ISSUE 10 AUTUMN/WINTER 2025

DISCOVERY

From the Foundation

It is a privilege to work each day among the researchers here at The Westmead Institute for Medical Research (WIMR). In the last month, we have welcomed supporters and donors from many different backgrounds who have given generously. More importantly, they all share a vision to improve the health of fellow Australians and others around the world.

Everyone who walks through our doors cannot help but admire the individuals at WIMR leading their teams with passion towards improved diagnostic tools, treatments and cures. Areas such as glaucoma research, looking to improve eyesight and halt blindness; mental health where our researchers are determined to understand how disorders develop and to find the correct diagnosis for a patient; and scientific technology enabling breakthroughs across multi-disciplinary research.

All of us at some stage will have been, or will be, touched by a health incident that will affect our lives and those we love. In my life it has been Type 1 Diabetes with both my son being diagnosed when he was eleven and myself in my late forties. Type 1 Diabetes is an autoimmune disease affecting insulin producing cells in the pancreas which is irreversible, and for which there is no cure at present.

I am thankful for the advances in insulin, which was discovered more than 100 years ago. One of the greatest medical breakthroughs in history, the discovery in Toronto Canada has saved millions of lives around the world. Research and dedication has brought us the incredible innovation over the years in technologies such as blood glucose monitors, and improved needles and pumps that make living with Type 1 Diabetes much more manageable today and not the dire diagnosis it once was.

WIMR has played its part in improving the lives of those living with Type 1 Diabetes. Professor Philip O'Connell pioneered one of the first pancreatic islet transplants more than 20 years ago. A dedicated team of researchers is working on both Type 1 and Type 2 Diabetes research led by Professor Wayne Hawthorne and Professor Jenny Gunton.

My family has personally supported Type 1 Diabetes research throughout the years with the hope one day there will a cure. **The support and donations of the public are critical to the ongoing success of WIMR and all who labour here towards improved health outcomes for all.**

If there is a particular area of interest that has touched your life, please come for a tour and be inspired! Hope through science is not a catchphrase, but a very real and exciting reality that is in good hands at WIMR!

We would love to welcome you to see for yourself!

Nicola Tuck
Head of Foundation

Cover Image Human heart.

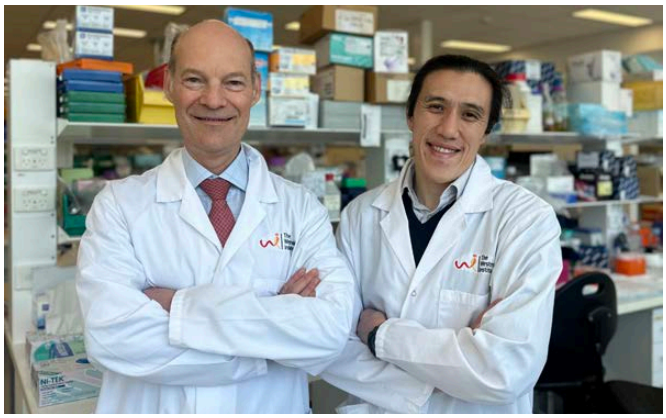
WIMR in the News

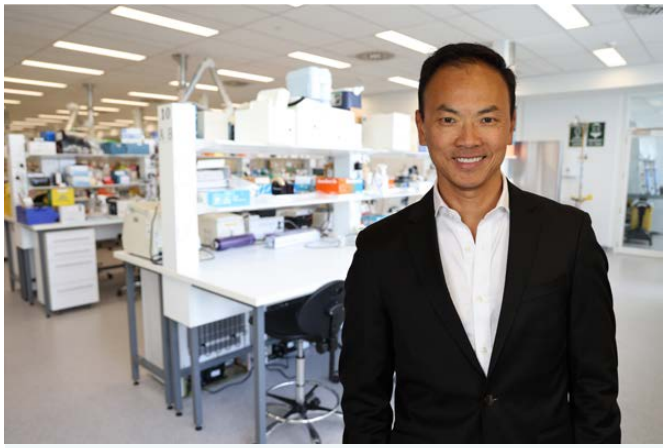
New Chair for WIMR

WIMR is pleased to announce the appointment of Mr Michael Rose AM as the incoming Chair of the Board of Directors. A highly respected non-executive director, Mr Rose has extensive experience across corporate, government, arts, and not-for-profit boards in Australia and internationally.

