Turning a crisis into
an opportunity.

2024

Annual Report

GETCO$_2$

ARC Centre of Excellence
for Green Electrochemical
Transformation of Carbon Dioxide

GETCO2

Turning a crisis into an opportunity

Acknowledgement of Country

The ARC Centre of Excellence for Green Electrochemical Transformation of Carbon Dioxide acknowledges the Traditional Owners and their custodianship of the lands on which the Centre operates, including Nodes in Meeanjin (Brisbane), Gadigal Country (Sydney), Naarm (Melbourne), and Tarntanya (Adelaide).

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.

Contents

OUR CENTRE

Australian Research Council Centre of Excellence for Green Electrochemical Transformation of Carbon Dioxide
(GETCO2, The Centre)

Converting CO_2 into valuable chemicals and fuels.

Catalysing a green manufacturing and export revolution.

Paving the smartest and cleanest path to net zero.

Centre overview

GETCO2 gathers a critical mass of expertise to tackle the world's biggest challenge – carbon dioxide.

Led by The University of Queensland, GETCO2 is a $45M, 7-year collaboration funded by the ARC, university, industry, and government partners.

GETCO2 is Australia's largest research endeavour focusing on conversion of CO_2 into useful products such as fuels and chemicals. Acting as a focal point for research, training, technology translation and advice, GETCO2 is positioned as a global leader in carbon dioxide transformation.

The Centre aims to generate long-term economic, social, and environmental benefits by building capacity and capability to address national and international net-zero obligations.

Our new **electrolyser materials and designs** will be transferrable to other fields such as green energy.

Our **people** will lead the next generation workforce nationally and internationally.

Our **technologies** will help to reshape Australia's energy and resource export industries for long-term resilience and growth.

innovation realism creativity
development common good nurturing
curiosity excellence collegiality
mentorship collaboration
reputable diversity and inclusion motivating
respect transparency kindness
outcome cooperation openness
inquisitive
transformation innovation in thinking
equity and equal opportunity
networking career development integrity
sustainability

Our Vision

Our vision is to position Australia as a global leader in carbon dioxide transformation and generate long-term economic, social and environmental benefits nationally and internationally.

Our Values

We strive to build research excellence based on innovation, collaboration, curiosity and creativity.

We are committed to building an inclusive culture underpinned by respect and integrity where we draw on the strengths of our diversity.

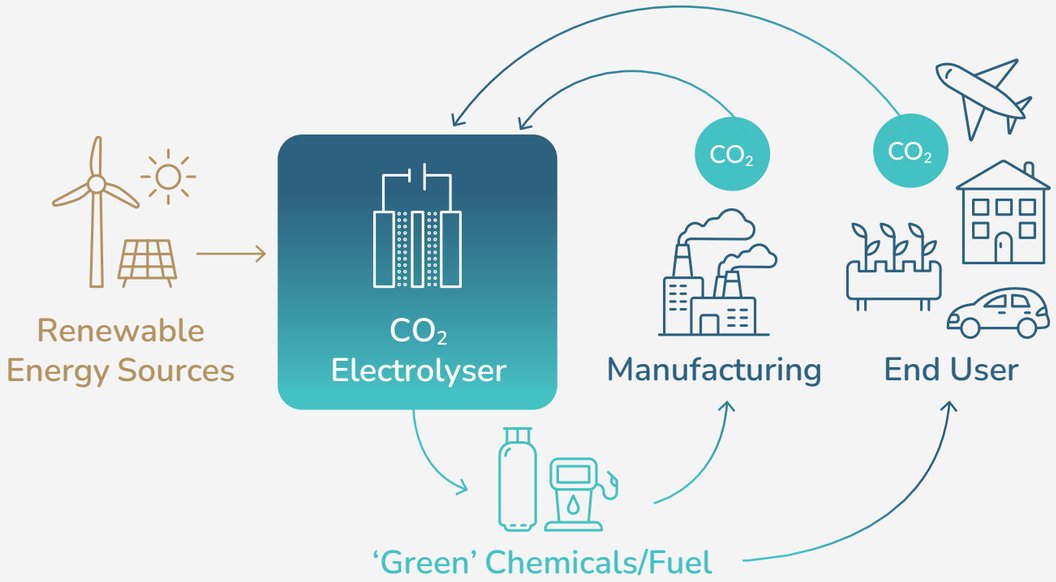
Objectives 2023-2030

1. Advancing fundamental knowledge of carbon dioxide (CO_2) conversion in electrochemical systems to selectively manufacture diverse value-added products.

2. Developing innovative electrolysers and key components (catalysts, membranes and electrodes) for highly efficient, scalable and durable electrochemical CO_2 conversion.

3. Demonstrating CO_2 conversion to value-added commodity and fine chemicals to enable industry-ready CO_2 utilisation technologies supporting the emergent Australian circular carbon economy industry.

4. Training the next generation of highly skilled scientists and engineers, equipped with unique expertise in catalysis, functional materials and advancing manufacturing for CO_2 utilisation across Australian research communities and industries.



Outcomes

The Centre outcomes will ripple across scientific disciplines, industry sectors and policy development.

1. Creating new knowledge on the kinetics and mechanism of CO_2 electrocatalysis, and the complex dynamics of the transport of gas, liquids and ions in electrolysers.

2. Developing novel concepts and designs for electrolysers and new technologies for electrocatalytic CO_2 reduction including electrodes, membranes and catalysts, new analytical methods for characterising working electrocatalysts and new computational tools to model electrolysers.

3. Expanding research capacity in materials science, chemical engineering and sustainable energy technologies through training of next generation researchers.

4. Linkages and translation of research through extensive collaborations with established international research leaders, and strategic partnerships with industry, government and end-users of the technologies developed.

5. Contributing to the National Science and Research Priorities, addressing the twin challenges of advanced manufacturing and energy.

Our partners

Collaboration is central to GETCO2's pathway to impact, from the fundamental discovery level to uptake and application of technologies.

GETCO2 comprises 7 Australian universities, 5 international universities, and 7 industry/government organisations supporting our research program and strategic portfolios.

Our national university partners are The University of Queensland, RMIT University, The University of New South Wales, The University of Sydney, The University of Adelaide, Griffith University and Monash University.

Our international university partners are Surrey University, Technical University of Denmark, University of Toronto, Washington University in St Louis and University of Delaware.

GETCO2 also connects more widely with almost 40 associate investigators from 21 different organisations (including 6 overseas) who offer broader expertise to the core research program.

Our 7 industry partner organisations span much of the value chain of a carbon circular economy, ranging from large multinational sustainable technology firms (Johnson Matthey), national research institutes (CSIRO), government agencies (Queensland Department of the Environment, Tourism, Science and Innovation, DETSI), clean-tech and advanced materials start-ups and SMEs (GrapheneX, Zeotech), material suppliers (Grain Research and Development Corporation, GRDC) and respected consultants to the energy and water industries (Oakley Greenwood Pty Ltd). The strong backing from government and industry indicates GETCO2's strength in alignment with cross sector targets for net zero emissions by 2050, and aspirations for a circular economy which supports sustainable development and resource recovery.

Partnerships – globally and locally – with universities, industry and government

Director's Report

1st year

3 day conference

24 collaborative research projects

49 publications

7 centre wide workshops

This is an extraordinary and exciting time to commence our journey as a new ARC Centre of Excellence with the purpose of tackling the biggest challenge of our generation – climate change – by transforming carbon dioxide into useful products.

We have had a flying start, and I am proud to welcome you to our first annual report, where we look back on GETCO2's fantastic first year and the many achievements across the Centre since we commenced in December 2023.

We kicked off the Centre with our inaugural International Symposium on Green Transformation of Carbon Dioxide (ISGTCO2) with the theme "Cooperating on a global opportunity". The symposium embodied the spirit of GETCO2 as an international, inter-disciplinary and highly collaborative ARC Centre of Excellence. The three-day conference attracted over 170 delegates including experts from 10 countries around the world, with 100 presentations spanning the CO_2 reduction technology landscape, from CO_2 capture, carbon bonds, catalysts, membranes, and system simulation to advanced characterisation. The Symposium was an important milestone in bringing experts together from across the world to share their insights and to join forces on the path towards a sustainable future.

As a multi-institutional Centre, I am delighted to see our efforts to work together reflected in 49 publications and over 30 inter-nodal visits across our seven Australian universities. To date, we have held 7 Centre-wide workshops, sharing knowledge and embedding collaborations. Locally, we supported the ARC Centre of Excellence for Quantum Biotechnology in a successful bid to establish the Queensland Quantum Decarbonisation Alliance, and internationally, we are establishing collaborations with researchers at the Research Center for Advanced Science and Technology (RCAST) at the University of Tokyo, Japan. We also supported Partner Investigators at University of Toronto in a successful bid for RECYCLEAN Canada, the Electrochemical Technology Recycling Network. Across the Centre, we have hosted visiting researchers, including Partner and Associate Investigators from China, Japan, India, Brazil, Canada and USA.

We have established a solid research framework, and I am pleased we have 24 collaborative research projects underway. We are committed to developing the next generation of researchers, with our Chief Investigators recruiting more than 30 PhD students and postdoctoral researchers, through a highly competitive process. We have attracted some of the most talented young researchers in the field, from around the world, and importantly, over half of new recruits are women.

It was a privilege to join 25 other ARC Centres of Excellence at the Centre Forum in July, hosted by Digital Child at QUT in Brisbane. The forum heard from QLD Chief Scientist Prof Kerrie Wilson and ARC Executive Director Prof Alastair McEwan, as well as numerous Directors and COOs. I believe it is invaluable to learn from our peers and look forward to strengthening connections with other Centres.

Interest from industry has been significant in our first year. In connection with the Centre's launch, we hosted our first Industry Workshop with 60 participants, and we have engaged with around 30 companies and organisations in Australia and overseas seeking decarbonisation solutions. While we are in the early stages of our research, we are dedicated to building and maintaining dialogues with all stakeholders.

We believe the key to research excellence and innovation is creating a supportive environment which encourages curiosity and collaboration. In late 2024, we held our first Centre retreat bringing together our chief investigators, students, postdoctoral researchers and professional staff. We were pleased to be joined by a number of advisory committee members, industry partners, and associate investigators.

As outcomes from the retreat, we have committed to establishing a number of initiatives such as hosting a decarbonisation hackathon, establishing a program to foster women's career paths in the Centre, and holding master classes for training our early/mid-career researchers in the fundamentals of electrochemistry.

With the foundations laid in 2023/24, the Centre is in a strong position for a productive new year. Guided by our strategic plan and with firm support from our Centre ecosystem, I am confident we will reach our milestones for 2025 and beyond.

I warmly thank all our Centre members and affiliates for your valuable contributions to date. We need everyone on board to play their part, from research innovations to large-scale manufacturing demonstrations. I look forward to working together over the coming years to forge the net-zero transition.

Professor Xiwang Zhang FTSE
Centre Director

We believe the key to research excellence and innovation is creating a supportive environment which encourages curiosity and collaboration.

