



# Research fellowship opportunities in Science



THE UNIVERSITY OF  
**SYDNEY**

[sydney.edu.au/science](https://sydney.edu.au/science)



# Science research fellowship opportunities

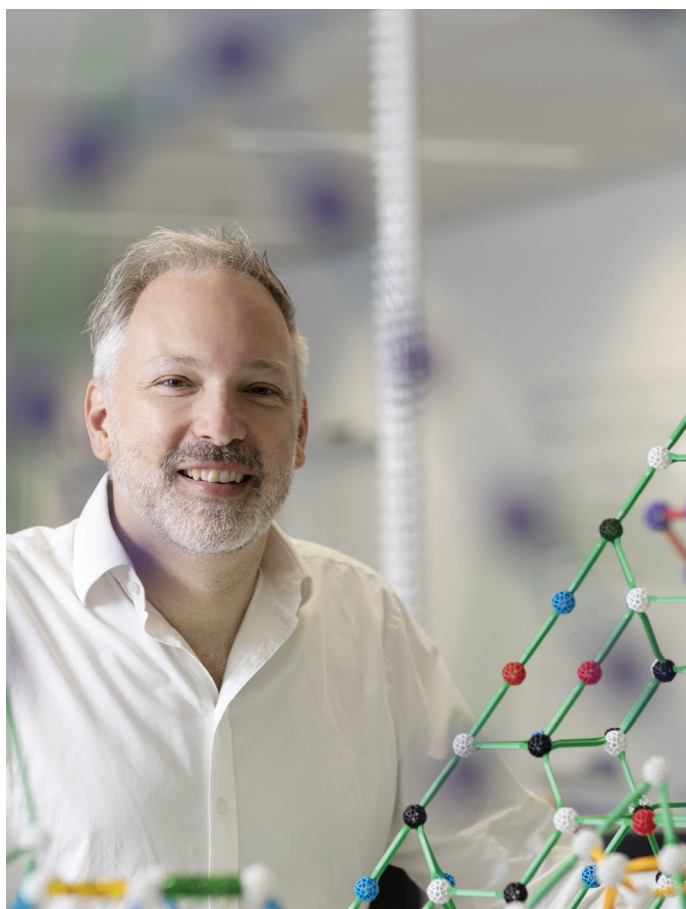
Chemistry, Geosciences, History and Philosophy of Science, Life and Environmental Sciences, Mathematics and Statistics, Physics, Psychology, Veterinary Science

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We acknowledge the tradition of custodianship and law of the Country on which the University of Sydney campuses stand. We pay our respects to those who have cared and continue to care for Country.

## Welcome from the Associate Dean Research



Thank you for your interest in research fellowship opportunities in the Faculty of Science at the University of Sydney.

We welcome the opportunity to increase the capacity and impact of our research by hosting fellows in areas of strength and strategic importance.

Sydney offers a fantastic environment to take your research ambitions to the next level. You would be working alongside some of the very best. From quantum computers and robotic dairy farms to marine science and vaccines, our scientists are blazing the path towards a better world. The Schools and disciplines within the Faculty of Science are routinely lauded as the most comprehensive and successful in Australia and the world, as evidenced by our successes in all of the major rankings.

Supporting the very best and brightest researchers is at our core. We offer excellent support for our early- and mid-career research fellows, through mentoring and targeted support schemes. Many of our fellows have used these opportunities to catapult their career into research leadership roles on the national and international scene. I invite you to read the profiles of a selection of our current fellows, and I'm sure you will be as inspired as I am by their stories.

The University of Sydney has invested heavily in research capacity across the full spectrum of the sciences. From an island field station on the Great Barrier Reef, to world leading nanoscience laboratories, our scientists have access to world-leading facilities and equipment. Our Multi-Disciplinary Institutes and Core Research Facilities offer collaborative spaces, critical mass of researchers, and the very best research tools available.

Please reach out to us and start a discussion. We are keen to hear from you.

Prof Stephen Bartlett  
Associate Dean Research

# About the Faculty of Science

With a diversity of specialisations, a reputation for research excellence, and partnerships with institutions and industry, the Faculty of Science is positioned as a leading provider of education across the spectrum of the sciences.

The Faculty comprises:

- School of Chemistry
- School of Geosciences
- School of History and Philosophy of Science
- School of Life and Environmental Sciences
- School of Mathematics and Statistics
- School of Physics
- School of Psychology
- Sydney School of Veterinary Science

We are also home to a range of research entities such as:

- The Drug Discovery Initiative (DDI)
- The Lambert Initiative for Cannabinoid Therapeutics
- The Sydney Institute of Agriculture (SIA)
- The Sydney Mathematical Research Institute (SMRI)

We partner closely with the University's multidisciplinary initiatives and centres including:

- The Brain and Mind Centre
- The Centre for Translational Data Sciences
- The Charles Perkins Centre
- Sydney Institute for Infectious Diseases
- The University of Sydney Nano Institute

The significant level of funding we receive through the Cooperative Research Centres, National Health and Medical Research Council and the Australian Research Council, amongst other bodies, highlights our reputation for research excellence.

Major facilities that support our research include:

- Astronomical field stations
- One Tree Island Research Station on the Great Barrier Reef
- Sydney Microscopy and Microanalysis
- The Sydney Nanoscience Hub



Various state-of-the-art spectrometry facilities including significant rural and farm teaching and research facilities. The faculty offers extensive specialist workstations including database networks, and computer graphics systems.

In addition to the range of specialisations offered by our numerous departments and schools, we deliver innovative interdisciplinary programs, including studies in the areas of optical fibre technology, agricultural and veterinary sciences, marine studies and sustainability.

We have established active collaborative programs and international links with teaching and research organisations. Formal staff and student exchange agreements operate with institutions in the USA and Asia.

The Faculty of Science at the University of Sydney has an innovative edge and the drive to challenge traditional ways of thinking. There's never been a better time to join us.