Gene could be key to a cure for Hepatitis B, C and D

A paper recently published by the team at WIMR's Storr Live Centre, in *The Journal of Infectious Disease*, has shown that targeting the TM6SF2 gene could limit the amount of hepatitis B, C and D virus particles that are secreted from the liver. This finding opens the door for a potential treatment that inhibits the TM6SF2 gene and, as a result, stops the virus particles from leaving the liver and spreading.





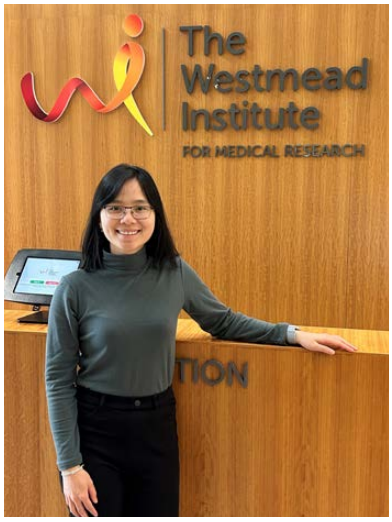
WIMR heart researcher wins prestigious Jian Zhou Medal

Professor James Chong has been honoured with the 2024 Australian Academy of Health and Medical Sciences Jian Zhou Medal in recognition of his transformative research to treat the human heart. The award recognises scientists making an impact in translational medical research.

Plasmid Therapy: A new approach to a global health threat

Congratulations to the team from WIMR's Infectious Diseases and Microbiology Research Centre, who have been awarded funding from the Medical Research Future Fund (MRFF) Global Health Initiative. The funding will be used to advance the team's research that uses Plasmid Therapy to manage antibiotic resistance.

WIMR in the News



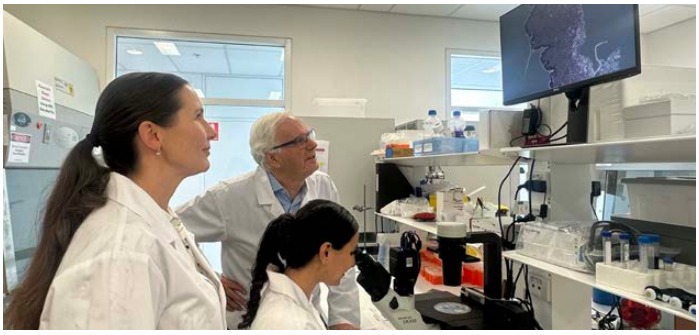
2024 John and Anne Leece Family Prize winner

WIMR and The University of Sydney recently announced the winner of the 2024 John and Anne Leece Family Prize, Dr Thanh Huyen Phan. Her research project focuses on macrophages – a type of white blood cell that play a key role in immune function – and the role that macrophage dysfunction plays in amyloidosis.

The John and Anne Leece Family Prize has been made possible by generous philanthropists John Leece AM and Anne Leece and supports the advancement of high-achieving PhD candidates and early career researchers at WIMR.

New study explains how adjuvant AS01 initiates immune response in humans

A recent study, published in *The Journal of Clinical Investigation*, has used a new technique to explain how a vaccine adjuvant called AS01 activates the immune response in human lymph nodes. It has also shown that, unlike other adjuvants, the effectiveness of AS01 is not limited by age. AS01 is a key component of the shingles vaccine, Shingrix™, which is highly effective, across all adult ages.



New funding from NHMRC Ideas Grant funding will accelerate breakthroughs for WIMR researchers

Congratulations to WIMR's researchers who have received Ideas Grants from the National Health and Medical Research Council (NHMRC). This vital funding is essential for the support of WIMR research on a range of conditions, including diabetes, heart disease, kidney disease, hepatitis and blood cancers – all conditions that have a significant impact on our local and global communities.

Read more about these and other WIMR news stories at wimr.org.au

Daily diversity drives this neuroscientist

Between working on numerous research projects at WIMR, working in her local community and with refugees in Armenia, Dr Carla Haroutonian doesn't have a lot of spare time on her hands.

A Postdoctoral Researcher at WIMR's Brain Dynamics Centre, Dr Haroutonian is always on the go, and she wouldn't have it any other way.

"I've always known that sitting at a desk from 9 to 5 wasn't for me, so the diversity of my job suits me perfectly," explains Dr Haroutonian.

