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## **FELLOWSHIPS EXTEND NATION'S BIGGEST PHILANTHROPIC MEDICAL RESEARCH GRANTS**

Australia's largest philanthropically supported biomedical research fellowship has been boosted by a further \$24 million, bringing the Snow Medical Research Foundation's (Snow Medical) commitment to the medical research sector to over \$90 million.

Three outstanding emerging medical researchers have been awarded a Snow Fellowship, with each receiving a million dollars a year for eight years. The Snow Fellowships are provided by the Snow Family through Snow Medical. This additional \$24 million investment brings Snow Medical's commitment to a total of \$91.1 million announced for the medical research sector since its establishment in 2020.

"This year we were again faced with some of the world's best emerging scientists working here in Australia," Snow Medical Chair Tom Snow said today, "They have all worked in excellent labs in the UK, US and the Netherlands, have published in the world's best journals, and have brought their worldwide expertise to Australia."

"The Snow Fellowship is designed to back the brightest and best of their generation to take bold risks. We want our researchers to have the guts to fail before they succeed – and we give them eight years to deliver their vision."

"We have also been delighted by the additional commitment host research institutes around Australia have shown in supporting these Snow Fellows and their teams, through outstanding laboratories and in ongoing management and leadership development."

The three Snow Fellows to be announced this year are:

- Dr Emily Wong: Victor Chang Cardiac Research Centre
- Dr Gavin Knott: Monash University
- Dr Stephin Vervoort: WEHI (Walter and Eliza Hall Institute of Medical Research) Melbourne

*(More information on the Fellows can be found below)*

Snow Medical Founder, Terry Snow, said a key aspect of the Snow Fellowship is that the fellows are supported to develop personally as outstanding leaders in the areas of research, the health system or industry, and to engage broadly in Australia and internationally.

"This year, we are investing in their leadership journey and rolling out a new Snow leadership program. It starts next week at Willinga Park in NSW, where all our Snow Fellows will gather together for the first time," Terry Snow said.



“We are interested in supporting exciting research that is both globally outstanding and allows Australia to play a leading role. This is about keeping and developing the best and brightest scientists here in Australia.”

Dr Emily Wong says the investment from the Snow Medical Research Foundation will allow her to accelerate her research into the dark genome to understand its impact in causing heart disease.

“I feel incredibly honoured to be a Snow Medical Fellow. This level of support is transformative. My research vision would not be possible without this level of sustained funding. I'm thrilled to be able to expand this research, which has the potential to alter our understanding of heart disease and shine a light on the dark genome and its disease-causing variations,” Dr Wong said.

Fellowship funding is available to set up and operate a research laboratory and will provide salaries for the Snow Fellow and post-doctoral researchers, PhD student scholarship top-ups, technical and laboratory management support, project funds and leadership development.

“At Monash University we are passionate about innovating biomedicine through discovery,” Snow Fellow Dr Gavin Knott added. “Our receipt of a Snow Fellowship and this 8 - year investment in further developing Australia’s mRNA research capacity is incredibly timely. It positions us to lead the development of some very exciting new tools. “

Dr Stephin Vervoort agreed, “I am incredibly grateful for this exciting opportunity that will allow me to think big and take risks to tackle the big questions in medical research.”

“It is my passion to create scientific discoveries that will be used in textbooks to educate the next generation of researchers and use these fundamental insights to create enhanced treatment options for people living with cancer.”

Over the coming year Mr Tom Snow outlined both an ongoing focus on gender equity, and a move to attract international applicants, funders and collaborations. “As borders open up, we will continue to encourage outstanding women to apply, and will commence our original plan to engage internationally.”

The next Snow Fellowship round is now open, including for international applicants.

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**About the Fellows**

**DR EMILY WONG: VICTOR CHANG CARDIAC RESEARCH INSTITUTE**

**Snow Fellowship: Decoding the dark genome to transform the diagnosis and treatment of cardiovascular disease**



Dr Emily Wong is head of the Regulatory Systems Laboratory at the Victor Chang Cardiac Research Institute.

As a Snow Fellow, Dr Wong will aim to redefine cardiac genetics by shedding light on the 'dark genome,' also known as the non-coding genome, which makes up over 98 percent of our DNA. The dark genome harbours regions that control the expression of all our genes as well as the vast majority of trait- and disease-linked DNA variants. Her research will use novel strategies to illuminate the function of the regulatory regions in the heart to transform our understanding of heart disease and to understand the system mechanics of healthy ageing.

Her interest in this field began during her PhD when she contributed to international mammalian genome projects of iconic Australian mammals including the platypus and tamar wallaby at the start of the whole era of genome sequencing. These genomes have revolutionised our view of the human genome.

Dr Wong then moved to the UK to the European Bioinformatics Institute in Cambridge as an EMBO postdoctoral fellow where she elucidated how the functional genome changes and the impact of non-coding genetic variants at the beginnings of comparative functional genomics.

