



**U21**

UNIVERSITAS21

U21 ECR  
Workshop 2024  
Inclusive Energy  
Transitions

Monday 8 July - Friday 12 July  
The University of Queensland

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# 01. Welcome



A very warm welcome to the U21 Early Career Workshop on Inclusive Energy Transitions. We are delighted to see such a diverse group of early career researchers assembled from across the network and we thank you for making the journey to Brisbane.

U21 and the UQ team have very much enjoyed working together over the past few months to prepare for this event. It is the first time the event has been held in person since 2019 so it is especially significant for us.

The program has been designed to facilitate understanding on inclusive energy transitions in an interdisciplinary and collaborative setting. We encourage you to engage actively in these sessions and conversations on an issue which is so critical for all our futures.

There is also time in the program to hone your skills as researchers and presenters, network and connect with your peers, in session and socially.

The purpose of the U21 network is to provide opportunities like the ECR workshop for members to connect and collaborate. Make the most of the week together, create your own international networks for new collaborations, and most of all have a marvellous time in Brisbane.

Jenny Dixon,  
U21 Provost

The University of Queensland acknowledges the Traditional Owners and their custodianship of the lands on which we meet. We pay our respects to their Ancestors and their descendants, who continue cultural and spiritual connections to Country. We recognise their valuable contributions to Australian and global society.





## 02. Background

The 2024 theme 'Inclusive Energy Transitions' aims to deepen participants' understanding of ways in which inter-disciplinary research across the social and behavioural sciences, business, economics, and public policy can intersect and support an equitable and inclusive energy transition.

In order to achieve this, the program is designed to support cross-disciplinary knowledge exchange, skills-sharing and networking via small group workshops, lightning talks and poster sessions by ECRs, talks by established researchers, and panel sessions that include international and interdisciplinary perspectives. The workshop will be a unique opportunity for ECRs from across all disciplines to share knowledge, experiences, and current projects from around the world.

Topics may include (but are not limited to):

- The scale and complexity of energy transition pathways
- Evidence-informed policy and engaging with the policy process
- Gender, equality, social inclusion, and socio-economic dependencies
- Bridging perspectives on development challenges and industry-engaged social science
- Market design, regulatory environments, investment and interactions
- Exploring climate security discourses including the resilience of ecosystems
- Psychology and insights from behavioural science to address transition roadblocks
- Public representations, framing of challenges and people as active participants.

In addition to developing specialised knowledge related to the theme, the workshop will also have a strong focus on networking and gaining an international perspective on:

- Funding opportunities including international projects
- Communicating your research
- Connecting to R&D industry and translating research ideas
- Career paths for researchers.

By the end of the workshop, ECRs will have a greater understanding of the challenges and interdisciplinary solutions to the theme, as well as inspiration for opportunities for collaboration within the U21 network.

# 03. Daily schedules

## Day 1 - Monday

Time	Activity	Location
1:00pm	Bus departs hotel	Mecure & Pullman Brisbane, King George Square, Corner Ann & Roma Streets, Brisbane City
1:30pm - 4:30pm	Welcome activity: <a href="#">Lone Pine Koala Sanctuary</a>	708 Jesmond Road, Fig Tree Pocket
4:30pm	Bus to The University of Queensland	
5:00pm - 7:00pm	Welcome reception: with <a href="#">Professor Rachel Parker</a> and <a href="#">Debs McAllister</a>	Patina at Alumni Court Main Dining Room, Q St Lucia campus
7:00pm	Bus returns to the Mecure & Pullman Brisbane Hotel	

### Things to know:

- Lone Pine Koala Sanctuary is an 18-hectare koala sanctuary in the Brisbane suburb of Fig Tree Pocket. Founded in 1927, it is the oldest and largest koala sanctuary of its kind in the world. The park houses approximately 80 species of Australian animals.
- Please remember to bring with you - your water bottle, hat, and sunscreen. However, it is an all-weather sanctuary, with plenty of undercover areas to allow for wet weather.



# Day 2 - Tuesday

Time	Activity	Location
8:00am	Bus departs hotel	Mecure & Pullman Brisbane, King George Square, Corner Ann & Roma Streets, Brisbane City
8:30am - 9:00am	Registration	Global Change Institute, Room 275, UQ St Lucia campus
9:00am - 9:30am	Welcome session: U21 ECR Workshop 2024 with <a href="#">Professor Deborah Terry AC</a> and <a href="#">Mr Brett Lovegrove</a> (including group photo)	Global Change Institute, Room 275, UQ St Lucia campus
9:30am - 10:15am	Keynote presentation: New Zero Australia - pathways to deliver a transition that is unprecedented in scale and pace with <a href="#">Associate Professor Simon Smart</a>	Global Change Institute, Room 275, UQ St Lucia campus
10:15am - 10:45am	Morning Tea	
10:45am - 12:00pm	Panel discussion: Supporting inclusive decision-making and shaping progress With <a href="#">Dr Jennifer Yarnold</a> , <a href="#">Associate Professor Kathy Witt</a> , and <a href="#">Leigh Staines</a>	Global Change Institute, Room 275, UQ St Lucia campus
12:00pm - 1:15pm	Lunch	
1:15pm - 2:45pm	Poster session: Presentations by ECRs facilitated by Caroline Stott and Debs McAllister	Global Change Institute, Room 275, UQ St Lucia campus
2:45pm - 3:15pm	Break	
3:15pm - 4:45pm	Conversations that matter: Lightning talks by ECRs (1/3) facilitated by Caroline Stott and Debs McAllister	Global Change Institute, Room 275, UQ St Lucia campus
4:45pm - 5:00pm	Reflections: Close of day by Caroline Stott	Global Change Institute, Room 275, UQ St Lucia campus
5:00pm	Bus returns to the Mecure & Pullman Brisbane Hotel	
	Free evening: own arrangements for dinner	