Faculty overview	2021
Undergraduate students	6,206
Postgraduate research students	1,547
Academic staff	717
Professional staff	170
Schools	8

For more information visit: [sydney.edu.au/science](https://sydney.edu.au/science)



# About the University of Sydney

The University of Sydney is a leading, comprehensive research and teaching university. We are committed to harnessing the transformative power of education and research to foster greater knowledge and a better understanding of the world and its people.

We are highly influential in shaping Australia's national and international agenda and delivering solutions to the challenges facing society. We achieve this through critical analysis, intellectual leadership and active contribution to public debate.

Our primary objective is to create and sustain a university in which, for the benefit of both Australia and the wider world, the brightest researchers and the most promising students, whatever their social or cultural background, can thrive and realise their full potential.

This central purpose underpins our strategic goals. It challenges us to develop and support a community of scholars, where interdisciplinary research can flourish and where the student experience is enriched.

Learn more:

– [sydney.edu.au/strategy/about](https://sydney.edu.au/strategy/about)

## Our research

The University of Sydney is recognised as one of the best universities in the world, with a breadth and depth of disciplinary excellence unequalled by any other Australian university.

Our research, all of which is ranked at world standard or above (ERA 2018), is driven by the big picture and aims to solve the most important problems and the most exciting new challenges facing society.

The University of Sydney invests in research excellence. Initiatives that

contribute to outstanding research outcomes are key to our University strategy and are being supported by unprecedented investment. For more information visit:

– [sydney.edu.au/research](https://sydney.edu.au/research)

## Our teaching

Undergraduate and postgraduate students, drawn by our comprehensive range of quality degrees, a strong track record for postgraduate research programs and our rankings (38th in the world, QS 2021).

Our students study alongside top researchers and, in some cases, contribute to their research. We expect them to excel and challenge them to succeed as leaders in whatever career field they choose.

Our staff are provided with multiple development opportunities including support for HEA (Higher Education Academy) Fellowship applications via the Sydney Education Fellowship Program and training in research supervision.

## Our campuses

Located close to the heart of Australia's largest and most international city, our Camperdown/Darlington Campus features a mixture of iconic Gothic-revival buildings and state-of-the-art teaching, research and student support facilities.

The University also has an extensive footprint throughout Sydney. Some faculties are based in Camperdown/

Darlington but have facilities elsewhere. Our researchers and students have access to excellent library resources.

## Useful links

Careers:

– [sydney.edu.au/recruitment](https://sydney.edu.au/recruitment)

Organisational structure:

– [sydney.edu.au/about-us/governance-and-structure/organisational-structure](https://sydney.edu.au/about-us/governance-and-structure/organisational-structure)

Annual Report:

– [sydney.edu.au/about-us/vision-and-values/annual-report](https://sydney.edu.au/about-us/vision-and-values/annual-report)

News:

– [sydney.edu.au/news-opinion/news](https://sydney.edu.au/news-opinion/news)

## Statistical snapshot 2021

Enrolments, total	74,862
Enrolments, international	33,737
Staff (full-time equivalent)	8,145
Faculties and University schools	8
Research centres and institutes	90+
ARC Centres of Excellence	4
ARC Industrial Transformation Research Hub (ITRP)	3
ARC Industrial Transformation Training Centres (ITTC)	5
Cooperative Research Centres (CRC)	5
Commonwealth research funding	\$500.6M
NHMRC Centres of Research Excellence	4
Sporting clubs	40+
Clubs and societies	240+

## Why choose Sydney for research in science?

The University of Sydney has been named as one of the world's leading institutions placing 41st in the QS World University rankings 2023. The University is ranked in the world's top 50 universities for more than 30 subjects.

Subject	Australia	World	Ranking source
Agricultural science	3	36	US News and World Report 2022
Chemistry	3	62	QS 2022
Geography	3	20	QS 2022
History, philosophy and theology	3	46	THE 2022
Life sciences and Medicine	2	19	QS 2022
Mathematics	2	66	QS 2022
Psychology	3	28	QS 2022
Space science	2	44	US News and World Report 2022
Veterinary sciences	2	22	QS 2022

- [sydney.edu.au/about-us/our-world-rankings.html](https://sydney.edu.au/about-us/our-world-rankings.html)

### Australian Research Council ERA Rankings

Excellence in Research for Australia (ERA) is an Australian Research Council (ARC) system that evaluates the quality of research by discipline against the world standard. It identifies the research strengths of individual universities and of the sector as a whole.

In the 2018 round of ERA, the Faculty of Science achieved rating: "Well above world standard", and "Above world standard" for all of our relevant disciplines.

Field of Research	2018 Ranking
Mathematical Sciences	Well above world standards
Physical Sciences	Well above world standards
Chemical Sciences	Well above world standards
Earth Sciences	Above world standards
Environmental Sciences	Well above world standards
Biological Sciences	Above world standards
Agricultural and Veterinary Sciences	Above world standards
Psychology and Cognitive Science	Above world standards



### Dr Arne Grimsmo

School of Physics  
ARC DECRA recipient 2019

#### What attracted you to Sydney?

I moved to Sydney from Canada to do a postdoc in what I considered to be one of the best groups in the world in quantum theory. It was the people that attracted me. Of course, the fact that Sydney is one of the most beautiful cities in the world doesn't hurt!

#### What has this fellowship done for your career?

When I was considering applying for a DECRA fellowship, one of the professors in my group said that getting a DECRA "will change your life." And it actually has. Getting a DECRA helped me get a continuing faculty position at Sydney University, which was a huge thing for me professionally. It has allowed me to focus on my research and really establish myself in my field.

#### What advice would you give to potential researchers considering University of Sydney as an option?

Sydney is a fantastic place to live, and Sydney University is one of the best universities in Australia. We get really good students here who want to do PhDs and we have great postdocs coming from all over the world. In my experience, if you come here as a new researcher, people really want you to succeed and they will help.



## Benefits of working here

At the University of Sydney we attract the most vibrant thinkers to form a community dedicated to the pursuit of transformative education and research.

