

FOUNDATION LINE

WINTER 2024

 lionsmedicalresearch
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CHAIR'S MESSAGE

Welcome to Foundation Line, the quarterly newsletter of the Queensland and Northern New South Wales Lions Medical Research Foundation, aka LMRF.

LMRF is a well-established organisation committed to fostering the next generation of medical breakthroughs by providing essential startup funding to early-career medical researchers.



As the financial year draws to a close, we ask our supporters to consider making a tax-deductible donation to the Foundation. Your contribution will help us fund vital medical research programmes and support aspiring medical researchers as they work towards breakthroughs that can make a profound difference in the world.

The Foundation has several fundraising projects, but philanthropy through tax-deductible giving is also important to our fundraising activities.

The Foundation receives no government support at all and is very thankful for all donations received. Your generous donation to LMRF can make a profound difference in the lives of these aspiring researchers and, ultimately, in the lives of countless individuals who stand to benefit from their discoveries. Not only does your contribution support scientific progress, but it also offers tangible benefits for your business through tax deductions.

By donating to LMRF, you not only invest in world-class medical research but also align your business with a noble cause that resonates with your stakeholders and customers. Moreover, your contribution is tax-deductible, providing you with a valuable opportunity to reduce your tax burden while making a meaningful difference in the world. Your donation will support groundbreaking research projects in areas such as ovarian cancer, gestational diabetes and many others, paving the way for innovative diagnostic tools, treatments, and therapies that can save lives.

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HAVE A STORY YOU WANT TO INCLUDE IN THE NEXT ISSUE?

Contact us on 07 38321688 or email info@lmrf.org.au



CHAIR'S MESSAGE *continued*

I understand that businesses face numerous demands on their resources, especially in today's challenging economic climate. However, I firmly believe that investing in medical research is a strategic decision that yields long-term benefits for society and the economy.

Your support can help unlock the full potential of talented researchers who are dedicated to pushing the boundaries of medical knowledge and improving healthcare outcomes for people around the globe. Together, we can make a profound difference.

Please consider making a tax-deductible donation to LMRF today and join us in our mission to empower the next generation of medical pioneers. Your generosity will leave a lasting legacy of hope and healing for generations to come.

The Foundation continues to support the SPARQ-ed programme which is a collaboration between the Translational Research Institute and the Queensland Department of Education. Students attending this programme receive a practical introduction to biomedical research at TRI's cutting-edge facility featuring a fully equipped PC2 lab and learning centre.

This investment in the future of medical research is crucial, and we are proud to be a part of it. With the Foundation's support, students from remote and regional Queensland are offered scholarships to assist with costs associated with travel and accommodation to attend this programme. The feedback from students and parents is fantastic. One student recently described the experience as "absolutely amazing".

The Foundation continues to promote all our other partnerships including Safewill, Play for Purpose, and Doing Good Rewards. The Foundation also has a range of merchandise including silk roses for that special person, and virtual roses that are sent electronically to the recipient. Check it all out on the LMRF web page.

In closing, I would like to thank our donors and supporters for their continued generosity and dedication to our mission. With your support, we can continue to empower the next generation of medical pioneers and achieve our goal of improving healthcare outcomes for all.

Remember, with research, the life you save may be yours or that of someone you love.

Cheers

Tom Braes

Chair

EXECUTIVE MANAGER'S MESSAGE

As we bid farewell to autumn and embrace the chill of winter, let's take a moment to reflect on the journey we've shared over the past few months.



The recent SPARQ-ed Senior Research Immersion Programs, held at the Translational Research Institute in Brisbane, have been a beacon of inspiration. Through the LMRF Beryl Phippard Memorial Scholarships, we proudly supported nineteen exceptional students from remote and regional areas, giving them the invaluable opportunity to delve into the realms of medical research. Their passion and dedication serve as a testament to the boundless potential within our youth, igniting hope for a brighter tomorrow.

Amid solemn remembrance on Anzac Day and the well-deserved respite of Labour Day, we took a moment to honour the sacrifices of our servicemen and women and celebrate the achievements of our workforce. Mother's Day provided a cherished occasion to express gratitude to the maternal figures who enrich our lives.

National Volunteer Week in late May provided the opportunity for a special shoutout to our invaluable volunteers, from the dedicated individuals in our Lions Clubs to the passionate volunteers on our Board and our network of ambassadors and friends. Your unwavering commitment and selflessness are the lifeblood of our Foundation, shaping our impact and fostering a sense of unity within our community.