# Day 3 - Wednesday

Time	Activity	Location
8:00am	Bus departs hotel	Mecure & Pullman Brisbane, King George Square, Corner Ann & Roma Streets, Brisbane City
9:00am - 9:15am	Welcome: Daily overview by Caroline Stott	Global Change Institute, Room 275, UQ St Lucia campus
9:15am - 10:00am	Keynote: Psychology and insights from behavioural science with <a href="#">Professor Matthew Hornsey</a>	Global Change Institute, Room 275, UQ St Lucia campus
10:00am - 10:30am	Morning Tea	
10:30am - 11:45am	Panel Discussion: Bridging perspectives on development challenges and industry-engaged social science  With <a href="#">Associate Professor Steven Micklethwaite</a> , <a href="#">Associate Professor Kathryn Sturman</a> , and <a href="#">Dr Sandy Worden</a>	Global Change Institute, Room 275, UQ St Lucia campus
11:45am - 1:00pm	Lunch	
1:00pm - 3:00pm	Workshop: Life as an ECR and your development journey with <a href="#">Dr Debbie Roberts</a>	Global Change Institute, Room 275, UQ St Lucia campus
3:00pm - 3:15pm	Afternoon Tea	
3:15pm - 4:00pm	Workshop: Translating and commercialising research for impact with <a href="#">Larry Weng</a>	Global Change Institute, Room 275, UQ St Lucia campus
4:00pm - 5:00pm	Conversations that matter: Lightning talks by ECRs (2/3) facilitated by Caroline Stott and Debs McAllister	Global Change Institute, Room 275, UQ St Lucia campus
5:00pm - 5:15pm	Reflections: Close of day by Caroline Stott	Global Change Institute, Room 275, UQ St Lucia campus
5:15pm	Bus departs for Customs House	
6:15pm - 9:15pm	Workshop Dinner with guest speaker, <a href="#">Professor Paul Harpur OAM</a>	Customs House River Room, 399 Queen St, Brisbane City
9:15pm	Bus returns to the Mecure & Pullman Brisbane Hotel	

# Day 4 - Thursday

Time	Activity	Location
8:00am	Bus departs hotel	Mecure & Pullman Brisbane, King George Square, Corner Ann & Roma Streets, Brisbane City
9:00am - 9:15am	Welcome: Daily overview by Caroline Stott	Global Change Institute, Room 275, UQ St Lucia campus
9:15am - 10:15am	Conversations that matter: Lightning talks by ECRs (3/3) facilitated by Caroline Stott and Debs McAllister	Global Change Institute, Room 275, UQ St Lucia campus
10:15am - 10:45am	Morning Tea	
10:45am - 12:00pm	Group Activity: Preparation with <a href="#">Tammy MacGinley</a> and Caroline Stott	Global Change Institute, Room 275, UQ St Lucia campus
12:00pm - 1:15pm	Lunch	
1:15pm - 3:00pm	Group Activity: Presentations with Tammy MacGinley and Caroline Stott	Global Change Institute, Room 275, UQ St Lucia campus
3:00pm - 3:15pm	Afternoon Tea	
3:15pm - 4:15pm	Reflections: Close of day and workshop by Caroline Stott	Global Change Institute, Room 275, UQ St Lucia campus
4:15pm	Bus departs for UQ Brisbane City	
5:00pm - 7:00pm	Closing Reception: Certificate Presentation with <a href="#">Professor Jenny Dixon</a> and Brett Lovegrove	UQ Brisbane City The Atrium, 308 Queen Street
7:00pm	Bus returns to the Mecure & Pullman Brisbane Hotel	



# Day 5 - Friday

Time	Activity	Location
7:00am	Bus departs hotel	Mecure & Pullman Brisbane, King George Square, Corner Ann & Roma Streets, Brisbane City
7:00am - 7:40am	Bus to SeaLink Ferry Terminal	
7:40am - 8:00am	Board the SeaLink Ferry	12 Emmett Drive, Cleveland
8:00am - 8:45am	SeaLink Ferry to <a href="#">Minjerribah (North Stradbroke Island)</a>	
8:45am - 8:55am	Disembark the Sealink Ferry	Junner Street, Dunwich
8:55am - 9:00am	Bus to Lake Bummiera (Brown Lake)	
9:00am - 9:20am	Opportunity to view <a href="#">Lake Bummiera (Brown Lake)</a>	Lake Bummiera (Brown Lake)
9:20am - 9:25am	Bus to Minjerribah Ganaba Centre (Place to Hear, Think and Understand)	
9:25am - 10:30am	Welcome to Country and presentation by <a href="#">Cameron Costello</a> , proud Traditional Owner from the Quandamooka community, followed by morning tea	Minjerribah Ganaba Centre, 100 East Coast Road, Dunwich
10:30am - 10:35am	Bus to Dunwich township centre	
10:35am - 11:10am	Opportunity to explore the art galleries and stores	Ballow Road, Dunwich
11:10am - 11:30am	Bus to Point Lookout	
11:30am - 12:15pm	Opportunity to explore <a href="#">Gorge Walk</a>	Mooloomba Road, Point Lookout
12:15pm - 12:20pm	Bus to Stradbroke Island Beach Hotel	
12:20pm - 1:30pm	Lunch at Stradbroke Island Beach Hotel	158 East Coast Road, Point Lookout
1:30pm - 1:50pm	Bus to UQ Moreton Bay Research Station	
1:50pm - 2:35pm	Tour of <a href="#">UQ Moreton Bay Research Station</a>	37 Fraser Street, Dunwich

# Day 5 - Friday (continued)

Time	Activity	Location
2:35pm - 2:40pm	Bus to SeaLink Ferry Terminal	
2:40pm - 3:00pm	Board the SeaLink Ferry	Junner Street, Dunwich
3:00pm - 3:50pm	SeaLink Ferry to Cleveland	
3:50pm - 4:00pm	Disembark the SeaLink Ferry	12 Emmett Drive, Cleveland
4:00pm - 5:00pm	Bus to Mecure & Pullman Brisbane Hotel	
5:00pm	Bus arrives back at the hotel	Mecure & Pullman Brisbane, King George Square, Corner Ann & Roma Streets, Brisbane City

## Things to know:

- Endearingly referred to as 'Straddie' by the locals - and known as Minjerrabah to its traditional owners, the Quandamooka people – North Stradbroke Island is the second-largest sand island in the world.
- The bus will remain with the group for the entire day and travel to the island on the vehicle ferry.
- There will be an opportunity to experience the Gorge Walk. There are some steps, so please ensure you wear comfortable clothes and appropriate shoes.
- The island has abundant wildlife and there may be opportunity to see whales, so if you own binoculars be sure to bring them.
- Please remember to bring your water bottle, hat and sunscreen.





## 04. Lightning talks

Lightning talks must follow the same guidelines as the Three Minute Thesis (3MT) competition. Please follow the below guidelines for your lightning talk.