### Achieve your ambitions

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If you want to engage with brilliant minds, are willing to push boundaries, and believe in making a positive difference, you've come to the right place. Our people come from all cultures and backgrounds and enjoy a true sense of community and belonging.

We recognise that our talented staff are invaluable, and we support them to achieve their career ambitions and follow their dreams. Using our outstanding local and global networks, we can offer flexibility, responsibility, personal and professional development, and much more.

### We reward our staff

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We welcome open minds, curiosity, and a readiness to tackle big questions – and we reward it accordingly.

Our people are part of an exciting environment where development is encouraged, and intellectual pursuits foster a sense of purpose and confidence. We are also committed to diversity and equal opportunity.

In addition to a competitive base salary, we offer a wide variety of financial and non-financial benefits to our staff.



These include:

- working arrangements which assist staff in managing their work and personal/family responsibilities and provide flexibility in meeting business needs
- family-friendly working hours
- generous leave entitlements
- a University contribution of up to 17% of base salary to your superannuation (pension) fund
- opportunities for tax-efficient salary packaging, including motor vehicles, laptops and additional personal contributions to your superannuation fund
- a variety of training and development opportunities
- exceptional health and wellbeing services, including sports and fitness centres, medical clinics and free counselling via the Employee Assistance Program
- University Parents Network which offers support to parents throughout the University
- on-campus parking and convenient transport services
- contribution to professional membership fees
- a free Staff Benefits Program providing online discounts across an extensive range of goods and services
- access to the cultural life on campus which includes our museums and art galleries; music and theatre at the Conservatorium of Music and Seymour Centre; and Sydney Ideas which is the University's premier public lecture series program that aims to bring some of Sydney's, Australia's and the world's, leading thinkers to the wider Sydney community.

# Australian Research Council (ARC) Fellowships: ARC Discovery Early Career Research Awards (DECRA)

A launchpad for early career researchers, up to 5 years out of PhD.

## Overview

The Discovery Early Career Researcher Award (DECRA) grant opportunity provides focused research support for early career researchers. Normally up to 200 three-year DECRA's are awarded each year by the Australian Research Council (ARC). Successful fellows are supported by generous project support from both ARC and University sources.

The DECRA scheme aims to:

- support excellent basic and applied research by early career researchers;
- support national and international research collaboration;
- enhance the scale and focus of research in Australian Government priority areas;

- advance promising early career researchers and promote enhanced opportunities for diverse career pathways; and
- enable research and research training in high quality and supportive environments.

## Eligibility

Early Career Researchers receiving their PhD in the last five years or have eligible commensurate career disruption.

- [Check your eligibility](#)

## Apply for DECRA 2024

### Timeline

Applications for DECRA fellowships commencing in 2024 open 19 October 2022 and close 15 December 2022.

Potential applicants should contact their supporting School by 21 September 2022.

## Facts

Of the researchers who were awarded a DECRA fellowship in the Faculty of Science in the last 10 years:

- 97% continued in a research career
- 42% are currently undertaking their DECRA project
- 29% continued as researchers at University of Sydney
- 10% continued as a researcher overseas
- 26% were successfully awarded another research fellowship

## Dr Ros Gloag

School of Life and Environmental Sciences  
ARC DECRA recipient 2022

### What had attracted you to Sydney?

Following a PhD in the UK, I came to Sydney on a University of Sydney Postdoctoral Fellowship to join an amazing lab in the School of Life and

Environmental Sciences (SOLES). The support and mentorship I received during that first fellowship was exceptional and I was always keen to stay. Importantly, during my years at Sydney I have been able to progress my research and still balance life with young kids. and Environmental Sciences (SOLES). The support and mentorship I received during that first fellowship was exceptional and I was always keen to stay. Importantly, during my years at Sydney I have been able to progress my research and still balance life with young kids.

### What has this fellowship done for your career?

The DECRA is an amazing opportunity to grow my skills and research profile. It provides the financial resources to undertake an ambitious project within an excellent research environment. It has allowed me to forge new collaborations both within Sydney and at other institutions, and to further my experience in supporting graduate students. Also, the DECRA feels like a vote of confidence from my scientific peers – that in itself is a big motivator.

### What advice would you give to potential researchers considering University of Sydney as an option?

Get to know the services offered in the Faculty and School that would host you and make sure you make the most of them. There are people here that can help you craft the best possible fellowship application. If you can manage it, visit the University and your potential collaborators here well in advance of any application so that you have time to think about how your research interests fit into the wider research environment. Sydney is a fantastic place to work, so it's worth the effort!

The University also has really dedicated and expert staff – both academic and professional – who are generous in assisting Fellowship applicants, so my advice is to make sure to ask for help!





# Australian Research Council (ARC) Fellowships: ARC Future Fellowships (FT)

Enabling outstanding  
mid-career researchers  
5 to 15 years out of PhD.

## Overview

The Future Fellowships scheme seeks to retain and attract the best and brightest mid-career researchers to undertake high-quality research programs in areas of national and international benefit.

Up to 100 four-year Future Fellowships may be awarded each year by the Australian Research Council (ARC). The fellows are provided generous project and salary support from both ARC and University sources.

The Future Fellowships scheme aims to:

- support excellent basic and applied research and research training by outstanding mid-career researchers to be recruited by universities in academic positions;
- support national and international research collaboration; and enhance the scale;
- focus of research in Australian Government priority areas.

## Eligibility

Future Fellowships candidates receiving their PhD in the past five to fifteen years or have eligible commensurate career disruption.

- [Check your eligibility](#)

## Timeline

Applications for Future Fellowships commencing late 2023 open 05 October 2022 and close 07 December 2022.

Potential applicants should contact their supporting School by 02 September 2022.



