

EF4 2021 Conference Program

Start	Day 1	
09:00 - 10:00 am	Welcome and Opening speech - Mr Grant King (UNSW & Climate Change Authority)	
	PT1: Artificial photosynthesis using powdered photocatalyst materials - Prof. Akihiko Kudo (Tokyo Univ of Science) Chair: Prof Rose Amal	
LINK	Join Opening and Plenary 1	
10:00 - 10:30 am	Morning Tea	
	Sessions (H2 Generation) - Chair: A/Prof Jason Scott	Sessions (H2 Carriers) - Chair: Dr Tze Hao Tan
LINK	Join H2 Generation-1 Session	Join H2 Carriers -1 Session
10.30 am - 12.40 pm	KT1: High efficiency direct solar hydrogen generation - Prof Kylie Catchpole (ANU)	KT2: Towards Solar Fuels - Hydrogen and Ammonia - Prof Doug Macfarlane (Monash Univ)
	IT1: Solar Thermochemical Water Splitting Cycle with a Particle Reactor - Prof Tatsuya Kodama (Niigata Univ., Japan)	IT5: Process considerations for electrochemically driven green ammonia and carbon negative materials - Dr Jessica Allen (Univ of Newcastle)
	IT2: Advanced Semiconductor and Catalytic Materials for Direct Solar Hydrogen Generation - Dr Siva Karuturi (ANU)	IT6: Amine-borane systems featuring room temperature dehydrogenation - A/Prof Zhenguo Huang (UTS)
	IT3: Photoelectrochemical Applications of Chalcopyrite and Kesterite Compound Thin Films - Dr Shigeru Ikeda (Konan Univ, Japan)	IT7: Methane as renewable energy carrier - Dr Paul Feron (CSIRO)
	IT4: Photocatalysts for H2 Production Based on Metal Clusters as Co-Catalysts - Prof Gunther Andersson (Flinders Univ)	NT4 Efficient Solar-to-Hydrogen Conversion Process enabled by Photovoltaic Electrolysis - Dr Xunyu Lu (UNSW)
	IT15: Solid oxide electrolyzers: Efficient technology for utilization and transportation of renewable energy in form of value-added chemicals and fuels - Dr Gupreet Kaur (CSIRO)	
12:40 - 13:40 pm	Lunch	
	Sessions (H2 Carriers) - Chair: Prof Chuan Zhao	Sessions (H2 Storage) - Chair: Prof Francois Aguey Zinsou
LINK	Join H2 Carriers-2 Session	Join H2 Storage Session
13:40 - 15:20 pm	KT3: Towards sustainable electrosynthesis of hydrogen and ammonia - A/Prof Alexandr Simonov (Monash Univ)	KT4: Is there a role for metal-hydride hydrogen storage in the developing hydrogen economy? - Prof Evan Gray (Griffith Univ)
	IT9: Hierarchically structured catalysts for sustainable energy production - Prof Adam Lee (RMIT)	NT3: Options for Underground Storage of Hydrogen in Australia - Dr Jonathan Ennis-King (CSIRO)
	IT10: Controlling electrolyser flooding at high-current density in electrochemical CO2 conversion to CO and ethylene - Dr Thomas Rufford (Univ of Queensland)	IT12: MBNH materials for solid-state hydrogen storage – Focus on alkali and alkaline-earth hydrazinidoboranes - Prof Umit Demirci (Univ of Montpellier, France)
	IT22: Heterogeneous Molecular Electrocatalysts for Carbon Dioxide Reduction in Water - Dr Yijiao Jiang (Macquarie Univ)	KT5: Hydrogen Generation and Storage: from Materials to Components - Prof Thomas Klassen (Helmholtz-Zentrum Geesthacht)

