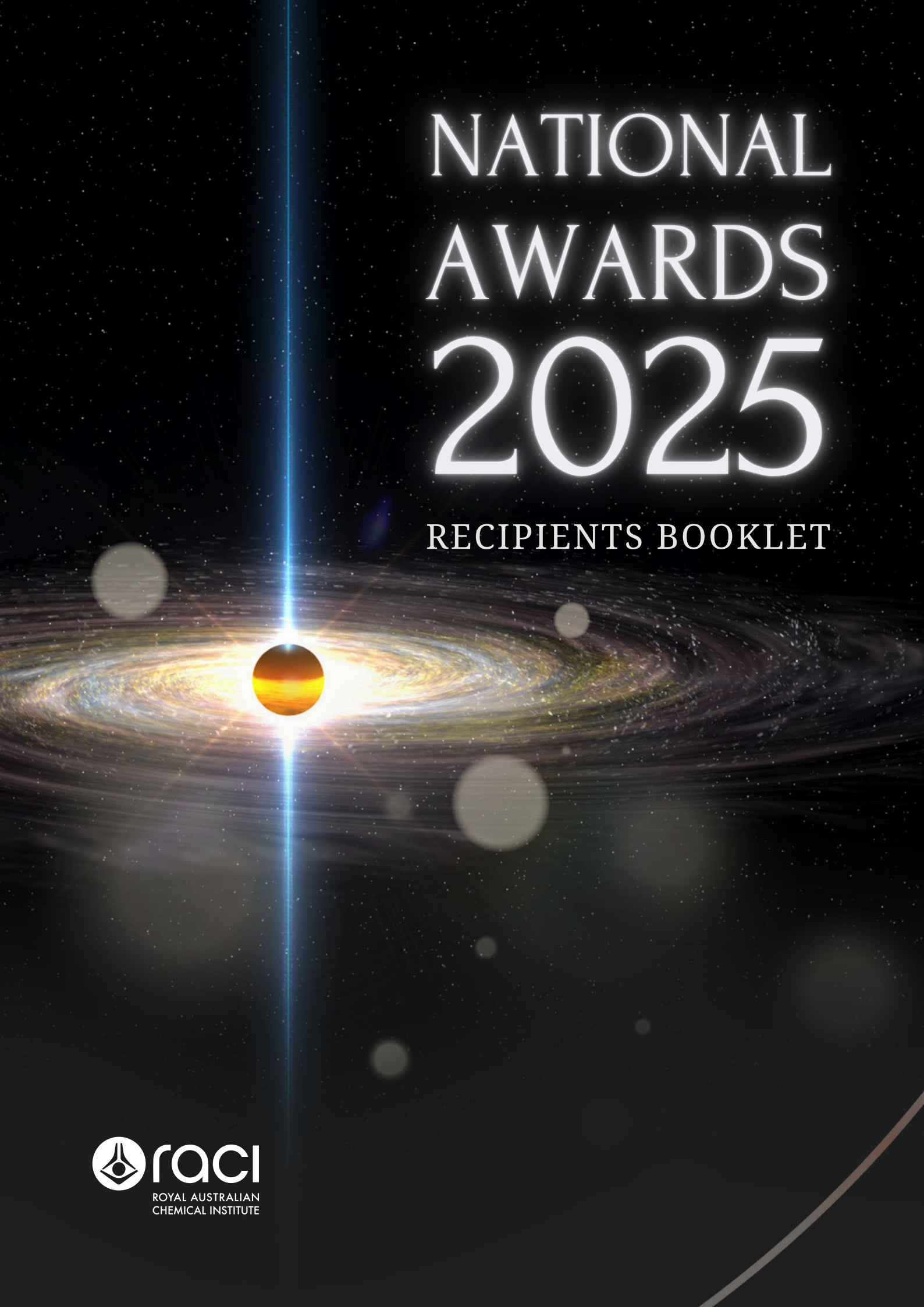


NATIONAL AWARDS 2025

RECIPIENTS BOOKLET

raci
ROYAL AUSTRALIAN CHEMICAL INSTITUTE

THE ROYAL AUSTRALIAN CHEMICAL INSTITUTE

NATIONAL AWARDS 2025

THE RACI ANNUAL NATIONAL AWARD PROGRAM IS MADE POSSIBLE THANKS TO:

