April 2025 | Issue 2

News

Snow Medical

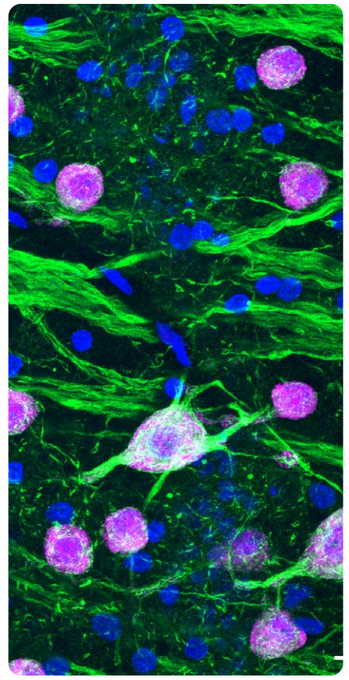
In this issue

The Snow Vision Accelerator

A groundbreaking initiative for glaucoma research

L-R: Professor Jonathan Guy Crowston, Professor Jean Yang, Tom Snow, Maree O'Brien, Professor Mark Scott AO, and Dr Katharina Bell.

Professor Jonathan G Crowston



This image is a confocal micrograph of macaque retinal ganglion cells labeled with RBPMS (magenta), SMI32 (green), and a nuclear stain DAPI (blue). The RBPMS labeled retinal ganglion cells are lost in diseases such as glaucoma. Image credit Dr Joseph Leffler (Sivyer lab).

In February, the Snow Medical Research Foundation launched the Snow Vision Accelerator in partnership with the University of Sydney, with a landmark $50 million commitment from the Snow Family over 10 years, to fight glaucoma, the world's leading cause of irreversible blindness.

This is the largest single philanthropic investment in vision science in Australia.

The Snow Vision Accelerator will build on the work of world-renowned ophthalmologist Professor Jonathan Crowston and bring together leading Australian and international research groups to develop innovative treatments that enhance the ability of optic nerve cells to withstand injury and survive, addressing a pressing unmet need for effective therapies.

Glaucoma affects 80 million people globally, with 4.5 million completely blind in both eyes. Often referred to as the "sneak thief of sight," the disease progresses silently until significant vision is lost. Current treatments focus solely on lowering eye pressure, leaving age-related vulnerabilities and optic nerve resilience largely unaddressed. The Snow Vision Accelerator is poised to change this.

"This transformative investment in ophthalmology in Australia, and one of the largest worldwide, is designed in partnership with the University of Sydney to revolutionise how we treat glaucoma and prevent blindness for millions of people worldwide," Tom Snow, Chair of the Snow Medical Research Foundation said. "Our family backs high-risk, high-reward science that addresses the most pressing global health challenges. This builds on Terry Snow's vision to deliver real-world solutions at an accelerated pace by backing world-class researchers here in Australia.

This is about doing philanthropy differently – by giving the long-term stability and resources to the best teams needed to translate research to the bedside. It is a commitment to excellence, global collaboration, urgency and intellectual vitality," Mr Snow said.

Professor Crowston, leading the program from the University of Sydney, emphasised the significance of this program. "This Accelerator will address a critical gap in glaucoma research, targeting the age-related vulnerabilities of the optic nerve. With this funding, we can explore transformative therapies that aim to prevent vision loss by stopping the disease from progressing," Professor Crowston said.

"This Program is game-changing because it addresses the unmet need for drugs that increase nerve resilience, a field where such treatments currently do not exist. Its unique scale and focus integrate teams across biological research, data science, drug development, and clinical trials, all working towards a common product-oriented goal."

Glaucoma Australia President, Maree O'Brien, added, "As the national peak body providing support and education to those affected by glaucoma through our SiGHTWiSE patient support program, we hear first-hand the anxiety and distress of possible vision loss that many of our patient community face when diagnosed and throughout their treatment.

This new program represents an historic investment into glaucoma treatment and blindness prevention, thanks to the Snow family and the University of Sydney."

Professor Jean Yang, an applied statistician and Director of the Sydney Precision Data Science Centre, who will play a lead role in data analytics for the program said, "The Snow Vision Accelerator will generate a deep sea of new, complex data, promising a revolution in vision research and new data science challenges to pursue. There are not a lot of data scientists currently working in vision research. We'll access a wide range of data, including from aging studies and clinical research, to create new insights into the progress and mechanism of glaucoma, with the potential to be applied to other vision research."

Professor Ian Constable AO, renowned ophthalmologist and key advisor for the Vision Accelerator, said he was thrilled with the new program. "This partnership between the University of Sydney and the Snow Medical Research Foundation is an innovative model for philanthropy that will drive tangible outcomes for people experiencing glaucoma. We see a future with both outstanding scientific breakthroughs and efficient clinical translation," Professor Constable said.

The program will begin in July 2025.

"The Snow Vision Accelerator is more than a research initiative; it's a commitment to better health outcomes and to creating new and more affordable treatments. By prioritising excellence, fostering talent, pursuing equity, and building world-class infrastructure, this program underscores the transformative power of philanthropy and science working together," Mr Snow concluded.

Snow Centre for Immune Health Conference

Snow Centre for Immune Health

L-R: Professor Stephen Nutt, Dr Derek Van Dyk, Professor Jo Douglass, Tom Snow, Ginette Snow, Professor Phil Hodgkin, Dr Nadja Bertleff-Zieschang, Dr Paul Lyons, Dr Vanessa Bryant, Professor Daniel Gray

Inaugural Snow Centre for Immune Health Annual Conference: A Milestone Event

The Snow Centre for Immune Health (Snow Centre) celebrated a major milestone with its first Annual Conference, held from 20-21 March 2025 in Melbourne, as the Snow Centre approaches its one-year anniversary. The event, hosted at the stunning Melbourne Museum by the Snow Centre Provisional Scientific and Technical Advisory Committee (the Committee), brought together the Snow Centre leadership, program leads and their teams, clinicians, and partners. They shared updates on the Centre's scientific progress, planned for the year ahead, and built connections in a supportive environment that promotes excellence in science and translation.

The conference plays a crucial role in boosting the Snow Centre's research efforts by refining and recalibrating its scientific directions. Program leads and their teams present their progress, challenges, failures, and learnings to the Committee and seek advice for future directions. The insights and outcomes from the conference will help shape the Snow Centre's Annual Research Plan and Budget for the next year's activities and direction, encouraging speed, agility and boldness in pursuing the goals of the Snow Centre.

Professor Clara Gaff and Matthew Wierzbowski

Welcome our newest Snow Fellow

We are thrilled to welcome Dr Alisa Glukhova from WEHI as our newest Snow Fellow for 2025. Backed by $8 million in funding over eight years, Alisa is taking on one of the biggest challenges in cancer research, finding new ways to stop the disease at its source.

Alisa is a structural biologist who studies how cells communicate—and what happens when those signals go wrong. Using cutting edge imaging techniques, her team is zooming in on these tiny molecular interactions to uncover how cancer begins and, ultimately, how we might stop it more precisely and with fewer side effects.

Snow Medical Chair Tom Snow praised Alisa's bold approach. 'Alisa has consciously chosen to apply her outstanding structural biology skills in an area often avoided due to its complexity. With this Fellowship, she'll have the independence and stability to push the boundaries of biomedical science'.

Professor Ken Smith, Director of WEHI, added 'Groundbreaking discoveries don't happen overnight. This Fellowship gives scientists like Alisa the freedom to explore complex problems—and the best chance to turn research into life-changing medical advances'.

Dr Alisa Glukhova (R) and PhD student Susovan Das

Originally from Russia, Alisa trained in the USA and Australia and now leads a lab at WEHI and has been recognised with numerous accolades, including the L'Oréal-UNESCO Women in Science Fellowship, the Gottschalk Medal from the Australian Academy of Science, and a CSL Centenary Fellowship.

With Alisa joining the ranks, Snow Medical has now committed over $260 million to support 14 fellows working across Australia.

The 2025 Snow Fellowship round is now open.

EOI submission deadline is 22 May 2025. Invitations to submit full applications will be announced in July and close in early October 2025.

Interview invitations will be announced in December 2025 and interviews will be held in early February 2026, with Fellows announced shortly after.

Application information can be found here:
snowmedical.org.au/snow-fellowship/about-our-fellowship/snow-fellowship-application-documents-2025

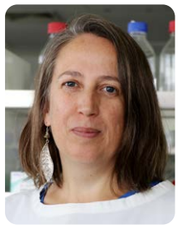
'I'm incredibly honoured to be selected', Alisa said. 'This Fellowship provides the critical support needed to advance our research towards real world treatments that can make a tangible difference for patients'.

Snow Medical is growing

We are thrilled to welcome Heidi Karonen as Chief of Staff.

Heidi joined us in 2025 and is a highly experienced pharmacist with a diverse background in community and hospital pharmacy, consultancy, and academia. She owned and operated community pharmacies before founding Australia's first and largest Australian Pesticides and Veterinary Medicines Authority (APVMA)-certified compounding pharmacy, specialising in veterinary formulations. She also founded a bio-pharmaceutical startup focused on animal health, where she developed novel veterinary medicines. As Chief of Staff and closely connected to the Snow family, Heidi will play a key role in streamlining operations and supporting strategic initiatives to help Snow Medical continue its impact in medical research and innovation.

Meet the Snow Fellows



Michelle Boyle (2022)
Burnet Institute

Michelle aims to develop novel treatments for malaria, a parasitic disease which remains one of the world's biggest killers, especially of children. Using new tools to study the human immune system, Michelle's team identifies and tests drugs that can be used to improve protection from malaria infection.

