

## EF4 2021 Conference Program

Start	Day 1	
9:00	<b>Welcome and Opening speech</b> - Mr Grant King (UNSW & Climate Change Authority)	
9.15	<b>PT1: Artificial photosynthesis using powdered photocatalyst materials</b> - Prof. Akihiko Kudo (Tokyo Univ of Science) Chair: Prof Rose Amal	
9.55	Plenary Q&A	
10:00	Morning Tea	
	<b>Sessions (H2 Generation)</b> - Chair: A/Prof Jason Scott	<b>Sessions (H2 Carriers)</b> - Chair: Dr Tze Hao Tan
10.30	<b>KT1: High efficiency direct solar hydrogen generation</b> - Prof Kylie Catchpole (ANU)	<b>KT2: Towards Solar Fuels - Hydrogen and Ammonia</b> - Prof Doug Macfarlane (Monash Univ)
11:00	<b>IT1: Solar Thermochemical Water Splitting Cycle with a Particle Reactor</b> - Prof Tatsuya Kodama (Niigata Univ., Japan)	<b>IT5: Process considerations for electrochemically driven green ammonia and carbon negative materials</b> - Dr Jessica Allen (Univ of Newcastle)
11:20	<b>IT2: Advanced Semiconductor and Catalytic Materials for Direct Solar Hydrogen Generation</b> - Dr Siva Karuturi (ANU)	<b>IT6: Amine-borane systems featuring room temperature dehydrogenation</b> - A/Prof Zhenguang Huang (UTS)
11:40	<b>IT3: Photoelectrochemical Applications of Chalcopyrite and Kesterite Compound Thin Films</b> - Dr Shigeru Ikeda (Konan Univ, Japan)	<b>IT7: Methane as renewable energy carrier</b> - Dr Paul Feron (CSIRO)
12:00	<b>IT4: Photocatalysts for H2 Production Based on Metal Clusters as Co-Catalysts</b> - Prof Gunther Andersson (Flinders Univ)	<b>NT4 Efficient Solar-to-Hydrogen Conversion Process enabled by Photovoltaic Electrolysis</b> - Dr Xunyu Lu (UNSW)
12:20	<b>IT15: Solid oxide electrolyzers: Efficient technology for utilization and transportation of renewable energy in form of value-added chemicals and fuels</b> - Dr Gupreet Kaur (CSIRO)	
12:40	Lunch	
	<b>Sessions (H2 Carriers)</b> - Chair: Prof Chuan Zhao	<b>Sessions (H2 Storage)</b> - Chair: Prof Francois Aguey Zinsou
13:40	<b>KT3: Towards sustainable electrosynthesis of hydrogen and ammonia</b> - A/Prof Alexandr Simonov (Monash Univ)	<b>KT4: Is there a role for metal-hydride hydrogen storage in the developing hydrogen economy?</b> - Prof Evan Gray (Griffith Univ)
14:10	<b>IT9: Hierarchically structured catalysts for sustainable energy production</b> - Prof Adam Lee (RMIT)	<b>NT3: Options for Underground Storage of Hydrogen in Australia</b> - Dr Jonathan Ennis-King (CSIRO)
14:30	<b>IT10: Controlling electrolyser flooding at high-current density in electrochemical CO2 conversion to CO and ethylene</b> - Dr Thomas Rufford (Univ of Queensland)	<b>IT12: MBNH materials for solid-state hydrogen storage – Focus on alkali and alkaline-earth hydrazinidoboranes</b> - Prof Umit Demirci (Univ of Montpellier, France)
14:50	<b>IT22: Heterogeneous Molecular Electrocatalysts for Carbon Dioxide Reduction in Water</b> - Dr Yijiao Jiang (Macquarie Univ)	<b>KT5: Hydrogen Generation and Storage: from Materials to Components</b> - Prof Thomas Klassen (Helmholtz-Zentrum Geesthacht)
15:10	<b>IT11: Pathways to light assisted CO2 activation and potential application in solar thermal carbon capture and utilisation</b> - Dr Tze Hao Tan (UNSW)	
15:30	Afternoon Tea	
16:00	<b>PT2: A personal perspective into the catalysts for hydrogen production</b> - Prof Paolo Fornasiero (Univ of Trieste, Italy) - Chair: Dr Emma Lovell	
16:40	Plenary Q&A	
16:45	Poster Session and Virtual Networking (via Wonder.me)	