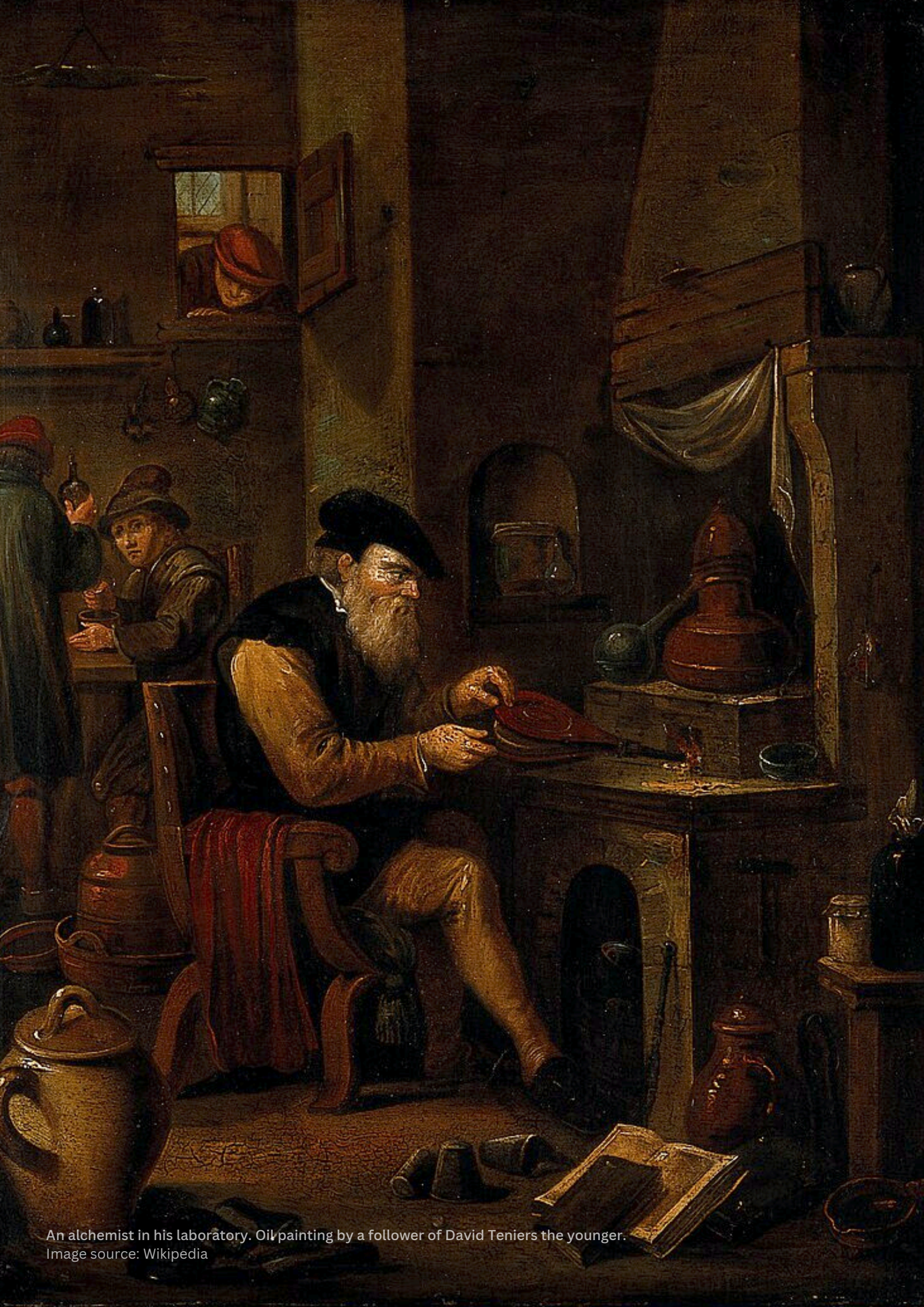
- The RACI Board Committee and Participants of the Board Award Selection Panels
- All nominees, nominators, and referees across all award categories.

NATIONAL AWARDS COORDINATORS

RACI Awards Team - Sian Pilling, Denise Parwada & Faith Fraiia
RACI Marketing - Thu Giang (Jenny) Pham

IN THE SPIRIT OF RECONCILIATION THE ROYAL AUSTRALIAN CHEMICAL INSITUTE ACKNOWLEDGES THE TRADITIONAL CUSTODIANS OF COUNTRY THROUGHOUT AUSTRALIA AND THEIR CONNECTIONS TO LAND, SEA AND COMMUNITY. WE PAY OUR RESPECT TO THEIR ELDERS PAST AND PRESENT AND EXTEND THAT RESPECT TO ALL ABORIGINAL AND TORRES STRAIT ISLANDER PEOPLES TODAY.

Acknowledgement of Country



An alchemist in his laboratory. Oil painting by a follower of David Teniers the younger.
Image source: Wikipedia

Rennie Memorial Medal

Dr Dan Preston

MRACI

Senior Lecturer
Australian National University

Biography

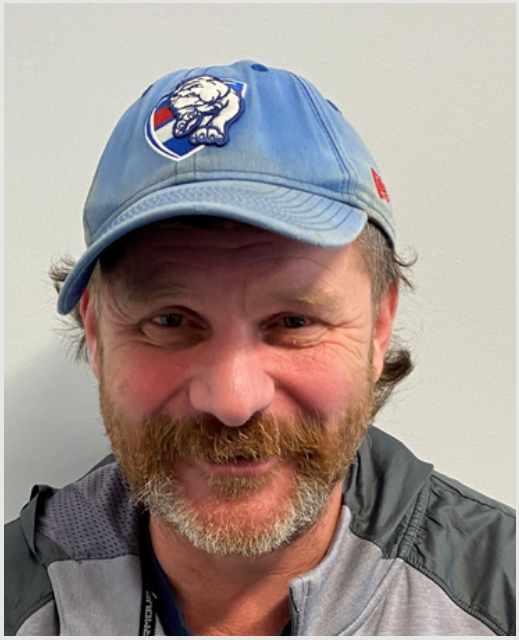
"The heights by great men reached and kept/were not attained by sudden flight/but they, while their companions slept/were toiling upwards through the night."

— Henry Wadsworth Longfellow

Dr Dan Preston MRACI is a senior lecturer at the Australian National University specialising in supramolecular chemistry. His research focuses on developing methods to build complex molecular architectures, aiming to mimic the sophisticated molecular machinery that drives life processes such as proteins and DNA. Dan believes the next major challenge for chemists lies in creating systems with enough structural complexity to achieve functional complexity, providing control over chemical processes similar to natural molecular machines.

Dan's passion for chemistry began during his first-year university course, inspired by the subject's conceptual simplicity and his spatial thinking skills, honed during a previous career in carpentry. The concept of molecular self-assembly captivated him, guiding his ongoing scientific journey. Mentorship has played a vital role in his development. His PhD supervisor, James Crowley, influenced his scientific approach and leadership style, encouraging independence and creativity, while Paul Kruger's guidance deepened his enthusiasm for chemistry and allowed him to explore new ideas with confidence.

Dan is an active member of the Royal Australian Chemical Institute (RACI), having engaged with the Inorganic Division since his PhD days when he was a Don Stranks Finalist. He currently represents early and mid-career members on the Supramolecular Division committee and has organised multiple symposia, including a virtual meeting in 2020 and another at ANU in 2025. Away from the lab, he enjoys walking, weightlifting, reading fiction and niche non-fiction, listening to music, and spending time with family. He highlights a common misconception in chemistry, that molecules are static rather than dynamic systems in constant flux, and approaches both his science and life with balance, purpose, and a commitment to continuous growth.