## Associate Professor Markus Muellner

School of Chemistry  
ARC Future Fellow 2020

### What attracted you to Sydney?

The University of Sydney is an established leader in Chemistry and a research-intensive institution. I found its focus on research and education excellence and the connected pool of talent students a big draw card for starting my independent career. The University's strategy toward interdisciplinarity and the establishment of the University's Nano Institute were additional factors that made Sydney very appealing as a research destination

### What has this fellowship done for your career?

The Fellowship provided me with the necessary resources, both financially and logistically, to conduct high quality research. Being embedded in a collegial School has allowed me to grow my research team and develop as an educator through my involvement in teaching and administration. A fellowship's ability to boost confidence in yourself and escape the Imposter syndrome for a bit should not be underestimated.

### What advice would you give to potential researchers considering University of Sydney as an option?

Sydney is a fantastic place. It is very diverse in terms of research and its people. Regarding fellowships, the University provides excellent mentoring programs and writing workshops that can aid your application. Reach out to your School or Faculty early so you can receive valuable support and find out about your future colleagues and their research. Collaborations are very well received in applications, and you might find a match within your School.

# Australian Research Council (ARC) Fellowships: ARC Australian Laureate Fellowships

World leaders, building research capacity for the benefit of all.

## Overview

The Australian Laureate Fellowships scheme supports excellence in research by attracting world-class researchers and research leaders to key positions and creating new rewards and incentives for the application of their talents in Australia.

Preference is given to researchers who will play a significant, sustained leadership and mentoring role in building Australia's internationally competitive research capacity.

Up to 17 five-year Australian Laureate Fellowships may be awarded each year by the Australian Research Council (ARC), providing a salary supplement, in addition to a Level E professorial salary provided by the Administering Organisation; funding for up to two Postdoctoral Research Associates (five years) and two Postgraduate Researchers (four years); and up to \$300,000 per annum project funding.

The Australian Laureate Fellowships scheme aims to:

- support ground-breaking, internationally competitive basic and applied research
- forge strong links among researchers, the international research community and/or industry and other research end-users
- enhance the scale and focus of research in Australian Government priority areas
- attract and retain outstanding researchers and research leaders of international reputation
- provide an excellent research training environment and exemplary mentorship to nurture early-career researchers.
- [arc.gov.au/grants/discovery-program/australian-laureate-fellowships](https://arc.gov.au/grants/discovery-program/australian-laureate-fellowships)

## Deadline

Applications for Australian Laureate Fellowships commencing in third quarter 2023 open 14 September 22 and close 09 November 2022, but potential applicants should contact their supporting School by 31 August 2022.



## Professor Nalini Joshi AO

School of Mathematics and Statistics  
ARC Georgina Sweet Australian Laureate Fellow 2012

### What attracted you to Sydney?

The extraordinary quality of students who choose to study at the University of Sydney.

### What has this fellowship done for your career?

It's like being hit by a truck. It is a game changer for the level and intensity of research you can do and for the quality of researchers you can attract to work with you.

### What advice would you give to potential researchers considering University of Sydney as an option?

Think about what support the University can give you to attract others including additional support for students, what you need to carry out your research, for example space, and how you can benefit the community of researchers close to your area in Australia, for example by holding workshops.



## Professor David James

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School of Life and Environmental Sciences

ARC Australian Laureate Fellow 2021

### What attracted you to Sydney?

There were several key incentives for me in coming to Sydney University.

First and foremost was the high quality students. The students here are world class and working with them has been an absolute dream.

Second, is critical mass in key areas particularly core facilities. The university has developed outstanding core facilities with the latest technology and this has been really game-changing.

Third, I was one of the first external faculty to join the Charles Perkins Centre, one of the first multidisciplinary research initiatives at the university. This has been transformational.

Finally, the access to philanthropic support here has been so enabling for me I don't know what I would have done without this.

### What has this fellowship done for your career?

The fellowship has directly enabled me to undertake a moonshot project, which I would not have been able to do otherwise. Lets see if it pays off but so far so good. I think as researchers we can spend far too much time doing what the system allows us to do rather than what we want to do. The Laureate has changed all this for me and given me the freedom and backing to take on a massive challenge. It has not only impacted me but all the members of my team also feel excited, engaged and empowered.

### What advice would you give to potential researchers considering University of Sydney as an option?

Think big, keep your head down and look for opportunities. They are everywhere - even in adversity.



# National Health and Medical Research Council (NHMRC) Fellowships: The NHMRC Investigator Grants

This scheme provide the highest-performing researchers at all career stages with funding for their salary (if required) and a significant research support package (RSP) for five years.

## Investigator Grants will support:

- different career stages:– early career researchers, mid-career researchers and established researchers
- researchers with clinical responsibilities (such as clinicians, public health and allied health practitioners) and part-time researchers.
- research across the four pillars of health and medical research: biomedical, clinical, public health and health services research
- full-time and part-time researchers
- [nhmrc.gov.au/funding/find-funding/investigator-grants](https://nhmrc.gov.au/funding/find-funding/investigator-grants)

## Structure

Investigator Grants will be offered in two categories:

- Emerging Leadership (EL) – recipients will have the title ‘NHMRC Emerging Leadership Fellow’ Level 1 and/or Level 2
- Leadership (L) - recipients will have the title “NHMRC Leadership Fellow’ Level 1, Level 2 and Level 3

Five levels of salary support and six tiers of research support packages (RSP) will be offered across the scheme.

NHMRC Emerging Leadership Investigator Grants will be restricted to researchers who are ≤10 years post-PhD or equivalent on 1 March of the application year.

## Investigator Grants comprise a Research Support Package (RSP) and a salary component.

The salary component of Investigator Grants is provided as a contribution to assist Administering Institutions with employing the successful applicant. However, an Investigator Grant recipient’s total salary is agreed through negotiation between the researcher and their Administering Institution.



## Salary

Applicants to the Investigator Grant scheme select the most appropriate Level (Emerging Leader 1 - Leader 3) for their career stage and the percentage of salary required to support their research activities, while ensuring they meet eligibility requirements.

If applicants request a salary, the Leadership Level selected will determine the salary awarded. Salary levels have been set at the top of current, broadly equivalent NHMRC Fellowship levels.