Guidelines:

- Presentations are limited to 3 minutes. The time limit will be strictly adhered to so please practice and time your presentation before the day.
- Presentations are to be spoken word (e.g. no poems, raps or songs).
- You will have the choice of a lectern microphone or handheld microphone.
- One single static PowerPoint slide in 16:9 widescreen size is permitted.
- No slide transitions, animations or movement of any description are permitted.
- No electronic media (e.g. sound and video files) are permitted.
- No additional props (e.g. costumes, musical instruments, laboratory equipment) are permitted.
- Please email your single static PowerPoint slide to us at [international.visits@uq.edu.au](mailto:international.visits@uq.edu.au) with your name and institution in the subject line by 3pm on Friday 5 July.
- We also recommend bringing a copy of your PowerPoint slide on a USB stick to the workshop.
- If you wish to view example UQ and U21 3MT presentations see [online here](#) and [here](#).

If you have any further questions, please contact [international.visits@uq.edu.au](mailto:international.visits@uq.edu.au).



# 05. Poster presentations

Please follow the below guidelines for your poster presentation.

Guidelines:

- Poster presentations will be displayed in the poster display area within the lunch space for the duration of the workshop.
- You must stand near your poster to answer questions during the designated poster session on Tuesday 9 July.
- Poster size must be A0 (841mm x 1189mm).
- Poster must be presented in English. Your name and institution should also be displayed on the poster.
- The printing, set up and take down of the poster displays is solely the responsibility of the presenter.
- Each display board will be identified by a number so that you are able to find the board corresponding to your poster.
- You will be able to set up your poster from 8:30am on Tuesday 9 July.
- We will provide Velcro to attach your poster to the display board if you wish to use it.
- Please leave your poster in place until 3pm on Thursday 11 July.
- U21 and UQ are not responsible for any poster material left at the conclusion of the U21 ECR workshop.

If you have any further questions, please contact [international.visits@uq.edu.au](mailto:international.visits@uq.edu.au).

# 06. Our delegates



## Dr Felipe Arrano-Vargas

Associate Lecturer  
University of New South Wales

Felipe Arraño-Vargas is an Engineering Early Career Academic Fellow with the School of Electrical Engineering and Telecommunications at the University of New South Wales (UNSW) in Sydney. He is also a Research Fellow and lecturer with the Real-time Simulations Laboratory (RTS@UNSW).

Felipe's research includes power system digital twins, real-time digital modelling and simulation, synthetic grids, and grid integration of renewable energy resources and energy storage systems.

[Find out more](#)



## Associate Professor Goran Calic

University Professor and Director of MBA Programs  
McMaster University

Goran Calic is the Michael Lee-Chin & Family Chair Professor in Strategic Business Studies and an Associate Professor of Strategic Management at McMaster University.

Goran currently serves as the Director of MBA Programs at the DeGroote School of Business, where he also teaches in the MBA and Executive Education programs. His research focuses on technology innovation and strategy. His work has been published in the Harvard Business Review, and other top journals.

[Find out more](#)



## Dr Lina Maria Cárdenas

Assistant Professor  
Universidad Católica de Chile

Lina María Cárdenas joined the Design School at the Pontificia Universidad Católica (Santiago, Chile) in 2017, where she currently serves as an Assistant Professor of Color Science and Textiles.

She co-directs the bio fabrication lab Color Design Laboratory and is part of the Light and Color lab. She is also a member of the Social Sciences, Art and Humanities ethics committee for the Universidad Católica de Chile.

Mrs Cardenas has authored several reviewed/technical publications, both in Spanish and English, and has participated in several consulting projects related to dyeing, color management, color communication.

[Find out more](#)



## Dr Martha Chadyiwa

Lecturer  
University of Johannesburg

Martha Chadyiwa is a faculty member at the University of Johannesburg, specializing in environmental health.

Her research primarily focuses on Occupational and Environmental health, aiming to enhance safety and well-being in these areas.

Her research focuses are now including how artificial intelligence (AI) impacts these fields.

[Find out more](#)





## Dr Bin Chen

Assistant Professor  
Hong Kong University

Dr Bin Chen is Assistant Professor at the Faculty of Architecture, HKU-100 Scholar, and Director of Future Urbanity & Sustainable Environment (FUSE) Lab at the University of Hong Kong.

His research mainly focuses on remote sensing and geospatial big data analysis for environmental change studies. He has published more than 70 SCI journal articles, including Science, Nature Sustainability, Nature Communications, PNAS, etc.

He received the Geospatial World 50 Rising Stars Award, International Society for Digital Earth Young Scientist Award, Global Young Scientist Award at World Geospatial Developers Conference, AAG Early Career Award in Remote Sensing, etc.

[Find out more](#)



## Dr Xiaolong Chen

Assistant Professor  
University of Nottingham

Dr Xiaolong Chen is an Assistant Professor at the Department of Mechanical, Materials and Manufacturing Engineering (M3) at the University of Nottingham. He is affiliated with the Advanced Manufacturing Research Group, and work with Centre for Additive Manufacturing as an associate member at the University of Nottingham.

His professional endeavours are directed towards Sustainable Engineering with a concentrated emphasis on the intersection between sustainable additive manufacturing processes and an array of engineering applications.

These applications include but are not limited to electrochemical devices (e.g. supercapacitors) and solar energy harvesting (e.g. semi-artificial photosynthesis). Within

the M3 Department he is a co-convenor of the year 3 course module of Engineering Sustainability (MMME3066 UNUK).

[Find out more](#)





## Dr Giancarlo Dalle Ave

Assistant Professor  
McMaster University

The global energy system is going through massive changes for many reasons including ever-increasing energy demand, climate change mitigation, and large-scale electrification.

These changes have widespread implications in how we think of energy production and distribution, as well as on the operation of energy intensive or energy conversion/storage processes and their associated economic and sustainability evaluations.

These challenges are addressed using techniques from both power systems engineering and chemical engineering including process design, simulation, optimization, and eco-technoeconomic analysis.

[Find out more](#)



## Dr Debashish Dev

Postdoctoral Research Fellow  
University of Queensland

Dr Debashish Dev is a Postdoctoral Research Fellow at the Gas and Energy Transition Research Centre, The University of Queensland (UQ), Australia. His research focuses on collaborative and strategic regional development and energy transition initiatives. He supports monitoring, evaluation, and learning processes to support local decision-making and sustainable development.