	<p>IT11: Pathways to light assisted CO2 activation and potential application in solar thermal carbon capture and utilisation - Dr Tze Hao Tan (UNSW)</p>
<p>15:20 - 16:00 pm</p>	<p style="text-align: center;">Afternoon Tea</p>
<p>16:00 - 17:00 pm</p>	<p>PT2: A personal perspective into the catalysts for hydrogen production - Prof Paolo Fornasiero (Univ of Trieste, Italy) - Chair: Dr Emma Lovell</p>
<p>LINK</p>	<p style="text-align: center;"><u>Join Plenary 2 Session</u></p>
<p>17:00 - 18:00 pm</p>	<p style="text-align: center;"><u>Link to Poster Session and Virtual Networking (via Wonder.me) https://bit.ly/2YKggEX</u></p>

DAY 2		
Welcome + House Keeping		
9:00 - 9:50 am	PT3: Sunlight-Driven Hydrogen Formation by Membrane-Supported Photoelectrochemical Water Splitting - Prof Nathan Lewis (Caltech) Chair: A/Prof Jason Scott	
LINK	Join Plenary 3 Session	
9:50 - 10:30 am	Morning tea	
10:30 - 11.15am	PT4: By passing wires - Monolithic Integrated Devices for Solar Driven Hydrogen Production and Solar Batteries - Prof Anita Ho-Baillie (Sydney University) Chair: Prof Lianzhou Wang	
LINK	Join Plenary 4 Session	
	Sessions (H2 Generation) - Chair: Dr Xunyu Lu	Sessions (H2 Applications) Chair: Dr Alex Simonov
LINK	Join H2 Generation-2 Session	Join H2 Applications Session
11:15am - 13:05pm	KT6: Solar Fuels from Photocatalysis - A/Prof Yunhau Ng (City University of Hongkong)	KT7: Emerging roles for hydrogen in decarbonizing heavy industrial processes - Prof Gus Nathan (Univ of Adelaide)
	IT13: A New Class of Bubble Free Water Electrolyzer that is Highly Energy Efficient - Prof Gerry Sweigers (Univ of Wollongong)	IT17: H2Xport Project – A Pilot Scale Renewable Hydrogen Plant - A/Prof Jonathan Love (QUT)
	IT14: Optimising Biohydrogen Production in Bacteria using Synthetic Biology - Prof Robert Willows (Macquarie Univ)	IT20: A proton flow reactor system for electrical energy storage and bulk export of hydrogen as hydrogenated carbon-based material - Prof John Andrews (RMIT)
	IT16: Understanding Hydrogen Autoignition and Knocking in Spark-Ignition IC Engines- Dr Farzad Poursadegh (Melbourne Energy Institute)	IT21: Reaction mechanism of proton storage in a proton flow reactor system: insights from DFT calculations - Prof Michelle Spencer (RMIT)
	NT1: 2D materials-based hybrid electrocatalysts for hydrogen generation - Dr Zhaojun Han (UNSW)	NT6 Natural hydrogen seeps – implications for underground storage - Dr Ema Frey (CSIRO)
13:05 - 14:05 pm	Lunch	
	Sessions (Green e) Chair: A/Prof Yunhau Ng	Sessions (H2 transitions) - Chair: Dr Kathy Witt
LINK	Join Green Electron Session	Join H2 Transition Session
14:05 - 15:35pm	KT9: Hybrid Perovskite Quantum Dots for High Efficiency Solar Cells - Prof Lianzhou Wang (Univ of Queensland)	KT10: What part can coal-derived hydrogen play in Victoria's Energy Future? - Dr Nick Burke (Department of Jobs, Precincts and Regions, Victoria govt)
	IT18: The multi efforts behind solar cell efficiencies: the fundamentals, characterisation and materials engineering - Dr Hieu Nguyen (ANU)	NT2 Hydrogen Industry Progress Indicators: A Data Framework for tracking the Hydrogen Value Chain - Dr Lavinia Poruschi (CSIRO)
	IT19: Design of Green Kesterite for Solar Photovoltaic and Photoelectrochemical CO2 reduction - A/Prof Xiaojing Hao (UNSW)	NT7 Delivering Hydrogen Transport Solutions Fit for the Future - Mr Jorge Martin Gistau (Ricardo Plc)
	NT8 Development of A PV/Thermal Solar Collector for Transforming Waste Sugar to Hydrogen - Dr Qiyuan Li (UNSW)	NT5 Public Perceptions Towards Hydrogen Energy Technologies Across the Value Chain - Dr Mitchell Scovell (CSIRO)
15:35 - 16:00pm	Afternoon tea	
16:00 - 17:00 pm	PT5: FeTi-based intermetallic compounds for large-scale stationary hydrogen storage - Dr Fermin Cuevas (CNRS, France) Chair: Prof Francois Aguey Zinsou	
	Poster Award presentation	
LINK	Join Plenary 5 and Poster Award Ceremony	

