

Annual Report 2018



Research For Life

WELLINGTON MEDICAL
RESEARCH FOUNDATION



Contents

Notice of Annual General Meeting	2
Annual General Meeting 2017 Minutes	3
Directory	4
Chairman's Report 2017-2018	5
Obituary: Athol Mann	8
Summary Financial Statements	9
Auditor's Report	14
Research Grant Recipients	17
Travel Grant Recipients	21
Members at 30 June 2018	25

Mission Statement

To foster the strength and excellence of health research in the Wellington region and to advance the quality of health care by seeking and applying bequests and donations.

Investing in the Community's health since 1960

Notice of Annual General Meeting

The 58th Annual General Meeting of Research For Life will be held on Monday, 19 November 2018 at 5:30pm in the Kumutoto Room, Level 6 of the Wellington Club, 88 The Terrace, Wellington.

Business

1. To receive, consider and adopt the Research For Life Annual Report.
2. To receive, consider and adopt the audited Financial Statements for the year ended 30 June 2018.
3. To elect the President.
4. To elect not more than ten members of the Board.
5. To appoint Auditors.

Note: PricewaterhouseCoopers have signified their willingness to continue as Auditors.

6. General Business.

Kate Ward
Secretary

Guest Speaker

Following the Annual General Meeting, Dr Paul Young, the Medical Director of Wakefield Hospital ICU and Head of the Intensive Care Research Unit at Wellington Hospital, will tell the story of how he became a clinical researcher and of his practice-changing studies.

Annual General Meeting 2017

Minutes of the 57th Annual General Meeting of the Wellington Medical Research Foundation held in the Kumutoto Room, Level 6, Wellington Club, 88 The Terrace, Wellington, on Monday 20 November 2017 at 5.30pm.

Present

Professor J Nacey (Chairman) and 50 members and supporters.

Apologies

Dr M Berridge, M Birch, Dr B Corley, I Gibbons, A Galvin, C Finny, B Harford, G Malaghan, C McNabb, I Sorensen, L Theron, I White, Professor B Delahunt.

Minutes

The minutes of the 56th Annual General Meeting held on 21st November 2016 were adopted.

Annual Report

The Chairman, in moving the adoption of the Annual Report for the year ended 30 June 2017 referred to the continuing efforts to rebrand the Foundation as "Research For Life", including an Annual Appeal and related activities.

He summarised the results from the two grant rounds during the financial year, resulting in 12 research grant and nine travel grants involving a total of \$173,609.

Professor Nacey referred to a grant from the Nikau Foundation of \$4000 which was used for a project to improve communications with the medical and biomedical research community in Wellington.

He referred to the sudden death on 14 November of Professor Athol Mann who had been elected to Honorary Life Membership in February 2017.

The Chairman also referred to the resignation of Professor Brett Delahunt from Chairmanship of the Research Advisory Committee effective October 2017. This was the culmination of 20 years as Chairman and Professor Nacey noted the gratitude of the Foundation for this notable contribution to the organisation.

The Chairman also referred to the pending retirement of Mr Ross Macdonald as Secretary and Treasurer, roles he had held since 1996, and the appointment to those roles of Kate Ward. The meeting expressed its gratitude to Mr Macdonald and welcomed Kate Ward.

Finally, Professor Nacey noted the retirement from the Board of Mr Terry Hall who had served the Foundation tirelessly since 1996 particularly as a member, and latterly Chairman, of the Investment Committee.

Financial Statements

The Treasurer, Mr K R Macdonald, in moving the adoption of the Financial Statements for the year ended 30 June 2017, reported that the operating surplus for the year was \$227,286 and net research grants totalled \$142,732.

The market value of investments increased during the year by \$249,965.

The Financial Statements were duly adopted.

Mr Macdonald reported that the Honorary Solicitor, Mr David Gault, had resigned effective from this meeting. He had held the role since 1992 and the Treasurer expressed sincere thanks to Mr Gault for his contribution to the Foundation.