## Research Support Packages for NHMRC Investigator grants

Successful applicants at Emerging Leadership Levels 1 and Level 2 will be awarded a fixed RSP of \$50,000 and \$200,000 per annum, respectively.

There are four tiers of RSP for the Leadership Investigator Grants. These have been set at \$300,000, \$400,000, \$500,000 and \$600,000 per annum and will be allocated independently of the Leadership level, based on the overall peer review score of the application. As a comparison, the average Project Grant provides approximately \$200,000 per annum for three years (excluding clinical trials grants).

Research Support Packages can be used to fund Direct Research Costs.



## Dr Caitlin Cowen

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School of Psychology

NHMRC Emerging Leadership Fellow (EL) 2020



### What attracted you to Sydney?

I did a post-doc overseas and knew that I wanted to come home to Australia at some point to continue my research career. I've always seen the University of Sydney as a pinnacle of research excellence, so coming back to Sydney and joining the School of Psychology has felt a bit like unlocking a career achievement.

I'm a translational researcher with an interest in both basic science and clinical application, as well as working in a field (the microbiome-gut-brain axis) that is highly interdisciplinary in nature. Given this background, I think I'm most excited about collaborating with some of the leaders in these research areas and taking advantage of the interdisciplinary approach encouraged by institutes like the Brain and Mind Centre and the Charles Perkins Centre.

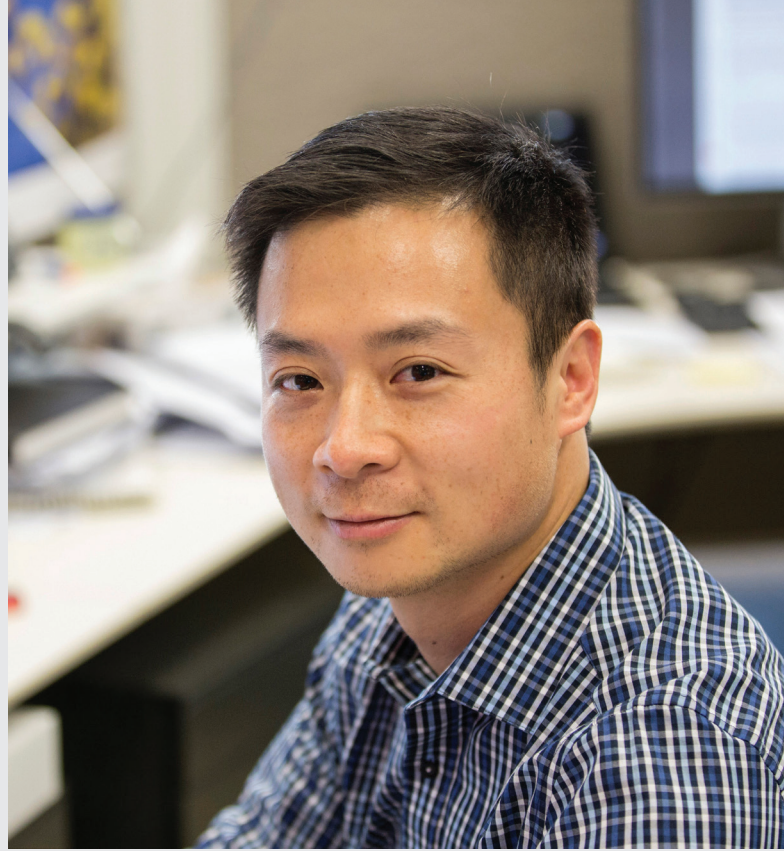
### Where do you hope the fellowship will take your career?

This fellowship has really allowed me to continue on this career path. It provided external validation of the value of my research and has been a strong motivating factor to keep progressing and building my research platform. The fellowship has helped me re-establish some former collaborations and build new ones, as well as forging a path for me to establish my independence to ultimately direct my own research pathway.

### What advice would you give to potential researchers considering The University of Sydney as an option?

Reach out! The collegial spirit of the staff has made me feel at home quickly, but it's important that you take opportunities to meet your colleagues (in the age of Covid-19 it's all too easy to stay in your own bubble). When you're writing an application it's important to know how your research will fit in with what's already happening in the School/Faculty and what opportunities there will be for collaboration.

The University also has a Research Grants team who were really helpful. Not only did they provide general advice and resources to assist in framing my application, they also reviewed my proposal in some detail and provided feedback that ultimately helped me improve the quality and readability of my application. On this note, make sure you're aware of internal deadlines for your specific grant program to get the most out of this process.



## Associate Professor Pengyi Yang

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School of Mathematics and Statistics

NHMRC Emerging Leadership Fellow Level 2 (EL) 2020

### What attracted you to Sydney?

I completed my postgraduate training at the University of Sydney before moving to the US to pursue my postdoctoral training at the National Institutes of Health (NIH). While the US provides ample research opportunities, I made the choice to relocate back to Sydney after my training at NIH for the following reason.

Sydney is a global city and offers outstanding lifestyle and living standard. The University of Sydney is a world-class university and provides exceptional research supports and environment. Very few places can match when these aspects are considered and together they provide a clear reason to choose Sydney and the University of Sydney as my home to pursue my research career.

### Where do you hope the fellowship will take your career?

The NHMRC Emerging Leadership grant provides an outstanding support for early and mid-career researchers (EMCRs) to start building an independent research team. High quality research takes time and resources. For EMCRs, this is further compounded by the significant amount of effort and funding required for establishing oneself and building a sustainable research team. The 5-year funding of the NHMRC Emerging Leadership (EL) acknowledges such a need and the \$200,000 per annum funding provided by NHMRC EL Level 2 is generous and enables me to invest in outstanding postdoctoral researchers and HDR students and pursue ideas and projects that otherwise would not be possible.