Governance

Advisory Committee Chairs

Robin Batterham
Strategic Advisory Committee

Anita Hill
Research Advisory Committee

Directorate

Xiwang Zhang
Director

Rachel Caruso
Deputy Director

Eloise Larsen
Chief Operations Officer

Node Directors

Chen
USyd

Knibbe
UQ

Zhao
UNSW

Lee
Griffith

Guo
UoA

Zhang
Monash

Caruso
RMIT

Centre Management Committee (CMC)

Node Directors,
Directorate,
RPC Chair,
Portfolio Leaders

Portfolios

Caruso
Inclusion, Diversity, Equity & Access

Bernhardt
Capacity Building

Martin
Engagement & Partnership

Research Program Committee (RPC)

Caruso
RPC Chair

Li

Zhang

Zhao

Flagship Programs

Rufford

Chen

Hou

Wilson

Research Themes

Research Program Committee (RPC)

Centre Management Committee

The Centre Management Committee (CMC) is at the heart of GETCO2's governance and management structure, with inputs from two advisory committees – Strategic Advisory Committee (SAC) and Research Advisory Committee (RAC) – and the Centre Research Program Committee (RPC).

Centre Operations Team

The Centre Operations Team includes the Chief Operations Officer, Communications and Engagement Officer, Office Coordinator and Node Administrators to support the efficient operation of the Centre.

Strategic Advisory Committee

The Strategic Advisory Committee (SAC) advises the Centre Director, Deputy Director and CMC on strategies for wider linkages at a national and international scale, future visions on policy levers, industry trends and inter/national landscape. The SAC will review Centre performance and advise on the Centre's strategic plan, identify risks and opportunities.

Research Advisory Committee

The Research Advisory Committee (RAC) provides advice to the Centre Director, Deputy Director, and Research Program Committee (RPC) on the research aims, scientific planning and outputs, and international benchmarking of Centre outputs.

Early/Mid-Career Researcher Committee

A newly established Early/ Mid-Career Researcher Committee (EMCRC) will inform and lead Centre initiatives, mentored by senior members. Representatives from the EMCRC will sit on each of the Centre committees.

The three **Portfolios** reflect strategic areas of focus which will underpin the Centre's culture, nurturing future research leaders, supporting partnerships, research translation and wider outreach. To ensure continuity in these Portfolios the members will rotate on a biennial basis.

Our People

Research Advisory Committee

Dr Anita Hill FAA FRACI FSTE (Chair): Dr Anita Hill is an Honorary Fellow in the Active Materials Team in CSIRO Manufacturing. Previously Anita was Chief Scientist and Executive Director of Future Industries at CSIRO. She is a Fellow of the Australian Academy of Science, Fellow of the Australian Academy of Technological Sciences and Engineering, and Fellow of the Royal Australian Chemical Institute. She was a member of the Advisory Boards of the Australian Institute for Bioengineering and Nanotechnology, Australian Centre of Excellence in Electro-materials Science, and Chair of the Science Advisory Board of The Australian Synchrotron.

Professor Benny Freeman FAIChE: Prof Freeman is the William J. (Bill) Murray, Jr. Endowed Chair in Engineering at The University of Texas at Austin and Professorial Fellow in Chemical and Biological Engineering at Monash University, Melbourne. His research focuses on polymer science and engineering, particularly, mass transport of small molecules in solid polymers, and gas and liquid separations. He is Director of the Center for Materials for Water and Energy Systems (M-WET). He is an AIChE Fellow, winning awards, including the AIChE Institute Award for Excellence in Industrial Gases Technology (2008), Clarence (Larry) G. Gerhold Award (2013), Separations Division Founders Award (2022), and the Braskem Award (2023). He is a member of the US National Academy of Engineering.

Emeritus Professor Jurg Keller FTSE DFIWA: Emeritus Prof Keller was the founding Director of the Advanced Water Management Centre (now called ACWEB) (1996-2015) and Chief Research Officer of the Cooperative Research Centre for Water Sensitive Cities (2015-2019). He has over 30 years of experience in water industry research, particularly in biological wastewater treatment, environmental biotechnology, microbial fuel cells and resource recovery concepts. He is a Fellow of Academy of Technology and Engineering (ATSE), Distinguished Fellow of International Water Association (IWA), former Director of the Australian Water Association (AWA), and was Water Professional of the Year (AWA 2013).

Professor Sandra Kentish FSTE: Prof Kentish is a Redmond Barry Distinguished Professor at the University of Melbourne. She is a Project Leader within the ARC Hub for Digital Bioprocess Development, the Dairy Innovation Research Hub and within the Future Fuels CRC. She was Head of the School of Chemical and Biomedical Engineering (2017-2022), Head of the Department of Chemical Engineering (2012-17) and the Discipline Leader for Membrane Technology in the CRC for Greenhouse Gas Technologies (CO_2CRC, 2003-2015). Professor Kentish was selected as one of Australia's Most Innovative Engineers by Engineers Australia in 2017 and as a Woman of Influence by the Australian Financial Review in 2018. She was elected to the Australian Academy of Technology and Engineering (ATSE) in 2019.

Professor David Sinton FAAAS FASME FCAE FCSME FEIC FRSC: Prof Sinton is the Canada Research Chair in Energy and Fluids and a Professor in the Department of Mechanical and Industrial Engineering at the University of Toronto. He is the Academic Director of the Climate Positive Energy Initiative and Director of the CANSTOR Energy NFRF-T research program. Prof Sinton was selected as an NSERC E.W.R. Steacie Memorial Fellow in 2016. He is also a Fellow of the Canadian Society for Mechanical Engineering, American Society of Mechanical Engineers, Engineering Institute of Canada, American Association for the Advancement of Science, Canadian Academy of Engineering, and Royal Society of Canada.

Our People

Strategic Advisory Committee

Professor Robin Batterham AO FREng FAA FTSE (Chair): Prof Batterham has been Kernot Professor of Engineering in the Department of Chemical and Biomolecular Engineering at the University of Melbourne since 2010. He is past President of the Academy of Technology and Engineering (2007-2012), former Chief Scientist of Australia (1999-2005) and for over 20 years Global Head of Innovation (and other positions) in Rio Tinto. Prof Batterham was appointed an Officer of the Order of Australia in 2001 and named in the 2010 Engineers Australia list of the 100 Most Influential Engineers.

Professor Sir Anthony K. Cheetham FRS: Prof Cheetham is widely known for his work on the synthesis and characterisation of functional inorganic and hybrid materials. He is a Research Professor at the University of California, Santa Barbara (UCSB) and a Distinguished Visiting Professor at the National University of Singapore. He was formerly the Goldsmiths' Professor of Materials Science at the University of Cambridge (2007-2017) and the Treasurer and Vice-President of the Royal Society (2012-2017). He is a Fellow of the Royal Society and a member of the American Academy of Arts and Sciences, as well as several other national academies.

Professor Vicki Chen FTSE: Prof Chen is the Provost and Senior Vice-President at the University of Technology Sydney (UTS). She was the Director of the UNESCO Centre for Membrane Science and Technology at UNSW, one of only four centres globally. She has over 25 years of research experience in membrane separation, gas separation, bio catalytic systems, nanomaterials, and water treatment. Prof Chen is a Fellow of the Australian Academy of Technology and Engineering (ATSE), and formerly Executive Dean of the Faculty of Engineering, Architecture and IT at the University of Queensland, and a board member of Queensland Minerals and Energy Academy.

Professor Paul Greenfield AO: Prof Greenfield is former Chair of the Australian Nuclear Science and Technology Organisation (ANSTO) and Chair of the Cooperative Research Centre for High Performance Soils. He is a chemical engineer who worked at The University of Queensland for more than 35 years, holding senior roles including Deputy Vice-Chancellor (Research), Senior Deputy Vice-Chancellor, Provost, and Vice-Chancellor. Prof Greenfield was awarded a Centenary Medal in 2001 for service to Australian society in chemical engineering, and was appointed an Officer of the Order of Australia in 2006.

Adjunct Professor John McGagh AM FTSE FIChemE: Adj Prof McGagh has over 35 years of industrial experience spanning a range of commercial and technical global roles. He served as President of the international Institution of Chemical Engineers. Previously, Head of Innovation at Rio Tinto, Adj Prof McGagh led the successful effort to deliver industrial implementation of significant technological change. He has extensive experience in dealings with political, commercial and other representative bodies spanning a range of countries and cultures for safety and sustainable development.

Dr Sarah Ryan FAIE FTSE MAICD: Dr Ryan has 30 years of international experience in the oil and gas industry. Initially, Dr Ryan spent 20 years in various technical, operational and senior management positions, including 15 years with Schlumberger Limited in Australia and overseas. Dr Ryan spent 10 years as an equity analyst covering natural resources with institutional investment firm Earnest Partners in the USA. Dr Ryan is a Fellow of the Australian Academy of Technology and Engineering, a Fellow of the Australian Institute of Energy, a Member of the Australian Institute of Company Directors, a Member of Women Corporate Directors, and a member of Chief Executive Women.

Dr Julia Woertink: Dr Woertink is a distinguished leader in the field of chemical engineering, currently serving as the Chief Technology Officer for Dow Asia Pacific. Based in Singapore, she oversees Research & Development, focusing on innovation strategy, customer engagement, talent strategy, growth platforms, and external partnerships. Her career at Dow spans over 13 years, with notable roles including R&D Director for Core R&D, Packaging & Specialty Plastics, M&A Integration, and Global R&D. She has demonstrated exceptional leadership in directing global R&D departments, integrating R&D post-merger, and developing advanced materials for electronic applications.

Our People

Chief Investigators

Prof Debra Bernhardt
The University of Queensland

Dr Jingwei Hou
The University of Queensland

A/Prof Tom Rufford
The University of Queensland

A/Prof Jie Zhang
Monash University

Prof Rachel Caruso
RMIT University

A/Prof Ruth Knibbe
The University of Queensland

Prof Yansong Shen
University of New South Wales

Prof Xiwang Zhang
The University of Queensland

Prof Yuan Chen
The University of Sydney

Prof Adam Lee
Griffith University

A/Prof Simon Smart
The University of Queensland

Prof Chuan Zhao
University of New South Wales

Prof Christian Doonan
The University of Adelaide

Dr Fengwang Li
The University of Sydney

Prof Andrew Whittaker
The University of Queensland

Prof John Zhu
The University of Queensland

Prof Zaiping Guo
The University of Adelaide

Prof Darren Martin
The University of Queensland

Prof Karen Wilson
Griffith University

Our Chief Investigators span 7 universities across Australia.