Dr Dev brings valuable expertise to UQ's energy transition research, emphasizing the integration of sociological theories and effective communication strategies to address the multifaceted challenges of energy transition. Through his work, he underscores the importance of fostering environmentally conscious energy solutions that benefit communities.

[Find out more](#)







## Professor Wan Jae Dong

Professor  
Korea University

Professor Wan Jae Dong currently serves as an assistant professor at the Graduate School of Energy and Environment at Korea University.

His research focuses on solar-driven water splitting and carbon dioxide reduction reactions, alongside other catalytic reactions such as ammonia and urea synthesis, aimed at addressing the energy crisis and environmental challenges.

Dr Dong has investigated the effect of cocatalysts on photoelectrochemical reactions using various semiconductor photoelectrode platforms. He has authored more than 30 articles as the first author in leading journals in chemistry, materials science, and energy engineering, including J. Am. Chem. Soc., Nat. Commun., and Adv. Energy Mater.

[Find out more](#)



## Dr Sarah Farrukh

Post Doc Research Associate  
University of Edinburgh

Dr Sarah Farrukh, working as post-doctoral research associate at the University of Edinburgh, specializes in Energy Storage, Clean Energy, and CO2 Capture.

She is leading a research project, on enhancing energy efficiency in the cooling sector through Cold Thermal Energy Storage (CTES) technology.

She has designed ammonia adsorption rig and synthesized various porous materials for better refrigeration system. With a robust research record of over 70 indexed publications and more than 1200 citations, she has collaborated with labs and industry partners on energy storage and carbon capture projects, demonstrating her commitment to sustainable energy solutions.

[Find out more](#)





## Professor Beth Ferguson

Associate Professor  
University of California, Davis

Beth Ferguson is an Associate Professor of Design at the University of California Davis and the director of the Adapting City Lab. Her research blends industrial design with sustainable transportation, solar engineering, climate resiliency, and public engagement.

She was awarded the Austin Green Award in 2017 for the Electric Drive Solar Kiosk. She participated in the Resilient by Design Bay Area Challenge with the team Public Sediment, which won the Honor Award for Analysis and Planning from the American Society of Landscape Architects. Her interdisciplinary work has been exhibited at the Exploratorium Museum, Ars Electronica, and the Otago Museum.

[Find out more](#)



## Dr Sara Hassan

Research Fellow  
University of Birmingham

As a Research Fellow at City-REDI, Sara boasts a diverse skill set and extensive qualitative research experience across stakeholders, including policymakers, businesses and communities.

Her interests lie in participatory action research, policy reform, and its impact on marginalized groups, urban planning and climate change.

At City REDI, Sara's research expands into assessing the civic contribution of universities and its economic effects on local areas. Sara is engaged in varied initiatives, from civic university evaluations to refugee integration and green transitions, she actively seeks funding, fosters partnerships, and advances impactful and a place based agenda for urban research in Birmingham and internationally.

[Find out more](#)





## Professor Drew Higgins

Assistant Professor  
McMaster University

Drew is an Assistant Professor in Chemical Engineering at McMaster University located in Canada, where his research focuses on sustainable electrochemical energy technology development. Particularly, his team develops the materials and technologies that will enable electrification of the global energy economy, including the production of fuels, chemicals and fertilizers that society depends upon.

Specific technologies of interest include electrochemical CO<sub>2</sub> conversion, fuel cells, rechargeable zinc-ion batteries, supercapacitors, water electrolyzers and biomass valorization processes. His team's research includes synthesis of new nanostructured electrode materials, understanding their performance through in situ characterization, and integration into electrochemical technologies for performance demonstration.

[Find out more](#)



## Dr Weiqi Hua

Assistant Professor in Energy Systems  
University of Birmingham

Dr Weiqi Hua is an Assistant Professor in Energy Systems at the University of Birmingham (U.K.) since 2023. He took postdoctoral positions at the University of Oxford (U.K.) and Cardiff University (U.K.). He received his PhD degree from the University of Durham (U.K.) in 2020.

He was the visiting researcher to the Hellenic Telecommunications Organisation (OTE), Greece in 2019. His research interests include: i) energy system modelling and optimisation, ii) renewable energy integration, iii) digitalisation, digital twin, and machine learning for energy system analytics, iv) energy policy and economics, v) Local energy markets and peer-to-peer energy trading.

[Find out more](#)





## Dr Jingong Huang

Assistant Professor  
University of Nottingham

Jingong joined the School of Economics in 2018 as an Assistant Professor at the University of Nottingham Ningbo China.

He received his PhD degree in Economics from the University of Melbourne in 2018.

His primary research field is macroeconomics, although he benefits from a breadth of expertise as his work occurs at the intersection of macroeconomics, finance, industrial organization and environmental economics.

[Find out more](#)



## Dr Felipe Huerta

Assistant Professor  
Universidad Católica de Chile

Dr Felipe Huerta is an Assistant Professor at Pontificia Universidad Católica de Chile, specializing in renewable energy storage technologies.

With a PhD in Earth Science and Engineering from Imperial College London, his expertise lies in the modelling and simulation of renewable energy storage solutions, including cryogenic and hydrogen-based systems.

A member of the Cryogenic Society of Europe, Dr Huerta is also a dedicated educator, teaching courses on transport phenomena and unit operations, and mentoring six Master's students and numerous undergraduates in research.

[Find out more](#)





## Dr Kirsten Jenkins

Senior Lecturer in Energy, Environment and Society  
University of Edinburgh

Kirsten Jenkins is a Senior Lecturer at the University of Edinburgh with research expertise that centre on energy policy, energy justice, Just Transitions, and fuel poverty.

Kirsten serves as Managing Editor for the journal Energy Research & Social Science, Associate Fellow of the Durham Energy Institute, external examiner to postgraduate programmes in Development, Environment and Policy at SOAS, and Deputy Theme Champion for the Energy, People, Policy, and Society theme of the Energy Technology Partnership.

She is a panellist for the Scottish Government's Fuel Poverty Advisory Panel and advisor to the Scottish Parliament's Net Zero, Energy and Transport Committee.

[Find out more](#)



## Dr Nicole Khan

Assistant Professor  
Hong Kong University

Dr Nicole Khan is an Assistant Professor in the Department of Earth Sciences at the University of Hong Kong.