H.G. Smith Memorial Award

Professor Tanja Junkers

MRACI

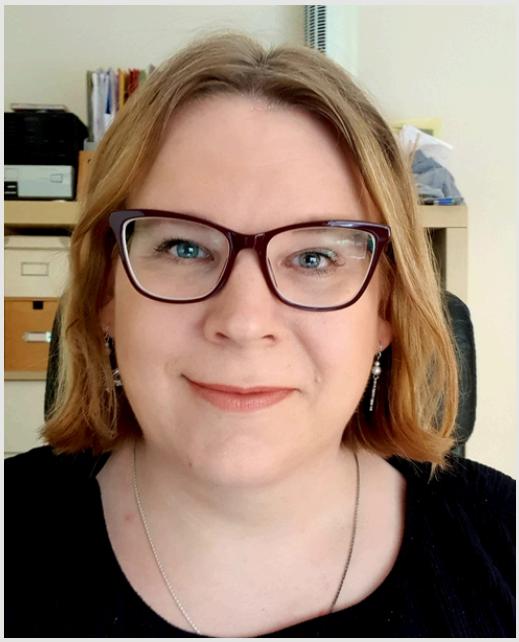
Level E Professor
Monash University

Biography

Seeing students going from 1st year rookies to confident graduates up to having become full bloom scientists after doing a PhD gives me the biggest satisfaction.

Professor Tanja Junkers is a Level E Professor at Monash University, where she leads pioneering research in polymer and materials chemistry. After completing her PhD in physical chemistry at Goettingen University, Germany, in 2006, her early research focused on determining kinetic rate coefficients for radical reactions in polymerisation. She then spent two years at the University of New South Wales, deepening her work in synthetic polymer chemistry, followed by a senior research scientist role at the Karlsruhe Institute of Technology. In 2010, she joined Hasselt University in Belgium as a professor, founding the Polymer Reaction Design group. Since 2018, she has been at Monash University, driving advances in continuous flow polymerisations, nanoparticle formation, complex polymer design, and the digitalisation of chemical research.

Her fascination with chemistry began in Leverkusen, Germany, home of Bayer's headquarters, where she was surrounded by a chemical culture from an early age. The diversity and versatility of polymers continue to inspire her, offering applications that range from sustainable materials to biomedical technologies and emerging electronics. Her latest research extends this creativity into the digital realm, using robotics to automate chemical laboratories from synthesis through to characterisation.



Tanja is the Chair Elect of the RACI Polymer Division, co-organising the upcoming Australasian Polymer Symposium. She recently helped deliver the Polymer Summer School at Monash and will chair the 2027 Australasian Polymer Symposium. She finds the greatest reward in mentoring students and watching them progress from first-year learners to independent scientists. Outside the lab, she enjoys hiking, scuba diving, snorkelling, and spending time near the water—always ready for the next summer adventure.

Rita Cornforth Lectureship

Dr Ludovica Monti

MRACI

Lecturer and Group Leader

School of Chemistry, The University of Melbourne and The Bio21 Institute of Molecular Science and Biotechnology

Biography

“Remember to look up at the stars and not down at your feet. Try to make sense of what you see and wonder about what makes the universe exist. Be curious. And however difficult life may seem, there is always something you can do and succeed at. It matters that you don't just give up”

— Stephen Hawking

Dr Ludovica Monti is a Lecturer and Group Leader in the School of Chemistry at The University of Melbourne and The Bio21 Institute of Molecular Science and Biotechnology. Her research sits at the intersection of chemistry and biology, investigating how DNA structures regulate microbial pathogenicity and how this knowledge can lead to new therapeutic strategies. Through an innovative multidisciplinary approach, her work aims to address urgent challenges in infectious diseases by harnessing the power of molecular design and chemical biology.

Her fascination with chemistry emerged during her training in medicinal chemistry, where she became intrigued by how small molecules could influence complex biological systems. Over the course of her research career across Italy, the United States, and the United Kingdom, Ludovica has been inspired by mentors who modelled how collaboration between chemistry and biology can drive scientific innovation and meaningful impact. These experiences have shaped her vision of chemistry as a transformative force at the frontiers of health research.

Ludovica joined the Royal Australian Chemical Institute (RACI) in 2024 after moving to Australia and, in 2025, was invited as a keynote speaker at the Medicinal Chemistry and Chemical Biology Conference in Darwin. Away from her professional pursuits, she enjoys long-distance running, playing the piano, and experimenting with new recipes in the kitchen. She also advocates for visibility and inclusivity in scientific research, addressing the misconception that chemistry is a challenging field for women to thrive in. Deeply guided by her sense of curiosity, Ludovica embraces perseverance and wonder in her work, continually striving to make sense of the unseen patterns that underpin life.

Distinguished Fellowship

Distinguished Professor Suresh K. Bhargava

AM, FRACI

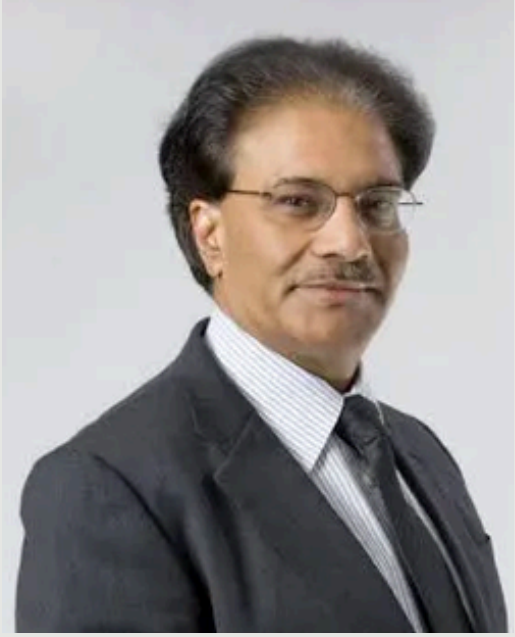
Distinguished Professor of Chemistry
RMIT University

Biography

I create bonds through chemistry - not only within science or between disciplines, but among people, with hope and the desire to leave the world a better place than when I entered it.