Dr Haroutonian and her colleagues in the Brain Dynamics Centre are working on a number of projects, all with the same aim – finding ways to prevent and better treat some of the most common and serious psychological conditions.

Her main project is called the Voices Study, which uses a brain scan called an electroencephalogram (EEG) to identify a biomarker in the brain that is associated with hearing voices. The first phase of the study at WIMR looked at people diagnosed with schizophrenia, the team successfully identified a marker of hearing voices, referred to as auditory hallucinations. They are now in the second phase of the study and looking to replicate and extend those findings by also including other clinical groups where hearing voices can occur, like borderline personality disorder, Post Traumatic Stress Disorder (PTSD) or complex PTSD.

Dr Haroutonian says, "I did a PhD in sleep and memory function. One of the things I've added to the Voices Study is a sleep measurement and I have also been looking at sleep in relation to early life stress/childhood trauma and mood disorders. Sleep is a common trans diagnostic symptom across psychiatric conditions, and it is now being considered as a modifiable factor in reducing relapse and mental ill-health.

"I've always been drawn to the cognitive and neuroscience side of research. Undergraduate psychology students are often drawn to clinical-only career pathways, , but I felt there was a need for utilising objective measures to understand the neurobiological function behind psychological disorders. That's what I wanted to do.

"However, when I did my Honours degree, I realised that I would like to merge the clinical side and the science. This got me interested in doing a PhD, but I took a year off first and started learning physiology and EEG from scratch, and its potential for being used in clinical practice. Then I started my PhD at Sydney University, with a focus on EEG.

"My ultimate goal is to improve the way these conditions are treated and even prevented with early intervention. The biomarkers we are looking for are essential for this."

Dr Haroutonian's favourite part of her work is the diversity that research offers.

"In a day I might be in the wards at Cumberland Hospital, or in radiology at Westmead Hospital, or at WIMR interviewing consumers and patients, and working with a range of researchers from clinicians to basic scientists to bio statisticians."

In her spare time, Dr Haroutonian is very involved with Sydney's Armenian community, holding various leadership roles that involve working with schools, dance groups, choir, sports and scouting.

"I also do Armenian dance and I teach it to little kids, which I absolutely love."

Dr Haroutonian works with a non-profit organisation in Armenia called Frontline Therapists, which provides emergency mental health services to areas of need.

Volunteers Needed

The Voices research team is looking for volunteers aged 18 – 65yrs who:

1) do not have an existing mental health disorder, OR,
2) have a diagnosis of schizophrenia, schizoaffective disorder, schizotypy, or schizophreniform who do OR do not experience hearing voices, OR,
3) have another mental health diagnosis (i.e. borderline personality disorder or complex PTSD) and have experienced hearing voices in the last 6 months.

If you are interested in volunteering or would like to find out more, please contact carla.haroutonian@sydney.edu.au or phone 02 9114 4377.

Putting a stop to Sudden Cardiac Death

Cardiovascular disease is the leading cause of death worldwide, with Sudden Cardiac Death following a myocardial infarction being a major contributor. Globally, Sudden Cardiac Death accounts for 4 to 5 million deaths annually, including around 20,000 in Australia.

WIMR researchers, led by cardiologist and Co-Director of WIMR's Centre for Cardiac Research, Professor Eddy Kizana, have worked for more than a decade to find the cause of Sudden Cardiac Death, and their work is now at an exciting and integral stage.

As a cardiologist at Westmead Hospital, Professor Kizana regularly treats patients with heart disease caused by a heart attack. The regularity of these cases, the limitations of current treatments, and the lack of preventions led Professor Kizana to search for better ways to prevent and treat the issues that result in Sudden Cardiac Death.

What is Sudden Cardiac Death?

When someone has a heart attack, part of the heart muscle is destroyed and is replaced by scar tissue. Scar tissue differs from healthy heart muscle, particularly in its electrical properties. Instead of the heart beating in a controlled, rhythmic way, the scar can cause electrical short circuits, which cause the heart to beat rapidly. This can cause people to pass out or, in the worst-case scenario, to die suddenly (Sudden Cardiac Death). The bigger the scar, or the more scars a heart accumulates over time, the bigger the risk of Sudden Cardiac Death.