She received her B.A. in Earth Science and Mathematics from Boston University and PhD from the University of Pennsylvania, where she studied past changes in sea level.

She produces and synthesizes records of present and past storms, floods and sea levels, and their extent of geological and ecological impacts. These records provide means to assess future risk, reveal the spatial and temporal variability of coastal inundation and decipher the relationship of these events to global climatic changes.

[Find out more](#)





## Professor Yeowon Kim

Assistant Professor  
Korea University

Dr Yeowon Kim is an assistant professor in the Graduate School of Energy and Environment at Korea University.

Her research focuses on understanding the growing complexity of urban systems from the perspective of social, ecological, and technological systems (SETS) interactions, and envisioning cities that can persist, grow, and even transform while maintaining their essential identities in the face of external forces like climate change.

She integrates hydrologic models, vulnerability analysis, decision support tools, and participatory workshops to improve infrastructure development strategies for systems-level urban water and energy management. Her recent research interests include investigating the role of nature-based solutions in cities for urban flood management and carbon neutrality.

[Find out more](#)



## Dr Desen Kirli

Elizabeth Georgeson Fellow  
University of Edinburgh

Dr Desen Kirli holds the Elizabeth Georgeson Fellowship in 'Data and Digitalisation for Net Zero' at the University of Edinburgh. To enable net zero transition she innovates data-driven and digital smart grid solutions and state-of-the-art technologies such as digital twins smart contracting AI and local energy/flexibility markets.

Dr Kirli leads the D-RES Project which aims to increase climate-resilience of energy communities. She contributes to two large-scale projects; VPP-WARD (AI-based energy coordination during extreme weather) and DISPATCH (low-carbon heating and Just Energy Transition). Recently she won a Scottish Renewables award for implementation of her work in Scottish neighbourhoods.

[Find out more](#)





## Dr Zsofia Korosy

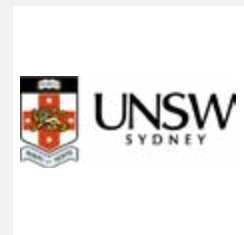
Lecturer  
University of New South Wales

Dr Zsofia Korosy is a Lecturer in the School of Global and Public Law, in the Faculty of Law and Justice at UNSW Sydney.

Her work focuses on the ways in which conceptions of the environment shape the possibilities for its legal protection; and how law, in turn, affects understandings of human relationships to the natural world.

She is the author of a discussion paper on green technology and its regulatory settings in Australia, in which she proposes justice-based guiding principles for the ongoing regulation of developments in energy-related green technology.

[Find out more](#)



## Dr Pengfeng Lin

Assistant Professor  
Shanghai Jiao Tong University

Pengfeng Lin received the B.S. and M.S. degree in electrical engineering from Southwest Jiaotong University, China, in 2013 and 2015 respectively, and the PhD degree in Interdisciplinary Graduate Programme from Nanyang Technological University, Singapore, in 2020.

He was with Energy Research Institute @ NTU as a Research Fellow and with Électricité de France (EDF) as a Smart Grid Energy Expert / Research Scientist. He is in the global top 2% of Scientists released by Standard University.

He is currently an Assistant Professor at Shanghai Jiao Tong University. His research interests include power system stability / reliability analyses, smart grid cyber-physical security, and artificial intelligence analytics.

[Find out more](#)





## Dr Pan Liu

Associate Professor  
Fudan University

Dr Pan Liu, Associate Professor at the faculty of Academy of Engineering and Technology of Fudan University (Shanghai, China).

She currently serves as the Deputy Director of the Shanghai Silicon Carbide Power Device Engineering Research Center and the Vice Director of the Institute of Wide Bandgap Semiconductor Materials and Devices at Fudan University's Ningbo Research Institute.

With expertise on silicon carbide power devices and high-temperature packaging materials, Dr Liu had a decade of interdisciplinary research and management experience for both industry and research.

[Find out more](#)



## Dr Minh Tri Luu

Research fellow  
University of Sydney

Minh is currently a research fellow at the University of Sydney, where he focuses on improving energy efficiency and reducing CO<sub>2</sub> emissions in chemical processes.

Minh has extensive experience in process modeling, flow sheet and equipment design, and process control optimization. His past research includes work on CO<sub>2</sub> capture and utilization, solar energy power production, and solar energy storage.

[Find out more](#)







## Dr Shaoning Lv

Associate Professor  
Fudan University

Shaoning Lv has been engaged in theoretical innovation of microwave radiation remote sensing soil moisture, research on land surface process parameterization and data assimilation, and instrument development.

The research content has always been closely focused on the research direction of combining the theoretical mechanism of radiative transfer in the L-band with atmospheric science.

He has many years of research experience in the processing and analysis of soil moisture and L-band microwave radiometer signals.

[Find out more](#)



## Dr Carolina Martínez-Troncoso

Associate Professor  
Universidad Católica de Chile

Dr Carolina Martínez-Troncoso, an Assistant Professor at the Pontifical Catholic University of Chile's School of Engineering, specializes in marketing data analytics.

Holding a PhD in Business and Management from the University of Manchester, her expertise lies in enhancing marketing decisions by analyzing structured and unstructured data. This method provides a deeper understanding of consumer behavior, engagement, and customer journey.

Currently, her research in the electric sector examines consumer resistance to adopting technologies like smart electric meters and residential solar panels in developing countries, aiming to boost societal well-being through sustainable energy practices.

[Find out more](#)





## Dr Encarni Medina-Lopez

Senior Lecturer  
University of Edinburgh

Encarni is a Senior Lecturer in Ocean Observation. Her research focuses on the use of remote sensing to study water, energy and environmental problems.

In particular, she is interested in using multi and hyperspectral satellite imagery, in situ data, and machine learning techniques to reduce the cost of marine renewable energy and better understand its environmental impact.

She holds a PhD in Energy Systems & Dynamics of Biogeochemical Flows. She is a Turing Fellow of the Alan Turing Institute, a Fellow of the Higher Education Academy (FHEA), and a Chartered Engineer (CEng MICE).