Distinguished Professor Suresh K. Bhargava AM, DSc (RU), PhD (Exon), FRACI, FRSC, FTSE, FNAE, FINASc, FAAAS, FTWAS (UNESCO), is a global leader in chemistry whose work bridges scientific discovery, innovation, and social responsibility. As Director of the RMIT-AcSIR (India) Research Partnership and the Centre for Advanced Materials and Industrial Chemistry (CAMIC), he has driven research transforming fundamental science into real-world impact across health, sustainability, and resource innovation. His research spans metallodrugs, catalysis, critical minerals, and materials science, contributing to advances in gold chemistry, catalytic oxidation, and sustainable industrial processes. A Commonwealth Scholar at the University of Exeter, where his PhD was examined by Nobel Laureate Sir Geoffrey Wilkinson, Suresh's early research in organometallic chemistry laid the foundation for his career in applied innovation. His pioneering work has resulted in over 700 publications, more than 30,000 citations, and significant technological achievements adopted across academia and industry. He has supervised over 75 PhD graduates and mentored more than 200 early-career researchers worldwide, reflecting a lifelong commitment to nurturing global scientific talent.

Elected a Fellow of multiple scientific academies, Suresh's contributions have been recognised internationally through collaborations with leading institutions including NUS, UCLA, and UC Berkeley. Within the Royal Australian Chemical Institute (RACI), he has led initiatives that build connections between academia, industry, and policy - including establishing the Academic Sharp Brain program, a global collaboration uniting Australian universities and CSIR India. Guided by his philosophy, "I create bonds through chemistry - not only within science or between disciplines, but among people," Suresh continues to champion chemistry as both a driving force of innovation and a means to create a better, more connected world.



Cornforth Medal

Dr Alexandra Stuart

Early Career Chemist

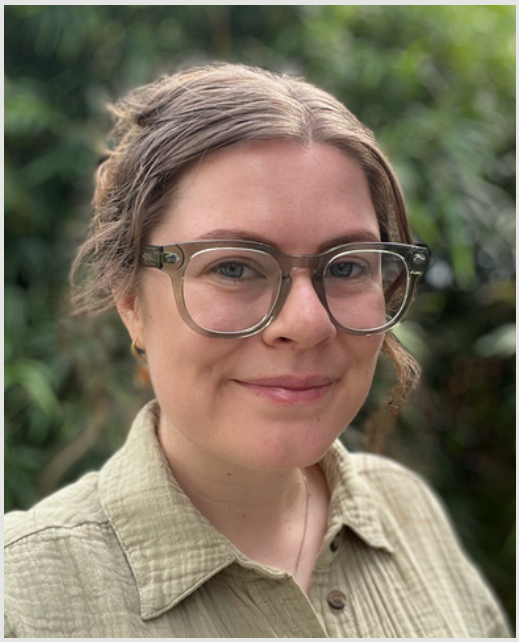
Postdoctoral Researcher
University of Bristol

Biography

Ultrafast or optical spectroscopy is a great combination of chemistry, physics, and mathematics.

Dr Alexandra Stuart is a physical chemist specialising in ultrafast spectroscopy, a field that explores the intricate interactions between light and matter. She recently completed her postdoctoral research with Professor Girish Lakhwani at the University of Sydney and has commenced a new role as a postdoctoral researcher with Associate Professor Tom Oliver at the University of Bristol. Alexandra's work focuses on understanding how materials absorb and respond to light-processes fundamental to solar energy, photosynthesis, and advanced optoelectronics.

Her research captures events that occur in less than a billionth of a second, using short pulses of light to create snapshots of these ultrafast reactions. By piecing these images together, Alexandra maps the sequence of energy transformations within materials, uncovering ways to manipulate these dynamics for more efficient light-based technologies. During her PhD, she focused on singlet fission materials - systems capable of doubling the charge output of solar cells by converting a single high-energy excitation into two lower-energy ones. Her investigations revealed competing pathways that reduce efficiency and identified molecular behaviours leading to degradation through interaction with oxygen. Her findings provide valuable strategies to mitigate these effects, supporting the design of durable, high-performing solar technologies.



Alexandra is passionate about the cross-disciplinary nature of ultrafast spectroscopy, which unites chemistry, physics, and mathematics in pursuit of real-world solutions. A member of the Royal Australian Chemical Institute (RACI) for nine years, she has served on the SA Early Career Chemists committee and as the 2021 Physical Chemistry Division Student Representative. She also co-organised the 2021 Physical Chemistry Summer Festival, helping foster collaboration within Australia's photochemistry community.

RACI Postgraduate Student Travel Award

Mr Joel Johnson
MRACI

PhD student
The University of Queensland

Biography

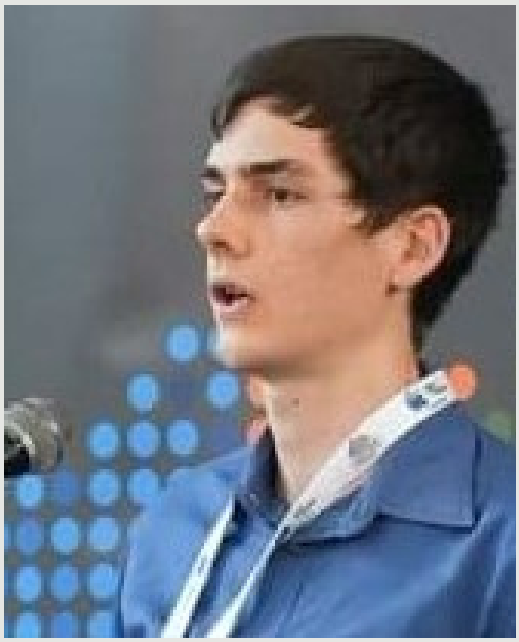
"The heavens declare the glory of God, and the sky above proclaims his handiwork."