With Lions Club changeovers and award ceremonies fast approaching, we are humming with incoming orders for awards to recognise and celebrate the outstanding contributions of our club's members.

As the days grow shorter and the nights colder, many of us spend more time indoors over the winter months, using the opportunity to cross a few big-ticket items off our life admin to do lists. With the end of financial year fast approaching, we'd like to remind all our supporters that LMRF has DGR (deductible gift recipient) status, making any donations over \$2 tax-deductible for our supporters. Often when we think of taxes we are also reminded of what else is unavoidable in life. If you find yourself or your loved ones putting off writing a will, we can help. Through our partnership with Safewill, you or anyone you know can write a valid will at a time convenient for you at a current discounted price of \$80, that's a 50% discount off the usual price! Go to <https://safewill.com/lmrf> to get started now.

And if you're looking to escape and have some fun, how about a ticket in our current Play for Purpose Raffle closing 13 June? You could discover the freedom of the open road with your new, fully decked-out \$115K Volkswagen California Beach camper van. You'll have plenty of time to dream about what to do with your winnings as you explore our great big country or snooze beneath the stars. Plus, you'll have plenty of road trip money with \$120K in cashable gold bullion and more than \$14K in shopping vouchers! Get your ticket here <https://www.playforpurpose.com.au/lmrf-qld-nnsw>

With the onset of winter, let's remember that our collective efforts in start-up funding are driving significant advancements in world-class medical research. This season, our Research Fellows, Dr. Olivia Holland and Dr. Dominic Guanzon, share exciting updates on their groundbreaking work in gestational diabetes and ovarian cancer. Together, we continue to make a meaningful impact.

Warm regards
Deanne Meldon
Executive Manager



LMRF CURRENT RESEARCH FELLOWS

Dr Olivia Holland

Gestational diabetes is a type of diabetes that occurs during pregnancy. We don't fully understand why more than 1 in 6 Australian women's pregnancies (nearly 54,000 women each year) are affected by gestational diabetes. Gestational diabetes is the fastest growing type of diabetes in Australia, with the incidence more than doubling between 2012–13 and 2021–22.

Women with gestational diabetes can still have a healthy pregnancy, but their diabetes needs to be well managed to reduce the risk of developing complications during and after the pregnancy. Babies born to mothers with gestational diabetes are more likely to be born earlier, via caesarean, have higher birth weights, and require neonatal intensive care unit admission. Gestational diabetes is also associated with a dramatic increase in risk of both mother and child developing type 2 diabetes in coming years, with about 60 per cent of women with gestational diabetes developing type 2 diabetes within 10–20 years.

Currently, we have few options besides a patient's medical history to predict who may be at risk of gestational diabetes, and little beyond blood sugar levels to help guide care. But with more research we can improve healthcare.

My research goal is to personalise and advance the prediction and care of gestational diabetes to improve the health of mother and child.

Communicating our research and representing the Lions

Being supported by the Lions Medical Research Foundation has given me life-changing opportunities, including the privilege of representing the Lions when my team and I talk about our work.

Over the last few months I have had the opportunity of being able to share some of our research and findings with the academic community and the Lions. I have been an author on three scientific papers this year that have looked at how mum's diet and the placenta affect her offspring's growth and development.

In November 2023 I was able to present our work along with my three fantastic PhD students at an important international scientific meeting that was held in Brisbane, the Joint Endocrine Society of Australia and Society of Reproductive Biology Annual Scientific Meeting.

I also had the honour of discussing our group's work with the District Governors Elect and other Lions and supporters at the Lions Medical Research Foundation annual tour. I very much appreciate the interest and generosity of the Lions in supporting this research.

Partnerships to help advance gestational diabetes research and care

Our research group is made stronger and more effective by our successful and passionate students, and by having researchers imbedded in both university and hospital systems.

My ongoing PhD and Masters students have been going from strength to strength, with well received presentations at international and national conferences, and successful completion of program milestones.

The newer students have been planning their projects and learning about research, and will be starting these exciting new projects that will help us better understand gestational diabetes and pregnancy complications in the next few months.

Our university-based and hospital-based researchers are part of a community that is working to make things better for pregnant women through research and improved care. Our flagship Placental Health Study that follows women through their pregnancy now has over 400 participants and several thousand samples. We are also extremely proud to have Elsa Suk Chan and Jenny McDonald from our team recognised at the 2024 Nursing and Midwifery Excellence Awards for their great work, with Elsa winning in Education and Research, and Jenny in Midwifery.

