About IERE
IERE is an organization for exchanging electricity and energy related cutting-edge technologies and R&D information among its members from the electricity & energy supply industry, equipment provider businesses, academic research, government, etc. This unique platform is of great help for executives, senior managers, engineers, and researchers who are responsible for R&D and solutions. It is a worldwide, non-profit organization, established as “International Electric Research Exchange” in 1968.

https://www.iere.jp

About CSIRO
CSIRO is Australia's national science agency, undertaking research in support of Australian industry and the wider community. CSIRO’s purpose is to solve the greatest challenges through innovative science and technology. This is done through our impact science lines of business: Agriculture and Food, Health and Biosecurity, Data61, Energy, Land and Water, Manufacturing, Mineral Resources, and Oceans and Atmosphere, as well as through our National Facilities and Collections lines of business where we manage infrastructure and biological collections for the benefit of research and industry. CSIRO maintains more than 50 sites across Australia and in France, Chile and the United States, employing about 5500 people. We collaborate with research institutes from around the world, and we partner with industry to solve problems and commercialize new technologies.

CSIRO’s Energy research is supporting a transition to a net zero emissions energy future. We do this by focusing on new and emerging renewable energy technologies, including hydrogen energy systems, while supporting the use of gas as a key transition fuel. We develop technologies to help our electricity grid evolve to support these low emissions technologies, and we explore the environmental and economic implications of the energy transition.

https://www.csiro.au/

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Fax: +81-3-3488-5100

https://www.iere.jp

1st issue : March 23, 2023
2nd issue : April 4, 2023