— (Psalms 19:1)

Mr Joel Johnson MRACI is a PhD student at The University of Queensland, where his research focuses on the chemical composition and potential health benefits of native Australian citrus fruits. His project explores the largely uncharted chemistry of these species, seeking to identify bioactive compounds that could support their nutritional value and commercial use. By combining analytical chemistry and food science, Joel's work contributes to the growing body of research on Indigenous foods and their potential role in sustainable agriculture and health promotion.

His interest in food chemistry began during his undergraduate studies, when a summer research project investigating antioxidant compounds sparked a lasting curiosity about the chemistry behind what we eat. This passion led him to pursue a Master's degree under Dr Mani Naiker and his current PhD under Dr Michael Netzel, both of whom have inspired him through their enthusiasm and commitment to food science. Encounters with leading researchers such as Professor Bhimanagouda Patil at the 2024 FavHealth Conference in NewZealand further strengthened his drive to contribute meaningfully to the field.

A dedicated member of the Royal Australian Chemical Institute (RACI) since 2019, Joel has been an active participant and presenter at numerous national and state-level conferences, including the RACI National Congress and Queensland Chemistry Symposia. Alongside his research, he lectures and tutors chemistry and serves as the student representative for the Australasian Grain Science Association. Outside academia, Joel's interests include reading history, running, playing and watching basketball, and volunteering through his church. Inspired by his faith and curiosity for creation, he approaches science as a means to explore and celebrate the natural world, embodying a thoughtful blend of analytical precision and human connection.



RACI Postgraduate Student Travel Award

Miss Eva Hayball

RACI Postgraduate Student

PhD Candidate in Chemistry
The University of Adelaide

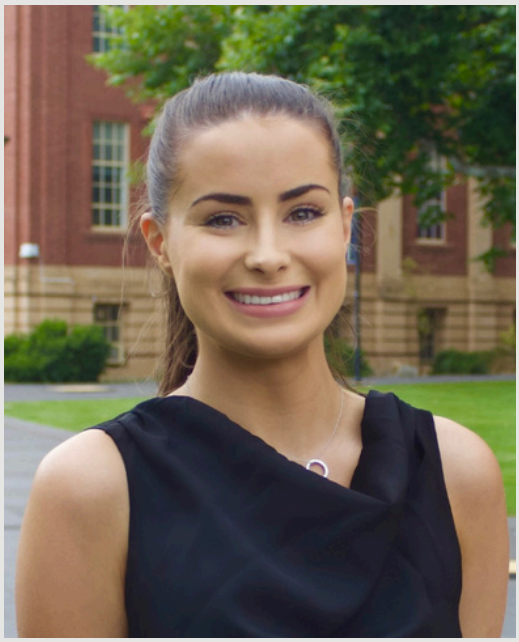
Biography

"Giving your 100% looks different every day."

Miss Eva Hayball is a PhD Candidate in Chemistry at The University of Adelaide, specialising in organic and medicinal chemistry. Her research focuses on the design and synthesis of novel molecules that interact with biological systems involved in disease, contributing to the discovery of new therapeutics. Eva is driven by the critical role science plays in alleviating suffering and enhancing wellbeing, with every laboratory breakthrough offering a potential step forward for global health.

Her passion for chemistry was ignited during undergraduate studies, where she discovered the elegance of organic synthesis and its vital connection to life's processes. The challenge of solving biological and medical problems through subtle molecular innovation motivated her transition into research. Eva is inspired by mentors who have encouraged her creative thinking and persistence, as well as by witnessing curiosity transform into impactful scientific discovery. Outside of her research, Eva enjoys the natural beauty of Adelaide's beaches, Pilates, and time spent with her kitten, Sunny. She is also an enthusiastic explorer of McLaren Vale's wineries, pairing scientific curiosity with a love of community and good company.

Eva has been actively involved with the Royal Australian Chemical Institute (RACI) since 2021, joining the SA Early Career Chemistry Group. She has volunteered at professional and social events including Merit Ceremonies, IUPAC Women's Breakfasts, ECCG Pub Quizzes, and university departmental activities. As Co-Chair of the Young Chemists Committee in 2022, Eva has advocated for graduate students and early-career professionals nationwide. Receiving the Postgraduate Travel Award has enabled her to share research internationally and form new collaborations. In her discipline, Eva notes the misconception that TLC plates always reveal the full picture - underscoring the complexity and nuance of chemistry. Giving her best effort in science and life means adapting to new challenges each day.

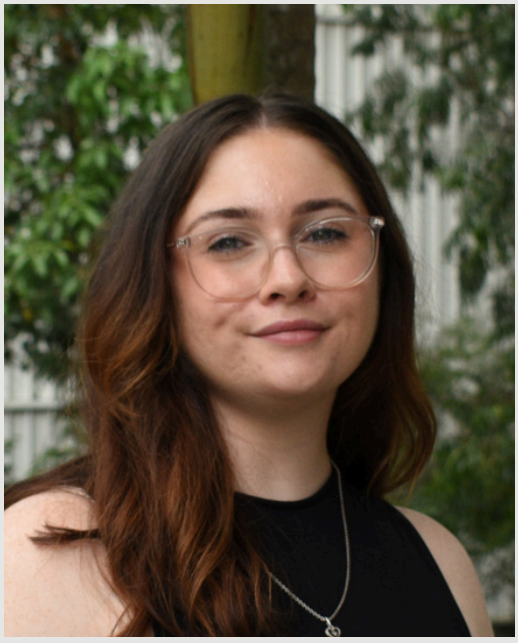


RACI Postgraduate Student Travel Award

Miss Scarlet Hopkins

Postgraduate Student

PhD Candidate
Griffith University



Biography

"You miss 100% of the shots you don't take"
"Learn something new every day"

Miss Scarlet Hopkins is a PhD candidate in forensic chemistry at Griffith University, where her research explores the chemical principles underpinning evidence visualisation techniques. By investigating how chemical interactions can be harnessed to improve the detection and clarity of forensic evidence, her work aims to strengthen the scientific foundation behind investigative methods used in real-world crime-solving. Scarlet's research contributes to ensuring that forensic practices remain scientifically rigorous, reproducible, and adaptable to evolving challenges in the criminal justice system.