Our People

Professional staff

Anna Knudsen
Communication and Engagement Officer
The University of Queensland

Dr Eloise Larsen
Chief Operations Officer
The University of Queensland

Aimee Sisley
Office Coordinator
The University of Queensland

Kaori Sugita
Senior Project Officer
The University of Queensland

Partner investigators

Prof Saleem Ali
University of Delaware

Prof Aimy Bazylak
University of Toronto

Dr Elena Corbos
Johnson Matthey

Dr Matthew David
GrapheneX

Dr Michael Groszmann
Grains Research & Development Corporation (GRDC)

Prof Feng Jiao
Washington University in St. Louis

Dr Ben Muir
CSIRO

Prof Brian Seger
Technical University of Denmark

Adj Prof Jim Snow
Oakley Greenwood

Ms Sylvia Tulloch
Zeotech Limited

Prof John Varcoe
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Prof Dionisios Vlachos
University of Delaware

Associate investigators

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RMIT University

Prof Alexis Bell
Berkeley University of California

Dr Cameron Bentley
Monash University

Prof Suresh Bhatia
The University of Queensland

Prof Aijun Du
Queensland University of Technology

Dr Timothy Duignan
The University of Queensland

Dr Changkui Fu
The University of Queensland

Adj Prof Lei Ge
University of Southern Queensland

Dr Hima Haridevan
The University of Queensland

A/Prof Jeffrey Harmer
The University of Queensland

Prof Graeme Henkelman
The University of Texas At Austin

A/Prof Rosalie Hocking
Swinburne University of Technology

Dr Bernt Johannessen
Australian Nuclear Science and Technology Organisation

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Dr Muxina Konarova
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University of Delaware

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Dr Mengran Aaron Li
The University of Melbourne

Prof Qin Li
Griffith University

Dr Tao Li
The University of Adelaide

Dr Sailin Liu
The University of Adelaide

Dr Travis Mitchell
The University of Queensland

Dr Gloria Milena Monsalve Bravo
The University of Queensland

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University of Southern Queensland

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The University of Queensland

Dr Neil Robinson
The University of Western Australia

Prof Edward Sargent
University of Toronto

Prof Adrian Sheppard
Australian National University

Prof Lei Shi
Jilin University

Prof Ziqi Sun
Queensland University of Technology

Dr Mike Tebyetekerwa
The University of Queensland

Prof Hongxia Wang
Queensland University of Technology

Prof David Winkler
La Trobe University

Dr Aoni Xu
The University of Sydney

Prof Liu Ye
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Our People
Postdoctoral Researchers

Postdoctoral Researchers

Dr Ray Wei Bi
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University of New South Wales

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Dr Haoxin Mai
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Dr Muhammad Zubair
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Our People
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PhD students

Tanika Duivenvoorden
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Ruirui Liu
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Ying Liu
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Beibei Ma
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The University of Queensland

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Mengmeng Yang
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Monash University

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Monash University

Chunlu Ding
Monash University

Liuru Fang
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Mengmeng Jin
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Anoja Kawsihan
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Sachin Kumar
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Lei Liu
Monash University

Mengjie Liu
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Hanan Mohamed Mohsin
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Ni Made Sri Suliartini
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Haoming Yu
Monash University

Xiangyi Zha
The University of Queensland

Master Students

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The University of Queensland

Grace Huang
The University of Sydney

Zhecheng Wai
The University of Queensland

Tian Wang
The University of Queensland

Honours Students

Sophia Banks
The University of Queensland

Xin Chen
The University of Sydney

Jingwen Chi
The University of Sydney

Jun Wu
The University of Sydney

Activity Report

Dr Eloise Larsen
Chief Operations Officer

With the bid process taking almost two years, I am excited that we are finally a fully operational Centre! In February 2024, I was privileged to be appointed as GETCO2's Chief Operations Officer.

It is a dream job, working with world-leading scientists and engineers to develop a revolutionary technology, equipping the next generation with the skills and tools that will help combat climate change.

Once the funding announcement was made, we proceeded to make preparations for commencement in December 2023. I am proud that with the cooperation and support of our partners we achieved our commencement deadline, signing agreements with 19 partners.

Our commitment to working together began prior to commencement with three workshops bringing our CIs together to develop detailed project proposals. We also established our governance framework, with decision-making committees and our advisory committees meeting in-person for the first time at our international symposium ISGTCO2 in Nov/Dec 2023. Together, we achieved a lot prior to commencement!

In 2024, we established regular meeting routines for our committees, and developed our suite of Policies/Procedures. We carefully developed our Strategic Plan with input from centre members. Our Portfolio Leaders developed the Centre Plans in conjunction with their respective committee members. Our advisory committees reviewed all the Plans and provided useful feedback for consideration and incorporation.

Committee meetings to date	Online	Face to face
SAC	–	2
RAC	–	2
CMC	8	2
RPC	15	2
Directorate	65	1
EMCR Working Group	2	1

I was excited in Feb 2024, to join COOs from 27 ARC Centres of Excellence around the nation, at the University of Newcastle, jointly hosted by OzGrav and COEMinerals. ARC Executive Directors, Prof Alastair McEwan and Prof Anika Gauja presented to the forum and contributed to round table discussions. In particular, sessions sharing best practice IDEA (COEMinerals) and Indigenous engagement (COE Indigenous Futures, and COE Indigenous and Environmental Histories and Futures) were of great benefit. It was also a wonderful experience to meet the many professional staff teams at the Centre Forum in July at QUT, hosted by Digital Child. We learnt from Gregory Egert (Uncle Cheg), Elder in Residence of Indigenous Futures, that the surrounding lands have been an important meeting place for learning, knowledge-sharing and mentoring for thousands of years. We enjoyed networking and sharing experiences with our counterparts from other Centres. This community of practice is invaluable for peer mentoring and knowledge-sharing to amplify the impact of our Centres.

We recruited Kaori Sugita and Aimee Sisley to our Centre Operations team in March/April 2024, located in the UQ office. The Operations team hit the ground running, working hard to establish a data-sharing platform across the seven Australian universities, a financial and activity reporting routine, and a centralised data platform for capturing report information. The operations team also planned and organised the logistics for the exciting official launch and first industry workshop at UQ, the CORR training workshop at USyd, and the hugely successful Annual Retreat at Yarra Valley, plus other smaller events. Overall, a massive achievement for a small team, especially in the first year of operation!

In summary, I feel we have established a comprehensive governance framework with both achievable and ambitious targets, combined with effective communication channels and rigorous data collection and storage, to hold us in good stead over the coming years.

Timeline

2023

Q1

February
Research Workshop 1
Brisbane

Q2

June
Research Workshop 2
Sydney

June
GETCO2 branding
established

Q3

August
Research Workshop 3
Brisbane

August
Research Project
Plans in place

Q4

November/December
ISGTCO2, Brisbane

December
GETCO2 officially
commences!

December
First Advisory
Committee meeting

2024

Q1

February
Began recruiting
PhDs & postdocs

April
Operations staff
appointments

Q2

May
EMCR Training
Workshop, Sydney

Q3

July
GETCO2 Launch,
Brisbane

July
Industry Workshop,
Brisbane

Q4

October
Inaugural Retreat,
Yarra Valley

December
First Node Spotlight,
Brisbane

Highlights

Eloise Larsen
Chief Operations Officer

ISGTCO2

GETCO2 hosted the inaugural International Symposium on Green Transformation of Carbon Dioxide (ISGTCO2), 28 November to 1 December 2023, with over 170 experts from around the world gathering in Brisbane.

With the theme, "Cooperating on a global opportunity," ISGTCO2 aimed to inspire and advance research collaborations targeting carbon dioxide mitigation, developing solutions to accelerate progress toward net-zero targets.

The symposium was opened by **Dr Mark Jacobs from the Queensland Government Department of Environment, Tourism, Science and Innovation**, and featured distinguished international speakers, including:

Dr Jennifer Wilcox | USA Department of Energy

Sir Professor Anthony Cheetham | University of California Santa Barbara

Professor Alexis Bell | University of California, Berkeley

Professor Feng Jiao | Washington University in St. Louis

Over three action-packed days, ISGTCO2 covered 100 multidisciplinary presentations across three concurrent streams. The topics spanned CO_2 capture, CO_2 reduction technology, catalysts, membrane electrolysis, system simulation, advanced characterisation, and carbon bonds.

From left: Dr Mark Jacobs; Plenary talk by Professor Sir Anthony Cheetham; Prof Sandra Kentish
Background: Symposium delegates at the Gala Dinner at Customs House in Brisbane.

170 delegates from around the world

100 presentations

10 countries represented

Centre Director Xiwang Zhang with Chief Investigator Chuan Zhao and colleagues.

The Symposium volunteers celebrating a successful first day.

The Symposium thrust GETCO2 into the international landscape, marking the beginnings of our world-leading work. The Symposium was buzzing with excitement, bringing together established and potential partners and associates to exchange the latest findings and progress in CO_2 conversion technologies. It set the scene for GETCO2 to spark collaborations and grow networks with specialists and researchers in this evolving field.

Establishing social connections at the Symposium were just as important as making scientific connections. During one of the Symposium social activities, international and local delegates alike enjoyed the chance to network al fresco on a balmy Brisbane summer evening, while meeting some unique Australian wildlife overseen by a local wildlife rescue organisation. In grand style, the Gala Dinner was held at UQ's beautiful heritage-listed Customs House by the iconic Brisbane River. We were humbled to have Turrbal Dippil Elder Aunty Kathryn Fisher, open the dinner with a Welcome to Country, sharing some of her personal lived experiences with us. Overall, with so many of our partners and associates, both local and international, attending the Symposium we felt surrounded by the support of our community – a fantastic foundation on which to commence the Centre!

Centre Director Xiwang Zhang meets the local wildlife.

Cooperating on a global opportunity.

GETCO2 centre members and delegates at ISGTCO2.

Highlights

Eloise Larsen
Chief Operations Officer

Launch

GETCO2 was officially launched on 30 July 2024 at The University of Queensland in the award-winning Andrew N. Liveris Building, home to UQ's School of Chemical Engineering.

In a strong show of support, the launch event featured insightful speeches from dignitaries, including **Dr Richard Johnson**, Acting Chief Executive Officer of the Australian Research Council (ARC), **Professor Karen Hussey**, Chair of the Emissions Reduction Assurance Committee (ERAC), and **Professor Aidan Byrne**, Provost of The University of Queensland, all acknowledging the enormous challenges and at the same time the enormous opportunities which lay ahead.

From left: Professor Sue Harrison, Executive Dean, UQ EAIT Faculty, Professor Aidan Byrne, Provost of UQ, Professor Xiwang Zhang, Centre Director GETCO2, Professor Rachel Caruso, Deputy Director GETCO2, Professor Justin Cooper-White, Head of School, School of Chemical Engineering, UQ, the Honourable Senator Anthony Chisholm, Assistant Minister for Education, Regional Development, Agriculture, Fisheries, and Forestry, Dr Richard Johnson, Acting Chief Executive Officer of the Australian Research Council (ARC).

Centre Director
Professor Xiwang Zhang.

Dr Richard Johnson,
Acting CEO of the ARC.

Professor Karen Hussey,
Chair of the Emissions
Reduction Assurance
Committee (ERAC).
(Photo credit: Marc Grimwade)

Centre Director Professor Xiwang Zhang highlighted the dual potential of electrochemical conversion, flipping CO_2 from being the biggest problem of our time to becoming a valuable global resource. Prof Zhang confirmed that GETCO2's ground-breaking science will contribute to a smart and clean path to net zero emissions by 2050, positioning Australia to lead the way.

In officially launching the Centre, the **Honourable Senator Anthony Chisholm**, Assistant Minister for Education, Regional Development, Agriculture, Fisheries, and Forestry emphasised GETCO2's role in fast-tracking the path to net zero while supporting Australia's green manufacturing revolution.