Currently, there are a few ways to manage the electrical short circuits caused by scar tissue. The most effective approach is to implant a device called an Implantable Cardiac Defibrillator (ICD) which involves having surgery to have a box and a lead implanted into the heart.

Professor Kizana explains, "ICDs are very effective at saving lives, but they come with their own problems. One of the biggest problems is that for an ICD to work, it has to wait for your heart rhythm to go awry. Normally, you might pass out or have other symptoms, and the ICD will restore your normal heart rhythm by delivering an internal shock. The internal shock is like a massive thump in the chest. It can be painful and doesn't necessarily stop people from passing out. Once you've had one of those shocks, there is an ongoing emotional burden caused by anxiety around future shocks. Yet, at the moment, this is the best standard of care.

"On top of that, we sometimes use medications or a technology called Ablation Therapy, where we put a catheter inside the heart and burn the areas we think are causing those short circuits. However, neither the drugs or the ablations are particularly effective at preventing Sudden Cardiac Death and they come with their own inherent problems."

Over the years, Professor Kizana's research group has come to understand some of the molecular reasons that patients develop these arrhythmias. They have studied why the changes in conduction and their molecular underpinnings cause patients to develop arrhythmias.

"Through our own research, and the research of others, we've identified two molecular targets. One is a gene whose expression is reduced, and one a gene whose expression is increased. We have found that both changes result in the same thing – an increased risk of Sudden Cardiac Death," says Professor Kizana.

"The genes identified by my research team play an important role in normal cardiac physiology. They are genes that express proteins, and these proteins form channels for electrical conduction between heart muscle cells. So, when the expression of these proteins is altered following a heart attack, the ability to conduct electricity between cells is slowed. The areas of slow conduction become the substrate for those short circuits that result in Sudden Cardiac Death."

How does gene therapy come into play?

Following a cardiac event, these genes identified by WIMR researchers no longer function as they should. The team is working on gene therapy options that will restore their original function in a way that the current treatment options, like ICDs, drugs and ablation, do not.

Professor Kizana explains, "We want to reverse those changes, but without the need to burn tissue or implant devices, while providing the same life-saving result to patients.

"Using gene therapy technology, our research team has been able to manipulate gene expression and have demonstrated that, if we can restore the expression of the first gene (that is reduced), or knock down the expression of the second gene (that is over expressed), we can reduce the risk of Sudden Cardiac Death by about 70-80% in pre-clinical models.

"We think this therapy has real promise because it targets the molecular cause of Sudden Cardiac Death. This means we aren't waiting for the disease to develop – we are preventing it before it occurs."

Thanks to funding from the National Health and Medical Research Council's (NHMRC) Medical Research Future Fund, the team is now working to determine how they can safely and effectively deliver this gene therapy to the heart. The results of these studies will hopefully be available in early 2026.

Professor Kizana says, "Our next goal is to introduce this approach into a first-stage clinical trial, which is hugely exciting.

"This work has been in development for more than 10 years and is a culmination of many scientists and many students coming together at different phases of the research.

"We are now at an exciting juncture and there is light at the end of the tunnel. We could not have come this far without the support of the NHMRC and the Heart Foundation whose funding support has made this work possible.

"Philanthropy has played a significant part in this project to date too, including from The Neil and Norma Hill Foundation and ABAL Bank. Ongoing support will be needed for this project to reach its full potential - preventing Sudden Cardiac Death."

Community collaboration making a powerful difference

One of WIMR's great strengths is the fact that our researchers work closely with medical teams at Westmead adult and children's hospitals, with many WIMR researchers also being specialist clinicians themselves. This means we are deeply connected to the community around us and inspired every day by people from all walks of life for whom better treatments could be lifesaving.

In WIMR's Centre for Vision Research, Associate Professor Andrew White and his team have been working for 10 years on a new treatment for glaucoma, to stop the disease in its tracks and preserve lifelong vision. By 2024, everything was coming together. They had conclusively proven in the laboratory that their irbesartan eyedrops were safe and effective, new Artificial Intelligence (AI) screening techniques meant they could start quickly identifying those most in need of urgent intervention, years of treating patients at Westmead Hospital meant there were people ready and waiting, and with Westmead the largest centre for clinical trials in Australia, a new preliminary trial could be rolled out quickly and easily.