Shom Goel (2020)
Peter MacCallum Cancer Centre

Shom focuses on understanding mechanisms underlying the body's response and resistance to cancer therapies. Treatments like chemotherapy often don't kill all cancer cells but leave some dormant, which may cause a recurrence of the cancer later on. Shom's group is developing drugs to eliminate these dormant cells.

Stephin Vervoort (2021)
Walter & Eliza Hall Institute of Medical Research

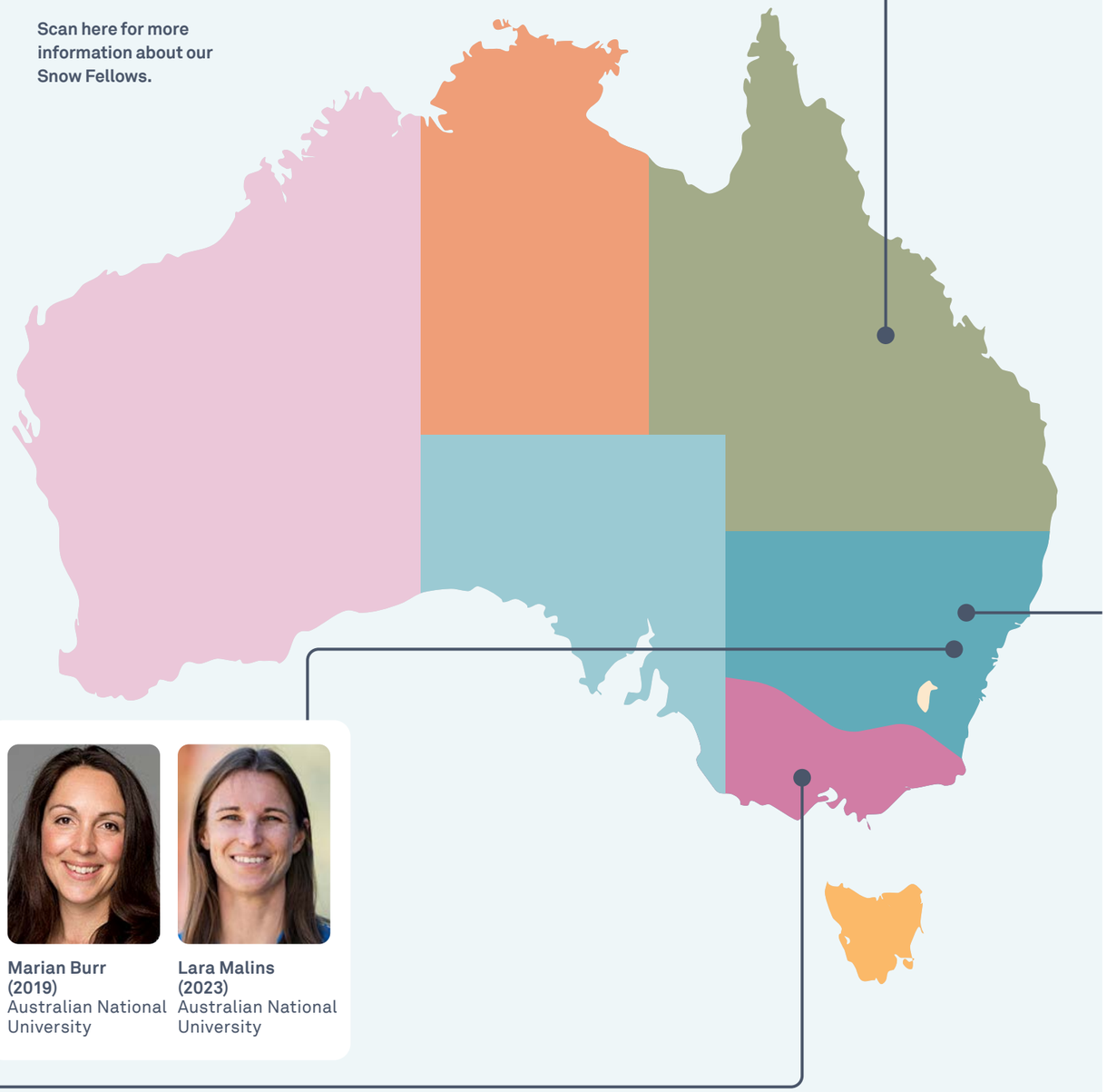
Stephin works in the field of gene regulation in cancer. His research aims to unravel how dysregulation of the cell's messenger factory can fuel aggressive cancer growth, and how components of this factory could be targeted therapeutically.

Dr Alisa Glukhova (2024)
Walter & Eliza Hall Institute of Medical Research

Melanie Eckersley-Maslin (2020)
Peter MacCallum Cancer Centre

Gavin Knott (2021)
Monash University

Scan here for more information about our Snow Fellows.



Loïc Yengo (2023)
University of Queensland

James Hudson (2019)
Queensland Institute of Medical Research

Emily Wong (2021)
Victor Chang Cardiac Research Institute

Emily studies the 'dark genome', which makes up over 98 percent of our DNA and harbours regions that control the expression of all our genes. In particular, her research will illuminate the function of the regulatory regions in the heart to transform our understanding of heart disease and the mechanics of healthy ageing.

Owen Siggs (2019)
Garvan Institute

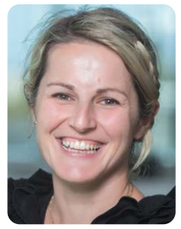
Owen uses large-scale genomics to study how genetic variation causes immune and eye diseases, such as glaucoma and macular degeneration. He is actively translating these findings into clinical practice, particularly in the area of genomic risk prediction.

Marian Burr (2019)
Australian National University

Lara Malins (2023)
Australian National University

Arnold Ju (2022)
University of Sydney

Arnold applies biomedical engineering principles to the cardiovascular system at molecular and cellular scales, in order to gain insight into how sticky blood clots are triggered. His goal is to develop microtechnologies to detect early signs of heart attacks or strokes.



Marina Pajic (2020)
Garvan Institute

And the award goes to...

Recognition for both Snow Fellows and their team members

Double success for Professor James Hudson, who was awarded two prestigious honorific awards by the Australian Academy of Science and Australian Academy of Health and Medical Science, respectively.

Professor James Hudson, Queensland Institute of Medical Research Berghofer.
Photo curtesy of the Australian Academy of Science

Congratulations to Professor James Hudson, who was recently awarded the Australian Academy of Science's (AAS) 2025 Jacques Miller Medal for Experimental Biomedicine in recognition of his cardiac bioengineering breakthroughs.

The Medal honours researchers whose work exemplifies the highest standards in experimental biomedicine, a legacy established by its namesake, French-Australian immunologist Professor Jacques Miller AC FAA FRS. Professor Miller discovered that the thymus, a small gland between the lungs, produced white blood cells to fight infection. He also discovered there were two types of white blood cells – T and B cells. "Receiving this honour is profoundly humbling" James said. "Professor Jacques Miller laid the foundation for modern immunology, and to be associated with his legacy is inspiring. This recognition motivates me and my team to continue pursuing discoveries that translate into real-world impact for the millions of people who are dealing with heart disease."

Late last year, James was also awarded the Australian Academy of Health and Medical Science's (AAHMS) 2024 Jian Zhou Medal.

Named in honour of Professor Jian Zhou who coinvented the cervical cancer vaccine, the Medal is awarded annually to rising stars in Australian health and medical science, in recognition of their impact in translational medical research. Professor Hudson is internationally known for his work in cardiac bioengineering, including the development of miniature human heart tissues from stem cells. His research has led to new insights into heart disease and potential drug candidates for treatment of heart failure. 'Our goal is to decipher the complexity of cardiovascular disease using cardiac organoids and eventually develop truly patient-matched therapies', he said. Reflecting on the award, James added 'There are a lot of fantastic researchers in Australia. Being recognised in this way is truly humbling'. The Jian Zhou Medal is supported by the Frazer Family Foundation and minted by the Royal Australian Mint.

Australian Academy of Science recognition for another Snow Fellow.

Associate Professor Shom Goel, Peter MacCallum Cancer Centre.
Photo curtesy of the Australian Academy of Science

Associate Professor Shom Goel was awarded the 2025 Gottschalk Medal in recognition of outstanding research in the biomedical sciences.

Associate Professor Shom Goel's laboratory research is seeking to identify and understand treatments that block cancer cell division, with a focus on breast cancer. He has made seminal discoveries that have changed the way we think about cancer cell division, cancer immunology, and cancer epigenetics, which have led to the design of new approaches to treat breast cancer.

"I am acutely aware of the impact cancer can have on an individual and their family, both in the short and long term, and am driven to discover treatments that can lessen that burden. This motivation, coupled with my love of solving problems with logical thinking, led me to my current career path," Associate Professor Goel said.

"Science has given me the opportunity to work alongside bright and brilliant people all over the world and has instilled in me a true optimism that medical research can drive rapid progress," Associate Professor Goel said.