Fast-tracking the path to net zero.

Highlights

Eloise Larsen
Chief Operations Officer

97%
of participants rated the overall retreat experience as “Excellent”.

Centre retreat

At our inaugural retreat held in the scenic Yarra Valley in October 2024, we brought together 77 Centre members comprising researchers and students from our seven nodes, advisory committee members, associate investigators, and industry partners for the first time.

Our Research Themes, Flagship Programs and Portfolio teams met over the course of the 3-day event, enabling participants to connect across institutions and importantly, plan together for the year ahead. Our CMC and RPC also met with Advisory Committee members for performance-reporting and feedback/guidance.

Based on discussions at the retreat Director Prof Xiwang Zhang firmly committed to establishing a number of important initiatives in 2025 (see "2025 Activity Plan" on page 72, page 72). The retreat laid a fantastic foundation for our collaborative efforts towards achieving our goals for 2025 and beyond.

“As a new PhD student, the retreat was a fantastic opportunity to meet other researchers, build connections, and get oriented within the academic community”.

“The team building activities and discussions over lunch were excellent opportunities to get to know other members better and make connections. The presentations on both IP and delivering presentations were excellent. The theme meetings were very insightful.”

Our post-event survey showed 97% of participants rated the overall retreat experience as “Excellent”.

Retreat participants said that the ‘minute to win it’ team-building activity, the sessions about professional development and intellectual property, truth-telling with Dr Lois Peeler AM, and the EMCR get-together meeting were especially valuable. The social highlight of the retreat was our Halloween-themed dinner with a myriad of scary and creative costumes, with even the Centre Management and Advisory Committee members getting into the ‘spirit’!

Converting CO_2 into valuable chemicals and fuels.
Catalysing a green manufacturing and export revolution.
Paving the smartest and cleanest path to net zero.

OUR RESEARCH

Turning a crisis into an opportunity.

In our first year of operation, our people and research are demonstrating outstanding impact nationally and internationally, academically and much wider. Highlights include 4 CIs named as 2024 Clarivate Highly Cited Researchers, and 2 CIs inducted as ATSE Fellows. The work of two of our CIs was nominated for the 2024 Australian Museum Eureka Prize. Our publications show deep partnership with our Associate Investigators and international research leaders. Close to 100% of our collaborative publications were in Q1 journals, and 25 papers received Altmetric attention.

Deputy Director's Report

Professor Rachel Caruso,
RMIT

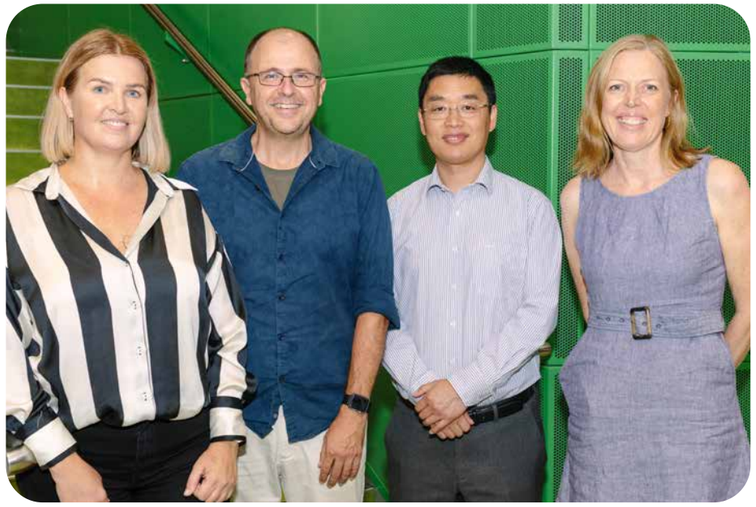
I am excited that we have established some 24 research projects across GETCO2. Leading up to commencement in 2023, we held three in-person research program workshops in Brisbane and in Sydney with our 19 Chief Investigators from 7 Australian universities, to develop detailed project proposals.

At these workshops, we discussed key objectives and milestones for the Centre, and importantly, how Research Themes and Flagships can connect through projects and people.

In particular, at our in-person 'kick-off' workshop in February 2023, we had incredible support from CE20 ARC Centres of Excellence, with insight and advice from EQUS Director Prof Andrew White and COO Ms Katrina Tune, and Plant Success Director Prof Christine Beveridge. These research leaders shared their knowledge and experience in running a successful Centre in terms of strategy, vision, collaboration, culture and operations. We were also fortunate to be joined online by Ms Liz Visher, Director of Major Investments ARC, who shared both congratulations and expectations from the ARC around research excellence, collaboration and capacity building over the lifetime of the Centre.

I am pleased to report that our researchers are committed to their service roles within the Centre, and we have established regular Research Program Committee meetings, holding 17 meetings (including 2 in-person) over 2023-2024. We continue to capitalise on our collaborative network across the Centre to amplify the work of our research programs. To enable some agility in our research program to explore serendipitous discoveries and respond to new demands, we established the governance for award of Strategic funds. We held our first round in 2024, awarding funds to support important emerging projects at 3 of our Australian university partners.

Now that our first round of recruitment is almost complete, with CI teams growing with new postdoctoral researchers and PhD students, I am excited to anticipate the exponential increase in our research activity and outputs for the coming years ahead.



From left: ARC CoE EQUS Director, Andrew White and Chief Operations Officer Katrina Tune with Director Xiwang Zhang and Chief Operations Officer Eloise Larsen.

From left: GETCO2 Chief Operations Officer Eloise Larsen and Deputy Director Rachel Caruso with ARC CoE Plant Success Director Christine Beveridge and GETCO2 Director Xiwang Zhang.

Exploring serendipitous discoveries and responding to new demands.

Research Advisory Committee Chair Dr Anita Hill greatly inspired us by sharing her vision for GETCO2 at our first CI workshop in February 2023. Prior to Centre commencement, we convened and met dual-mode with our esteemed Research Advisory Committee at our inaugural conference ISGTCO2 (Brisbane, Nov 2023). Both Strategic and Research Advisory Committee members participated in our official launch and shared decades of experience on the discussion panel at our first Industry Workshop (Brisbane, July 2024). Committee members also participated in our inaugural Retreat (Yarra Valley, October 2024), generously giving their valuable time to meet our Centre members, and again, contributing enormously to our vision for the next few years. Their guidance is already proving incredibly valuable to planning for Centre impact, and we appreciate their insightful contributions and enthusiasm from very early in GETCO2 establishment.

24
research projects established

3
research program workshops

17
Research Program Committee meetings

Research Framework

Our four Research Themes focus on advancing fundamental knowledge and technology associated with electrolyser components.

The innovations generated from the Research Themes will support the development of next-generation CO_2 electrolysers that can produce and co-produce commercially attractive products via our Flagship Programs.

Our three Flagship Programs aim to develop processes for the conversion of CO_2 to high-value, commercially relevant target products, applying the innovations generated from our four Research Themes.

Flagship Program 1

Multicarbon compounds (e.g., ethylene, ethanol)

Flagship Program 2

Organonitrogen compounds (e.g., urea, methylamine)

Flagship Program 3

Value-added co-products (e.g., formic acid, lactic acid)

Integrated Research Program

Themes: Advance knowledge and technology

Flagships: Application – Chemical and fuels production

Research Theme 1

Electrode & Electrolyser


Theme leaders:
Professor Tom Rufford and Professor Yansong Shen

Efficient, durable, and low-cost CO_2 conversion requires integration of components which enables efficient transport and minimal resistance to the catalytic reactions at the electrodes.

Challenges in electrolyser operation at the high current density required for practical applications include:

(1) Access of CO_2 to active catalyst sites,

(2) Chemical and mechanical stability of components, and

(3) High energy and economic costs of CO_2 capture and product separation.

Aims

To identify and develop new electrode architectures and fabrication routes for integrated electrolyser designs via a deep understanding of gas/liquid/solid interfaces, mass and charge transport mechanisms and kinetics.

Outcomes

Fundamental understanding of the structure and dynamic stability of electrical double layers and gas bubbles will guide electrocatalyst, electrode and electrolyser designs, with knowledge translatable into other disciplines such as colloid and interface science. Outcomes are expected to inform other fields including fuel cells, photo(electro) catalysts for water splitting and microfluidics.

Projects

RT1A: Managing Gas and Liquid Transport in Electrolysers

RT1B: Novel electrodes and electrolyser designs and fabrication methods

RT1C: Protocols for electrolyser testing, design, and scale-up

RT1D: Design of Cu-based cathodes and electrolysers

RT1E: Electrochemical Process Design and Technology Adoption

Research Theme 2

Catalyst


Theme leaders:
Professor Yuan Chen and Associate Professor Jie Zhang

Breaking the C=O bond in CO_2 and subsequent formation of C-H, O-H and C-C bonds, occurs through a complex set of reaction pathways and intermediates, yielding a diverse range of products.

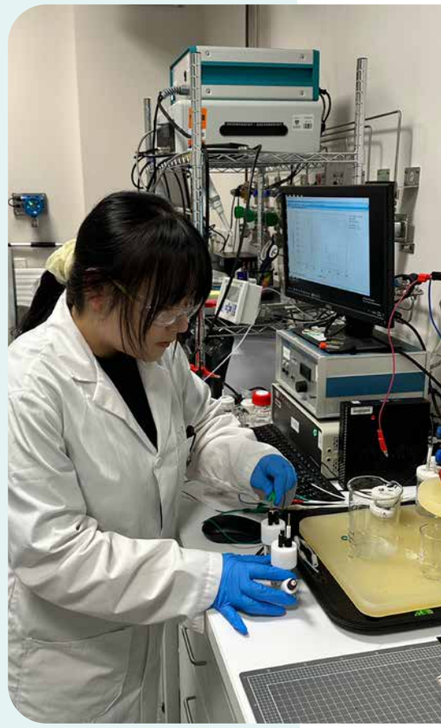
Catalysts made from elements such as silver, tin and copper are used to increase selectivity and drive reactions to the desired products. Challenges for catalysts operating at high current densities required for industrial scale CO_2 conversion include selectivity, activity, stability and cost.

Aims

To develop a suite of efficient catalysts from sustainable elements for synthesising high-value products from CO_2 electrolysis, via a holistic understanding of mechanisms and standardised testing under industrially relevant conditions.

Outcomes

Mechanistic and kinetic models will inform a set of reliable benchmarks to assess and enhance real-world electrocatalyst performance at the system level. This will underpin the discovery and patenting of new electrocatalyst formulations and ionic liquids for CO_2 conversion to high-value products.



Projects

RT2A: A standardised, high-throughput electrocatalyst discovery platform

RT2B: Mechanistic insight and quantitative structure-reactivity relationship

RT2C: Engineering catalyst surfaces to improve selectivity and stability

Research Theme 3

Membranes


Theme leaders:
Dr Jingwei Hou and Professor Andrew Whittaker

In CO_2 electrolysers, membranes separate the cathode and anode chambers allowing selective exchange between them. Commercially available polymer membranes perform poorly with extended use, and there are significant gaps in understanding the complex transport mechanisms in these materials.