[Find out more](#)



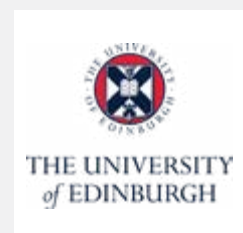
## Dr Adolfo Mejia Montero

Lecturer in Energy Society and Sustainability  
University of Edinburgh

Adolfo Mejia Montero is a lecturer in energy, society and sustainability at the University of Edinburgh School of Social and Political Sciences, Department of Science, Technology and Innovation Studies (STIS). He is also deputy director for the MSc programme in Energy, Society and Sustainability.

Due to his interdisciplinary background in physics, engineering and human geography, Adolfo is interested and has participated in a wide diversity of research projects related to energy justice, renewable energy development in indigenous territories, low-carbon transitions, mixed-methods and sustainable energy systems in Latin America, Europe, and the United Kingdom.

[Find out more](#)





## Dr Sajjad Mofarah

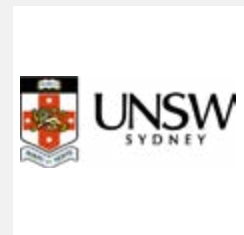
Chief Scientist  
University of New South Wales

In 2022, Dr Mofarah was appointed as a Senior Research Associate at UNSW and Chief Scientist at Vecor Technologies.

He initiated his work under the Trailblazer for Recycling and Clean Energy (TRaCE) grant scheme, serving as the research director for the development and commercialization of advanced materials in energy storage and electrocatalytic generation of H<sub>2</sub> applications.

Dr Mofarah played a pivotal role in securing AUD \$5.7 million in funding from industry partners. In mid-2022, he directed his efforts towards the development of electrodes for Na-ion batteries under the TRaCE grant scheme and successfully obtained an Australian Research Council Linkage project as the research associate to scale up the developed cathodes to pouch cell batteries.

[Find out more](#)



## Dr Lebogang Mosupye-Semenya

Senior Lecturer  
University of Johannesburg

Lebogang, a Senior Lecturer at JBS, specializes in teaching digital technologies and disruptive technologies of the 4IR. Beyond the classroom, her research is centered on 4IR technologies and innovation, with a particular focus on positioning South Africa within the global landscape of the 4IR.

By bridging theory, (particularly sustainability transition theories) with practical application, Lebogang aims to empower individuals and organizations to thrive in an increasingly digital world, encouraging inclusivity and driving progress towards a future where South Africa is a leader in the 4IR.

[Find out more](#)





## Dr Lara Mottee

Postdoctoral Research Associate  
University of Sydney

Lara Mottee is a postdoctoral research associate in project leadership and research lead for the Projects for Sustainable, Resilient and Just Futures theme at the John Grill Institute for Project leadership.

Her research interests centre around improving the social outcomes of infrastructure projects to address grand challenges in sustainability. As an interdisciplinary scholar her work crosses boundaries with infrastructure engineering, project management, geography and urban planning.

She is passionate about exploring how social impacts are assessed, managed and measured. Her goal is to improve professional practices to support decision-making in the infrastructure sector.

Her future contributions will involve deeper research into the interactions between the geographical, social and institutional contexts that infrastructure projects operate within, to realise beneficial outcomes.

[Find out more](#)



## Dr Eric Evans Osei Opoku

Assistant Professor  
University of Nottingham

Dr Eric Opoku is an Assistant Professor of Economics at the Nottingham University Business School China (NUBS China).

Eric does applied economics research mainly in the areas of economics of environmental sustainability (environmental economics), energy (access, poverty and transition), sustainable development and finance, development finance, foreign direct investment and international trade.

In these areas, his research outputs have been published in journals such as Energy Economics, Energy Policy, Journal of Environmental Management, Technological Forecasting and Social Change, and Business Strategy and the Environment.

He obtained his PhD in Economics from the City University of Hong Kong.

[Find out more](#)





## Dr Jo Orsatti

Lecturer  
University of Sydney

Dr Orsatti is a Lecturer in the Discipline of Work and Organisational Studies with an interdisciplinary background in work studies, technology and social theory at the University of Sydney.

Dr Orsatti's doctoral thesis investigated the employment relationship, voices and citizenship surrounding a variety of social and environmental concerns, such as climate change, innovation and diversity via enterprise social media.

Jo is continuing her work on the crucial question of the role employees, work and organisations can play in improving approaches to social and environmental justice.

[Find out more](#)



## Dr Victoria Outram

Postdoctoral Fellow  
Lund University

Victoria is a Postdoctoral Research Fellow in the Membrane Group at the Division of Chemical Engineering at Lund University, Sweden.

Her research is at the intersection of chemical engineering and industrial biotechnology. Victoria focuses on improving fermentation processes to produce biochemicals and biofuels, which will allow for a switch from petrochemical-based processes to bio-based processes using renewable feedstocks.

At Lund University her research is focused on the development of the continuous fermentation for biobutanol production, through an integrated fermentation and product recovery process using membranes. Where the biobutanol can be a direct replacement for petrol, as a bio-based alternative.

[Find out more](#)



## Dr Xiaofei Qian

Associate research fellow  
Fudan University

Dr Qian joined the school of microelectronics in Fudan University as an associate researcher.

His research interest includes development and application of E-Beam-EUV resist and sub-5nm directed self-assembling (DSA) materials, which are vital in microelectronics processing to create patterns for IC manufacturing.

He used to be a senior scientist in a famous Fab, and also has very rich practical experience in lithography of advanced node.

[Find out more](#)



## Dr Annum Rafique

Research Fellow  
University of Birmingham

Dr Annum Rafique is an environmental economist working as a Research Fellow at City-REDI, University of Birmingham.

Her research interests encompass energy and low-carbon/net-zero environments, spanning the energy transition's demand and supply sides.

On the demand side, she has analysed the cost-effectiveness of low-carbon heating solutions for residences and is developing a project with Siemens to examine customer motivations and barriers to transitioning to low-carbon heating.

On the supply side, she is investigating local authorities' barriers to procuring retrofitting services for social housing to improve energy efficiency.

[Find out more](#)





## Associate Professor Lishan Ran

Associate Professor  
Hong Kong University

Lishan Ran is an Associate Professor in the Department of Geography at The University of Hong Kong.

His research focuses on riverine carbon cycle, soil erosion and carbon transport, and exchange of greenhouse gases between inland waters and the atmosphere.

His research aims to better characterize how human activities and climate change impact the transport of carbon in inland waters. His research also explores the transformation and turnover of carbon in aquatic ecosystems.