Her fascination with forensic chemistry grew from a deep interest in connecting fundamental chemical science with applied problem-solving. Passionate about research that bridges academia and industry, she is motivated by the opportunity to translate laboratory findings into practical techniques that can make a measurable difference in field investigations. Scarlet's work reflects both curiosity and purpose, combining precision chemistry with an understanding of its social and legal impact.
An active member of the Royal Australian Chemical Institute (RACI), Scarlet has participated widely in Early Career Chemist and Queensland Branch events. In 2024, she managed social media for the Early Career Chemist Group and contributed to the organising committee for the Queensland Annual Chemistry Symposium. She values collaboration and communication within the scientific community, recognising their role in advancing responsible and innovative research.

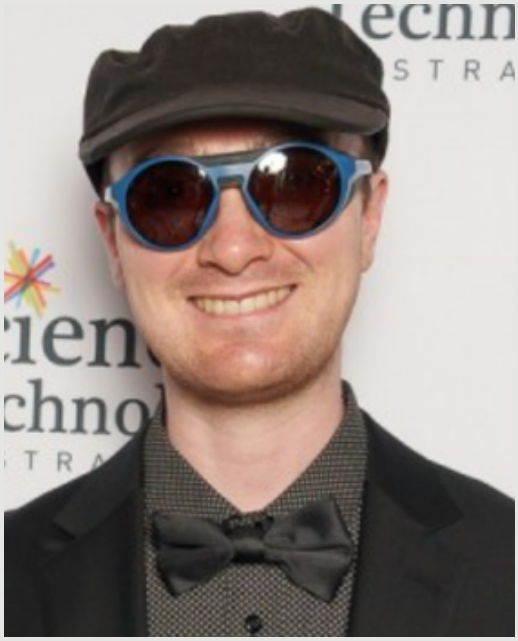
Outside the laboratory, Scarlet enjoys reading, crafting, walking, and listening to music - activities that balance her analytical work with creativity and reflection. She believes in lifelong learning and draws inspiration from words that encourage curiosity and courage: to seize opportunities, keep exploring, and never stop growing as a scientist and individual.

RACI Postgraduate Student Travel Award

Timothy (Tim) Harte

MRACI, GAICD, DLI

Institute for Frontier Materials, Deakin University & the Commonwealth Scientific Industrial Research Organisation (CSIRO).



Biography

“We rise by lifting others.” It reflects my belief that true success, whether in science, leadership, or advocacy, is measured by how we empower those around us.

Timothy (Tim) Harte MRACI, GAICD, DLI is a materials chemist at the Institute for Frontier Materials, Deakin University, and the Commonwealth Scientific and Industrial Research Organisation (CSIRO). His research focuses on developing next-generation electrolytes for structural energy storage systems that combine load-bearing and energy-storage capabilities. By designing safer, more efficient, and recyclable electrolyte materials, Tim’s work supports Australia’s transition toward clean energy and sustainable manufacturing. His approach is enhancing both electrochemical and mechanical properties which helps enable lighter, more energy-dense devices central to the future of electric transport and renewable energy systems.

Tim’s scientific journey began with curiosity nurtured by his mother’s veterinary work, which sparked a fascination with how the natural world operates. This early interest evolved into a passion for chemistry’s ability to connect structure, function, and transformation. Guided by mentors Professor Luke Henderson and Dr Bhagya Dharmasiri, whose resilience and authenticity shaped his approach to research, Tim has learned to value creativity and inclusion as the foundations of innovation.

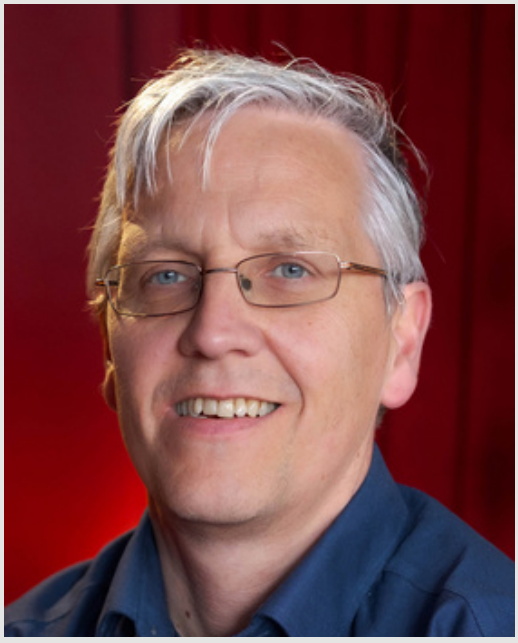
An active member of the Royal Australian Chemical Institute (RACI), Tim co-founded the ChemAbility Network in 2024, Australia’s first peer network for chemists with disabilities and carers. He has served on the RACI Inclusion and Diversity Committee and the Chemistry in Australia Management Committee and continues to promote access and equity within the scientific community. Beyond research, Tim volunteers with several disability advocacy organisations, including AFDO and VDAC, and with international scientific groups such as the RSC Molten Salts and Ionic Liquids Discussion Group. Guided by the principle “We rise by lifting others,” Tim champions collaboration as the key to scientific and societal progress.