She was awarded an Australian Research Council (ARC) Discovery Early Career Researcher grant to return to Australia to work at the University of Queensland. During this time, she discovered the first example of an enhancer, an important type of regulatory element in the genome, conserved across 700 million years of animal evolution – from the sea sponge to mammals. This discovery was published in *Science* and is considered a fundamental discovery in evolution that has profound implications for biomedical research.

Dr Wong is also a National Health and Medical Research Council (NHMRC) Investigator (2022-6) at the Victor Chang Cardiac Research Institute, where her team of six scientists combines model organism research, large genomics datasets and computational strategies.



## **DR GAVIN KNOTT: MONASH UNIVERSITY**

### **Snow Fellowship: Innovative tools to transform RNA biotechnology.**



Dr Gavin Knott is a Laboratory Head in the Biomedicine Discovery Institute and Department of Biochemistry and Molecular Biology at Monash University. Gavin has a long-standing interest in RNA. At Monash, his research program is focused on harnessing nature's toolbox to discover innovative solutions that empower RNA biomedicine.

Gavin completed a Bachelor of Science with first-class Honours in Biochemistry at the University of Western Australia where he received the Faculty of Life of Physical Sciences Medal. With a prestigious Hackett postgraduate scholarship, he completed a Ph.D. at the University of Western Australia under the supervision of Prof. Charlie Bond and A/Prof. Archa Fox. In 2016, Gavin relocated to the University of California, Berkeley to work with Nobel Laureate Prof.

Jennifer Doudna as a postdoctoral research fellow supported by an American Australian Association Fellowship. During a prolific 5-year postdoctoral fellowship, he made fundamental contributions to the understanding of CRISPR tools that are now used for RNA detection, DNA editing, and the control of gene editors. His work has been recognized with the Australian Society of Biochemistry and Molecular Biology Boomerang Award and the Robin Anders Young Investigator Award in 2019.

In 2021, Gavin was awarded an NHMRC Early Leadership Investigator Grant and returned to Australia to establish the Nucleic Acid Sensors lab in the Biomedicine Discovery Institute at Monash University. With the critically enabling support of a Snow Fellowship, Gavin and his team are working to uncover the next generation of innovative molecular tools to power the global RNA biomedicine revolution.

## **DR STEPHIN VERVOORT: WEHI (WALTER AND ELIZA HALL INSTITUTE OF MEDICAL RESEARCH)**



### **Snow Fellowship: Discovery and Targeting of Novel Molecular Regulators of RNA Polymerase II-driven Transcription in Cancer**

Dr Stephin Vervoort is a researcher in the field of gene regulation in cancer with over 10 years of experience. He currently heads a laboratory within the Epigenetic and Development division at WEHI that aims to unravel fundamental steps in transcription of DNA into mRNA.

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He is passionate about understanding how cells in the body send vital messages to the correct place, at the right time. Known as 'transcription', this process is driven by the enzyme RNA Polymerase II (RNAPII). While RNAPII's control of these messages is necessary for everyday function, human disease can occur when this control is lost. In cancer, disruption of RNAPII-mediated gene regulation can fuel aggressive cancer growth. Dr Vervoort's research aims to understand how the RNAPII machinery works, what causes it to malfunction in cancer and which components should be targeted therapeutically. His ultimate goal is to create treatments that can prevent this process from going awry in human cancers. This could lead to new drug treatments to attack cancers that are currently deemed hard to treat, like acute myeloid leukaemia (AML) where survival rates in adult patients remain poor.

Dr Vervoort gained critical experience and training at world-class research institutes, such as the Utrecht University, CRUK at the University of Cambridge and the Peter MacCallum Cancer Centre. His work has been supported by prestigious fellowships such as a Rubicon Fellowship from the Netherlands Scientific Organisation, an NHMRC EL1 Fellowship and a CSL Centenary Fellowship. As a postdoctoral research fellow, he led an innovative research program using state-of-the-art genomics approaches, genome-wide CRISPR-screening and bioinformatics analysis to uncover novel mechanisms of gene regulation and find ways to target those in cancer. Dr Vervoort's research has led to significant first-time discoveries in transcriptional networks, particularly detailing the discovery of novel transcriptional complexes and regulatory mechanisms that are dysregulated in cancer and can be targeted therapeutically. His work has been published in world-renowned journals such as Cell, Molecular Cell, Science Advances and Cancer Discovery.

Dr Vervoort's quest to find new treatment options for cancers like leukaemia will bring together molecular biology, advanced genomics, bioinformatics and cancer biology to improve health outcomes in cancer patients in the long term. Through mentoring, supervision and education, Dr Vervoort aims to foster the next generation of scientists, thereby advancing Australia's scientific landscape.

### **About Snow Medical Research Foundation**

The Snow Medical Research Foundation (Snow Medical) is the creation of Canberra's Snow family and is a vision of businessman and philanthropist, Terry Snow. Snow Medical's pivotal program, the Snow Fellowships, targets emerging global research leaders that show the potential to drive, manage and influence the next generation of health and medical innovation.

The eight-year Snow Fellowship, funded at up to \$1 million per year, provides outstanding biomedical researchers the independence to focus on building ambitious multidisciplinary research programs and teams capable of changing the face of healthcare in Australia and globally.