

MEI Symposium 2020

Friday 11th December 2020



Plenary Session

Link: [Online Zoom link 1](#)

9:00am – 9:05am **Welcome and introduction**
Prof. Moira O'Bryan, *Dean of the Faculty of Science, The University of Melbourne*

9:05am – 10:00am **Pivoting to the future: the 2020 Low Emissions Technology Statement**
Dr. Alan Finkel AO, *Australia's Chief Scientist*
Moderated by Prof. Michael Brear, *Director, Melbourne Energy Institute, The University of Melbourne*

10:00am – 10:15am **Break** 15 mins

Program Stream 1

Stream 1 (AM) **Energy Systems** – moderated by Prof. Pierluigi Mancarella Link: [Online Zoom link 2](#)

10:15am – 10:55am **Why do we not know what the future energy system will look like, and how do we get there?**
Prof. Mark O'Malley, *University College Dublin, Ireland*

10:55am – 11:15am **Risk-aware planning of low-carbon grids under large-scale uncertainty**
Sebastian Puschel, *PhD Candidate, Electrical and Electronic Engineering, The University of Melbourne*

11:15am – 11:35am **Managing residential prosumers with operating envelopes: the distributed energy market pilot project**
Dr. Michael Liu, *Research Fellow, Electrical and Electronic Engineering, The University of Melbourne*

11:35am – 11:50am **Morning break** 15 mins

11:50am – 12:10pm **Framing prosumer value streams: adoption pathways for standalone PV-battery systems, VPPs and distribution-scale batteries**
Kelvin Say, *Energy Transition Hub, The University of Melbourne*

12:10pm – 12:30pm **Techno-economic modelling and assessment of the Fishermans Bend Smart Thermal Loop**
Andrea Vecchi, *PhD Candidate, University of Birmingham and The University of Melbourne*

12:30pm – 12:50pm **Announcement of presentation winner and closing remarks**
Prof. Pierluigi Mancarella, *Energy Systems Program Leader, Melbourne Energy Institute, The University of Melbourne*

12:50pm – 1.45pm **Lunch break** 55 mins

Stream 1 (PM) **Environment and Resources** – moderated by Dr. Robyn Schofield Link: [Online Zoom link 3](#)

1:45pm – 2:25pm **From business as usual to a clean energy transition: how is the private sector responding to climate risk?**
Prof. Jacqueline Peel, *Professor of Law, Melbourne Law School, The University of Melbourne*

2:25pm – 2:45pm **Weather and climate variability and renewables**
Dr. Claire Vincent, *Lecturer, Atmospheric Science Earth Sciences, The University of Melbourne*

2:45pm – 3:05pm **Australia's opportunity: synergies between hydrogen export and domestic energy transition in Australia**
Changlong Wang, *PhD Candidate, The University of Melbourne*

3:05pm – 3:20pm **Afternoon break** 15 mins

3:20pm – 3:40pm **Monitoring methane emissions from space**
Dr. Jeremy Silver, *Research Fellow in Data Science, Mathematics and Statistics, The University of Melbourne*

3:40pm – 4:00pm **Optimal performance of a wind farm and battery in the NEM**
Dr. Mostafa Naemi, *PhD Graduate, The University of Melbourne*

4:00pm – 4:20pm **Announcement of presentation winner and closing remarks**
Dr. Robyn Schofield, *Environment and Resources Program Leader, Melbourne Energy Institute, The University of Melbourne*

End of stream 1

Program Stream 2

Stream 2 (AM) **Power Generation and Transport** – moderated by Prof. Richard Sandberg Link: [Online Zoom link 4](#)

10:15am – 10:55am **Accelerating the path to zero carbon flight**
Prof. Rob Miller FRAeS, *Professor of Aerothermal Technology, Cambridge University*

10:55am – 11:15am **Minimising losses in compressors**
Dr. Jake Leggett, *Research Fellow, Electrical, Mechanical and Infrastructure, The University of Melbourne*

11:15am – 11:35am **A nanoscience-based continuum model for aqueous-electrolyte based supercapacitor**
Peiyao Wang, *PhD Candidate, The University of Melbourne*

11:35am – 11:50am **Morning break** **15 mins**

11:50am – 12:10pm **High-fidelity investigation of surface roughness effects on heat transfer and drag in gas turbines**
Dr. Tom Jelly, *Research Fellow in Fluid Mechanics Mechanical Engineering*

12:10am – 12:30pm **Development of advanced nanocatalysts for energy-efficient CO₂ capture**
Masood Alivand, *PhD Candidate, The University of Melbourne*

12:30pm – 12:50pm **Announcement of presentation winner and closing remarks**
Prof. Richard Sandberg, *Power Generation and Transport Program Leader, Melbourne Energy Institute, The University of Melbourne*

12:50pm – 1.45pm **Lunch break** **55 mins**

Stream 2 (PM) **Hydrogen and Clean Fuels** – moderated by A/Prof. Kathryn Mumford Link: [Online Zoom link 5](#)

1:45pm – 2:25pm **Advancing the export of cleaner energy from Australia**
Prof. Eric May, *CEO and Managing Director, Future Energy Exports CRC*

2:25pm – 2:45pm **Hydrogen production from air**
Dr. Kevin (Gang) Li, *Senior Lecturer, Chemical Engineering*

2:45pm – 3:05pm **An investigation of a directly injected, hydrogen fuelled, heavy duty engine at knock-limited conditions**
Dr. Farzad Poursadegh, *Postdoctoral Research Fellow Mechanical Engineering, The University of Melbourne*

3:05pm – 3:20pm **Afternoon break** **15 mins**

3:20pm – 3:40pm **Molecular driven membranes for clean energy separation**
Dr. Colin Scholes, *Senior Lecturer, Chemical Engineering, The University of Melbourne*

3:40pm – 4:00pm **Compatibility of plastic pipes with future fuels**
Dr. Mohamed Abdellah, *Research Fellow For Future Fuels Compatibility Chemical Engineering, The University of Melbourne*

4:00pm – 4:20pm **Announcement of presentation winner and closing remarks**
A/Prof. Kathryn Mumford, *Hydrogen and Clean Fuels Program Leader, Melbourne Energy Institute, The University of Melbourne*

End of stream 2

Thank you to our MEInetwork20 partners

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