The 2023 Japan Australia China Korea Singapore (JACKS) hydrogen forum

The 2023 Japan-Australia-China-Korea-Singapore (JACKS) hydrogen forum

The program

<table>
<tr><th colspan="2">9th Aug</th></tr>
<tr><td colspan="2">8:00 am – 9:00 am
UTS Aerial Function Centre Foyer
Registration</td></tr>
<tr><td colspan="2">9:15 am – 9:25 am
Theatre room Harris and Jones
Welcome Address

Prof Kate McGrath
Deputy Vice-Chancellor (Research)</td></tr>
<tr><td colspan="2">9:25 am – 11:10 am
Theatre Room Harris and Jones
Plenary Session

9:25 am – 10:05 am
Dr Patrick G. Hartley
CSIRO Hydrogen Industry Mission Leader
Next Steps for Australia’s Hydrogen Industry: The Role of Research, Development & Demonstration

10:05 am - 10:45 am
Prof Chang Won Yoon
POSCO-POSTECH-RIST Integrated Research Center
Pohang University of Science and Technology (POSTECH)
Introduction of POSCO hydrogen business, R&D strategy, and related POSTECH LINC3.0 program

10:45 am – 11:10 am
Catherine Zerger
Branch Head – Hydrogen
Department of Climate Change, Energy, the Environment and Water
The Australian Government’s Hydrogen Policy</td></tr>
<tr><td colspan="2">11:10 am – 11:25 am
Foyer
Morning tea</td></tr>
<tr><td>11:25 am -12:40 pm
Theatre room Harris
Concurrent session 1A – Hydrogen storage

11:25 am -11:50 am
Associate Prof Eun Seon Cho
Korea Advanced Institute of Science and Technology
“Hierarchical Nanostructured Metal Hydrides for Efficient Hydrogen Storage”</td><td>11:25 am -12: 40 pm
Theatre room Jones
Concurrent session 1B – Hydrogen production

11:25 am – 11:50 am
Prof John V Kennedy
National Isotope Centre, New Zealand
“One-step Fabrication of Earth-Abundant Electrocatalysts for Hydrogen Evolution and Ammonia Production”</td></tr>
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11:50 am – 12:15 pm **Prof Takahiro Kondo** University of Tsukuba "Creating new materials for hydrogen generation, storage, and usage" 12:15 pm – 12:40 pm **Prof Valeska Ting** Australian National University "Engineering for extremely high densities of hydrogen in nanoporous materials"	11:50 am – 12:15 pm **Prof Lianzhou Wang** Univerisity of Queensland "Nanomaterials for photoelectrochemical H2 Production" 12:15 pm – 12:40 pm **Prof Jiabao Yi** University of Newcastle "Layered materials for hydrogen production"
12: 40 pm -1:40 pm **Foyer** **Lunch**	
1:40 pm – 3: 20 pm **Theatre Room Harris** **Concurrent session 2A – Hydrogen storage** 1:40 pm – 2:05 pm **Dr Hyangsoo Jeong** Korea Institute of Science and Technology (KIST) "Pushing the limits of sodium borohydride hydrolysis for multiple applications" 2:05 pm – 2:30 pm **Dr Yi-Sheng (Eason) Chen** University of Sydney "Cryogenic Atom Probe Tomography: a high-resolution hydrogen mapping tool" 2:30 pm – 2:55 pm **Dr Wenkai Chang** UNSW, Australia "Lightweight All-Composite Vessels for the Storage of Liquid Hydrogen: Nano-Micromechanical Analysis of Microcracking and Toughening Technologies 2:55 pm – 3:20 pm **Prof Dr. Jihyun Hwang** Korea Institute of Energy Technology "Safety evaluation/demonstration and development of safety standards for the establishment of liquid hydrogen refueling station"	**1:40 pm – 3: 20 pm** **Theatre room Jones** **Concurrent session 2B – Hydrogen production** 1:40 pm – 2:05 pm **Prof Yi-Hsin Liu** National Taiwan Normal University "Conversion Chemistry in 2D Semiconductors: Anisotropic Mesopores, Persistent Radicals, and Photocatalysis" 2:05 pm – 2:30 pm **Prof Chuan Zhao** UNSW, Australia "Challenges and Opportunities for Green Hydrogen Production from Water Electrolysis" 2:30 pm – 2:55 pm **Dr. Thanh Tran-Phu** The Australian National University "Engineering Scalable Electrocatalysts for Affordable Production of Green Hydrogen & E-Fuels" 2:55 pm – 3:20 pm **Prof Yuan Chen** University of Sydney, "Applications of Carbon co-products from clean hydrogen production via methane pyrolysis"
3:20 pm – 3: 35 pm **Foyer** **Afternoon tea**	
3:35 pm – 5: 15 pm **Theatre room Harris** **Concurrent session 3A – Hydrogen storage** 3:35 pm – 4:00 pm **Dr Hajime Kawanami** National Institute of Advanced Industrial Science and Technology	**3:35 pm – 5: 15 pm** **Theatre room Jones** **Concurrent session 3B – Hydrogen production** 3:35 pm – 4:00 pm **Prof Kazuhiro Takanabe** The University of Tokyo