I would like the Lions to know that supporters like you make our work possible. The partnership that our research group has with the Lions Medical Research Foundation is a powerful way to make a tangible difference to help make life better for people with gestational diabetes.



(Left to right) Shelley Meecham, Jenny McDonald, Hannah (LuHao) Han, and Elsa Suk Chan at the 2024 Gold Coast Health Nursing and Midwifery Excellence Awards. Selley, Jenny and Elsa are midwives on our team with critical roles in working with women in the clinic, and Hannah is our group's senior PhD student. Congratulations to Jenny for winning the Midwifery Award and Elsa for winning the Education and Research Award.

Scientific publications in peer reviewed journals since last report

1. Nirajan Shrestha, Simone L Sleep, Olivia J Holland, Josif Vidimce, Andrew C Bulmer, James S M Cuffe, Anthony V Perkins, Andrew J McAinch, Deanne H Hryciw (2024). Maternal Diet High in Linoleic Acid Alters Offspring Lipids and Hepatic Regulators of Lipid Metabolism in an Adolescent Rat Model. *International Journal of Molecular Sciences*, 25: 1129. doi: 10.3390/ijms25021129.
2. Ashley S Meakin, Melanie Smith, Janna L Morrison, Claire T Roberts, Martha Lappas, Stacey J Ellery, Olivia Holland, Anthony Perkins, Sharon A McCracken, Vicki Flenady, Vicki L Clifton (2024). Placenta-Specific Transcripts Containing Androgen Response Elements Are Altered In Silico by Male Growth Outcomes. *International Journal of Molecular Sciences*, 25: 1688. doi: 10.3390/ijms25031688.
3. Adam Ewing, Jessica L O'Callaghan, Sharon McCracken, Stacy Ellery, Martha Lappas, Olivia J Holland, Anthony Perkins, Zarqa Saif, Vicki L Clifton (2024). Placentae of small appropriately-grown-for-gestational-age neonates exhibit sexually dimorphic transcriptomic changes representative of placental insufficiency. *Placenta*, 149: 37. doi: 10.1016/j.placenta.2024.02.003.

Conference presentations since last report

1. Hasini Rathnayake, Albert Liang, Richard Lai, Kshiti Patel, Aaron Lorimer, Mariama Kamara, Kerry Richard, Fabricio Da Silva Costa, Olivia Holland. Maternal circulating antioxidant function and microRNAs may influence placental gene expression and gestational diabetes pathophysiology. Joint Endocrine Society of Australia and Society of Reproductive Biology Annual Scientific Meeting, 26–29 November 2023.
2. Luhao Han, Olivia Holland, Fabricio Da Silva Costa, Anthony V. Perkins. Integrative transcriptomic analysis of miRNA-mRNA network in late-onset preeclampsia placentae. Joint Endocrine Society of Australia and Society of Reproductive Biology Annual Scientific Meeting, 26–29 November 2023.
3. Hasini Rathnayake, Mariama Kamara, Fabricio Da Silva Costa, Avinash Kunder, Indu Singh, Olivia Holland. Placental gene function and maternal circulating microRNA levels related to gestational diabetes mellitus severity. Joint Endocrine Society of Australia and Society of Reproductive Biology Annual Scientific Meeting, 26–29 November 2023.