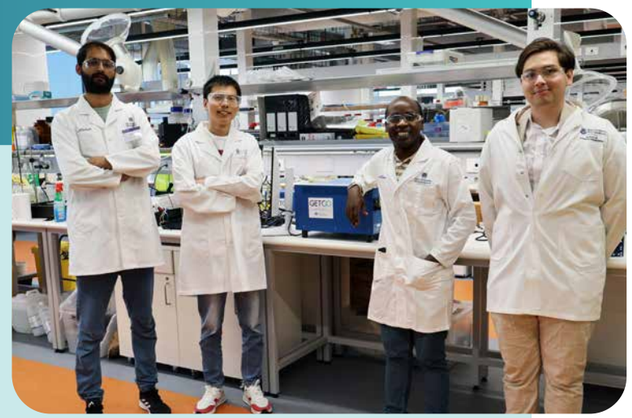
Membranes can also be used 'upstream' and 'downstream' in CO_2 conversion. Upstream membranes could enable CO_2 conversion from dilute CO_2 sources while downstream membrane separation can help harvest targeted products.

Aims

To develop high-performance membranes to achieve selective separation of ions and molecules crucial to CO_2 electrolyser operation by establishing design and fabrication principles and operating regimes.

Outcomes

New characterisation and modelling tools will support the development of novel membranes with molecule-specific pore geometries and chemical functionality. New membranes with precise molecular separation abilities will have far-reaching industrial impacts in pharmaceutical, energy, environmental, petrochemical and clinical applications.



Projects

RT3A: Advanced membranes for gas separation – enabling CO_2 capture from flue gas and direct air capture

RT3B: Robust ion-exchange membrane for CO_2 electrolyser

Research Theme 4

Characterisation & Computation


Theme leaders:
Professor Karen Wilson and Professor Debra Bernhardt

Knowledge of molecular mechanisms of electrocatalytic reactions is crucial to improve performance and lower costs of CO_2 electrolysis.

The integration of the components of CO_2 electrolysis is incredibly complex, hence characterising operation at scales from single atoms to a full electrolyser system is a grand challenge in electrocatalysis. This challenge requires a new toolbox of experimental and computational techniques spanning extreme spatiotemporal resolution, and with higher sensitivity and accuracy than currently possible.

Aims

To develop a toolbox of advanced characterisation and computational modelling methods to advance fundamental knowledge of CO_2 electrolyser and components from atom to system levels.

Outcomes

Understanding the chemical nature and behaviour of catalysts and membranes at the atomic level will underpin models for electrolyser scale-up and optimisation. New operando reaction cells and computational models for studying dynamic transport and reaction processes will significantly benefit catalysis, materials and corrosion science, and chemical engineering communities.

Projects

RT4A: Cell designs for operando spectroscopy and microscopy

RT4B: Advanced imaging

RT4C: Kinetics and mechanisms across length scales

FLAGSHIP PROGRAM 1


Program leaders:
Dr Fengwang Li and Professor John Zhu

Multicarbon compounds via carbon-carbon bond formation

The electrochemical conversion of CO_2 to multicarbon compounds such as ethylene, ethanol, acetic acid, propylene, and propanol would be a major scientific and technological breakthrough for industry and the economy.

Avoiding fossil fuels, CO_2 conversion could exploit cheap and abundant renewable electricity and mitigate greenhouse gas emissions.

Outcomes

Knowledge and outputs from the Research Themes will be applied to address the grand challenge of C-C coupling during CO_2 electrolysis, a key reaction step in producing any multicarbon compound. Integrating innovations in catalysts, electrode, membrane and electrolyser design will significantly improve energy efficiency. Optimising operating life under practical working conditions will facilitate further scale-up and pre-commercialisation development.

Projects

FP1A: Ethylene electrosynthesis from CO_2/CO

FP1B: Integrated CO_2 capture and electrochemical conversion from flue gas

FLAGSHIP PROGRAM 2


Program leaders:
Associate Professor Jie Zhang and Professor Adam Lee

Organonitrogen compounds via carbon-nitrogen bond formation

Production of organonitrogen compounds commonly used as fertiliser, currently relies on ammonia manufactured from the energy-intensive and fossil-fuel-based Haber-Bosch process.

Electrochemical CO_2 electrolysis powered by renewable electricity offers a green solution that the world urgently needs for sustainable agriculture. However, product selectivity and energy efficiency are currently major hurdles in organonitrogen production via CO_2 electrolysis.

Outcomes

Factors that govern electrochemical C-N bond formation will be revealed by mechanistic studies guided by computation. High throughput screening will deliver advanced electrocatalysts for organonitrogen compound synthesis and facilitate the discovery of electrocatalysts for direct N2 use. Full electrolysis cells will be tested and optimised under industrially relevant conditions for scale-up.

Projects

FP2A: Urea/Amide/Amines from CO_2/CO and inorganic nitrate/NO2

FP2B: Amino acids from air

FLAGSHIP PROGRAM 3


Program leaders:
Professor Chuan Zhao and Professor Christian Doonan

Value-added co-products via anodic oxidation of organic compounds

Electrochemical CO_2 reduction at the cathode is typically coupled with the oxygen evolution reaction (OER) at the anode. OER accounts for >90 % of electrical energy consumed by the CO_2 electrolyser.

Developing alternative anodic reactions other than OER to enhance the overall energy and process efficiency would be transformative.

Outcomes

A new strategy for replacing OER with organic compound oxidation will deliver a step-change in the energy efficiency and economics of CO_2 electrolysers. A range of high-performance catalysts will be developed to greatly improve reactions, and novel flow-based electrolyser systems will be developed. Critical to the circular carbon economy, alternative chemical feedstocks will be established, consequently having a broad impact on manufacturing, agronomy and retail sectors.

Projects

FP3: Development of alternative anodic oxidation reactions for coupling with CO_2 electroreduction

Strategic projects

In our first year of operation, we developed the governance framework and procedure for awarding Strategic projects of high priority to the Centre, to seize new opportunities and explore research spinning out of our core programs.

From our Centre Strategic Funds, we awarded a total of $936K to five projects across our Australian partner universities, with those universities co-contributing over half of that amount in new funding to support local establishment of the projects:

- Development of efficient anodic oxidation reactions for coupling with CO_2 electroreduction (UNSW)
- Data-driven description of cation effects in CO_2 electroreduction (USyd)
- In situ nanoscale characterisation capacity – Nano Spectrochemical Imaging Platform (USyd)
- Cell designs for operando spectroscopy and microscopy (GU)
- Advanced CO_2 electrolyser performance testing facility – Stage 1 (UQ)

2024 Research Impact

49
Publications

312
Citations

6.9 average citations per paper

214
News and social media mentions

Top 3 collaborating countries:

China

United States

New Zealand

GETCO2 published with researchers from 15 countries.

Journal quality

(Percentage of publications in Q1, Q2 and Q3 journals):

97.78% in Q1

Top 3 ASJC subject areas:

Chemistry

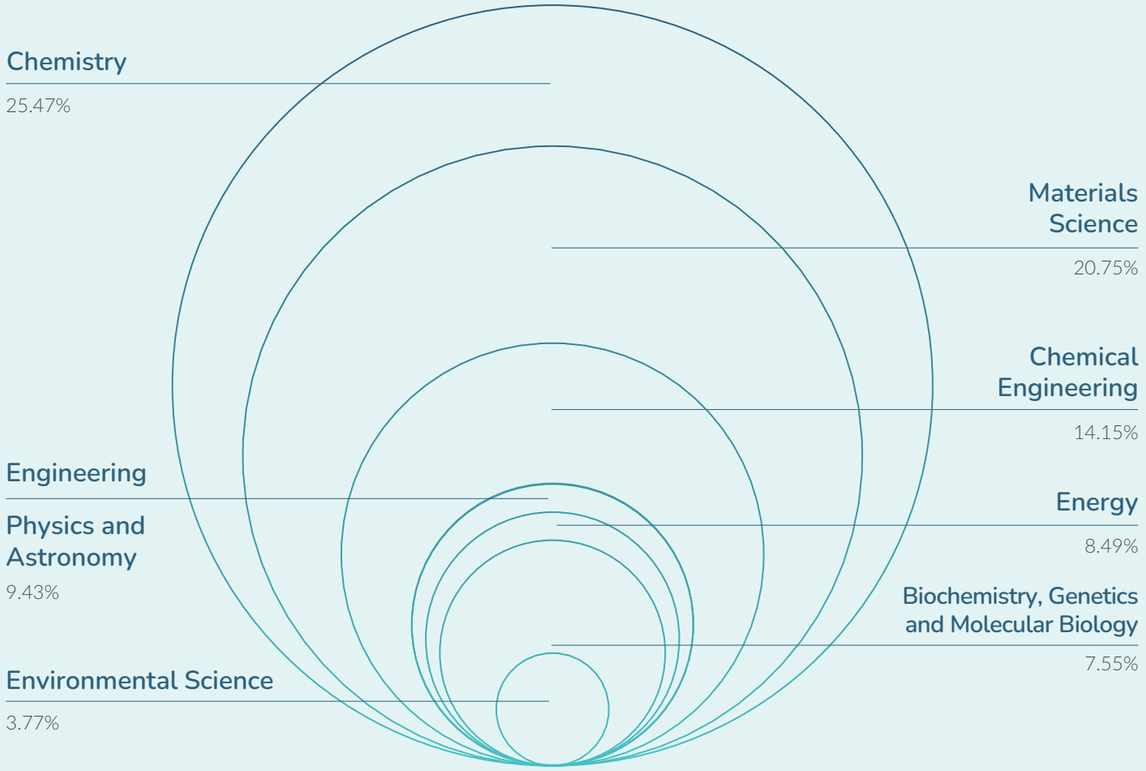
Materials Science

Chemical Engineering

Geographical collaboration:

International collaboration	67%
National collaboration	57%

Percentage of 2024 publications by subject area:



Scopus, SciVal Elsevier, Web of Science, Clarivate Analytics, Altmetric Explorer, Digital Science 2025.

Converting CO_2 into valuable chemicals and fuels.
Catalysing a green manufacturing and export revolution.
Paving the smartest and cleanest path to net zero.

OUR COMMUNITY

Turning a crisis into
an opportunity.

Inclusion, Diversity, Equity and Access (IDEA)

Chairs: Professor Rachel Caruso and Professor Xiwang Zhang

GETCO2 is committed to Inclusion, Diversity, Equity and Access (IDEA) principles because we believe excellence is achieved through differences in thought, approach and delivery. We will establish a culture where people feel valued and respected with all voices being heard and opinions considered.

Gender equity has been well recognised as an issue in STEM areas with less than 20% of commencing engineering students in Australia identifying as women. GETCO2 will show leadership in supporting women and increasing their involvement in STEM. GETCO2 will facilitate a career pipeline, investing in women at all stages of their careers, from inspiring school students to supporting our senior leaders.

We will consider IDEA in recruitment processes, encourage flexible working conditions, and build leadership skillsets in our researchers and professional staff.