Leighton Memorial Medal

Professor Pall Thordarson

FRSC, FRSN, FRACI CChem

Professor and Director
UNSW RNA Institute and the School of Chemistry, UNSW Sydney, NSW 2052



Biography

"Chemistry is the central science."
"Actions speak louder than words."

Professor Pall Thordarson FRSC, FRSN, FRACI CChem is a Professor and Director of the UNSW RNA Institute and the School of Chemistry at UNSW Sydney. Working across supramolecular and synthetic organic chemistry, his research focuses on understanding and engineering complex chemical systems. He explores how molecular interactions can be harnessed to address major societal challenges, particularly through innovations in nanomedicine and RNA therapeutics. Pall's work reflects his broad vision of chemistry as the science that connects and transforms every aspect of the world around us.

His fascination with chemistry traces back to his upbringing on a farm in Iceland, where his curiosity about nature was nurtured by his family and teachers. Initially drawn to chemistry's ability to explain how life operates and to create new things, he naturally gravitated toward supramolecular and synthetic chemistry. Mentors across his academic journey profoundly shaped his direction, from his research at the University of Iceland with Gudmundur G Haraldsson to his PhD with Maxwell Crossley and postdoctoral work with Roeland Nolte. Encounters with field pioneers such as George Whitesides, Sam Stupp, and Sir Fraser Stoddart further inspired his passion for scientific discovery at the dawn of nanoscience.

A long-standing member of the Royal Australian Chemical Institute (RACI), Pall served as NSW Representative for the Organic Chemistry Division, launched the first RACI Supramolecular Symposium in 2014, and later became a founding member of the Supramolecular Chemistry Division. As RACI President from 2022–2024, he led the organisation through a period of renewal and growth. Outside academia, Pall enjoys time with his family, travelling, reading about history and politics, and embracing the simple joys of everyday life, with chemistry always at its heart.

Catalyst Award

Dr Neil Robinson

MRACI CChem

Honorary Research Fellow
University of Western Australia
Lecturer
Net Zero Engineering, Queen's University Belfast

Biography

"The good thing about science is that it's true whether or not you believe in it" — **Neil deGrasse Tyson**

Dr Neil Robinson is an Honorary Research Fellow at the University of Western Australia and a Lecturer in Net Zero Engineering at Queen's University Belfast. His work focuses on the design and characterisation of porous materials, an essential class of materials that underpin fields ranging from biology and energy to construction and environmental science. Neil's research targets the most pressing global challenges in energy and decarbonisation, developing catalysts that produce low-carbon fuels from waste and microporous sieves capable of separating and storing valuable gases. A distinctive feature of his work is the application of benchtop magnetic resonance techniques, akin to medical MRI, to probe how these materials function under real-world conditions.

Neil's fascination with chemistry began during his undergraduate studies, where he became captivated by surfaces and interfaces - regions where the most interesting chemistry occurs. Porous materials, he realised, are essentially a vast collection of such interfaces folded into intricate 3D structures, making them uniquely versatile across science and engineering. His PhD at the University of Cambridge was a defining period, bridging fundamental and applied chemical sciences under the guidance of Dr Carmine D'Agostino and Professor Stephen Jenkins. Later, his work with Professor Mike Johns at UWA expanded these methods across catalysts, zeolites, rocks, and cements.

A dedicated member of the Royal Australian Chemical Institute (RACI), Neil has chaired the WA Analytical Chemistry Group, organised the 2024 Symposium on Energy Chemistry, and represented RACI at the 2nd Commonwealth Chemistry Congress. Having received the 2023 Future of Materials Chemistry Award, he continues to advance innovative techniques in magnetic resonance and energy materials. Outside the lab, Neil enjoys travelling and film.

Applied Research & Innovation Award

Professor Chuan Zhao

FTSE FRSC FRACI FRSN

Australian Laureate Fellow
School of Chemistry, UNSW Sydney

Biography

Water and Energy are vital to the human history, and I always wanted to do something important and difficult.

Professor Chuan Zhao FTSE FRSC FRACI FRSN is an Australian Laureate Fellow in the School of Chemistry at UNSW Sydney. A world leader in electrochemistry, he is dedicated to discovering new electrochemical methods and materials for energy and sustainability applications, including water splitting, hydrogen fuel cells, CO_2 reduction, and energy storage. Chuan has made pioneering contributions to the green transformation of small molecules using electricity, particularly hydrogen and CO_2, helping drive forward Australia's transition toward a low-carbon energy future.

He is internationally recognised for developing low-cost catalyst materials for green hydrogen production, leading a paradigm shift in the hydrogen industry. His patented 3D-electrode® technology, now considered a benchmark across global research laboratories, has been widely adopted by industry to improve the efficiency and reduce the cost of water electrolysis, accelerating progress toward a zero-carbon hydrogen economy. Through his spinout companies, Chuan's innovations have been successfully translated into sustainable materials and technologies with tangible industrial impact.

Chuan's journey into energy research began with curiosity about nature and history. Fascinated by humanity's ongoing relationship with water and energy, he found water splitting to be the perfect challenge - important, difficult, and deeply meaningful. Mentored by Professor Alan Bond, who first introduced him to this field in Australia, Chuan continued to build a career characterised by creativity, purpose, and innovation. As a long-term member of the Royal Australian Chemical Institute (RACI), he has served as Board Member and led the Electrochemistry Division for more than a decade. Beyond research, Chuan enjoys gardening, hiking, music, and reading.