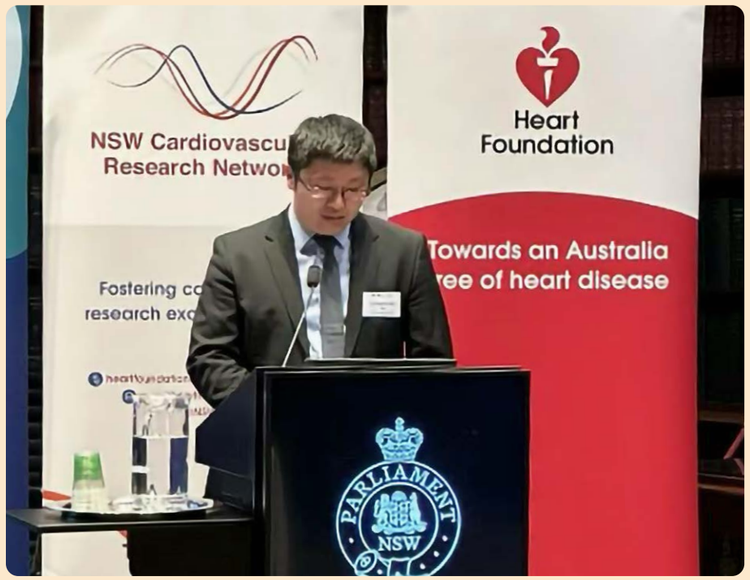
Recognition for Dr Melanie Eckersley-Maslin: Named among Australia's Top 250 Researchers, and awarded the MJ Gething Gender Equity Award

Congratulations to **Dr Melanie Eckersley-Maslin,** who has been recognised in **The Australian's 2025 Research magazine** as one of the country's top 250 researchers. The annual list highlights leading researchers and institutions across 250 fields of research, selected based on the quality and impact of their work. This recognition reflects Dr Eckersley-Maslin's outstanding contributions to biomedical science and her growing influence in the field.

In addition, **Dr Melanie Eckersley-Maslin** was one of six recipients of the 2024 MJ Gething Gender Equity Award. Established in 2019, the award supports early career biomedical researchers with significant caring responsibilities—helping them maintain research momentum and visibility while navigating the challenges of balancing family and career. The grant will assist Dr Eckersley-Maslin as she continues to build her national and international research profile, while also providing dedicated time for grant writing and publications. Melanie shared, 'When I was a student, I had role models of amazing scientists and amazing mothers but rarely saw anyone who was both. Awards like this not only provide practical support but also help normalise diverse career journeys in STEMM.' The award honours Professor Mary-Jane Gething OA, a pioneer in biochemistry and molecular biology and a passionate advocate for gender equity in science.

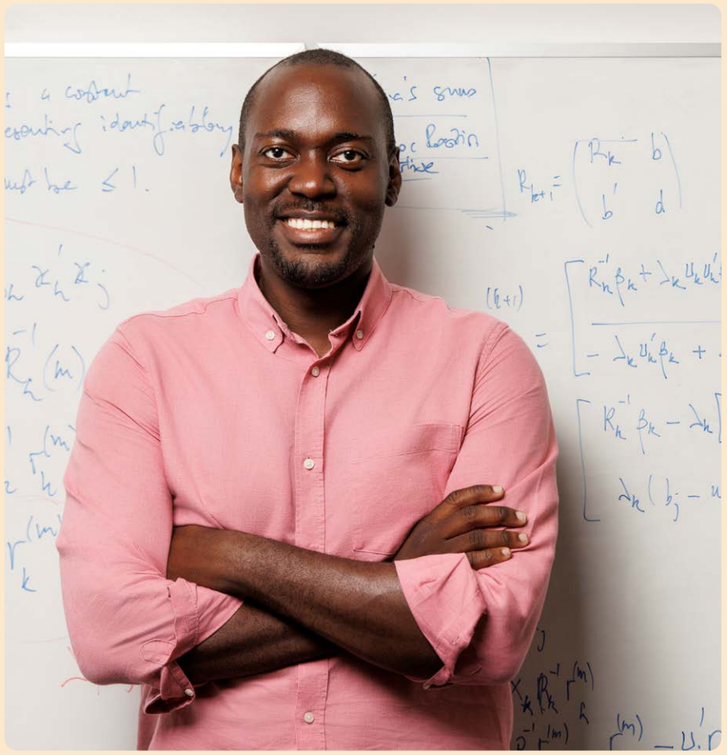
Inaugural Mary Garson Medal to Professor Lara Malins

Professor Lara Malins was the recipient of the inaugural Mary Garson Medal from the **Royal Australian Chemical Institute (RACI) Organic Chemistry Division,** awarded to an outstanding mid-career researcher (<15 years post-PhD), for contributions to research and involvement/ advocacy in professional bodies. Professor Garson, who the award was named after, has made major contributions to the chemistry of bioactive natural products over the course of her career and is currently Emerita Professor at the University of Queensland and President-elect of the International Union of Pure and Applied Chemistry (IUPAC). As part of the award ceremony in November 2024 at the RACI Organic24 conference in Adelaide, Lara delivered an award lecture attended by Professor Mary Garson herself.



Professor Arnold Ju Delivers Keynote at NSW Parliament CVRN Event

Professor Arnold Ju was invited as a keynote speaker at the **2024 Cardiovascular Research Network (CVRN) Event** at the NSW Parliament, held in October. The event brought together leading researchers, policymakers, and clinicians to showcase advances in cardiovascular research and discuss future directions for improving heart health across Australia.



American Society for Human Genetics - Early Career Award to Loïc Yengo

The ASHG Early Career Award recognises early career independent investigators whose work has had a significant impact on the field of human genetics. **Dr. Yengo,** who is director of the Statistical Genomics Laboratory at the Institute for Molecular Bioscience at the University of Queensland, is recognized for his innovative ideas and impactful research including notable contributions to the discovery of genes responsible for inter-individual variation in complex traits such as human height and risk of common disease.

(L-R): Associate Professor Marian Burr, Dr Jin Ng, Professor Kate Sutherland

Dr Jin Ng and Associate Professor Marian Burr nominated for the 2024 Research Australia Discovery Award

Dr Jin Ng from **Professor Kate Sutherland's laboratory** at the Walter and Eliza Hall Institute, and a close collaborator of **Associate Professor Marian Burr,** was nominated for the 2024 Research Australia Discovery Award and awarded Highly Commended for their 2024 SMARCA4 deficient tumour paper published in the journal Clinical Cancer Research.

Robin Anders Young Investigator Award to Dr Brooke Hayes

Dr Brooke Hayes (Dr Gavin Knott's lab) receives the prestigious **Robin Anders Young Investigator Award** at the 2025 Lorne Conference on Protein Structure and Function. Coincidentally, Gavin himself was awarded this prize in 2019.

Human Frontiers Science Program Long Term Fellowship awarded to Dr Luis Valentin-Alvarado

Congratulations to **Dr Luis Valentin-Alvarado** for winning the highly competitive and prestigious **Human Frontiers Science Program (HFSP) Long Term Fellowship.** Luis is one of 50 of the world's top emerging scientists from 28 nations that have won 2025 Human Frontier Science Program (HFSP) Fellowships that foster the next generation of life science researchers. These awards encourage exceptional scientists to embark on novel and frontier life science projects in new countries. Luis, originally from the University of California at Berkeley, USA, will be hosted by **Dr Gavin Knott** at Monash University.

Andrew Laskary receives Heart Failure Prize

Congratulations to **Andrew Laskary,** MD-PhD candidate at the **University of Queensland,** who has been awarded the Heart Failure Prize from the Cardiac Society of Australia and New Zealand (CSANZ). His PhD research focuses on developing bioengineered surgical approaches for congenital and adult heart repair, under the supervision of **Professor James Hudson, Professor Enzo Porrello,** and **Dr Christian Brizard.** This award recognises his outstanding contributions to heart failure research and his potential as a future leader in cardiovascular science.

Dr Jerry Wang wins Best Publication Award

Congratulations to Dr Jerry Wang (pictured above) from Professor Arnold Ju's lab, who received the Best Publication Award at the 2024 Annual Scientific Meeting of the Australian Association of Chinese Biomedical Scientists (AACBS). This award recognises outstanding scientific contributions and excellence in biomedical research. Jerry's work was selected for its impact and innovation, reflecting the high calibre of research being conducted across the network. Three further Ju lab members received University of Sydney awards, namely the Nano Institute Taste of Research Award (to **Nicole Alexis Yap** and **Clara Valeria**) and the Faculty of Engineering Career Advancement Award (to **Haimei Zhao**).

NHMRC Investigator Grant awarded to Dr Katie Fennell

Dr Katie Fennell, a former postdoctoral researcher in the **Eckersley-Maslin Lab,** has been awarded an Emerging Leadership Level 1 (EL1) Investigator Grant from the National Health and Medical Research Council (NHMRC). Katie spent three years in the lab and this recognition marks a significant achievement as she moves into her new role at WEHI. She will be joining the Breast Cancer Laboratory, led by distinguished Professors Jane Visvader and Geoff Lindeman. The grant will support her continued research into cancer biology and the development of improved treatments.

Dr Simon Foster appointed team leader at QIMR Berghofer

Congratulations to **Dr Simon Foster,** who has been promoted to Team Leader at QIMR Berghofer, where he will now lead his own independent research group. Dr Foster trained in **Professor James Hudson's lab,** and his promotion marks an exciting next step in his career as a cardiac researcher. As part of an ongoing collaboration with the Children's Hospital in Brisbane, Simon and James are helping establish a cardiac tissue biobank. The biobank will collect specimens from children undergoing surgery—approximately 300 procedures per year—for congenital heart defects and hypertrophic cardiomyopathy. This valuable resource will support research into the mechanisms of paediatric heart disease and drive the development of targeted therapies.

Together, James and Simon have recently published a high-impact editorial in the journal **Nature Cardiovascular Research:** Foster SR, Hudson JE. Endothelial cells as paracrine mediators of long COVID. Nature Cardiovascular Research 2024; 3 1181–1183.

Runners up - 2024 Jenny Tatchell Awards for Blue Sky Research

Dr Aleen Al Halawani (R) and Dr Daire Gannon (L) from Dr Stephin Vervoort's lab at the Walter and Eliza Hall Institute of Medical Research, with scientists from the Brain Cancer Centre, were finalists for the 2024 Jenny Tatchell Awards for Blue Sky Research - Investigating drivers of diffuse midline glioma using a Cas13-degron system. They were shortlisted from all applications and came in as runners up.