Dr Dominc Guanzon

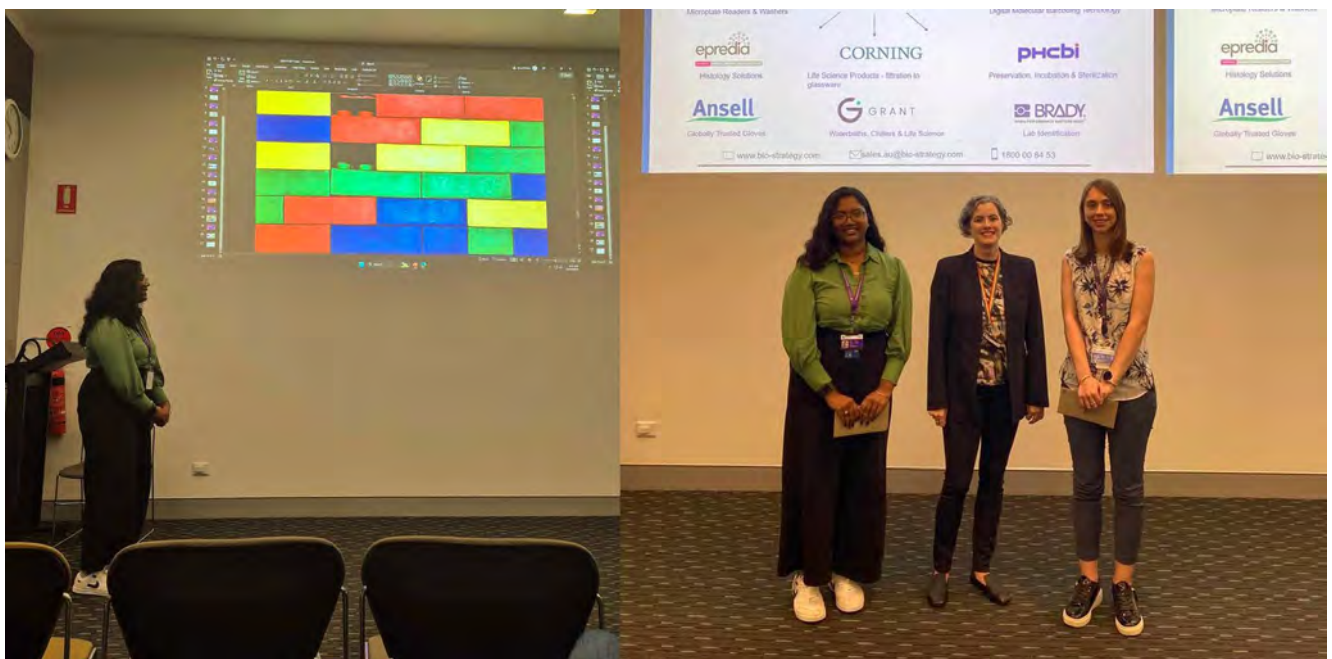
I want to express my heartfelt gratitude to the Lions Medical Research Foundation (LMRF) and the Lions Clubs for their constant support of our research program.

Recently, our lab has been busy studying DNA from blood samples of women with ovarian cancer. Rakesh Sankar, who is working on this project, has almost completed sequencing the DNA from these patients. Next, we will look at this data to find DNA markers that show how well patients respond to chemotherapy and why some become resistant to it.

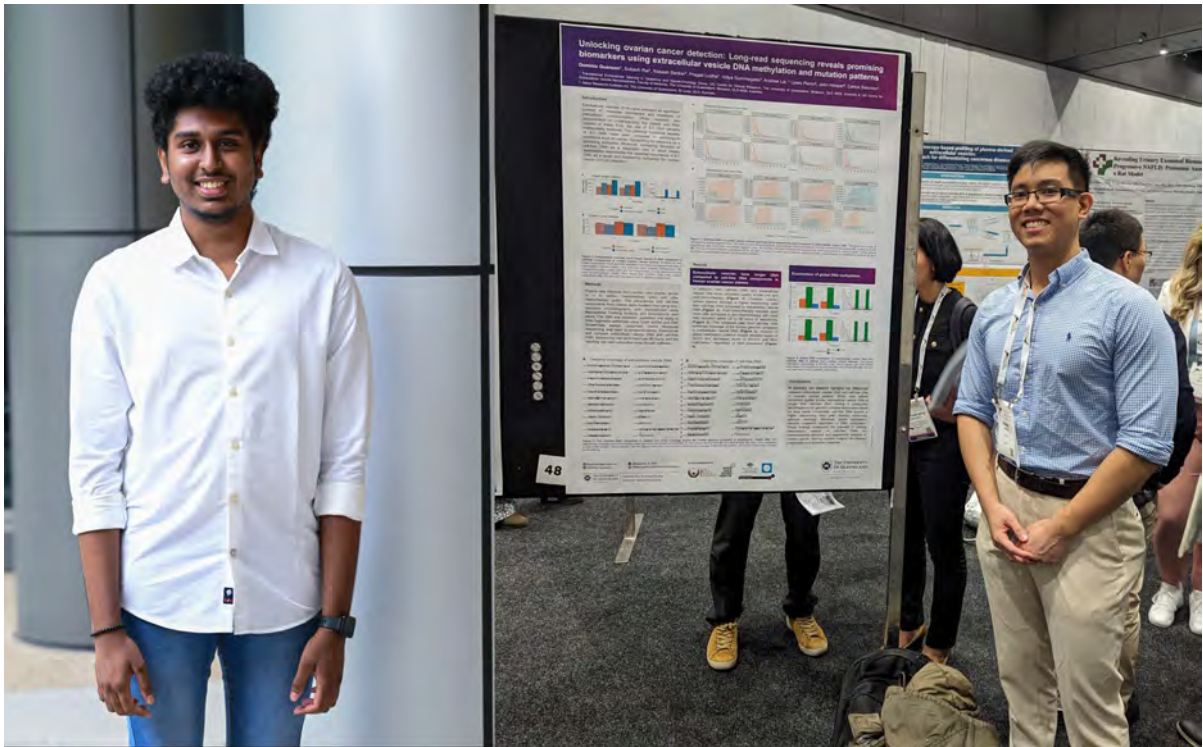
At the same time, Reshinthine Purushothaman (Reshi) will start studying blood from pregnant women with gestational diabetes mellitus (GDM). Using the technology that Rakesh and I developed, Reshi's goal is to find DNA markers that can identify women at risk of developing GDM before any pregnancy complications arise.