"High-pressure Hydrogen Production from Formic Acid" 4:00 pm – 4:25 pm **Dr Yong Zhao** CSIRO "Efficient CO2-to-Multicarbon Conversion in Strong Acid" 4:25 pm – 4:50 pm **Dr Srikanth Mateti** Deakin University "Solid-stage storage of hydrogen: a sustainable method" 4:50 pm – 5:15 pm **Dr Christian H Hornung** CSIRO "Catalytic Static Mixers - a new 3D printed structured catalyst platform for hydrogenations and dehydrogenations"	"Challenges towards innovative concepts of electrolysis technology for sustainable development" 4:00 pm – 4:25 pm **Prof Qin Li** Griffith University "Environmental-friendly quantum materials for solar-driven hydrogen production" 4:25 pm – 4:50 pm **Prof Yijao Jiang** Macquarie University "Catalytic upcycling of biosolids and mixed waste plastics into hydrogen and carbon-based products" 4:50 pm – 5:15 pm **Prof Hongqi Sun** The Univeristy of Western Australia "Strategies for improving heterogeneous catalytic solar-to-hydrogen conversions"
5:30 pm – 8:00 pm **Theatre Room Thomas and Broadway** **Conference dinner**	

10th Aug	
9:00 am -10: 40 am **Threatre room Harris** **Concurrent session 4A – Hydrogen applications** 9:00 am – 9:25 am **Prof Assaad Masri** University of Sydney "On the peculiarities of hydrogen combustion" 9:25 am – 9:50 am **Prof Yansong Shen** UNSW, Australia "Hydrogen generation, storage and use in steel industry: a reacting flow perspective" 9:50 am – 10:15 am **Prof Evan Gray** Griffith University "Hydrogen-based microgrids" 10:15 am – 10:40 am **Prof Ho Kyong Shon** University of Technology Sydney	**9:00 am -10: 40 am** **Threatre room Jones** **Concurrent session 4BA – Hydrogen production** 9:00 am – 9:25 am **Assocaite Prof Andrey Lyalin** Hokkaido University "Computational design of alternative catalysts for hydrogen/oxygen energy conversion cycle" 9:25 am – 9:50 am **Prof Gang Li** Melbourne University "Thin Air Fuels - Hydrogen Production from the Air" 9:50 am – 10:15 am **Prof Yi Jia** Zhejiang University of Technology "Defect Engineering for Hydrogen Related Materials Design" 10:15 am – 10:40 am **Prof Siva Karturi** Australian National University

"Hydrogen Production from Water Industries for a Circular Economy"	Advanced Semiconductor and Catalytic Materials for Green Hydrogen Generation
10:40 am – 10:55 am **Foyer** **Morning tea**	
10:55 am -12:10 pm **Theatre room Harris** **Concurrent session 5A – Hydrogen applications** 10:55 am – 11:20 am **Dr Quentin Meyer** UNSW "How to make hydrogen fuel cells cheaper and more efficient" 11:20 am – 11:45 am **Prof Yuerui (Larry) Lu** Australian National University Hydrogen Storage in Emerging Layered Materials	**10:55 am -12: 10 pm** **Theatre room Jones** **Concurrent session 5B – Hydrogen production** 10:55 am – 11:20 am **Prof Guoxiu Wang** University of Technology Sydney "Single atom catalysts for hydrogen production and hydrogen fuel cells" 11:20 am – 11:45 am **Dr John Chiefari** CSIRO "H_2 Generation from hydrogen carriers using 3D supported catalysis in flow reactors – A new paradigm for the H2 economy"
11: 45 am -12:45 pm **Foyer** **Lunch**	
12:45 pm – 2: 25 pm **Theatre room Jones and Harris** **Plenary session** 12:45 pm – 1:25 pm **Dr Yuichiro Himeda** National Institute of Advanced Industrial Science and Technology, Hydrogen Production from formic Acid Catalyzed by Homogeneous Iridium Complexes 1:25 pm – 1:45 pm **Justin O'Connor** Senior Project Officer, Hydrogen Strategy NSW Hydrogen Strategy 1:45 pm – 2:25 pm **Prof Ouyang Liuzhang** South China University of Technology Hydrolysis and Regeneration of Borohydrides via using Mg-based Materials	
2:25 pm – 2:40 pm **Foyer** **Afternoon tea**	
2:40 pm – 5:30 pm **Virtual Sessions from China and Singapore** **Theatre Room Jones and Harris** 2:40 pm – 3:00 pm **Prof Teng He** Dalian Institute of Chemical Physics Chinese Academy of Sciences. "Metalorganic compounds for hydrogen storage and ion conduction"	

3:00 pm – 3:20 pm **Prof Li Hai-Wen** Hefei General Machinery Research Institute “Thermodynamic destabilization of MgH2 for hydrogen storage” 3:20 pm – 3:40 pm **Prof Zhigang Hu** Shanghai Jiao Tong University “Modulated hydrothermal synthesis of MOFs for adsorptive hydrogen storage” 3:40 pm – 4:00 pm **Prof Yigang Yan** Sichuan University “Solid-state Hydrogen Storage Technology and the Industrial Applications” 4:00 pm – 4:20 pm **Prof Guanglin Xia** Fudan University “Solar-Driven Hydrogen Storage of Metal Hydrides” 4:20 pm – 4:40 pm **Shivaprakash Rao** SigmaViridis “Building the Hydrogen Economy: Enhancing Trade through Efficient Regional Hydrogen Energy Supply Chain Networks” 4:40 pm – 5:00 pm **Prof Iftekhar A Karimi** National University of Singapore “Colourful hydrogen for deep decarbonization” 5:00 pm – 5:20 pm **Dr Yuanfang Wu** General Research Institute for Nonferrous Metals “Metal hydride hydrogen compression system”
5:20 pm – 5:30 pm
Wrap up