### What advice would you give to potential researchers considering The University of Sydney as an option?

The University of Sydney provides various internal awards and fellowships to support EMCRs at different stages of their careers. These provide an exceptional opportunity for EMCRs to build their research profiles prior to applying for highly competitive external grants and fellowships. Indeed, this is a key reason, among others, to consider the University of Sydney for advancing your research career.

I was fortunate to have been awarded first a Sydney University Postdoctoral Fellowship and then a Robinson Fellowship from the University of Sydney which together greatly enhanced my research and resulted in my success in external fellowship applications including ARC DECRA and NHMRC Emerging Leadership. I encourage potential researchers to consider the University of Sydney and the outstanding research supports offered through its internal awards and fellowships.



## Dr Stephanie Wong

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School of Psychology

NHMRC Emerging Leadership Fellow (EL) 2020



### What attracted you to Sydney?

The University of Sydney has several world-class research institutes that bring together experts across multiple disciplines to focus on common goals, such as disorders of the brain and mind. This multi-disciplinary approach was one of the things that drew me to Sydney.

My research combines clinical neuropsychology, cognitive neuroscience and neuroimaging techniques to explore the neural basis of cognitive and behavioural changes in individuals with dementia. Working in an environment that supports collaborative research and has strong links with the healthcare sector is important for me to be able to translate my research into meaningful clinical outcomes.

### Where do you hope the fellowship will take your career?

Having built up my research experience through a 3-year postdoc position and completed my specialist training as a clinical neuropsychologist, the NHMRC Emerging Leadership Investigator Fellowship will allow me to establish my own program of research which focuses on understanding what gives rise to certain cognitive and behavioural problems (e.g. apathy, impulsivity, poor judgement and decision-making) in dementia, in order to develop better ways to treat and manage these symptoms.

This fellowship will provide the essential support and stability to build the foundations of my career in clinical dementia research. Hopefully, this will lead to exciting new discoveries that can improve the quality of life of people living with dementia and their families.

### What advice would you give to potential researchers considering The University of Sydney as an option?

I was fortunate to work in a supportive team during my postdoc at the University of Sydney, which gave me the freedom to apply for separate project grant funding to support additional, independent areas of research.

The University has many internal funding opportunities, which can serve as useful stepping stones to build up your track record for fellowship applications. Take every possible opportunity to apply for funding – even if you are unsuccessful, you will gain crucial experience in grant-writing and develop a thick skin, which is increasingly important as an early-career researcher.

I would also recommend working closely with the Research Grants team, who can provide valuable insights and suggestions to improve the quality of your applications.

# Westpac Research Fellowships

Investing in the brightest, most innovative early career researchers to actively help them influence positive change in Australia.

## Overview

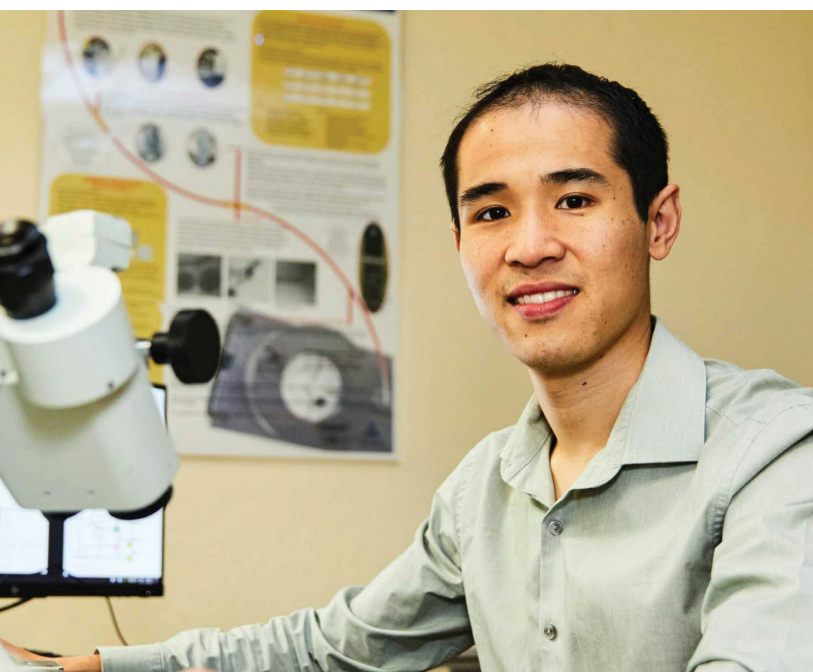
The Westpac Research Fellowship is different to other fellowships, it focuses on the person. What the researcher needs to progress their research and develop as a notable early career researcher. Westpac work closely with the researchers to develop their profiles, leadership skills and expand their networks.

Westpac have focused their schemes around three areas at the heart of Australia's future growth and prosperity, and central to Westpac's own focus as an organisation: technology and innovation; Australia-Asia ties; positive social change. With only two Westpac Research Fellowships awarded annually, they provide fully flexible funding with a minimum of \$400,000 over five years to successful researchers.

- [scholars.westpacgroup.com.au](https://scholars.westpacgroup.com.au)

## Deadline

Applications for Westpac Research Fellowships commencing in 2023 open for application in June 2022 closing date TBA. Potential applicants should contact their supporting School by May 2022.



## Dr Yu Heng Lau

School of Chemistry

Westpac Research Fellow 2020

### What attracted you to Sydney?

My plan was always to establish my research career in Sydney. Out of all the places in the world to set up an academic lab, Sydney is a very compelling option - you can do world-class research here, there is a great research talent pool, and the lifestyle isn't too bad either!

I grew up in Sydney, and since I had spent most of my research career overseas, I was keen to return

### What has this fellowship done for your career?

The DECRA fellowship has really kickstarted my career. It takes a lot of work to establish a research group and create a good lab environment, and I have been able to focus more on these aspects thanks to fewer teaching and administrative commitments during my fellowship. There is also some element of recognition amongst peers that a fellowship affords, opening up opportunities for giving research talks and visiting colleagues at other universities.