As a Centre we will create opportunities to improve our understanding of Aboriginal and Torres Strait Islander Cultural knowledges and perspectives through Indigenous-led training, be informed by Indigenous-led approaches, and contribute to creating pathways for Indigenous individuals in the STEM community.

Working with GETCO2's Capacity Building Portfolio and Engagement and Partnerships Portfolio, these approaches will deepen our appreciation of IDEA, and establish a sustainable and empowered community.

Activities in 2024

Indigenous knowledges and perspectives

At our International Symposium we had the privilege of meeting Aunty Kathryn Fisher, a First Nations elder who was born and raised on the Cherbourg Aboriginal Reserve and has strong kinship ties to the Turrbal People. Aunty Kathryn delivered a Welcome To Country, sharing her personal lived experiences and the profound spiritual connection she has to her people, the land, and traditions.

At GETCO2's 2024 retreat, Dr Lois Peeler AM, Elder-in-Residence at Worawa Aboriginal College and NAIDOC 2022 Female Elder of the Year spoke about colonisation and how it has impacted generations of Aboriginal peoples in Australia. Dr Peeler tested our knowledge of Indigenous names, peoples and places with an interactive and engaging quiz.

From left: Aunty Kathryn Fisher; Dr Lois Peeler AM.

Travel awards for carers

The Centre has established a Carer Funding Policy/ Procedure to recognise the vital role that carers play in enabling researchers to fully engage in their professional pursuits. The aim of the policy/procedure is to use grant funds to support carers in various ways, ensuring they have the necessary resources to participate in conferences, professional events, and pursue leadership opportunities. Initiatives include travel awards for offsetting childcare expenses and costs associated with conference attendance or committee work.

The IDEA working group discussing how GETCO2 can build a culture based on IDEA principles.

Node Spotlights

We have initiated Node Spotlights to enable inclusive location-based gathering and knowledge-sharing at our Nodes. The first was held at UQ, with 50 people attending, including CIs, students, postdoctoral researchers and AIs. These Spotlights are not just about the research but importantly, they are about us getting to know each other better, creating an informal environment where we can share our experiences and understand more about each other.

PhD student Hirusha Hansamali Rajapaksha Mudiyanselage presenting her research profile and sharing her cultural background with us at the inaugural Node Spotlight at UQ.

GETCO2 at UQ Ally's 'Rainbow Bake Off' competition in 2024.

Inclusion, diversity, equity and access are the foundations of GETCO2 culture.

Purpose

The purpose of the IDEA Plan is to establish GETCO2's commitment to IDEA through setting clear objectives and actions.

Objectives

Centre participants will consider IDEA first and foremost for all Centre endeavours, including:

- **decision-making** – balance in panels, committees and management
- **activities** – recruitment, flexible work arrangements, imagery and branding
- **training** – leadership growth, mentoring, education and outreach

Strategy

Develop the Centre's IDEA Plan and monitor its implementation, making sure that inclusion, diversity, equity and access are foundational in the GETCO2 culture and activities.

Develop a Centre recruitment policy and monitor gender equity in recruitment of PhD students, researchers and professional staff to ensure the Centre is consistent with reportable Key Performance Indicators, taking action if not being achieved.

Monitor gender equity and report to the Centre Management Committee (CMC) regarding composition of recruitment panels and selection pools, participants in key research programs and governance committees, mentoring programs, and outreach activities to the broader community.

Leverage established partner university initiatives, e.g., UQ's Women in Engineering Program, and provide additional training and support where gaps are identified.

Engage with organisations such as Women in Technology and Science in Australia Gender Equity (SAGE), Equal by 30, and ATSE Elevate.

Embed IDEA when planning professional events, panels and conferences, at all costs avoiding unreasonably increasing the workload of underrepresented groups.

Promote the visibility and contribution of women in STEM in public and professional forums, online and in-person.

Focus on flexible and balanced work/life friendly policies, establishing Centre awards to offset childcare and costs associated with conference attendance or committee work.

Support gender balance and diversity in leadership through targeted mentoring and coaching programs for women researchers to grow the future leadership pipeline.

Provide centre-wide IDEA education and training at GETCO2's annual conference.

Engage with participating universities' Reconciliation Action Plans (RAPs) for training and education on the concept of Indigenous-led research, integral to the Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS) code of ethics.

Connect with and learn more about Indigenous Knowledges and perspectives from the ARC Centre of Excellence for Indigenous Futures and the ARC Centre of Excellence for Indigenous and Environmental Histories and Futures.

Capacity Building

Chairs: Professor Simon Smart and Professor Debra Bernhardt

The Capacity Building Portfolio (CBP) aims to develop Centre participants' research, industry and professional skills to generate leading researchers, engineers, operators, and managers who design, implement and troubleshoot transformative electrochemical technologies.

The portfolio's initiatives will enable PhDs and Early/Mid-Career Researchers (EMCRs) to develop their leadership and professional capabilities to ensure they can deliver fundamental research breakthroughs and industry-relevant outcomes.

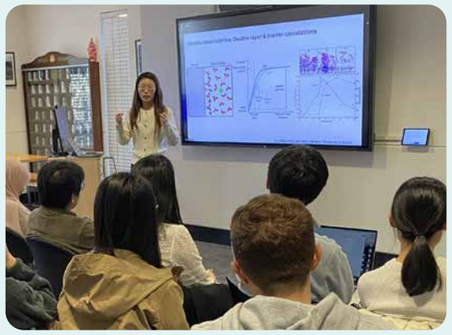
The CBP is responsible for leading, establishing and overseeing the GETCO2 Mentoring and Professional Development Program. The Portfolio will work closely with the IDEA Portfolio, to ensure all mentoring and career development opportunities align with inclusive principles and positive actions to promote women and underrepresented groups to undertake careers in STEM, and to prevent the high levels of attrition that are common in these fields. The CBP also connects with Communication, Education and Outreach initiatives to promote the Centre's discoveries.

Activities in 2024

Training Workshop

In early May 2024, we held our first electrochemical CO_2 reduction reaction (CO_2RR) training workshop. The 2-day laboratory-based workshop was led by CI Dr Fengwang Li (left), AI Dr Aoni Xu (middle) and Ms Yu Yang from The University of Sydney, hosting 22 PhD students and postdoctoral researchers from across GETCO2's nodes. The feedback was overwhelmingly positive – in particular, the participants enjoyed the opportunity to meet in-person and exchange ideas. Capitalising on this first face-to-face meeting, we surveyed the cohort to find out what kind of professional training activities and skills they would like to learn in addition to their research training. We then used their great ideas and suggestions to inform activities at the Annual Retreat.

Amidst presentations on experimental protocols, electrocatalysis theory and lab demonstrations, we also had time for a session about capacity building led by GETCO2 Chief Operations Officer Dr Eloise Larsen (right).



Purpose

The purpose of the GETCO2 Mentoring and Professional Development Program is to:

1. Provide excellent supervision, training and career development to all members, in particular students and early career researchers.
2. Ensure that capacity is built within the Centre and more broadly across the electrochemistry field.
3. Provide a framework for inclusive and sustainable capacity building.

Objectives

- Establish terms of reference for the Capacity Building Committee
- Establish an Early/Mid-Career Researcher Committee
- Develop a range of training and professional development opportunities for all GETCO2 members
- Implement guidelines to ensure high-quality, multidisciplinary supervision
- Provide mentoring programs for all members, in particular, students
- Establish a program to engage and educate undergraduate students about GETCO2

Capacity building is critical to build the future workforce.

Strategy

We will work with GETCO2 Portfolios to ensure that our training programs are equitable and cater for diverse membership (IDEA Portfolio), and facilitate the building of industry connections, providing training of students and staff in communication with external partners including the public, government and industry (Engagement and Partnership Portfolio) through:

Annual Winter School. The Winter School will be aimed at early/mid-career researchers, and where appropriate, school and undergraduate students. Rotating to each Node, GETCO2's research activities will feed into hands-on workshops and lectures on cutting-edge electrochemical engineering, materials characterisation, and CO_2 topics.

Undergraduate Summer Research Program. Each year high-achieving undergraduate students from across the university partners will be awarded a scholarship to conduct research during the summer holiday period. These scholarships will encourage undergraduate students to pursue a postgraduate career in STEM and with the Centre.

Industry Placement Program. Recognising that alumni from GETCO2 will have career pathways in both academia and industry, the Centre will collaborate with Industry Partners, for short-term student placements at a host organisation, working on projects aligned to strategic research interests.

Researcher Exchange. The Centre will support cross-institutional and cross-theme supervision, informal mentoring, and research exchanges among Centre institutions, partner organisations and international partners. Travel support will be provided to allow researchers to experience other research environments and establish networks.

Formal Mentoring. GETCO2 will implement a mentoring scheme across all career levels and expertise, which encourages appropriate multidisciplinary and cross-institutional mentoring. Mentoring will be conducted online, through face-to-face researcher exchanges and during the Annual Conference.

Professional skills development. Our career development framework will extend to include professional skills that are crucial across a range of environments and workplaces, including communication skills, project management, and maintaining sustainable work-life balance.

Capacity Building continued

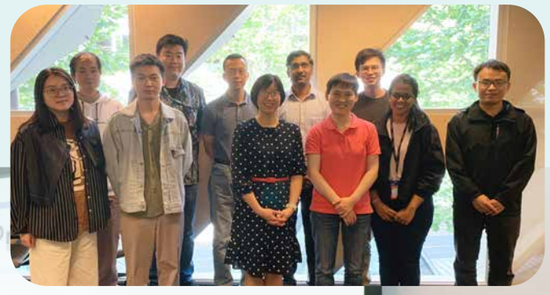
Activities in 2024

EMCR Working group

The EMCR Working Group (WG) was established to develop Terms of Reference (ToRs) for an EMCR Committee. Six EMCRs from three university nodes volunteered to draft ToRs which considered the purpose, membership, responsibilities, meeting guidelines and benefits or participation. The WG decided that purpose of the committee was to engage with GETCO2 governance to support and facilitate mentoring, capacity building and networking. The EMCR committee gives a voice to the cohort and offers leadership opportunities. The WG gathered at the Annual Retreat to share their vision with the EMCR cohort during the Capacity Building session.

Internode activities

In October 2024, postdoctoral researchers and PhD students from GETCO2's Monash Node visited their colleagues at the RMIT Node to discuss research progress and explore areas for collaboration between the teams – a productive meeting making important cross-nodal connections.



Professional Development

Informed by EMCR suggestions, we incorporated professional skills development at our Annual Retreat. We invited Johnathon Hall, IP lawyer at CSIRO to provide a foundational understanding of Intellectual Property; what research can and should be protected and the steps involved. This was followed by table discussions to share knowledge and experience of IP applied to research innovations. A/Prof Jingwei Hou shared personal insights on the secrets to success in delivering a great academic presentation, and Communication & Engagement Officer Anna Knudsen, gave expert advice on how to build your profile and get noticed on LinkedIn.

Johnathon Hall, IP lawyer at CSIRO.

Engagement and Partnership

Chairs: Professor Darren Martin and Professor Christian Doonan

Working closely with industry and government partners, this Portfolio will engage and establish new partners, create research connections and share the Centre's discoveries and new knowledge.