With these two parallel studies, our lab aims to uncover crucial DNA markers that could significantly improve patient outcomes in both ovarian cancer and gestational diabetes mellitus, all through a simple blood test.

Our work, supported by the LMRF, has been recognized at two important events. Congratulations to Reshi, who won the People's Choice Award and the Early Career Researcher Award in the Three Minute Thesis competition for her presentation titled "Lego Genetics: Decoding Gestational Diabetes Risk" (Picture 1). I also had the privilege of presenting Rakesh's work at the International Society of Extracellular Vesicles (ISEV) conference in Melbourne (Picture 2). These DNA projects would not have been possible or exist today without the support of the LMRF.



Picture 1 - Reshinthine Purushothaman (left) presenting at the Three Minute Thesis and winning two awards, People's Choice Award and the Early Career Researcher Award



Picture 2 – Rakesh Sankar (left) and supervisor Dr. Dominic Guanzon (right) presenting our work at the International Society of Extracellular Vesicles.

We extend our deepest gratitude to the Lions Medical Research Foundation and the Lions Clubs for their unwavering support and generosity. Your contributions have been instrumental in advancing our DNA research on ovarian cancer and gestational diabetes mellitus, enabling us to make significant strides in understanding and combating these conditions. The recognition we have received, from Reshi's awards at the Three Minute Thesis competition to the opportunity to present our findings at the ISEV conference, underscores the importance and impact of your support. These achievements are a testament to the vital role the LMRF plays in fostering innovative medical research. Thank you for believing in our work and empowering us to pursue discoveries that have the potential to improve countless lives.

LMRF PAST RESEARCH FELLOW

Associate Professor Nadeeka Dissanayaka

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Research plays a substantial role in the way we behave and conduct activities in our everyday lives.

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Research Research plays a substantial role in the way we behave and conduct activities in our everyday lives.

We regularly use research to ensure the decisions we make are evidence-based and have the greatest chance of achieving the most rewarding outcomes.

Research is paramount in all health and medical policy and decision-making processes, with clinicians actively relying on research to inform best medical practices. For example, research is used to advise physicians on the most effective diagnostic and treatment options to combat major diseases.

Therefore, it is important that emerging medical researchers are supported during the earliest stages of their career, to ensure that health and medical research continue to improve and advance into the future.

The Lions Medical Research Foundation (LMRF) have been a prominent ambassador for emerging medical researchers, awarding numerous funding opportunities over their illustrious 60+ year history.

Associate Professor Nadeeka Dissanayaka, is one such example of an industrious researcher, a once emerging medical researcher and recipient of the LMRF Fellowship in 2012.

Funding from the LMRF Fellowship allowed A/Prof Dissanayaka to establish the Dementia and Neuro Mental Health (DNMH) Research Unit, a high achieving group located at the University of Queensland's Centre for Clinical Research .

A/Prof Dissanayaka is the inaugural and current director of the DNMH unit, overseeing the development and implementation of new mental health care programs in health services, community and aged care aimed at improving lives of older persons living with neurodegenerative conditions such as dementia or Parkinson's disease.

Subsequent to the LMRF fellowship, A/Prof Dissanayaka attracted National Health and Medical Research Council Boosting Dementia Research Leadership Fellowship and Medical Research Future Fund large federal grants. This allowed her to rapidly expand her research and build large national and international teams, placing her in international forefront in ageing, mental health and neurodegenerative conditions research.