SmartClot Team Wins PERIscope Commercialisation Award

Dr Mike Wu (Chai Lun)
Project Principal

Allan Sun
Entrepreneur Lead

Congratulations to **Dr Mike Wu** and **Allan Sun** from **Professor Arnold Ju's lab,** whose project SmartClot has been selected for the 2025 PERIscope Commercialisation Award. SmartClot is an innovative platform that uses AI-driven blood coagulation diagnostics through repurposed rapid antigen test technology. This low-cost, point-of-care solution aims to revolutionise how clotting disorders are diagnosed, with broad potential applications in clinical settings where fast, accessible diagnostics are critical. The PERIscope Award supports research teams in validating the market potential of their inventions and accelerating pathways to commercial impact. As part of the program, the team will take up residency at the Sydney Knowledge Hub, engage with industry mentors and receive support to explore new venture and licensing opportunities. The achievement highlights the growing potential of interdisciplinary, translational research in delivering real world healthcare solutions.

L to R: Dr Danni Upton, Johana Luhur, Dr Diana Schuhmacher, Assoc Prof Marina Pajic, Dr Deanna Miller, Aji Istadi, and Dr Diego Chacon Fajardo at the 2025 Lorne Cancer conference

Oliver Ozaydin

Dr Rachel Woodhouse

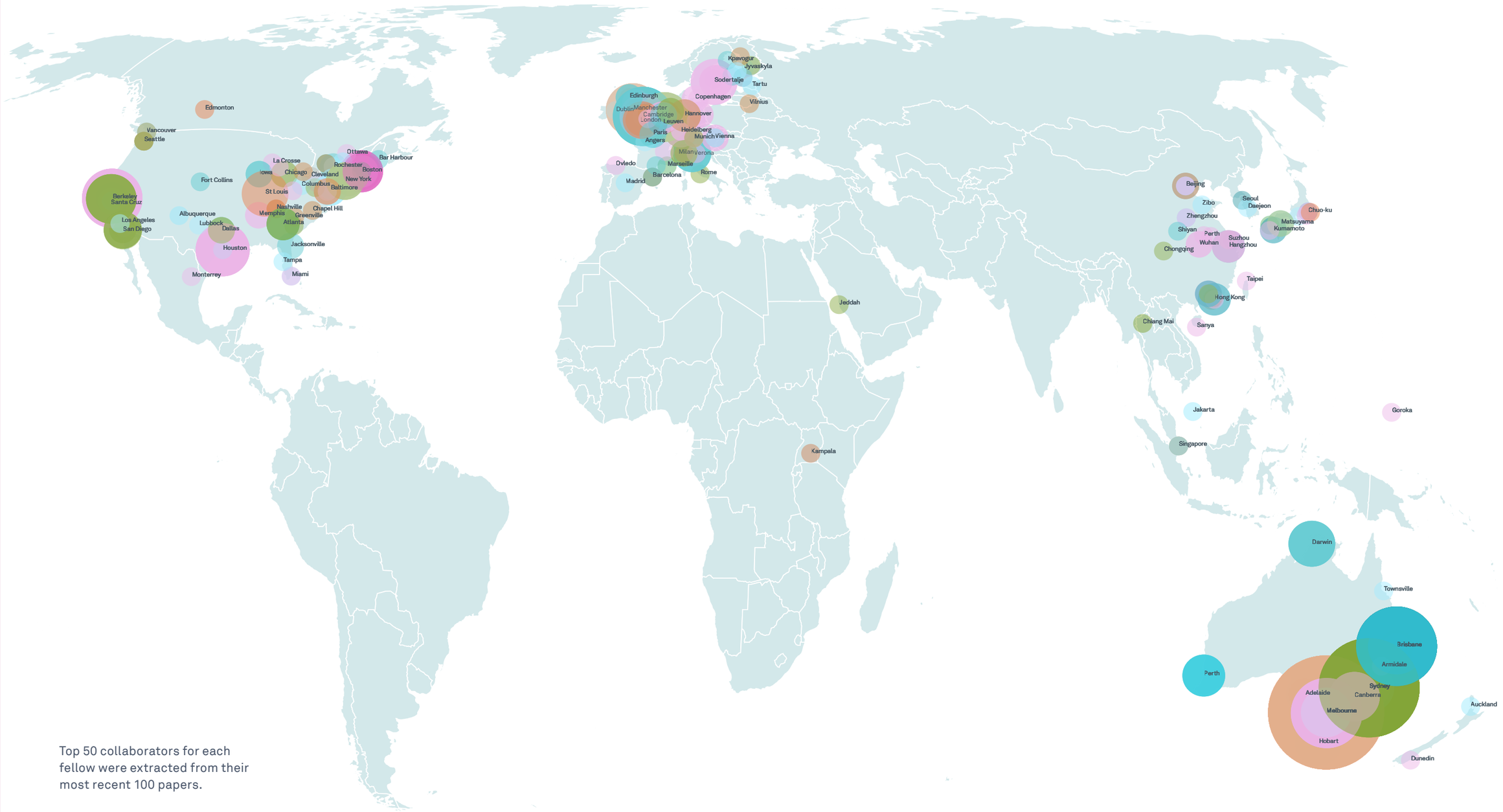
Snow team member poster prizes

In February 2025, Lorne Genome, Lorne Protein, and Lorne Cancer Conference Poster Prizes were awarded to **Oliver Ozaydin** (Student Poster Prize, **Stephin Vervoort's Lab), Roland Calvert** (Student Poster Prize, **Gavin Knott's lab),** and **Dr Diana Schuhmacher** (Poster Prize, **Marina Pajic's lab)** respectively. **Pajic lab** members **Dr Diane Schuhmacher** and **Dr Deanna Miller** also won best poster presentation prizes at the 2025 OzMRS Early Career Researcher Symposium, which recently brought together cancer metastasis-focused early career researchers from across Australia and internationally to present and discuss the latest findings in cancer metastasis research. In late 2024, **Giovanni Leandri,** also from **Gavin Knott's lab,** was awarded a Poster Prize at the Monash Structural Symposium, and **Dr Rachel Woodhouse** from Marian Burr's lab the Best Poster Prize at the Garvan Institute for Medical Research Signaling Symposium.

Dr Diane Schuhmacher (L) and Dr Deanna Miller (R)

International networking

Snow Fellows are internationally connected. They collaborate with 315 unique research institutions in 173 cities across 32 countries.



Top 50 collaborators for each fellow were extracted from their most recent 100 papers.

Symposium speakers L to R: Francis Ndungu (Kenyan Medical Research Institute, Kenya), Hedda Wardaman (Bill & Melida Gates Foundation, USA), Michelle Boyle (Burnet Institute, Australia), Gemma Moncunill (ISGLOBAL, Barcelona Institute for Global Health, Spain), Christian Engwerda (QIMR-Berghofer, Australia), Margaret Feeney (University of California, San Francisco, USA), Prasanna Jagannathan (Stanford University, USA).

American Society for Tropical Medicine and Hygiene International Meeting, New Orleans, USA.

Associate Professor Michelle Boyle and PhD student Reena Mukhiya attended the American Society of Tropical Medicine & Hygiene (ASTMH) meeting in New Orleans, USA, in November 2024. The ASTMH meeting is the premier international forum in the tropical medicine field. Held annually, this meeting is the hub of international exchange on breakthrough discoveries and clinical advances in global health.

Michelle was a symposium session speaker and co-chair, and both Michelle and Reena presented short talks. As a symposium co-chair, Michelle with her colleague Professor Christian Engwerda from the Queensland Institute of Medical Research-Berghofer (QIMR) in Brisbane, led a discussion on how malaria vaccines can be improved to ensure long lasting protection. This topic is a major focus of Michelle's Snow Medical-funded program. While two malaria vaccines are now approved for use, both vaccines only protect children for a short amount of time (~6-12 months). This symposium discussed the underlying issues that needed to be addressed to solve this problem and featured world leading scientists from the Barcelona Institute for Global Health, Stanford University, the Bill and Melinda Gates Foundation and the Kenyan Medical Research Institute.

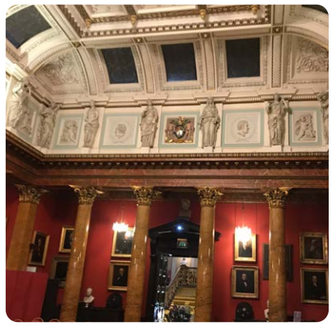
Michelle also presented her unpublished work on a clinical trial conducted at QIMR-Berghofer on a drug that can drive longer-lived immune responses, and the potential of this drug to improve vaccines. Presenting work dissecting ways to improve immunity in children led to discussions with international researchers from Malawi who are now building new collaborations to synergise with Michelle's current research programs.

One conference highlight was presentations from teams at the University of Oxford and collaborators about the recent success of a new malaria vaccine, RH5.1/Matrix M, which showed 55% protection in a Phase-2 trial in Burkina Faso. This vaccine targets a different malaria infection stage than current available vaccines, and researchers hope that if used in combination these vaccines will be significantly more protective.

University of Syndey School of Biomedical Engineering Delegation to the 2024 International Conference on Biomedical Engineering

2024 International Conference on Biomedical Engineering in Singapore

Professor Arnold Ju and a team from the University of Sydney School of Biomedical Engineering attended the 18th International Conference on Biomedical Engineering in Singapore as part of the National University of Singapore Ignition Program.



'Hidden Cell, Dark Genome' Conference in Edinburgh, UK

Associate Professor Emily Wong was invited keynote speaker headlining at the 'Hidden Cell, Dark Genome' Conference in Edinburgh, held on the 2-4th April 2025.