DOOLEYS

Meanwhile, Dooleys Lidcombe Catholic Club was already deeply involved in helping advance research at WIMR and had thrown their support behind both development of a 'phage' therapy that cured a child suffering from an intractable infection, and the development of a cardiac regeneration therapy set to provide an exciting alternative to heart transplant. Like WIMR, Dooleys is driven by a deep commitment to the local community and likes to think big – both share a vision of better health outcomes for all, for generations to come.

Learning about A/Prof White's groundbreaking work, Dooleys knew they wanted to be involved. They could see straight away that by investing in this research they would be helping create a powerful legacy of improved diagnostics, earlier interventions and greater accessibility to more effective treatment. Immediately, Dooleys pledged a generous three-year contribution.

This commitment, combined with long-term support from The Neil & Norma Hill Foundation and funds awarded by Glaucoma Australia through the Quinlivan Research Grant, mean that everything is now in place for this pioneering trial to get underway. The very first glaucoma patients could be trialling the specially formulated eye drops before the end of this year, the first step on the pathway to their widespread availability and the end of glaucoma not just locally, but all around the world.

They say it takes a village to raise a child. In this case, at the heart of Western Sydney, it takes a deeply meaningful local community collaboration to advance progress towards a globally transformational cure. Thank you Dooleys for your partnership, generosity and support.

A plaque acknowledging Dooleys' generous support was officially unveiled at WIMR by Dooleys Board Directors. Pictured (L-R): Professor Philip O'Connell, Associate Professor Andrew White, Kevin Morgan (Dooleys Board Chair), Joe Giovenco (Dooleys Board), Nicola Tuck (WIMR Foundation), Tony Khoury (Dooleys Director).

Honouring the Legacy of Habibe Yavuz: A life of love, hard work, and generosity

The late Habibe Yavuz was a remarkable woman whose life story is one of resilience, dedication, and generosity. Migrating to Australia with her husband in 1970 from Turkey, she embraced her new home with warmth and determination. Settling in Auburn, she worked tirelessly to build a life for her family while contributing to her community in countless ways.

Habibe was more than just a devoted wife and mother; she was an upstanding member of the community, known for her compassion, understanding, and unwavering support for those around her. Whether offering a helping hand to a neighbour in need or sharing words of wisdom with younger generations, she left a lasting impression on everyone who had the privilege of meeting her. Her legacy is carried on by her three children, nine grandchildren, and thirteen great-grandchildren, all of whom continue to honour her values of kindness, respect, and generosity.

Beyond her immediate family, Habibe's impact extends even further through the gift she left for the **Cardiac Gene Therapy research group at WIMR**.

"This incredible gift will contribute toward the development of novel therapies designed to prevent sudden cardiac death in patients at risk of this condition." PROFESSOR EDDY KIZANA

Her generosity is fuelling vital medical research that will save lives and bring hope to future generations.

Habibe Yavuz's life was one of purpose, love, and selflessness. She will always be remembered as a woman who gave her heart to her family, her community, and the world. Her story serves as an inspiration, reminding us all of the profound impact one person can have when they lead with kindness and determination.

Thinking about your legacy?

By leaving a gift in your Will (bequest) to the WIMR Foundation, you can play a vital role in advancing medical breakthroughs and improving the lives of future generations.

We always recommend that you consult a Solicitor when making or updating your Will to make sure it is legally binding, and your wishes are carried out as you intended. If you don't have a Solicitor, we can refer you to one of our Honorary Solicitors who would be happy to assist you in this process.

You may also wish to consider preparing or updating your Will online.

The WIMR Foundation has recently partnered with Australia's top-rated Will-writing platform, Gathered Here – an online platform that provides an easy and free step-by-step Will-writing service, and we are proud to offer this service to our community, completely free.

You can get started on preparing your Will at
www.gatheredhere.com.au/c/wimr

For a confidential discussion, please email Veena Singh, Planned Giving Manager veena.singh@wimr.org.au or give her a call on (02) 8627 3000.

WIMR Out and About

Goodwill and Groundbreaking Research: WIMR Golf Day 2024

WIMR held its annual golf day In November at Castle Hill Country Club. Despite the scorching 40-degree heat, the event was a great success, bringing together both seasoned golfers and new faces, all in the spirit of supporting a great cause. The team from Cherrie Civil Engineering dominated the Ambrose golf tournament, taking home the top honours.