His research agenda is dedicated to quantitatively investigating the transport and destinations of terrestrially derived carbon in various watersheds in a rapidly changing world.

[Find out more](#)



## Dr Renaldi Renaldi

Associate Professor  
University of Birmingham

Dr Renaldi Renaldi is an Associate Professor in Emerging Cooling Technologies at the University of Birmingham, UK.

Renaldi is a mechanical engineer by training and completed his PhD at the University of Edinburgh. He continued his research as a postdoctoral researcher at Newcastle University and the University of Oxford. Before joining Birmingham he was a lecturer at Cranfield University.

His current research is focused on the decarbonisation of cooling technologies towards achieving a sustainable cooling future.

[Find out more](#)





## Dr Eleonora Ricci

Lecturer  
University of Edinburgh

Eleonora Ricci is a Lecturer in Chemical Engineering at the University of Edinburgh, UK.

She develops multiscale models for materials used for greenhouse gas emission mitigation, and in the new hydrogen energy infrastructure. In particular, she combines artificial intelligence and molecular simulations to study multicomponent phase equilibria and mass transfer in polymers and polymer-nanocomposites.

Using these hybrid modelling tools, she provides improved materials selection guidelines, to tailor materials properties to the desired end-use performance. She is interested in exploring the incorporation of sustainability metrics into the materials design process, to promote the development and use of more environmentally friendly materials.

[Find out more](#)



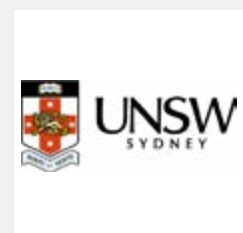
## Dr Mike Roberts

Senior Research Fellow  
University of New South Wales

Dr Mike Roberts is a Senior Research Fellow in the School of Photovoltaic and Renewable Energy Engineering (SPREE) and Research Co-ordinator for the multi-disciplinary Collaboration on Energy and Environmental Markets (CEEM) at UNSW Sydney.

His research combines engineering and social science and explores ways to deploy and integrate more renewable energy generation. Mike's particular interests include distributed energy resources (particularly rooftop solar), demand side flexibility and engaging energy users to support and participate in a sustainable, equitable and resilient energy system.

[Find out more](#)







## Dr Mingyue Selena Sheng

Senior Research Fellow  
University of Auckland

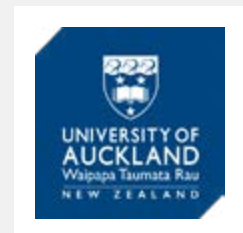
Dr Mingyue Selena Sheng is a Senior Research Fellow at the Energy Centre, University of Auckland Business School, New Zealand.

Her expertise lies in applied economics, econometrics, and advanced data analytics, focusing notably on environmental sustainability and human behavior dynamics.

Selena's impactful research addresses crucial topics such as climate change mitigation, carbon emissions reduction strategies, electric vehicle integration, and sustainable transport infrastructure. She employs empirical economic modeling to unravel complexities within transport systems, offering insights that drive policy and innovation.

Her scholarly achievements are documented in prestigious academic journals, establishing her as a young but leading voice in her field.

[Find out more](#)



## Dr Marcello Solomon

Research Associate - Sydney Net Zero Institute  
University of Sydney

Dr Solomon's research is in the development and scale up of porous materials and their composites for clean energy.

As an active member of the Sydney Net Zero Institute, Dr Solomon is interested in the strategies required to reach Net Zero by 2050 and the ways in which multidisciplinary collaborations can be fostered to reach these ambitious milestones.

[Find out more](#)





## Dr Arman Ahamed Subash

Assistant professor  
Lund University

Arman Ahamed Subash is an Assistant Professor in Aeronautical Science at the School of Aviation, Lund University.

His primary research centers on sustainable aviation, with a specific focus on sustainable engines and alternative fuels. Additionally, he is currently co-leading a project aimed at conceptualizing an airport as an electrified ecosystem.

He completed his PhD in 2018 at Lund University, where his research focused on investigating combustion in gas turbine combustors using laser-based/optical techniques. His post-doctoral and subsequent works were rigorously focused on studying fuel flexibility in various gas turbine-relevant combustors, exploring the use of different alternative fuels.

[Find out more](#)



## Associate Professor Nastassia Thandiwe Sithole

Associate Professor  
University of Johannesburg

Her research interests focus on Environmental engineering with a particular focus on the circular economy through waste valorization and solidification together with remedial treatment for wastewater using secondary resources, turning industrial solid waste into useful building and construction material, and resource recovery.

The main goal of her research is to develop zero-waste discharge models and value-added products from waste material for use in different building and construction applications. Her research areas are driven by the need to attain or achieve the United Nations' sustainable developmental goals.

[Find out more](#)





## Dr Keena Trowell

Assistant Professor  
McMaster University

Keena Trowell is an Assistant Professor in the Department of Mechanical Engineering at McMaster University (Hamilton, Canada). She earned her PhD at McGill University (Montréal, Canada).

Her expertise is in high-temperature, high-pressure metal-water reactions for heat and hydrogen production. She also investigates the use of supercritical water as an oxidizer in metal-water systems.

Dr Trowell's research interests include metal fuels, energy storage, energy for remote regions, the water-energy nexus, and the techno-economic analysis of circular fuels. She has several publications on these topics and holds a patent based on her research.

[Find out more](#)



## Mr Joseph Almar Tupe

PhD Candidate / Project Development Manager  
University of Sydney

Joe is researching to develop a pathway for the techno-economic viability of hydrogen energy systems, including cost-effective design and operations for various applications.

His long-term goal is to expand people's access to these solutions and create a platform of shared positive impact for a cleaner future.

He served as a project development manager in the renewable energy industry focusing on geothermal solar and connection projects in diverse regions such as the Philippines, Kenya and Indonesia.

[Find out more](#)





## Dr Xinfang Wang

Assistant Professor  
University of Birmingham

Dr Xinfang Wang is an Assistant Professor and the group leader for Resilient Systems for Energy and Cooling at the Birmingham Energy Institute in University of Birmingham. She has a strong background in whole systems research for Net Zero energy and the cold chain, especially from behaviour, public perception, economic, business model, innovation system and policy perspectives. Her research covers both developed and developing countries such as Rwanda, Kenya, India, Bangladesh, Mexico, Nepal and China.