The Portfolio will identify and oversee the Centre's Intellectual Property, working with researchers to translate discoveries to industry through licensing and other arrangements.
The Engagement and Partnerships Portfolio (EPP) is responsible for leading, establishing and overseeing the Communication, Education and Outreach (CEO) Plan, to build capacity across relevant sectors and expand the Centre's reach and impact.

Purpose

The purpose of the Communication, Education and Outreach plan is to:

1. Clearly articulate and promote GETCO2's research activities and impact to a wide audience.
2. Inspire and engage students into STEM pathways across primary, secondary and tertiary student cohorts, including remote and Aboriginal and Torres Strait Islander students.
3. Grow new and existing partnerships with critical stakeholders spanning academia, local and national governments, industry and philanthropic agencies.
4. Train a highly skilled workforce with an outward-looking, translational culture, laying the foundations for accelerated growth in Australia's green CO_2 conversion industry.

Objectives

Promote GETCO2 as a leader in electrochemical carbon dioxide conversion research and technology development in Australia and internationally.

Increase public awareness of green CO_2 conversion to fast-track the road to a net-zero future.

Support a collaborative, inclusive, cross-institutional and inter-disciplinary research environment in the Centre and broader GETCO2 community.

Create industry partnerships and establish new research connections.

Impact policy development through government partnerships.

Strategy

Build a strong brand to position GETCO2 as a leader in CO_2 conversion research and application, nationally and internationally.

Promote GETCO2's research discoveries and activities through various channels: website, media releases, social media and newsletters.

Develop high-school activities and engage in public events showcasing high-quality demonstrations of GETCO2 research, with a focus on younger generations and underrepresented groups, including those from regional and remote communities.

Work closely with our industry and government partners and establish new partnerships, create research connections and share the Centres' discoveries through workshops and briefings.

With the IDEA and CB Portfolios, foster a collaborative, inclusive, cross-institutional and inter-disciplinary research environment, providing additional opportunities and training in science communication, entrepreneurship and leadership.

Engagement and Partnership continued

Activities in 2024

Industry Workshop

In conjunction with the Centre's official launch event on 30 July 2024, we hosted an inaugural Industry Workshop at the UQ Node to connect researchers and businesses for alignment of goals and priorities towards decarbonisation. Over 60 people participated in the workshop, with 12 industry/government organisations and 7 universities represented.

The workshop aimed to engage industry partners early in the Centre lifetime, to better understand the sustainability, net zero, and decarbonisation challenges they face. Discussions also explored how GETCO2's scientific and technological innovations could help address these critical challenges.

Chaired by CI A/Prof Simon Smart, the discussion panel featured industry leader Ms Leeanne Bond FAICD FTSE HonFIEAust, and Advisory Committee members Dr Sarah Ryan, and Adjunct Prof John McGagh. The panel provided valuable insights on the challenges and opportunities for total sector decarbonisation in Australia and internationally.

CIs Dr Fengwang Li, Prof Chuan Zhao, A/Prof Thomas Rufford and Dr Ruth Knibbe presented about the ambitions and challenges for our science and technology development, and GETCO2 Advisory Committee Chairs, Prof Robin Batterham AO and Dr Anita Hill, outlined the centre's strategic focus areas going forward.

The GETCO2 Industry workshop discussions provided valuable input to help GETCO2 prepare for early collaborations with industry, government and policymakers, in the shared goal toward net zero.

Interest from Industry, International Research Partners and Government

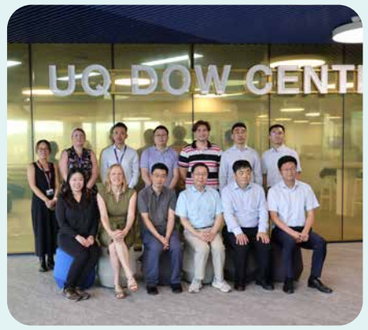
Centre commencement has attracted a great deal of interest locally and internationally. To date, our researchers have delivered 12 public presentations, and held 18 meetings with government and industry representatives from Australia and overseas.

Online meeting with researchers from the Research Center for Advanced Science and Technology (RCAST) at the University of Tokyo, Japan.

Engagement and partnerships will translate our science and engineering into policy and application.

From left: Simon Smart, Leeanne Bond, John McGagh and Sarah Ryan.

Professor Robin Batterham, Chair of GETCO2's Strategic Advisory Committee, at the Industry Workshop.



GETCO2 and UQ Dow Centre were visited by a delegation from the Chinese Academy of Science.

Associate Investigator Dr Bernt Johannesen from ANSTO visiting UQ in connection to his hybrid research seminar, 'Australian Synchotron: Beamlines, Research and the Future'.

Associate Investigator, Professor Hao Li from Tohoku University, Japan, visited GETCO2 in December sharing his expertise in AI-driven frameworks for materials design.

Highschool Outreach

In August, we were thrilled to host visits from year 12 chemistry students from Beerwah State High School (Queensland) and 120 year 12 students from high schools from the Northern Rivers region (NSW). The students met the Centre's researchers and toured laboratories at the UQ Node. A fantastic day of learning and inspiration for the next generation of scientists!

Top row: Northern Rivers High School students.
Bottom row: Beerwah High School students.

Research Translation and Intellectual Property

Building functional and enduring partnerships with industry sectors, philanthropic and government agencies will be critical for GETCO2's future success and impact.

To help accelerate Australia's transition to a carbon-neutral economy, strong and expanding industry engagement supported by technology capture and translation is vital.

Objective

To build relationships with potential suppliers and end-users in the CO_2 conversion value chain and to provide extensive opportunities for networking, outreach, engagement, and technology translation.

Strategies

An Annual Industry Workshop will be held (rotating among the Nodes) to provide an opportunity to promote and market the innovations and creativity taking place in GETCO2 to current and future stakeholders, the public and important government representatives. We will leverage our CI and wider Advisory Committee and Associate Investigator networks to help us target partners early to enable the right timing for investment in taking GETCO2's research to the next step in Technology Readiness Level (TRL).

Measurable and Translatable Goals. While collaboration and fundamental science and engineering discovery is at the core of GETCO2's mission, we will identify and maintain measurable, translatable targets, such as;

- Aim to advance three key technologies to TRL4 by year four, accompanied by measurable technical goals and reporting.
- Clear and early articulation of GETCO2's pathway to policy makers. We will develop a deep understanding of the social, environmental and economic sustainability of CO_2 technologies, and thereby align GETCO2's vision and objectives with government net zero and decarbonisation objectives.
- Through our Flagship Projects we will target both global commodity chemical products, e.g. fuels and ethylene, and a 'moonshot target', e.g. urea and formic acid.

Build a Translational Culture. Our fundamental research will be undertaken with the end goal of breakthrough technology development. GETCO2 will embrace two-way knowledge exchange with industry. Our translational culture will be developed through training and engagement activities between researchers, government and industry. Our translation activities will also be supported by the Placement Program as part of the Capacity Building Portfolio. Researchers who are enthusiastic about entrepreneurial pathways will be mentored and supported, and where appropriate, connected to UQ Ventures and similar entrepreneurship programs available across our networks.

IP Protection and Technology Translation. Significant new IP will be generated by GETCO2, overseen by the Research Program Committee (RPC), tracked in the IP register and reviewed annually with research performance. We will also work with our partners with the help of Commercialisation and Technology Transfer Offices at participating universities, ensuring our researchers are aware of the fundamentals of IP protection and disclosure. Our strategic industry partnerships will involve end-users in research activities and planning for translation of the Centre's scientific and technological developments. Our industry linkages will provide the vehicle for application of the various developments and we will work alongside industry to generate impact. Where appropriate, we will work with our industry partners in scaling up our designs, new materials and processing methodologies for pilot and demonstration scale manufacture and operations, to facilitate translation. A Business Manager supported by GETCO2 will seek opportunities for engagement and build connections with the broader industry. GETCO2 is well placed to deliver excellent science, and supported by our partnerships, we also have the agility to bridge innovation gaps and compete in the international landscape.

Communication and Engagement

In 2023-2024, we aimed to promote GETCO2's commencement and develop the Centre's branding.

Communications and Engagement Officer, Anna Knudsen, was recruited in August 2023 to drive activities and ensure coherent messaging and synergy across communication platforms. The first tasks were to support the development of the Centre's website, social media presence and visual identity.

Logo and brand

GETCO2's logo is the cornerstone of our visual identity and shapes our brand system. The logo incorporates a stylised infinity symbol for the CO_2 molecule. Alongside the iconic sunrise image on our website and marketing materials, the colour scheme – blue, bright blue, teal, black and gold – symbolises a positive outlook and strong commitment to a net zero future.

Website

GETCO2's website was launched in August 2023 to promote the Centre, our research and our people, collect newsletter subscriptions and advertise PhD scholarships and postdoctoral positions. The site currently has 32 news stories and events. In 2024, the most visited page after the landing page was our Opportunities page.
Total website views Jan – 31 Dec 2024: 31,247

Newsletter

Our first newsletter was distributed in April 2024 to both Centre members and external subscribers. We are proud that by the end of 2024, we totalled 171 newsletter subscriptions through our website, with newsletter opening rates at over 82%.

LinkedIn

GETCO2's LinkedIn page went live in September 2023, with a successful take-off of over 100 new followers per month in the first 6 months. With an average of 6 new posts per month, we secured over 1,800 followers by the end of 2024.

Other social media platforms

In addition to these communication channels, we have shared videos on UQ's TikTok and YouTube channels. We produced a video story about GETCO2 and our PhD student, Tanika Duivenvoorden, which was posted on QS Top University's TikTok, Instagram, Facebook and X social media platforms.

31,247
website views

Website users by country:

Australia	3.4K
US	938
India	554
China	349
UK	179

171
newsletter subscriptions

82%
opening rate

1,800
followers

Communication and Engagement continued

Case Study – the Nanogenerator

A research highlight in 2024 was Prof Xiwang Zhang and Dr Zhuyuan Wang's development of a nanogenerator, which incredibly uses CO_2 to generate electricity.