This international conference is inspired by the combined aims of the Wellcome Discovery Research Platform for Hidden Cell Biology and the MRC Human Genetics Unit at the University of Edinburgh in uncovering currently hidden areas of genetics, cellular and structural biology. It is a forum where cutting-edge research is presented and novel approaches and methodologies that will make substantial breakthroughs in these critical areas of biology are discussed. Specifically, this meeting focused on the challenge areas of Dark Genome Regulatory Functions, Unchartered Proteins and RNA complexity, and Celluar Diversity.

Professor Loïc Yengo

has just returned from a 3-months Visiting Associate Professorship in the University of California, San Francisco (UCSF) Department of Epidemiology and Biostatistics, School of Medicine. During his stay he lent expertise to various projects across the host department in genetics, pharmacology & epidemiology, and biostatistics, in particular a pharmaco-genomics project within the Kaiser-Permanente (KP) Health system, which has resulted in a collaboration with KP research biobank (N=400,000). In addition, Loic gave a highly successful 1-month lecture series on statistical genetics with 70 student registrations (see Loic pictured below with some of his students). Lastly, Loic was supposed to support the establishment of the Centre for Diversity in Precision Health (CDPH) and build research capacity for scientists from these understudied groups. Unfortunately, given the current political context in the US, the Centre no longer has UCSF's support and Loic and his colleagues there are discussing how to pivot.

EMBL Transcription and Genomics Meeting in Germany

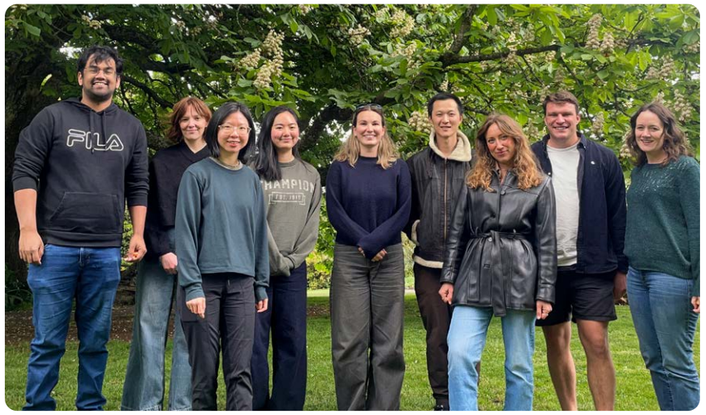
The work of **Dr Stephin Vervoort's group** on CRISPR technologies has been presented abroad by Postdoctoral Research Fellow in the lab, **Dr Dáire Gannon,** at the European Molecular Biology Laboratory (EMBL) Transcription and Genomics Meeting in Germany, resulting in interest from Prof Yi Zhang (Harvard Stem Cell Institute, Boston, USA).

International Association for the Study of Lung Cancer (IASLC): Small Cell Lung Cancer Meeting in New York, USA

Associate Professor Marian Burr

recently returned from the Small Cell Lung Cancer meeting held in New York City in early April 2025, dedicated to hot new developments in basic and translational science in this field, where she delivered a talk on exciting recent research from her lab at the Australian National University.

Training & networking



Team members of Mel Eckersley-Maslin's lab on strategic retreat in Daylesford, VIC.

Eckersley-Maslin Lab Retreat

The Lab of Snow **Fellow Mel Eckersley-Maslin** recently held a three-day retreat in Daylesford, bringing the team together to reflect, strategise and connect outside the usual lab setting. Each team member presented their goals for the year ahead, received feedback on priorities, and explored ways to support one another. The retreat also featured two interactive workshops – one on using AI tools in research, and another on writing effective media summaries to communicate science more broadly. Outside the structured sessions, the team enjoyed social activities including a visit to the Botanical Gardens, a lakeside hike, shared dinners, and evening board games. These retreats play an important role in building high performing, collaborative teams – but are often difficult to fund through traditional grants. The team is grateful for Snow Medical's support, which makes opportunities like this possible.

Snow Fellow Inter-Lab Collaboration

Olivia Voulgaris (pictured below), originally a graduate student in **Dr Stephin Vervoort's lab,** is currently a shared honours student between **Dr Stephin Vervoort** and **Professor Shom Goel** and with involvement from **Associate Professor Emily Wong** on the data analysis side. Olivia's project focuses on the cell cycle and finding novel ways in which it is regulated using Prime-editing technologies from the Vervoort lab. She hopes to find completely new regulatory mechanisms that may be able to be exploited therapeutically.

Snow PhD trainees and graduates

PhD students including Elizabeth Mee (Left: 4th from R, back row; Right: centre) attending the 9th annual EMBL Australia PhD course at Monash University

In late 2024, **Elizabeth Mee** from the Snow Laboratory of **Associate Professor Marian Burr** at ANU took part in the 9th annual EMBL Australia PhD course, held at Monash University, with 60 other early PhD students from around Australia. This course is modelled on similar PhD courses at the European Molecular Biology Laboratory (EMBL) in Heidelberg, Germany. Throughout the week, students heard talks from inspiring domestic and international speakers on topics ranging from genomics and spatial transcriptomics, to advanced microscopy, organoids and bioinformatics. There was also a range of interactive experiences including a tour of the Monash Biomedical Imaging Centre, as well as a Three Minute Thesis competition and poster session. A big focus of the meeting was career development, providing insights into paths in academia, industry and beyond, and how to foster key skills to help PhD students get there. The course was also a great opportunity to meet other PhD students – to compare notes on the highs and lows of lab life, to get tips and tricks from those further along in their PhD, and generally be inspired by all the cool science happening across Australia.

Professor Lara Malins and newly graduated Dr Joshua Hammond at the ANU graduation ceremony in February 2025.

Congratulations to Joshua Hammond

Congratulations also to **Joshua Hammond** who is the newest PhD graduate from **Professor Lara Malins' lab.** Josh spent a portion of his PhD on a research exchange in Sweden at pharmaceutical company, AstraZeneca. This strengthened collaborative ties between the Malins lab and AstraZeneca, which have now led to joint publications (e.g. one from last year in the premier multi-disciplinary chemistry journal, Angewandte Chemie: onlinelibrary.wiley.com/doi/full/10.1002/anie.202409440), and a research exchange for another PhD student, to take place in the latter half of 2025.

Congratulations to Lynn Devilée from Professor James Hudson's lab,

who successfully finished her PhD entitled 'The Evolutionary Loss of Cardiac Regeneration'. She is also the lead author on a recent paper published in the Nature family journal npj Regenerative Medicine. Her work discovered that inhibition of cardiac calcium influx through a particular ion channel in heart muscle cells induces a cardiac regeneration response. The group identified that this signals to the cells to enter the cell cycle, which can help replace lost cardiomyocytes after a heart attack by the cardiomyocytes proliferating (1 cell dividing into 2 cells). Inhibition of this channel can also decrease heart function, and therefore Lynn has continued studying these mechanisms to identify downstream signalling pathways that could potentially be targeted to induce proliferation without impacting function. Lynn is now working as a postdoc in Simon Foster's lab.

Indigenous Australian Engineering School Program Showcases AI-Driven Health Technologies

The Indigenous Australian Engineering School (IAES) recently hosted hands-on workshops featuring cutting edge biomedical technologies. Members of **Professor Arnold Ju's Lab** presented on AI-enabled rapid antigen testing (RAT) and wearable cardiac sensors, gaining insight into how engineering and innovation are transforming healthcare. These workshops aim to inspire the next generation of Indigenous engineers and scientists, while highlighting the role of emerging technologies in addressing real world health challenges.

Put Your Foot Down Sydney

Associate Professor Marina Pajic and her group participated in PanKind's 'Put Your Foot Down Sydney' on March 23rd and raised over $1,500 for pancreatic cancer research. Despite the weather the turnout was great and the team really enjoyed the opportunity to engage with the wider community affected by pancreatic cancer and see the real-world impacts of their research.

New national registry recruiting Australians with a known or suspected rare genetic disease as part of a national study focused on understanding their underlying cause.

Associate Professor Owen Siggs and Associate Professor Jodie Ingles, Co-Directors of the Genomics and Inherited Disease Program at the Garvan Institute of Medical Research in Sydney, have launched the Genomics of Rare Disease Registry, to help improve diagnoses and treatment options for the estimated two million people who live with a rare disease in Australia.

Through the registry, the researchers aim to pinpoint the genetic cause of rare diseases, making it possible to connect those affected to future research studies, clinical trials of new treatments, and to one another. There are more than 7,000 known rare diseases, which by definition affect fewer than 5 in 10,000 people. They can affect any organ, including the brain, eyes, heart, kidneys, and immune system, with examples including Huntington's disease and the eye disease retinitis pigmentosa. The vast majority of rare diseases are genetic, and while an estimated 8% of Australians live with a rare disease, less than half of those affected receive a genetic diagnosis. Targeted treatments are only available for less than 10% of affected patients.