Dr Wang is the Principal Investigator for the UKRI funded £1.47m project Zero Emission Cold Chain Principal Investigator at the University of Birmingham for the €11.53m EU project European food chain supply to reduce GHG emissions by 2050 (ENOUGH) and the Department for Energy Security and Net Zero funded project Transport Industry Commercial Refrigeration.

[Find out more](#)



## Dr Annabelle Workman

Research Fellow, Melbourne Climate Futures and Melbourne School of Population and Global Health  
University of Melbourne

Annabelle (Belle) Workman is a social scientist interested in the development of healthy climate and energy policies.

With a background in political science and public health, in 2019 Belle completed a PhD investigating the role of health in the development of national climate mitigation policies.

She is now a Research Fellow at Melbourne Climate Futures and the Melbourne School of Population and Global Health, where she is co-Deputy Director of the Climate Collaborative Action for Transformative Change in Health and Healthcare (CATCH) Lab and Lead of the Policy and Politics Stream.

[Find out more](#)





## Dr Tongtong Zhang

Assistant Professor  
University of Birmingham

Tongtong Zhang is currently an Assistant Professor at the School of Chemical Engineering and Birmingham Centre for Energy Storage, University of Birmingham.

Dr Tongtong Zhang obtained her PhD in Chemical Engineering from the University of Birmingham in 2021. Her main research focuses on the thermo-mechanical energy conversion and storage technologies (with a concentration on Carnot Batteries, e.g., liquid air energy storage, compressed air energy storage etc.) and industrial decarbonization that covers both device modelling, process optimisation and system integration.

She currently serves as a member of the Early Career Committee of the UK Supergen Energy Storage Network+.

[Find out more](#)



## Dr Kelvin Shuangjian Zhang

Assistant Professor  
Fudan University

Dr Kelvin Shuangjian Zhang is currently an Assistant professor at the School of Mathematical Sciences, Fudan University.

He received a PhD in Mathematics from the University of Toronto. His research focuses on multidimensional screening and principal-agent framework in microeconomics.

His interests include monopolist pricing, machine learning, and developing a dynamic pricing scheme for the future energy supply and demand network.

[Find out more](#)





## Associate Professor Hong Zhang

Deputy Director  
Fudan University

Hong Zhang is an Associate Professor and Deputy Director of State Key Laboratory of Photovoltaic Science and Technology at Fudan University, Shanghai, China.

He received his PhD in July 2018 from the University of Hong Kong under the supervision of Professor Wallace C.H. Choy on perovskite solar cells. From 2019 to 2021, he worked as a Post-doc with Professor Michael Graetzel on highly efficient perovskite solar cells.

His current research interests mainly focus on the design and synthesis of metal halide perovskites and metal oxide inks as well as their application in optoelectronic devices, including solar cells, photodetector, and phototransistor.

[Find out more](#)



## Dr Shujie Zhou

Postdoctoral Research Associate  
University of New South Wales

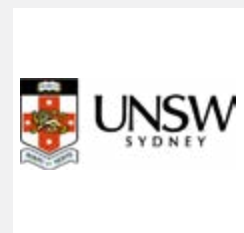
Dr Shujie Zhou a Postdoctoral Research Associate in Partcat group within School of Chemical Engineering and ARC GlobH2E training centre. She obtained her PhD degree of Chemical Engineering in UNSW in 2023.

Her research area is in the field of renewable solar energy conversion and green chemical synthesis, which involves solar cells, photoelectrocatalysis and photocatalysis.

Her key expertise encompasses the scientific understanding of the structure-performance relationship of the photo(electro)catalysts to optimise the catalyst and reaction process design.

She is working on realising sustainable production of value-added chemicals and clean fuels such as ammonia H<sub>2</sub> and carbon-based green chemicals through various photo(electro)catalytic reactions including NO<sub>x</sub> reduction water splitting CO<sub>2</sub> reduction etc.

[Find out more](#)





## Dr Peng Zhu

Assistant Professor  
Hong Kong University

Professor Zhu is an Assistant Professor in HKU.

Prior to joining HKU, he was working in University of California, San Diego, Laboratoire des Sciences du Climat et de l'Environnement and Sun Yat-sen University.

His research interests are agroecosystem modeling, climate change impacts and adaptation, remote sensing, food-water-carbon nexus. Through integrating field observations, remote sensing, data-driven and process models, he aims to help stakeholders to better tackle climate risks, design effective climate adaptation strategies and finally achieve agricultural sustainability.

[Find out more](#)



# 07. U21 staff



## Professor Jenny Dixon

Provost  
Universitas 21

Professor Jenny Dixon is Provost of Universitas 21. The Provost is responsible for overseeing the strategic direction of the network, working closely with Presidents/Vice-Chancellors and Senior Leaders. The overall mission of the network is to strengthen internationalisation and collaboration, sharing expertise and mutual understanding across diverse regions, cultures and traditions.

Jenny leads the U21 Secretariat to deliver a distinctive portfolio of programmes which focuses on global education, learning and research collaboration. She is based in New Zealand and works with the Secretariat in Birmingham both remotely and in person for some parts of the year.

[Find out more](#)



## Debs McAllister

Projects Manager  
Universitas 21

Debs leads on the development and implementation of strategic projects for the network, as well as managing U21's Researcher Engagement cluster and its associated activities.

Debs has more than 15 years' experience in relationship and partnership development in international education. Prior to joining the network in April 2023, Debs was Deputy Director International Partnerships and Services at the University of Auckland, leading the University's inbound and outbound student mobility, international student support and global relations teams. Debs brings experience of strategic and external engagement with international networks and global partnerships and has formerly held roles in marketing and admissions, widening participation, student volunteering and business development.

[Find out more](#)





# UQ staff



## Ms Caroline Stott

Associate Director, Energy Transitions  
Strategic Partnerships - Government and Industry  
The University of Queensland

With a focus on energy transitions, Caroline Stott connects researchers with industry and government partners to explore collaborative research activities, establish commercial partnerships and develop scalable business models.

Caroline has held management and commercialisation roles at Queensland University of Technology, Griffith University, The University of Queensland, the International Energy Centre and the Brandenburg University of Technology.

She has a strong understanding of strategic research initiatives and large-scale engagements within university environments. She is adept at aligning internal capability with external opportunities to grow research capacity, further the impact and translation of research, and support long-term, mutually beneficial partnerships.

[Find out more](#)



# Contact

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