DAY 2	
9:00	Welcome + House Keeping
9:05	<b>PT3: Sunlight-Driven Hydrogen Formation by Membrane-Supported Photoelectrochemical Water Splitting - Prof Nathan Lewis (Caltech) Chair: A/Prof Jason Scott</b>
9:45	Plenary Q&A
9:50	Morning tea
10:30	<b>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</b>
11:10	Plenary Q&A
	<b>Sessions (H2 Generation) - Chair: Dr Xunyu Lu</b>
	<b>Sessions (H2 Applications) Chair: Dr Alex Simonov</b>
11:15	<b>KT6: Solar Fuels from Photocatalysis - A/Prof Yunhau Ng (City University of Hongkong)</b>
11:45	<b>IT13: A New Class of Bubble Free Water Electrolyzer that is Highly Energy Efficient - Prof Gerry Sweigers (Univ of Wollongong)</b>
12:05	<b>IT14: Optimising Biohydrogen Production in Bacteria using Synthetic Biology - Prof Robert Willows (Macquarie Univ)</b>
12:25	<b>IT16: Understanding Hydrogen Autoignition and Knocking in Spark-Ignition IC Engines- Dr Farzad Poursadegh (Melbourne Energy Institute)</b>
12:45	<b>NT1: 2D materials-based hybrid electrocatalysts for hydrogen generation - Dr Zhaojun Han (UNSW)</b>
13:05	Lunch
	<b>Sessions (Green e) Chair: A/Prof Yunhau Ng</b>
	<b>Sessions (H2 transitions) - Chair: Dr Kathy Witt</b>
14:05	<b>KT9: Hybrid Perovskite Quantum Dots for High Efficiency Solar Cells - Prof Lianzhou Wang (Univ of Queensland)</b>
14:35	<b>IT18: The multi efforts behind solar cell efficiencies: the fundamentals, characterisation and materials engineering - Dr Hieu Nguyen (ANU)</b>
14:55	<b>IT19: Design of Green Kesterite for Solar Photovoltaic and Photoelectrochemical CO2 reduction - A/Prof Xiaojing Hao (UNSW)</b>
15:15	<b>NT8 Development of A PV/Thermal Solar Collector for Transforming Waste Sugar to Hydrogen - Dr Qiyuan Li (UNSW)</b>
15:35	Afternoon tea
16:00	<b>PT5: FeTi-based intermetallic compounds for large-scale stationary hydrogen storage - Dr Fermin Cuevas (CNRS, France) Chair: Prof Francois Aguey Zinsou</b>
16:40	Plenary Q&A
16:45	Poster Award presentation

DAY 3	
9:00	<b>Welcome to Day 3</b> - Prof Rose Amal
9:10	<b>Unlocking Australia's hydrogen economy</b> - Dr Alan Finkel - 20 min
9:30	<b>The role of hydrogen in achieving net zero at the least possible cost for the economy</b> - Mr. John O'Brien (Deloitte) ~ 20min
9:50	<b>Hydrogen industry and the public</b> - Prof Peta Ashworth (UQ) ~ 20min
10:10	<b>Plenary Q&amp;A (15 min)</b> - Moderator: Ms Justine Jarvinen
10:25	Morning Tea (15min)
10:40	<b>Unanticipated problems in H<sub>2</sub> Economy - Chair:A/Prof Iain Macgill ~ 5min</b>
10:45	<b>Transitioning from Fossil-Fuels to Hydrogen</b> - Dr. Bart Kolodziejczyk (Fortescue Metal Group) ~15min
11:00	<b>NSW Hydrogen Strategy – pathway to a NSW Hydrogen economy</b> - Mr Tim Stock (NSW Dept of Planning, Industry and Environment) ~ 15min
11:15	<b>Financing Green Hydrogen: Global Demand for ESG-Focused Green Hydrogen Solutions</b> - Ms Anne Foster (Quinbrook Infrastructure) ~ 15min
11:30	<b>Reindustrialising the Hunter - Hunter Hydrogen Network</b> - Ms Simone O'Sullivan (Energy Estate) ~ 15min
11:45	<b>Renewable Energy at Oil and Gas Scale</b> - Mr Andrew Dickson (CWP Global) ~ 15min
12:00	<b>Challenges and opportunities for treatment of water for hydrogen production-</b> Dr. Matthew Brannock (GHD) - 15 min
12:15	<b>Panel Discussion on Requirement for Hydrogen Enabling Policies: 30 min</b>
12:45	Lunch ~ 1hr
14:00	<b>Unanticipated problems in Hydrogen Project Development - Chair: Prof Greg Leslie ~ 5min</b>
14:05	<b>Experience in scaling up Renewable Ammonia Plants</b> - Mr Alex Trajkov (H2Utility)
14:20	<b>Challenges for people to accept low carbon carrier, financing</b> - Mr Michael van Baarle (ABEL Energy)
14:35	<b>Challenges in Designing Hydrogen Systems</b> - Mr Daniel Krosch (GPA Engineering)
14:50	<b>How can we use Hydrogen to iteratively decarbonise</b> - Mr Timothy Meyers (MAN Energy Solutions)
15:05	<b>Commercialisation and integration challenges of new hydrogen technologies-</b> Mr Greg Bowyer (GHD)
15:20	<b>Panel Discussion ~25 min</b>
15:45	Afternoon tea ~ 15 min
16:00	<b>Exploring Opportunities for renewable H<sub>2</sub> export from Australia to Germany- HySupply</b> (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
17:30	<b>Closing Remarks</b> - Prof Francois Aguey Zinsou