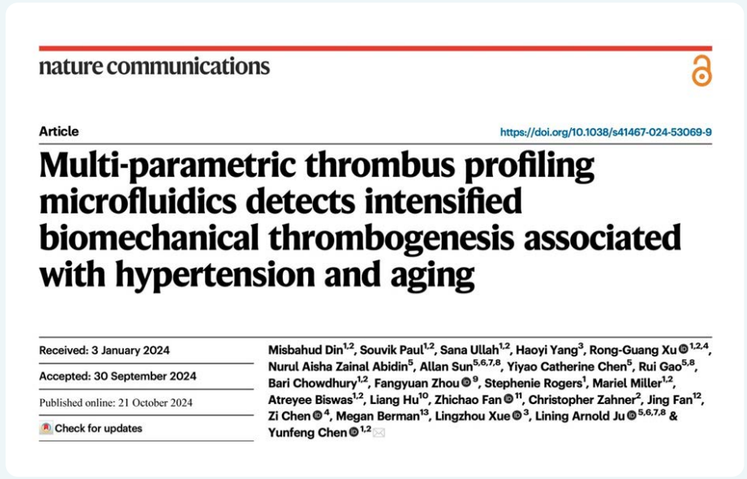
Associate Professor Siggs says: "For many families with a rare genetic disease, the journey to a diagnosis can be long and arduous, with patients and families navigating multiple specialist visits and tests that are often inconclusive. Many patients are suffering unnecessarily because they don't have a clear genetic diagnosis. If we can get them an answer today, in some cases that can lead to a targeted treatment tomorrow."

The registry will gather information from Australians (and their family members) who have a rare disease with a known or suspected genetic cause. Participation in this research involves completing a 15-minute survey, providing consent to access medical records and be contacted about new research opportunities.

Hot off the press

A selection of latest publications from Fellow Laboratories

Blood clots in arteries, so-called thrombi which contain red blood cells, platelets and other components, cause heart attacks and strokes. This study published in Nature Communications and co-authored by **Snow Fellow Arnold Ju** and his team at the University of Sydney, describes the development of a novel microfluidic thrombus profiling assay which reveals that high blood pressure and ageing intensify the formation of thrombi especially in arteries under high shear conditions. Specifically, the study identifies hyperactivity in a particular mechano-sensing pathway as a key driver of excessive platelet aggregation. It also shows that standard antiplatelet drugs like aspirin and clopidogrel are ineffective against this process, highlighting the need for new treatments based on mechano-medicine. The new assay also enables personalised thrombus profiling, emphasising inter-individual variability and the potential for anti-thrombotic therapies to be tailored to individual patients.



nature communications

Article

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Multi-parametric thrombus profiling microfluidics detects intensified biomechanical thrombogenesis associated with hypertension and aging

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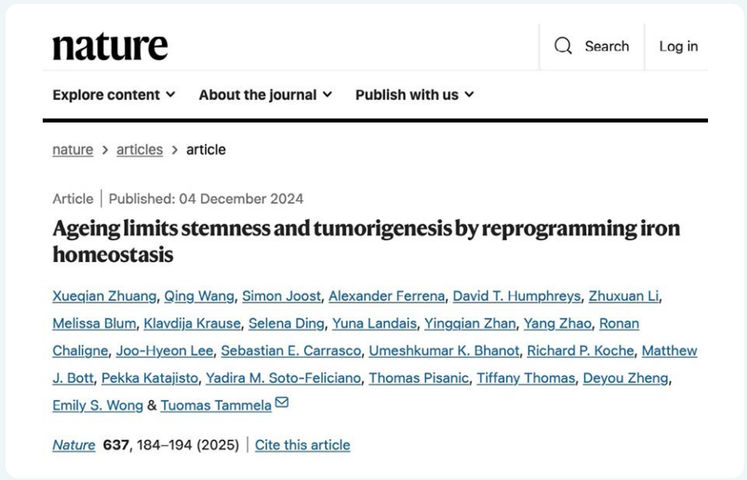
Check for updates

Misbahud Din[1,2], Souvik Paul[1,2], Sana Ullah[1,2], Haoyi Yang[3], Rong-Guang Xu[1,2,4], Nurul Aisha Zainal Abidin[5], Allan Sun[5,6,7,8], Yiyao Catherine Chen[5], Rui Gao[5,8], Bari Chowdhury[1,2], Fangyuan Zhou[9], Stephenie Rogers[1], Mariel Miller[1,2], Atreyee Biswas[1,2], Liang Hu[10], Zhichao Fan[11], Christopher Zahner[2], Jing Fan[12], Zi Chen[4], Megan Berman[13], Lingzhou Xue[3], Lining Arnold Ju[5,6,7,8] & Yunfeng Chen[1,2]

In this recent study published in the prestigious journal *Nature,* **Snow Fellow Emily Wong** and one of her long-standing collaborators at the Memorial Sloan Kettering Cancer Center in New York investigated the impact of aging on the tumour-initiating potential of stem cells in the lungs. Cancer is highly associated with aging, with incidence rates increasing until the eighth decade of life. This trend correlates with the accumulation of mutations in stem and progenitor cells, which are often considered the origin of many cancers. However, aging simultaneously reduces the number and regenerative capacity of these cells, potentially counterbalancing cancer-promoting mutations.

Using genetically engineered mice, Emily and her colleagues demonstrated, surprisingly, that aging suppresses tumour formation by altering iron regulation in the cells lining the lung alveolae, and by reducing cellular stem cell fitness.

These findings suggest new therapeutic avenues for targeting iron homeostasis in cancer prevention and regenerative medicine. They also suggest that many cancers may originate in younger individuals when stemness is intact, reinforcing the importance of early cancer prevention efforts.



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Article | Published: 04 December 2024

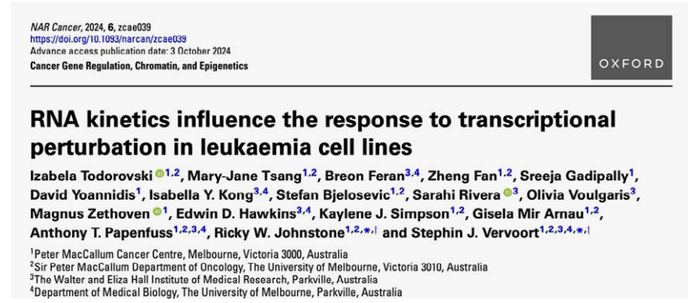
Ageing limits stemness and tumorigenesis by reprogramming iron homeostasis

Xueqian Zhuang, Qing Wang, Simon Joost, Alexander Ferrena, David T. Humphreys, Zhuxuan Li, Melissa Blum, Klavdija Krause, Selena Ding, Yuna Landais, Yingqian Zhan, Yang Zhao, Ronan Chaligne, Joo-Hyeon Lee, Sebastian E. Carrasco, Umeshkumar K. Bhanot, Richard P. Koche, Matthew J. Bott, Pekka Katajisto, Yadira M. Soto-Feliciano, Thomas Pisanic, Tiffany Thomas, Deyou Zheng, Emily S. Wong & Tuomas Tammela

Nature **637**, 184–194 (2025) | Cite this article

Blood cancers like leukaemia can boost the wrong growth signals by turning on bad genes produced by the cell's messenger factory, the so-called transcription machinery. This fuels the growth and aggressive nature of cancer. But new leukaemia treatments block these bad messages from being generated by directly targeting the messenger factory.

This study, published by **Snow Fellow Stephin Vervoort** and his team, found that the stability of messenger molecules plays a key role in determining the effectiveness of transcription-targeting therapies for leukaemia. They used multi-omics analysis to show that messenger RNA decay rates significantly influence which genes respond to transcriptional inhibitors. Genes with high production and rapid turnover were more affected by treatment, while those with longer messenger RNA half-lives were more resistant. These results suggest a possible avenue for combination therapies which might improve the treatment of leukaemia.



NAR Cancer, 2024, 6, zcae039
https://doi.org/10.1093/narcan/zcae039
Advance access publication date: 3 October 2024
Cancer Gene Regulation, Chromatin, and Epigenetics

OXFORD

RNA kinetics influence the response to transcriptional perturbation in leukaemia cell lines

Izabela Todorovski[1,2], Mary-Jane Tsang[1,2], Breon Feran[3,4], Zheng Fan[1,2], Sreeja Gadipally[1], David Yoannidis[1], Isabella Y. Kong[3,4], Stefan Bjelosevic[1,2], Sarahi Rivera[3], Olivia Voulgaris[3], Magnus Zethoven[1], Edwin D. Hawkins[3,4], Kaylene J. Simpson[1,2], Gisela Mir Arnau[1,2], Anthony T. Papenfuss[1,2,3,4], Ricky W. Johnstone[1,2,*] and Stephin J. Vervoort[1,2,3,4,*]

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[3]The Walter and Eliza Hall Institute of Medical Research, Parkville, Australia
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Article | Published: 07 October 2024

Genetic architecture reconciles linkage and association studies of complex traits

Julia Sidorenko, Baptiste Couvy-Duchesne, Kathryn E. Kemper, Gunn-Helen Moen, Laxmi Bhatta, Bjørn Olav Åsvold, Reedik Mägi, Estonian Biobank Research Team, Alireza Ani, Rujia Wang, Ilja M. Nolte, Lifelines Cohort Study, Scott Gordon, Caroline Hayward, Archie Campbell, Daniel J. Benjamin, David Cesarini, David M. Evans, Michael E. Goddard, Chris S. Haley, David Porteous, Sarah E. Medland, Nicholas G. Martin, Harold Snieder, Andres Metspalu, Kristian Hveem, Ben Brumpton, Peter M. Visscher & Loic Yengo — Show fewer authors

Nature Genetics **56**, 2352–2360 (2024) | Cite this article

Past genetic studies used two main approaches to find genes related to diseases: linkage studies (which work well for rare diseases caused by single genes) and genome-wide association studies (GWAS) (which scan the whole genome to find genetic links, for example to common traits like height or weight). This study lead by **Snow Fellow Loic Yengo and published in the prestigious journal Nature Genetics** looked at genetic data from 119,000 siblings and found that the two approaches—linkage and GWAS—actually point to many of the same genetic regions for traits like height and body mass index (BMI). The researchers also created a new method to better estimate how much of these traits are inherited, finding that about 76% of the variation in height and 55% in variation in BMI is due to genetics, suggesting that there's still a lot of hidden genetic influence that GWAS alone haven't captured.