DAY 3	
9:00 - 10:25 am	Welcome to Day 3 - Prof Rose Amal
	Unlocking Australia's hydrogen economy - Dr Alan Finkel - 20 min
	The role of hydrogen in achieving net zero at the least possible cost for the economy - Mr. John O'Brien (Deloitte) ~ 20min
	Hydrogen industry and the public - Prof Peta Ashworth (UQ) ~ 20min
	Plenary Q&A (15 min) - Moderator: Ms Justine Jarvinen
LINK	Join Industry Plenary Session
10:25	Morning Tea (15min)
10:40 am - 12:45 pm	Unanticipated problems in H₂ Economy - Chair:A/Prof Iain Macgill ~ 5min
	Transitioning from Fossil-Fuels to Hydrogen - Dr. Bart Kolodziejczyk (Fortescue Metal Group) ~15min
	NSW Hydrogen Strategy – pathway to a NSW Hydrogen economy - Mr Tim Stock (NSW Dept of Planning, Industry and Environment) ~ 15min
	Financing Green Hydrogen: Global Demand for ESG-Focused Green Hydrogen Solutions- Ms Anne Foster (Quinbrook Infrastructure) ~ 15min
	Reindustrialising the Hunter - Hunter Hydrogen Network - Ms Simone O'Sullivan (Energy Estate) ~ 15min
	Renewable Energy at Oil and Gas Scale - Mr Andrew Dickson (CWP Global) ~ 15min
	Challenges and opportunities for treatment of water for hydrogen production- Dr. Matthew Brannock (GHD) - 15 min
	Panel Discussion on Requirement for Hydrogen Enabling Policies: 30 min
LINK	Join the Unanticipated problems in H2 Economy and panel discussion
12:45 - 14:00pm	LUNCH
14:00 - 15:45pm	Unanticipated problems in Hydrogen Project Development - Chair: Prof Greg Leslie ~ 5min
	Experience in scaling up Renewable Ammonia Plants - Mr Alex Trajkov (H2Utility)
	Challenges for people to accept low carbon carrier, financing - Mr Michael van Baarle (ABEL Energy)
	Challenges in Designing Hydrogen Systems - Mr Daniel Krosch (GPA Engineering)
	How can we use Hydrogen to iteratively decarbonise - Mr Timothy Meyers (MAN Energy Solutions)
	Commercialisation and integration challenges of new hydrogen technologies- Mr Greg Bowyer (GHD)
Panel Discussion ~25 min	
LINK	Join the Unanticipated problems in Hydrogen Project Development
15:45 - 16:00 pm	Afternoon tea ~ 15 min
16:00 - 17:30pm	Exploring Opportunities for renewable H₂ export from Australia to Germany- HySupply (Ambassador Philip Green OAM, Ambassador Dr Thomas Fitschen, Prof Robert Schloghl, Mr Holger Losch and Dr Will Rayward Smith - Chair & Moderator: Prof Sami Kara, Dr Rahman Daiyan/Prof Iain MacGill
	Closing - Prof Francois Aguey Zinsou
LINK	Join the HySupply Webinar and Closing Remarks