Being awarded the Westpac fellowship has enabled me to carry forward our research momentum and grow my research group through the recruitment of a postdoctoral researcher. On top of that, the Westpac scheme goes beyond a regular fellowship, providing personal development opportunities and an incredible support network of peers and other fellows from diverse fields.

### What advice would you give to potential researchers considering University of Sydney as an option?

The University of Sydney is a fantastic institution at which to hold a fellowship. As an incoming fellow, I have received an exceptional level of support from my department and university, both in terms of tangibles such as additional funding opportunities, as well as collaborative opportunities and academic mentoring from very experienced researchers.

I would advise prospective applicants that they should spend time getting familiar with the kinds of support that the University offers to fellowship applicants. There are dedicated staff with plenty of experience who can help review your applications, along with current and past fellows who can give you pointers on how the various schemes work.



## Core research facilities



The University of Sydney's core research facilities provide access to high-end research infrastructure and offer a range of related services to assist researchers with specialist applications.

### Research and Prototype Foundry (RPF)

The RPF offers instruments for the fabrication of devices and structures with features on the micro and nanoscale, with specialised processes allowing users to make devices and prototype new ideas.

The RPF enables the development of optical chips, electronic devices and new quantum science and technology via outstanding lithography, etching, deposition and metrology capabilities.

– [sydney.edu.au/research/facilities/research-and-prototype-foundry.html](https://sydney.edu.au/research/facilities/research-and-prototype-foundry.html)

### Sydney Analytical

Sydney Analytical is the University's core research facility dedicated to material, chemical and biological analysis.

We offer open access to the University's flagship capabilities for vibrational spectroscopy, x-ray analysis, drug discovery and magnetic resonance, as well as expert technical guidance, to support researchers as they address their most challenging research priorities.

– [sydney.edu.au/research/facilities/sydney-analytical.html](https://sydney.edu.au/research/facilities/sydney-analytical.html)

### Sydney Cytometry

The Sydney Cytometry is a core research facility for cytometry, cell sorting and imaging that serves the University of Sydney campus and beyond.

– [sydneycytometry.org.au](https://sydneycytometry.org.au)

### Sydney Imaging

This biomedical research facility has a comprehensive suite of preclinical and clinical imaging modalities, a state-of-the-art hybrid theatre, and world-class technical expertise.

- Preclinical Imaging - The preclinical facilities at Sydney Imaging provide a wide range of modality options for healthcare researchers conducting in vivo studies for clinical translation
- Clinical Imaging - capabilities enable the development of best-in-class diagnostic tools and patient treatment options.
- The Hybrid Theatre expands research and training capability in interventional cardiology, neurosurgery, cardiothoracic surgery, laparoscopic surgery, cancer treatment planning and any area where visualisation of devices or contrast is valuable.

– [sydney.edu.au/research/facilities/sydney-imaging.html](https://sydney.edu.au/research/facilities/sydney-imaging.html)



#### Sydney Informatics Hub

The Sydney Informatics Hub provides support, training, and expertise in research data management, statistics, data science, software engineering, simulation, visualisation, bioinformatics, and research computing.

- [sydney.edu.au/research/facilities/sydney-informatics-hub.html](https://sydney.edu.au/research/facilities/sydney-informatics-hub.html)

#### Sydney Manufacturing Hub

The Sydney Manufacturing Hub is a manufacturing-focussed research facility geared to enable concept-to-production demonstration capabilities, including advanced pre- and post-processing of materials.

- [sydney.edu.au/research/facilities/sydney-manufacturing-hub.html](https://sydney.edu.au/research/facilities/sydney-manufacturing-hub.html)

#### Sydney Mass Spectrometry

Provides state-of-the-art tools and expertise for proteomics, metabolomics and mass spectrometry imaging for the life and biomedical science communities.

- Mass spectrometry imaging (MSI) suite offers the choice of DESI or MALDI methods for the detection and high-resolution visualisation of biomolecules in samples ranging from tissue sections to bacterial colonies.
- Metabolomics Apply the latest targeted and discovery workflows. Using liquid chromatography coupled with precision mass spectrometry, we can fully characterise the metabolome or lipidome of a sample using one of our dedicated LCMS systems.

- Proteomics Study the protein complement of cells, tissues and organisms. While the human genome has a little over 20,000 genes, the human proteome is estimated to contain over one million distinct proteoforms. Start exploring this complex and dynamic world with the assistance of our world class mass spectrometers.

- [sydney.edu.au/research/facilities/sydney-mass-spectrometry.html](https://sydney.edu.au/research/facilities/sydney-mass-spectrometry.html)

#### Sydney Microscopy & Microanalysis

Our instrumentation and technical expertise are available for all researchers and include:

- Specimen preparation
  - Transmission electron microscopy,
  - Light and Laser microscopy,
  - Scanning electron microscopy,
  - X-Ray microscopy,
  - Atom probe tomography, and
  - Image visualisation.
- [sydney.edu.au/research/facilities/sydney-microscopy-and-microanalysis.html](https://sydney.edu.au/research/facilities/sydney-microscopy-and-microanalysis.html)



# Faculty research facilities

## Applied and Plasma Physics: -

Explore new areas of physics with applications spanning novel plasma sources, thin film materials, surface modifications and devices for medicine, manufacturing, microelectronics, renewable energy and sustainability.

- [sydney.edu.au/science/our-research/research-areas/physics/applied-and-plasma-physics.html](https://sydney.edu.au/science/our-research/research-areas/physics/applied-and-plasma-physics.html)

## Astronomy facilities:

The University of Sydney operates three major facilities (MOST, SKAMP and SUSI), MOST:- Molonglo Observatory Synthesis Telescope, SKAMP:- SKA technologies at the Molonglo Radio Telescope, SUSI:- Sydney University Stellar Interferometer.

- [sydney.edu.au/science/our-research/research-centres/sydney-institute-for-astronomy.html](https://sydney.edu.au/science/our-research/research-centres/sydney-institute-for-astronomy.html)

## Chemistry facilities

Housed within the School of Chemistry, our research infrastructure is supported by dedicated high-level professional and technical expertise.