In other exciting research news:

Associate Professor Shom Goel and his collaborators presented the results of the **PATINA clinical trial** at the San Antonio Breast Cancer Symposium in Texas, USA, in December 2024. Shom is the co-senior author and principal translational investigator for the study that garnered significant international attention. The trial was designed based on work Shom completed as a post-doctoral fellow and tested whether the addition of cell cycle inhibitory drugs (also the subject of a large proportion of his Snow Fellowship research) to standard therapy could improve outcomes for patients with metastatic HER2-positive breast cancer. The investigators conducted the study around the world, and the results show that the combination predicted to work from Shom's lab studies actually improved progression-free survival in human breast cancer patients by 15 months. This is an unprecedented result and is likely to lead to a new FDA approval for CDK4/6 inhibitors in this disease. Ongoing translational work lead by Associate Professor Goel aims to find biomarkers of response to this treatment, which is currently conducted both at the Peter MacCallum Cancer Centre in Melbourne and overseas.

A full list of publications from Snow Fellows since October 2024 can be found on the next page.

Research publications by Snow Fellow laboratories from October 2024 – March 2025

These peer reviewed publications are important in disseminating Snow funded science to the rest of the scientific community across the world.

October 2024

Foster, S. R., & Hudson, J. E. (2024). Endothelial cells as paracrine mediators of long COVID. *Nature cardiovascular research, 3(10), 1181–1183.* https://doi.org/10.1038/s44161-024-00551-8

Jovanovi□, B., Church, S. E., Gorman, K. M., North, K., Richardson, E. T., 3rd, DiLullo, M., Attaya, V., Kasparian, J., Mohammed-Abreu, A., Kirkner, G., Hughes, M. E., Lin, N. U., Mittendorf, E. A., Schnitt, S. J., Tolaney, S. M., & Goel, S. (2024). Integrative Multiomic Profiling of Triple-Negative Breast Cancer for Identifying Suitable Therapies. *Clinical cancer research : an official journal of the American Association for Cancer Research, 30(20), 4768–4779.* https://doi.org/10.1158/1078-0432.CCR-23-1242

Todorovski, I., Tsang, M. J., Feran, B., Fan, Z., Gadipally, S., Yoannidis, D., Kong, I. Y., Bjelosevic, S., Rivera, S., Voulgaris, O., Zethoven, M., Hawkins, E. D., Simpson, K. J., Arnau, G. M., Papenfuss, A. T., Johnstone, R. W., & **Vervoort, S. J. (2024). RNA kinetics influence the response to transcriptional perturbation in leukaemia cell lines.** *NAR cancer, 6(4), zcae039.* https://doi.org/10.1093/narcan/zcae039

Din, M., Paul, S., Ullah, S., Yang, H., Xu, R. G., Abidin, N. A. Z., Sun, A., Chen, Y. C., Gao, R., Chowdhury, B., Zhou, F., Rogers, S., Miller, M., Biswas, A., Hu, L., Fan, Z., Zahner, C., Fan, J., Chen, Z., Berman, M., … **Ju, L. A., Chen, Y. (2024). Multi-parametric thrombus profiling microfluidics detects intensified biomechanical thrombogenesis associated with hypertension and aging.** *Nature communications, 15(1), 9067.* https://doi.org/10.1038/s41467-024-53069-9

Hwang, L. D., Cuellar-Partida, G., **Yengo, L., Zeng, J., Toivonen, J., Arvas, M., Beaumont, R. N., Freathy, R. M., Moen, G. H., Warrington, N. M., & Evans, D. M. (2024). DINGO: increasing the power of locus discovery in maternal and fetal genome-wide association studies of perinatal traits.** *Nature communications, 15(1), 9255.* https://doi.org/10.1038/s41467-024-53495-9

Davies, N. M., Hemani, G., Neiderhiser, J. M., Martin, H. C., Mills, M. C., Visscher, P. M., **Yengo, L., Young, A. S., & Keller, M. C. (2024). The importance of family-based sampling for biobanks.** *Nature, 634(8035), 795–803.* https://doi.org/10.1038/s41586-024-07721-5

Sidorenko, J., Couvy-Duchesne, B., Kemper, K. E., Moen, G. H., Bhatta, L., Åsvold, B. O., Mägi, R., Estonian Biobank Research Team, Ani, A., Wang, R., Nolte, I. M., Lifelines Cohort Study, Gordon, S., Hayward, C., Campbell, A., Benjamin, D. J., Cesarini, D., Evans, D. M., Goddard, M. E., Haley, C. S., … **Yengo, L. (2024). Genetic architecture reconciles linkage and association studies of complex traits.** *Nature genetics, 56(11), 2352–2360.* https://doi.org/10.1038/s41588-024-01940-2

November 2024

Kudo, R., Safonov, A., Jones, C., Moiso, E., Dry, J. R., Shao, H., Nag, S., da Silva, E. M., Yildirim, S. Y., Li, Q., O'Connell, E., Patel, P., Will, M., Fushimi, A., Benitez, M., Bradic, M., Fan, L., Nakshatri, H., Sudhan, D. R., Denz, C. R., Sanchez, I. H., Reis-Filho, J. S., Goel, S., … Chandarlapaty, S. (2024). Long-term breast cancer response to CDK4/6 inhibition defined by TP53-mediated geroconversion. *Cancer cell, 42(11), 1919–1935.e9.* https://doi.org/10.1016/j.ccell.2024.09.009

Banfield, J. F., Valentin-Alvarado, L. E., Shi, L. D., Robinson, C. M., Bamert, R. S., Coulibaly, F., Barth, Z. K., Aylward, F. O., Schoelmerich, M. C., Lei, S., Sachdeva, R., & **Knott, G. J. (2024). Convergent evolution of viral-like Borg archaeal extrachromosomal elements and giant eukaryotic viruses.** *bioRxiv : the preprint server for biology, 2024.11.05.622173.* https://doi.org/10.1101/2024.11.05.622173

Mukhiya, R., Fleischmann, W. A., Loughland, J. R., Chan, J. A., de Labastida Rivera, F., Andrew, D., Beeson, J. G., McCarthy, J. S., Barber, B. E., Lopez, J. A., Engwerda, C., Thomson-Luque, R., & **Boyle, M. J. (2024). Heterogeneity of the human immune response to malaria infection and vaccination driven by latent cytomegalovirus infection.** *EBioMedicine, 109, 105419.* https://doi.org/10.1016/j.ebiom.2024.105419

December 2024

Hollitt, G. L., Keane, M. C., Nguyen, T. T., Hassall, M. M., Siggs, O. M., Craig, J. E., & Souzeau, E. (2024). Healthcare professionals' knowledge and attitudes towards polygenic risk testing for glaucoma. *Clinical & experimental ophthalmology, 52(9), 957–972.* https://doi.org/10.1111/ceo.14438

Lelliott, E. J., Naddaf, J., Ganio, K., Michie, J., Wang, S., Liu, L., Silke, N., Ahn, A., Ramsbottom, K. M., Brennan, A. J., Freeman, A. J., **Goel, S., Vervoort, S. J., Kearney, C. J., Beavis, P. A., McDevitt, C. A., Silke, J., & Oliaro, J. (2024). Intracellular zinc protects tumours from T cell-mediated cytotoxicity.** *Cell death and differentiation, 31(12), 1707–1716.* https://doi.org/10.1038/s41418-024-01369-4

January 2025

Devilée, L. A. C., Salama, A. B. M., Miller, J. M., Reid, J. D., Ou, Q., Baraka, N. M., Abou Farraj, K., Jamal, M., Nong, Y., Rosengart, T. K., Andres, D., Satin, J., Mohamed, T. M. A., Hudson, J. E., & Abouleisa, R. R. E. (2025). Pharmacological or genetic inhibition of LTCC promotes cardiomyocyte proliferation through inhibition of calcineurin activity. *NPJ Regenerative medicine, 10(1), 1.* https://doi.org/10.1038/s41536-025-00389-z

Orlowska, M. K., Lor, M., Fitzsimmons, R. L., Robinson, H., Delcheva, I., Williams, D., Priest, C., & **Hudson, J. E. (2025). Robust and consistent bonding of polydimethylsiloxane to polystyrene cell culture plates. APL Materials, 13(1), 011127.** https://doi.org/10.1063/5.0249862

Hollitt, G. L., Hassall, M. M., **Siggs, O. M., Craig, J. E., & Souzeau, E. (2025). Development and evaluation of patient-centred polygenic risk score reports for glaucoma screening.** *BMC medical genomics, 18(1), 21.* https://doi.org/10.1186/s12920-024-02079-z

Zhuang, X., Wang, Q., Joost, S., Ferrena, A., Humphreys, D. T., Li, Z., Blum, M., Krause, K., Ding, S., Landais, Y., Zhan, Y., Zhao, Y., Chaligne, R., Lee, J. H., Carrasco, S. E., Bhanot, U. K., Koche, R. P., Bott, M. J., Katajisto, P., Soto-Feliciano, Y. M., … Wong, E. S., Tammela, T. (2025). Ageing limits stemness and tumorigenesis by reprogramming iron homeostasis. *Nature, 637(8044), 184–194.* https://doi.org/10.1038/s41586-024-08285-0

Venugopal, H., Mobbs, J., Taveneau, C., Fox, D. R., Vuckovic, Z., Gulati, S., **Knott, G., Grinter, R., Thal, D., Mick, S., Czarnik, C., & Ramm, G. (2025). High-resolution cryo-EM using a common LaB**6 120-keV electron microscope equipped with a sub-200-keV direct electron detector. *Science advances, 11(1), eadr0438.* https://doi.org/10.1126/sciadv.adr0438