The DNMH unit has acted as a nursery for subsequent emerging researchers, supervising over 30 higher-degree research students and an excess of 60 research-educated clinicians.



A/Prof Dissanayaka has been able to improve the lives of many older Australians living with neurodegenerative conditions, a community-wide achievement that wouldn't have been possible without the initial support of the LMRF.

Under the current model, emerging medical researchers rely heavily on the generosity of nonprofit organisations, charities, community programs and other philanthropic entities to fund their research endeavours.

Consequently, they have seen modest financial investments result in major success stories like A/Prof Dissanayaka with immeasurable community returns.

"I am ever grateful to the Lions community for their support to kick start my career in health and medical research. Through my research advances, the LMRF fellowship has now allowed me to give back to our community and improve lives of many older people" A/Prof Nadeeka Dissanayaka

To support LMRF current and future emerging medical researchers go to <https://lionsmedicalresearchfoundation.org.au/> or scan QR code.





SPARQ-ed

The SPARQ-ed Senior Research Immersion Program, held during the Easter school holidays, offered talented students a unique platform to engage with real-world scientific projects and collaborate with leading researchers at the Translational Research Institute.

We are immensely proud of nineteen of these students for their achievement in securing LMRF Beryl Phippard Memorial Scholarships. This opportunity not only recognizes their academic excellence but also highlights their potential as future leaders in scientific research.

The LMRF Beryl Phippard Memorial Scholarships are designed to support and encourage exceptional regional and remote students in pursuing their interests in science and research by assisting with travel and accommodation costs to attend the Program. Through initiatives like the SPARQ-ed Senior Research Immersion Program, students are empowered to explore their passions and gain firsthand exposure to the dynamic field of translational research.

Testimonials from some of our recent Scholarship recipients:

"I am a community minded individual active in my school, and often engage with the community through the Leo's Club....I love science and am thinking very seriously about a career in biomedical research..." - Savanna

"I would like more people in regional areas such as Cairns to consider biomedical research and STEM as a career, as there are so many incredible opportunities, and ways to make meaningful change in the world..." - Leila

"This program will provide me with the necessary skills to pursue a career in the STEM/biomedical field, where I then hope to inspire other rural students to do the same." - Shila

"My cultural background has instilled in me a drive to pursue education and make a positive impact in my community...I am incredibly grateful for the opportunity to apply for the LMRF scholarship, and if given this honour, I am committed to using it to further my education and continue serving my community..." - Seth



We need your Tax-Deductible Donation

*Benjamin Franklin is quoted as saying:
"Nothing can be said to be more certain, except Death and Taxes"*

HOWEVER – YOUR DONATION WILL HAVE A POSITIVE IMPACT ON BOTH

- We all need to pay our fair share of Tax otherwise Australia would grind to a halt.
- However, if you diverted some of those taxes to Medical Research, you would reduce your Personal, Business and or Company Tax and
- Increase our Life Expectancy – Medical Research, over the last 30 years has increased Australian life expectancy to 81.2 years for males and 85.3 years for females.

Our Foundation celebrates 61 years of groundbreaking research this year – yet we are still one of the lesser-known Foundations in Australia. Our point of difference is that we fund emerging researchers, who have a Vision but not the funding to pursue their dream.

That's where the Lions Medical Research Foundation shines. We have already funded **54 Researchers** and many have achieved amazing medical breakthroughs. The following achievements demonstrate why our Foundation works:

- **Dr John Kevan Healy** – 1966 Developed the Lions Renal Research Laboratory at the Princess Alexandra Hospital
- **Emeritus Professor Ian Frazer** – 1986 Our most successful researcher, whose team developed the Gardasil Vaccine used worldwide to prevent Cervical Cancer
- **Professor Lawrence Hurst** – 1983, 1986, and 1995 started the Queensland Eye Bank.
- **Professor Paul Colditz** – 1991 Founding Professor of Perinatal Medicine at UQ
- **Emeritus Professor Robert "Frank" Gardiner** – 1993 Urology research into Prostate Cancer
- **Adjunct Associate Professor Robyn Rodwell** – 1999 Formation and development of the Queensland Cord Blood Bank
- **Associate Professor Christine Stantz** – 2008 Pharmacology Study to tailor immunosuppressant drugs to improve transplant outcomes.
- **Associate Professor Carlos Salomon** – 2016 and 2019 Research into the early detection of Ovarian Cancer

The Next Significant Medical Research Breakthrough is just around the corner.