- Mass Spectrometry facility provides analytical services for researchers within the school, other researchers at the University of Sydney, as well as users outside the University.
- Separations facility provides chromatography support and instrumentation for a wide range of research projects.
- Thermophysical Properties Facility provide research support to School of Chemistry staff and students. TPF services are also available to external clients.
- [sydney.edu.au/science/our-research/research-facilities/chemistry-facilities.html](https://sydney.edu.au/science/our-research/research-facilities/chemistry-facilities.html)

## Faculty Farms

The Faculty farms offer University academics significant leverage in securing new initiatives arising from government and industry priorities in education, bioscience and food chain research occasioned by climate change, peak oil, urbanisation, food and water security. On the two northern farms, broadacre crop production and extensive beef production are carried out, allowing academics to undertake teaching and research activities in a commercial setting. All University academics with relevant teaching or research interests are invited to utilise the Faculty farms, if feasible.

- Farms are located in the Sydney region: Badgery's Creek, Bringelly and Cobbitty.
- Regional NSW Farms: Nowley, Narrabri and Arthursleigh.
- [sydney.edu.au/science/about/locations-and-facilities.html](https://sydney.edu.au/science/about/locations-and-facilities.html)

## Field Stations:

- Crommelin Biological Research Station Located 60 km north of Sydney at Pearl Beach, Crommelin Biological Research Station provides accommodation and basic laboratory and library facilities and access to adjacent wet and dry sclerophyll forests, sandy beaches, mangrove swamps and intertidal rock.
- One Tree Island One Tree Island is a coral cay of about 4 hectares, situated at the southeast end of its reef which is 5.5 km long and up to 3.5 km in size. It lies in the centre of the Capricorn Group of the Great Barrier Reef, about 20 km east of Heron Island and about 100 km off the Queensland coast from Gladstone.

- [sydney.edu.au/science/our-research/research-facilities/field-stations.html](https://sydney.edu.au/science/our-research/research-facilities/field-stations.html)

## Molecular Facilities

From molecular mechanisms to whole organism processes and ecosystem interactions, and investigate a multitude of life forms – from viruses, bacteria and protozoans to fungi, plants and animals, including human.

- Fragment based drug design (FBDD) revolves around a small, carefully curated library of very small molecules that are about half the size of typical drugs.
- Nuclear magnetic resonance (NMR) spectroscopy allows the characterisation of samples ranging from purified biological macromolecules through to complex metabolite mixtures, living cells, tissues and whole organisms.
- [sydney.edu.au/research/facilities.html](https://sydney.edu.au/research/facilities.html)

## Museums

- The Haswell collection is used for undergraduate teaching, and course-related specimens are displayed in the front foyer of the Macleay building (A12). The collection is available for research and outreach.
- The John Ray Herbarium is one of the largest university herbaria in the country with approximately 50,000 specimens.
- The Psychology Museum has the oldest and largest psychology collection in Australia and is held on campus at the School of Psychology.
- [sydney.edu.au/science/about/locations-and-facilities/museums.html](https://sydney.edu.au/science/about/locations-and-facilities/museums.html)

# Contacts

The Faculty of Science is structured with Associate Heads of Research located in each of the Schools.

For further information please contact your Associate Head or your Research Administration officer who can provide you with an information pack and assistance with your application.

School	Associate Head of Research	Research Administration Officer
School of Chemistry	Associate Professor Markus Muellner E: <a href="mailto:markus.muellner@sydney.edu.au">markus.muellner@sydney.edu.au</a>	E: <a href="mailto:chemistry.researchsupport@sydney.edu.au">chemistry.researchsupport@sydney.edu.au</a>
School of Geosciences	Associate Professor Maria Seton E: <a href="mailto:maria.seton@sydney.edu.au">maria.seton@sydney.edu.au</a> Professor Phil McManus E: <a href="mailto:phil.mcmanus@sydney.edu.au">phil.mcmanus@sydney.edu.au</a>	E: <a href="mailto:geosciences.research@sydney.edu.au">geosciences.research@sydney.edu.au</a>
School of History and Philosophy of Science	Professor Dean Rickles E: <a href="mailto:dean.rickles@sydney.edu.au">dean.rickles@sydney.edu.au</a>	E: <a href="mailto:hps.admin@sydney.edu.au">hps.admin@sydney.edu.au</a>
School of Life and Environmental Sciences	Associate Professor Joy Becker E: <a href="mailto:joy.becker@sydney.edu.au">joy.becker@sydney.edu.au</a>	E: <a href="mailto:soles.research@sydney.edu.au">soles.research@sydney.edu.au</a>
School of Mathematics and Statistics	Professor Ruibin Zhang E: <a href="mailto:ruibin.zhang@sydney.edu.au">ruibin.zhang@sydney.edu.au</a>	E: <a href="mailto:maths.research@sydney.edu.au">maths.research@sydney.edu.au</a>
School of Physics	Associate Professor Archil Kobakhidze E: <a href="mailto:archil.kobakhidze@sydney.edu.au">archil.kobakhidze@sydney.edu.au</a>	E: <a href="mailto:physics.research@sydney.edu.au">physics.research@sydney.edu.au</a>
School of Psychology	Professor Barton Anderson E: <a href="mailto:barton.anderson@sydney.edu.au">barton.anderson@sydney.edu.au</a>	E: <a href="mailto:psychology.research@sydney.edu.au">psychology.research@sydney.edu.au</a>
Sydney School of Veterinary Science	Professor Jan Slapeta E: <a href="mailto:vetsci.adr@sydney.edu.au">vetsci.adr@sydney.edu.au</a>	E: <a href="mailto:vetsci.research@sydney.edu.au">vetsci.research@sydney.edu.au</a>





For more information:  
[science.research@sydney.edu.au](mailto:science.research@sydney.edu.au)  
[sydney.edu.au/science](http://sydney.edu.au/science)