Finally the Treasurer thanked Mr Rue Bourke and Mr Philip Hunter from FNZC for the assistance they had rendered to the Investment Committee as advisors.

Election of President

Professor J Nacey was declared re-elected as President for the ensuing year.

Election of Board Members

The following were elected as Board members; Mr P Barker, Professor B Delahunt, Dr L Lawler, Mr R McGregor, Ms G Phipps and Dr R Grainger.

Appointment of Auditors

Pricewaterhouse Coopers were re-appointed as Auditors.

Honorary Life Membership

The Chairman reported that Mr T Hall had been elected an Honorary Life Member by the Board in August 2017. He referred to the outstanding service Mr Hall had rendered to the Foundation for 21 years as Board member and as Chairman and member of the Investment Committee.

The meeting expressed its congratulations and thanks to Mr Hall.

Conclusion

There being no general business the meeting concluded at 6pm.

Directory

Chairman of the Board

Professor John Nacey

Board Members

Mr Peter Barker
Professor Brett Delahunt
Dr Rebecca Grainger
Dr Lance Lawler
Professor Athol Mann
Mr Rob McGregor
Ms Gaele Phipps

Research Advisory Committee

Dr Rebecca Grainger (Chair)
Dr David Ackerley
Dr Peter Bethwaite
Dr Lisa Connor
Professor Anne La Flamme
Associate Professor Peter Larsen
Professor John H Miller
Dr Jeremy Owen
Dr Michelle Thunders
Dr Robert Weinkove

Board Secretary/Treasurer

Kate Ward

Investment Committee

Mr Peter Barker
Dr Lance Lawler

Auditors

PricewaterhouseCoopers

Chairman's Report 2017 – 2018



PROF JOHN NACEY
CHAIRMAN OF RESEARCH FOR LIFE

It gives me great pleasure to present the 58th Annual Report of Research For Life.

This has been another very active year for Research For Life with our continuing emphasis on grants for medical and biomedical research with a particular commitment to supporting young and emergent researchers. This constitutes the core activity of the Foundation. The research supported by Research For Life is vital to continuing improvements in health outcomes in the community and we can be justifiably proud of our achievements. The Board of Research For Life recognise that if we are to continue even with our present level of research funding that we will need to broaden our support base within the Wellington region. This continues to be an important focus for the Board and over the next 12 months we are looking forward to the challenge this will undoubtedly present.

Research Funding

Applications for research grants remain highly competitive and our process for approving applications, overseen by the Research Advisory Committee, is rigorous. Attending and presenting research at national and international conferences is

important for research development, critical appraisal and stimulation of innovative ideas for existing and potential research projects. We are indebted to members of the Research Advisory Committee, Chaired by Dr Rebecca Grainger, for their professional expertise and consideration throughout the assessment of research grant applications.

In the two grant rounds this year, we approved 11 research grants and 10 travel grants making a total of \$203,698 available to researchers. A synopsis of each grant is provided in this report.

Grants under management totalled 38 of which 14 remained open at year end.

Financial

The net operating surplus for the year was \$578,805 compared to \$227,286 the previous year, and the overall funds under administration increased by \$390,341 to \$4.96 million.

Investment income was significantly higher than in 2017 and operating expenses were reduced by \$54,130.

The market value of investments exceeded their book value by \$1.383 million.

Board and Committee Membership



I extend my special thanks to board and committee members for their commitment that has ensured the ongoing success of Research For Life. Earlier this year we appointed Kate Ward as the new Board Secretary and

Treasurer of Research For Life, replacing Ross Macdonald who held that role since 1996. Kate joins Research For Life from Presbyterian Support New Zealand where she was office manager. Prior to that she was executive officer for the Cardiac Society of Australia and New Zealand and has held research and communications management roles with the Broadcasting Standards Authority and Office of Film and Literature Classification. Earlier in her career she was an executive officer of the New Zealand Vegetable and Potato Growers' Federation (now known as Hort NZ). Kate has a Diploma in Business Administration, an Arts Degree majoring in English Literature and a Post-graduate Certificate in Public Policy from Victoria University of Wellington. Kate is well-qualified, having the necessary experience and personal qualities to help us advance the quality of healthcare through our research funding.