Service to the RACI

Dr Richard Thwaites

MA, FRACI CChem

Retired

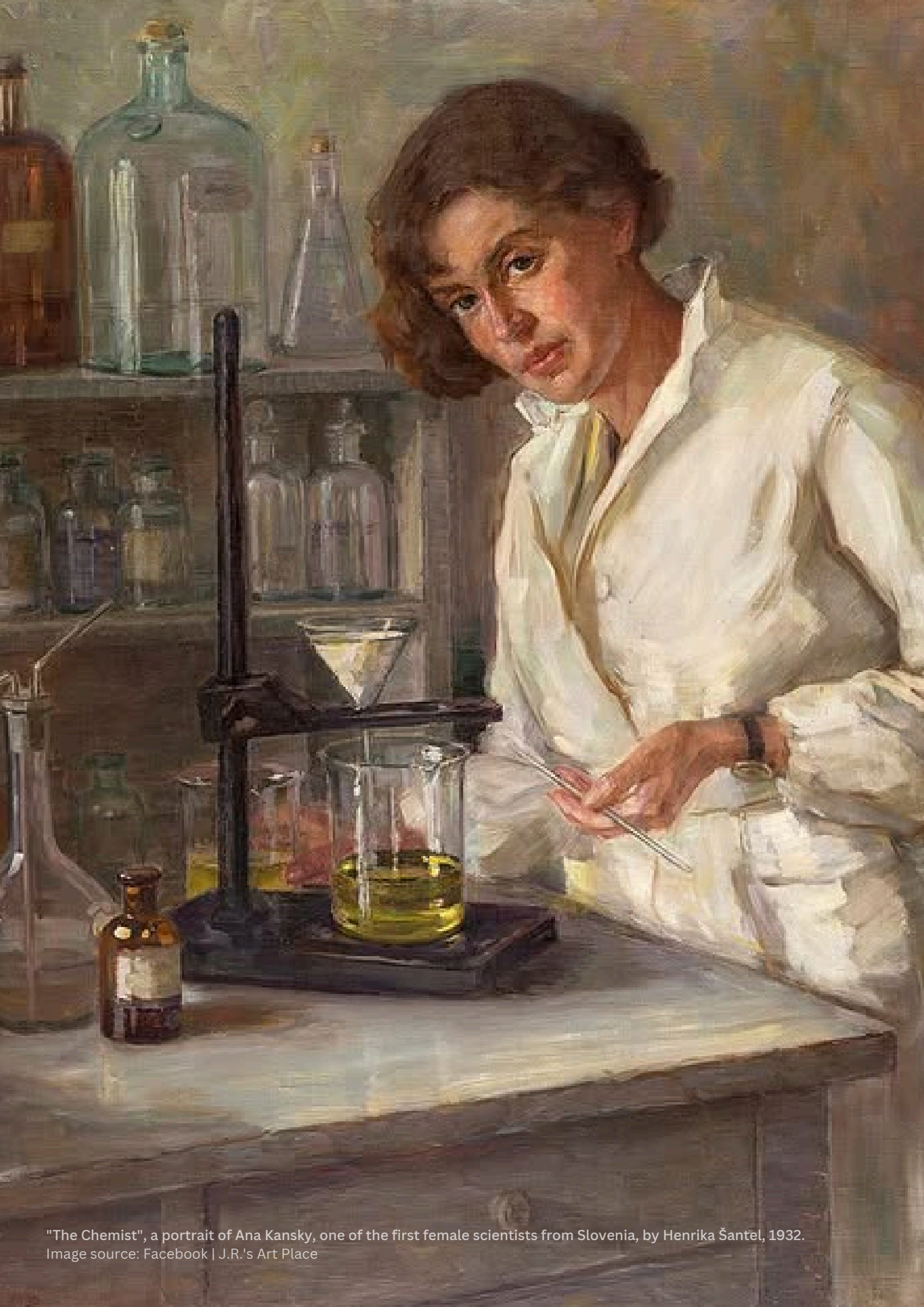
Biography

My high school chemistry teacher in the UK sparked my interest in chemistry and encouraged me to apply for a place at Oxford to study chemistry.

Dr Richard Thwaites MA, DPhil, GDTheol, FRACI CChem, MRSC, MAICD, MRSV is a distinguished chemist whose career in the chemical industry spans over four decades. Beginning with Albright & Wilson in the UK and later in Australia, he held diverse roles across process development, corporate planning, factory and general management, and research collaboration. He was instrumental in developing and commercialising new technologies through Cooperative Research Centres, serving as a director of several CRC spin-off companies before retiring in 2008. Richard's fascination with chemistry was sparked by his high school teacher, Mr W. G. Enos, at whose encouragement he pursued studies at the University of Oxford. After seven years in academia, he transitioned to industry, moving to Australia in 1970 to join Albright & Wilson (Australia) Ltd. There, he was mentored by George R. James, who introduced him to the Royal Australian Chemical Institute (RACI)—beginning a lifelong association that has lasted more than 50 years.

A Fellow and Honorary Life Member of the RACI, Richard has made enduring contributions to the profession through leadership and service. His roles have included Chair of the Qualifications and Accreditation Committee, President of the Victorian Branch, and Chair of the "Chemistry in Australia" Management Committee until the magazine's closure in 2025. He currently chairs the Victorian Branch Health, Safety and Environment Group and convenes the RACI Retirees' Group. In recognition of his service, he received an RACI Citation in 2015 and the RACI Distinguished Fellowship Award in 2021.

Beyond chemistry, Richard has led community initiatives across education, church governance, and sport. A former soccer referee, Rotarian, and college council president, he continues to exemplify professional leadership. He and his wife Sandra have three adult children and two grandchildren.



"The Chemist", a portrait of Ana Kansky, one of the first female scientists from Slovenia, by Henrika Šantel, 1932.
Image source: Facebook | J.R.'s Art Place

THE ROYAL AUSTRALIAN CHEMICAL INSTITUTE

NATIONAL AWARDS 2025

+61 3 9328 2033

info@raci.org.au

raci.org.au

PO Box 398
Somerton, VIC, 3062, Australia

@RACInational

@racinational

RACInational

The Royal Australian Chemical Institute