After the game, guests were treated to an inspiring dinner where senior researcher, Associate Professor Andrew White delivered a passionate speech. He shared his groundbreaking work in developing eye drops that could prevent blindness in a cohort of people with glaucoma, showcasing how innovation and research can truly change lives. Dr Andrew White's patient, Paul McCourt, shared his personal experience with blindness, offering a perspective that resonated deeply with everyone in the room.

As always, WIMR's friend and auctioneer, Ray Hadley, kept the evening lively and fun with his trademark energy and humour!

Save the Date: Tuesday, 11th November 2025 at Castle Hill Country Club
To pre-register email Diane Humphries diane.humphries@wimr.org.au

Exploring New Frontiers in Antibiotic Resistance Solutions: A Special Visit to the JJ Richards' Plant

In March, Monique Bachtis, Regional Manager Infrastructure at JJ Richards and Sons, hosted the WIMR Phage team for a tour of the JJ Richards plant to collect liquid waste samples. JJ Richards and Sons has long been a valued WIMR supplier and one of the founding organisations behind the establishment of the WIMR building 10 years ago.

This visit was part of the WIMR team's ongoing search for Phages which fight bacteria that are resistant to antibiotics. The WIMR Phage team is making strides in the fight against antibiotic resistance one sample at a time!

WIMR Phage Team

Racing for Research 2025

Our second Race Day was held at Royal Randwick in February with the running of The Westmead Institute for Medical Research Handicap kindly donated by Inglis. Guests enjoyed a sunny Sydney day and heard from Professor Natasha Rogers and Professor Eddy Kizana, interviewed by Dr Mee Wa Wong, about the breakthroughs around their kidney and heart research with potential to improve patient outcomes though commercialisation.

Our Fashion on the Field saw guests modelling their race ready outfits and showing some dance moves!

Photo courtesy of Bradley Photography

Ovarian Cancer - Teal We Find a Cure Lunch

On March 23rd, our passionate ovarian cancer research advocates, Monica Matak Evans and her husband Peter, hosted their annual fundraising event in support of Professor Anna DeFazio's groundbreaking ovarian cancer research at WIMR. This year's event was their most successful yet, drawing over 130 dedicated friends, family members, and loyal volunteers for a day full of inspiration and generosity.

The event featured a lively mix of auctions, raffles, and a vibrant shop, all aimed at raising much-needed funds for the cause. Attendees were deeply moved by the heartfelt testimonies shared by Monica, and her fellow ovarian cancer survivor, who both courageously spoke about their personal journeys.

Thanks to the generous support given on the day, significant funds were raised to continue the fight against ovarian cancer.

Outstanding research requires exceptional people

You don't have to be a medical researcher to make a difference.

Support WIMR today to help improve treatments, prevent, and cure some of the most serious health issues affecting Australians and people around the world.

Visit our website to donate now.
Simply hover your phone over the QR code or visit **wimr.org.au**

My contact details:

Title: _____

Name: _____

Address: _____

_____

_____

Email Address: _____

Phone: _____

I would like to receive information and occasional updates from WIMR.

- ☐ Yes, via email please
- ☐ Yes, via mail please
- ☐ No thank you. Please do not send me any regular correspondence.

I would like to donate the following amount to help fund vital breakthroughs at WIMR:

☐ $25 ☐ $50 ☐ $100 ☐ $250 ☐ $500

Another amount: $ _____

☐ I would like to make this a regular, monthly donation.

Donations of $2 or more are tax deductible.

Payment Information:

☐ Credit Card:

☐ Visa ☐ Mastercard

Cardholders Name: _____

Card Number: _____

Card Expiry Date: _____ / _____

CCV/Card Security Number (on back of card): _____

☐ I will make a direct payment from my bank account to:

Account Name: The Westmead Institute for Medical Research Foundation
BSB: 032-278
Account: 76 76 16

Please complete this form and return it to:

The Westmead Institute for Medical Research Foundation
PO Box 412
Westmead NSW 2145
Australia

Ph: 02 8627 3000
Website: wimr.org.au
ABN 90 141 847 634

To find out how your support can make a difference, contact the WIMR Foundation team at development@wimr.org.au or phone 02 8627 3000.

A gift in your Will, "in memoriam", and in celebration of special events are wonderful ways to support our life-changing research here at WIMR.

For a confidential conversation please contact the Foundation at giftsinwills@wimr.org.au