January 2025 (continued)

Koning, H. J., Lai, J. Y., Marshall, A. C., Stroeher, E., Monahan, G., Pullakhandam, A., **Knott, G. J., Ryan, T. M., Fox, A. H., Whitten, A., Lee, M., & Bond, C. S. (2025). Structural plasticity of the coiled-coil interactions in human SFPQ.** *Nucleic acids research, 53(2), gkae1198.* https://doi.org/10.1093/nar/gkae1198

Palombi, I. R., White, A. M., Koda, Y., Craik, D. J., Lawrence, N., & **Malins, L. R. (2025). Synthesis and Investigation of Peptide-Drug Conjugates Comprising Camptothecin and a Human Protein-Derived Cell-Penetrating Peptide.** *Chemical biology & drug design, 105(1), e70051.* https://doi.org/10.1111/cbdd.70051

Gare, C. L., Palombi, I. R., White, A. M., Chavchich, M., Edstein, M. D., Lock, A., Avery, V. M., Craik, D. J., McMorran, B. J., Lawrence, N., & **Malins, L. R. (2025). Exploring the Utility of Cell-Penetrating Peptides as Vehicles for the Delivery of Distinct Antimalarial Drug Cargoes.** *ChemMedChem, 20(2), e202400637.* https://doi.org/10.1002/cmdc.202400637

Visscher, P. M., Gyngell, C., **Yengo, L., & Savulescu, J. (2025). Heritable polygenic editing: the next frontier in genomic medicine?.** *Nature, 637(8046), 637–645.* https://doi.org/10.1038/s41586-024-08300-4

Richard, D., Muthuirulan, P., Young, M., Yengo, L., Vedantam, S., Marouli, E., Bartell, E., GIANT Consortium, Hirschhorn, J., & Capellini, T. D. (2025). Functional genomics of human skeletal development and the patterning of height heritability. *Cell, 188(1), 15–32.e24.* https://doi.org/10.1016/j.cell.2024.10.040

February 2025

Krycer, J. R., Plan, M., Stoll, T., Laskary, A. R., Hodson, M. P., & Hudson, J. E. (2025). Tackling pressure fluctuations in ultra-HPLC to robustly resolve and analyze polar metabolites. *The Journal of biological chemistry, 301(3), 108283. Advance online publication.* https://doi.org/10.1016/j.jbc.2025.108283

Kolovos, A., Qassim, A., Hassall, M. M., Marshall, H., Schmidt, J., Nguyen, T. T., He, W., Mullany, S., Hollitt, G., Berry, E., Tang, V., Zhou, T., Lake, S., Mills, R., Landers, J., Casson, R. J., Galanopoulos, A., Graham, S. L., Schulz, A., Healey, P. R., … **Siggs, O.M., MacGregor, S., Craig, J. E. (2025). A multi-trait open-angle glaucoma polygenic risk score stratifies risk of glaucoma diagnosis and severity in eyes with pseudoexfoliation.** *Ophthalmology, S0161-6420(25)00134-4. Advance online publication.* https://doi.org/10.1016/j.ophtha.2025.02.013

Garrido-Castro, A. C., Graham, N., Ali, L. R., Herold, C., Desrosiers, J., Do, K., Parsons, H., Li, T., **Goel, S., DiLullo, M., Wrabel, E., Williams, A. J., Liu, J. F., Mittendorf, E. A., Dougan, S. K., Tayob, N., Shapiro, G. I., & Tolaney, S. M. (2025). Phase I study of ribociclib (CDK4/6 inhibitor) with spartalizumab (PD-1 inhibitor) with and without fulvestrant in metastatic hormone receptor-positive breast cancer or advanced ovarian cancer.** *Journal for immunotherapy of cancer, 13(2), e010430.* https://doi.org/10.1136/jitc-2024-010430

Goel, S., Jovanović, B., Chu, X., Hughes, M., Erick, T. K., Russo, D., DiLullo, M., Wrabel, E., Jeselsohn, R., Lin, N. U., Tayob, N., Mittendorf, E., Schnitt, S., & Tolaney, S. M. (2025). A phase II study of abemaciclib for patients with retinoblastoma-positive, triple-negative metastatic breast cancer. *Clinical cancer research : an official journal of the American Association for Cancer Research, 10.1158/1078-0432.CCR-24-2647. Advance online publication.* https://doi.org/10.1158/1078-0432.CCR-24-2647

Haupt, S., Carcel, C., Halliday, L., Billiards, S., Carson, L., Redman, K., Lappan-Newton, S., Aubrey, K. R., Bickendorf, X., Bourke, J. E., Buchert, M., Duarte, J. D. G., Dasvarma, A., Drake-Brockman, T. F. E., Drysdale, K., Dymock, S. C. C., Eadie, L. N., **Eckersley-Maslin, M., Eissmann, M. F., Fazio, J., … Norton, R. (2025). Catalysing change in health and medical research policy: an Australian case study of deliberative democracy to reform sex and gender policy recommendations.** *Frontiers in public health, 12, 1522213.* https://doi.org/10.3389/fpubh.2024.1522213

Valentin-Alvarado, L. E., & **Knott, G. J. (2025). From Code to Comprehension: AI Captures the Language of Life.** *The CRISPR journal, 8(1), 2–4.* https://doi.org/10.1089/crispr.2025.0008

Aye, S. S. S., Fang, Z., Wu, M. C. L., Lim, K. S., & **Ju, L. A. (2025). Integrating microfluidics, hydrogels, and 3D bioprinting for personalized vessel-on-a-chip platforms.** *Biomaterials science, 13(5), 1131–1160.* https://doi.org/10.1039/d4bm01354a

Gare, C. L., White, A. M., & **Malins, L. R. (2025). From lead to market: chemical approaches to transform peptides into therapeutics.** *Trends in biochemical sciences, S0968-0004(25)00024-6. Advance online publication.* https://doi.org/10.1016/j.tibs.2025.01.009

March 2025

Butters, A., Thomson, K., Harrington, F., Henden, N., McGuire, K., Byrne, A. B., Bryen, S., McGurk, K. A., Leask, M., Ackerman, M. J., Atherton, J., Bos, J. M., Caleshu, C., Day, S. M., Dunn, K., Hayes, I., Juang, J., McGaughran, J., Nowak, N., Parikh, V. N., … Siggs, O.M., Bagnall, R.D., Ingles, J. (2025). A rare splice-site variant in TNNT2: the need for ancestral diversity in genomic reference data sets. *European heart journal, ehaf001. Advance online publication.* https://doi.org/10.1093/eurheartj/ehaf001

Chambers, C. R., Watakul, S., Schofield, P., Howell, A. E., Zhu, J., Tran, A. M. H., Kuepper, N., Reed, D. A., Murphy, K. J., Channon, L. M., Pereira, B. A., Tyma, V. M., Lee, V., Trpceski, M., Henry, J., Melenec, P., Abdulkhalek, L., Nobis, M., Metcalf, X. L., Ritchie, S., … **Pajic, M., Christ, D., Herzog, H., Timpson, P., Herrmann, D. (2025). Targeting the NPY/NPY1R signaling axis in mutant p53-dependent pancreatic cancer impairs metastasis.** *Science advances, 11(11), eadq4416.* https://doi.org/10.1126/sciadv.adq4416

Ephraums, J., Youkhana, J., Raina, A. S., Schulstad, G., Croft, K., Mawson, A., Kokkinos, J., Gonzales-Aloy, E., Ignacio, R. M. C., McCarroll, J. A., Boyer, C., Goldstein, D., **Pajic, M., Haghighi, K. S., Johns, A., Gill, A. J., Erkan, M., Initiative Apgi, A. P. C. G., Phillips, P. A., & Sharbeen, G. (2025). MYH knockdown in pancreatic cancer cells creates an exploitable DNA repair vulnerability.** *Neoplasia (New York, N.Y.), 61, 101138.* https://doi.org/10.1016/j.neo.2025.101138

Dupuy, A., Liu, X., Kong, Y. X., Qi, M., Perdomo, J., Fenwick, J., Tieng, J., Johnston, B., Shi, Q. S., Larance, M., Zhang, Y., **Ju, L. A., Coleman, P., Gamble, J. R., Gardiner, E. E., Poncz, M., Tran, H. A., Chen, V. M., & Passam, F. H. (2025). Endothelial cell activation enhances thromboinflammation in vaccine-induced immune thrombotic thrombocytopenia.** *Blood advances, bloodadvances.2024014165. Advance online publication.* https://doi.org/10.1182/bloodadvances.2024014165

Zhao, Y. C., Wang, Z., Zhao, H., Yap, N. A., Wang, R., Cheng, W., Xu, X., & **Ju, L. A. (2025). Sensing the Future of Thrombosis Management: Integrating Vessel-on-a-Chip Models, Advanced Biosensors, and AI-Driven Digital Twins.** *ACS sensors, 10.1021/acssensors.4c02764. Advance online publication.* https://doi.org/10.1021/acssensors.4c02764

Goh, T., **Ju, L. A., & Waterhouse, A. (2025). Thrombotic response to mechanical circulatory support devices.** *Journal of thrombosis and haemostasis : JTH, S1538-7836(25)00136-9. Advance online publication.* https://doi.org/10.1016/j.jtha.2025.02.037

Troeira Henriques, S., Lawrence, N., Kan, M. W., **Malins, L. R., & Craik, D. J. (2025). Cell-Penetrating Cyclic and Disulfide-Rich Peptides Are Privileged Molecular Scaffolds for Intracellular Targeting.** *Biochemistry, 10.1021/acs.biochem.4c00845. Advance online publication.* https://doi.org/10.1021/acs.biochem.4c00845

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