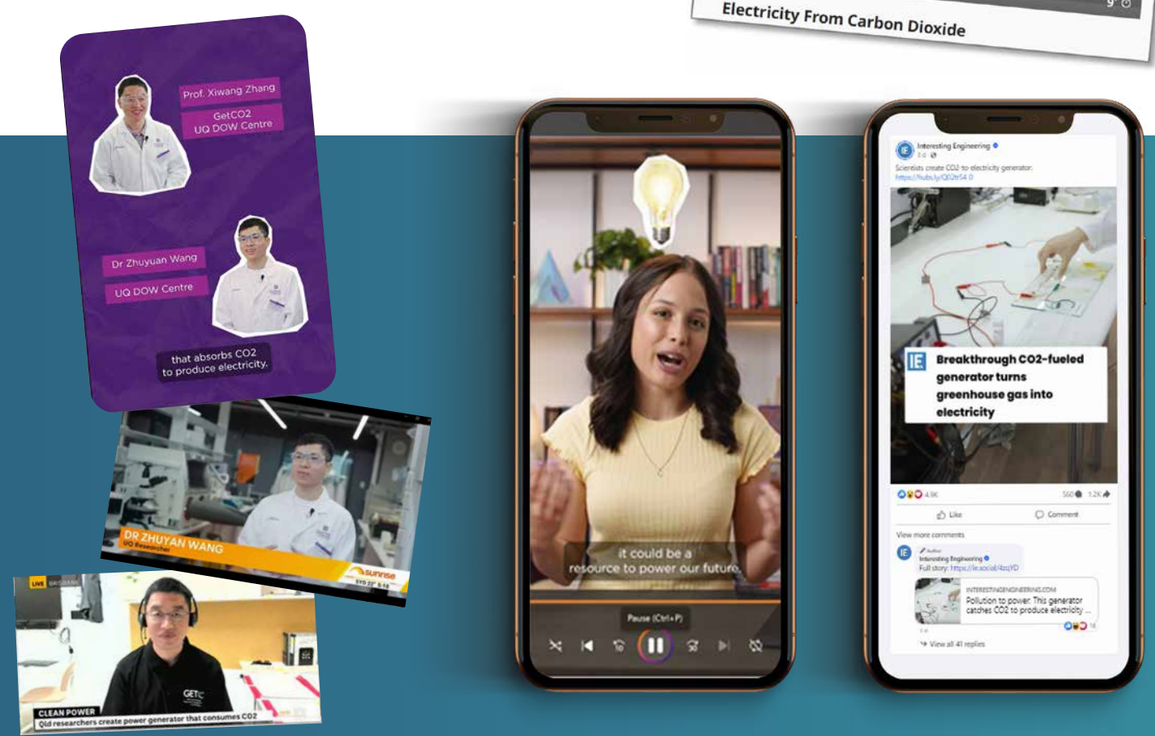
Their innovative, proof-of-concept nanogenerator harvests around one per cent of the total energy carried intrinsically by CO_2, and the researchers are now working on improving efficiency and reducing cost.

The story received extensive national and international coverage on TV, radio and online, with 278 separate items of coverage reaching an audience of 142 million.

(source: Meltwater)

The media exposure led to interest from several industrial businesses seeking opportunities for commercialisation of the technology. High schools visiting UQ specifically asked to meet the researchers and learn more about the nanogenerator.

The nanogenerator is made of two components: a polyamine gel commonly used by industry to absorb CO_2 and a skeleton a few atoms thick of boron nitrate that generates positive and negative ions. Managing the transport of oppositely charged ions during CO_2 capture generates a diffusion current which can be amplified into electricity.



Partnerships

Since the Centre's commencement, we have partnered with seven major national and international conferences in Chemistry, Materials Innovation, Particle Technology, Membranes, Energy and Electrochemistry, including:

- International Conference on Materials Innovation 2023 (ICMI2023),
- 2023 Annual Conference of the Membrane Society Australasia, co-hosted by the International Congress on Separation and Purification Technology (MSA-ISPT 2023),
- 9th Asian Particle Technology Symposium (APT2024)
- 2024 International Symposium on Advanced Materials & Sustainable Technology (AMST24), and
- 1st RACI NSW Electrochemistry Symposium (2024)

The sponsorships have focused on supporting outstanding early-mid career researchers and their work, in particular considering gender diversity.

Sponsorships are a strategic priority to promote GETCO2's profile among the wider scientific and industry sectors to develop further productive partnerships, and to generate interest with talented early-mid career researchers to encourage their involvement in the Centre.

Aoni Xu received the PerkinElmer Outstanding Young Researcher Award for her presentation at ISGTCO2 in 2023.

Dr Ye Chen from the Chinese University of Hong Kong received the GETCO2 Early/Mid-Career Researcher Award at AMST24 for her work on the electrochemical reduction of CO_2 using phase-engineered nanomaterials. The award was presented by CI Prof Chuan Zhao.

GETCO2 was a proud sponsor of the Electrochemistry Symposium held at the University of Sydney in July 2024. GETCO2 CI Dr Fengwang Li presented our new merchandise to the award winners.

Converting CO_2 into valuable chemicals and fuels.
Catalysing a green manufacturing and export revolution.
Paving the smartest and cleanest path to net zero.

OUR PERFORMANCE

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Awards and Recognition

Congratulations to CD Prof Xiwang Zhang and CIs Prof Zaiping Guo, Prof Chuan Zhao and Dr Fengwang Li for being named on the Clarivate Highly Cited Researchers 2024! The four GETCO2 researchers have authored multiple Highly Cited Papers which rank in the top 1% by citations for their field and publication year.

Two GETCO2 CIs, CD Prof Zhang and CI Prof Chuan Zhao, were inducted as ATSE fellows in 2024. A tribute to their remarkable contributions to science and technological innovation in renewable energy! Together with CIs, Prof Zaiping Guo and Prof Darren Martin, and numerous Advisory Committee members, GETCO2 is proudly represented in the ATSE fellowship!

CD Prof Zhang was inducted into Australian Research Council's College of Experts for 2025, along with 123 new members. The College plays a key role in identifying research excellence under the National Competitive Grants Program.

CI Prof Debra Bernhardt received the prestigious RACI Margaret Sheil Leadership Award, for a speaking tour of Australian universities, presenting her perspective on “Using physical chemistry to understand our world around us”.

Dr Fengwang Li won the 2024 WIN Rising star award from Canada’s largest nanotechnology institute, and was also awarded the Royal Australian Chemical Institute’s (RACI) AM Bond Medal which recognises outstanding achievement in electrochemistry. Prof Chuan Zhao also won the prestigious RACI HG Smith Memorial Award for outstanding contributions to the development of chemical science through research and innovation.

DD Prof Rachel Caruso was awarded the title of RMIT Distinguished Professor, a high honour, used to acknowledge and reward sustained, outstanding performance.

Congratulations

In 2024, CI Prof Yansong Shen and CD Prof Xiwang Zhang with postdoctoral research fellow, Dr Zhuyuan Wang, were finalists in the Australian Museum Eureka Prizes 2024.

Prof Shen was nominated for his work on solar panel recycling, while Prof Zhang and Dr Wang were nominated for their nanogenerator that captures CO_2 and generates electricity simultaneously.

Dr Zhuyuan Wang and Professor Xiwang Zhang with Professor Darren Martin

Key Performance Indicators 2024

GETCO2 is committed to achieving ambitious targets over the Centre's lifetime. We firmly believe in working together to holistically build the capacity and develop the science and technology to deliver an enduring legacy. We are committed to transparency in communication of our goals and achievements within the Centre and externally.

Performance Measure	2024	Actuals
1. Number of research outputs		
Peer-reviewed journal articles	20	41
Books/Chapters/Position papers	2	8
Conference publications (Abstracts/presentations/posters)	20	56
Patents and IP disclosures	0	4
2. Quality of research outputs		
Percentage publications in top quartile of discipline specific (subject) area according to CiteScore	80	97.78
Highly cited publications	0	0
Prestigious awards/prizes for innovation/impact	2	16
Invited talks/keynote/plenary lectures	12	68
Percentage joint publications across Nodes and/or between CIs and PIs	50	16*
3. Number of workshops/conferences held	3	5
4. Number of training courses held	3	6
5. Number of additional researchers working on Centre research		
Postdoctoral researchers	12	22
PhD Students	12	40
Masters/Honours students	6	9
Associate Investigators	12	39
6. Number of postgraduate completions		
HDR completions	0	0
7. Number of mentoring programs offered	2	2
8. Number of presentations/briefings		
To the public	4	12
To government (parliamentarians and department/agencies at State & Federal level)	2	15
To industry/business/end users	4	33
9. Number of new organisations collaborating or involved with the Centre		
Total new industry & academic partnerships/projects	2	2
10. Number of female research personnel		
Total female research personnel	24	62
11. Centre-specific KPIs		
External fellowships/stipends awarded to CIs/PDRAs/PhD students	2	14
Other research income $,000	0	10,737
% female PhD recruits	40	53
Technologies at TRL4	0	0
Technology licencing	0	0
Media outreach	20	73**

* 47 when including AIs ** 68 LinkedIn posts and 5 news articles/press releases

Finances

Income	Year 2023 to 2024
ARC income (includes indexation)	10,746,188
University contributions	2,007,878
Partner contributions	410,000
Total Income	**13,164,066**

Expenditure	Year 2023 to 2024
Personnel	1,711,770
Equipment	95,674
Maintenance	106,664
Travel	149,576
Field Research	294
Teaching Relief	0
Other	265,164
Total Expenditure	**2,329,142**

Closing Balance	10,834,924

2025 Activity Plan

Q1

January

Establish EMCR committee (Capacity Building Portfolio)

February

RCAST visit (UQ/RMIT delegation), UTokyo, Japan

CI workshop, UQ Node

Node Spotlight, UQ

March

World Science Festival, UQ Node laboratory tours

First EMCR Committee meeting

Node Spotlight, Sydney

Q2

April

Mentorloop commences

Online computation workshop (RT4), UQ Node

May

InSTEM, RMIT

Node Spotlight, Melbourne RMIT

June

Node Spotlight, UQ

Q3

July

Winter School, UQ Node

August

Node Spotlight, Adelaide

Hackathon online training

September

CAETS, Brisbane – UQ Node laboratory tour; connect with RAC/SAC

Node Spotlight, UQ

Q4

October

International engagement – CAS, China

November

National Conference, Sydney

Hackathon final pitches

December

IMSTEC (MSA), Gold Coast – Training workshop at UQ Node

Pacifichem, Hawaii. Electrochemical CO_2 Capture & Conversion Symposium

Summer scholarships across GETCO2 Nodes

Terms and abbreviations

AI Associate Investigator

ARC Australian Research Council

ASJC All Science Journal Classification

ATSE Australian Academy of Technological Sciences & Engineering

CD Centre Director

CI Chief Investigator

CMC Centre Management Committee

CoE Centre of Excellence

COO Chief Operations Officer

DD Centre Deputy Director

DETSI Queensland Department of the Environment, Tourism, Science and Innovation

ECR Early Career Researcher

EMCR Early/Mid Career Researcher

GRDC Grain Research and Development Corporation

IDEA Inclusion, Diversity, Equity, Access

MCR Mid-Career Researcher

PhD Doctor of Philosophy

PI Partner Investigator

RAC Research Advisory Committee

RACI Royal Australian Chemical Institute

RPC Research Program Committee

SAC Strategic Advisory Committee

Become a partner

We value partnerships with industry, government and research organisations. Collaborating with external entities is crucial in applying our research beyond the laboratory. If you are interested in exploring partnership opportunities, please contact the GETCO2 Chief Operations Officer at: **info@getco2.org**

Media

We are always open to sharing our Centre's discoveries and innovations with the public. Our researchers are available to provide expert commentary on our science and technologies in the field of carbon dioxide transformation.

For media enquiries, please contact our Engagement and Communications Officer at: **info@getco2.org**

Website

To find out more, visit us at **www.getco2.org**

Newsletter and social media

Stay updated on the latest research and events from GETCO2. Sign up for the GETCO2 newsletter on our website and follow us on LinkedIn: **@getco2**

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