The Board also welcomed Dr Rebecca Grainger as the new Chair of the Research Advisory Committee and Board member. Rebecca is an academic rheumatologist

and has been a member of the Research Advisory Committee since 2011. Rebecca undertook rheumatology training in Melbourne and her PhD examined inflammatory mechanisms in gout. Rebecca's clinical work focuses on assessment and management of inflammatory arthritis and her clinical

interests include inflammatory arthritis, gout and scleroderma. Rebecca's research interests include outcome measures, non-pharmacological management of musculoskeletal disease, use of information technology solutions to optimise care for people with chronic rheumatic diseases and medical education.

In March 2018 Dr Lisa Connor, lecturer at Victoria University of Wellington's School of Biological Sciences and former Senior Research Fellow at the Malaghan Institute of Medical Research, joined Research For Life's Research Advisory Committee. Lisa has a PhD in Immunology from Otago University and a BMSC (Hons) in Biomedical Sciences from Victoria University of Wellington. She succeeds former Committee member Professor Graham Le Gros, Chief Executive and Director of Research at the Malaghan Institute. Graham stepped down from the Research Advisory Committee late last year after having been a member of the Committee since 1998. Graham has served the Research Advisory Committee with distinction for over 20 years and provided expert advice in the review of grant applications.

Dr Michelle Thunders and Dr Jeremy Owen were appointed to the Research Advisory Committee in May 2018. Michelle is a Senior Lecturer in the Department of Pathology and Molecular Medicine at the University of Otago, Wellington, and has a PhD in Human Genetics from University College, London where she completed a BSc (Hons) in Human Genetics. Jeremy is a Senior Lecturer in Biochemistry at Victoria University's School of Biological Sciences. He has a PhD in Biotechnology, a Bachelor of Biomedical Science with Honours majoring in Human Genetics. Prior to joining the School of Biological Sciences, he was a Postdoctoral Fellow at the Laboratory of Genetically Encoded Small Molecules, at The Rockefeller University, New York.

Tribute



We record with regret the sudden and unexpected passing of Emeritus Professor Athol Mann late last year. Athol had a long association with Research For Life

and was appointed an Honorary Life Member in recognition of his contribution to empowering the medical research community through his involvement over some 30 years with Research For Life and as the former chair of the Health Sponsorship Council and Medical Research Council. Athol was first elected to our board in 1988. He was President from 1996 to 1998 and a member of the Investment Committee from 2003 to 2017.

Honorary Life Membership



It gives me great pleasure to advise that Professor Brett Delahunt has been awarded honorary life membership of Research For Life. Brett was appointed to the Research Advisory Committee in 1990. In 1997 he was appointed Chair of

the Research Advisory Committee and later that year was appointed to the Board. Brett remained Chair of the Research Advisory Committee until 2017. Brett has made an outstanding contribution to the Research For Life Board and through his excellent Chairmanship

of the Research Advisory Committee has ensured a fair and rigorous process for assessing the large number of grant applications received. Through this we have been able to ensure that the approved research applications have considerable merit and that there is a high probability of the research leading to improved patient outcomes and greater wellbeing for our community.

Acknowledgment of Supporters

I would like to acknowledge all those who have supported the work of Research For Life. Your contribution is very much appreciated and helps us support innovative, quality research undertaken by researchers in the early stages of their careers whose work will undoubtedly lead to important advances in the quality of healthcare. This impacts not just on our Wellington region but very much extends to having a national and global impact.

A handwritten signature in blue ink that reads "John Nacey".

Professor John Nacey
Chairman

Obituary

Athol Mann CMG

Professor Emeritus Victoria University of Wellington, Honorary Life Member of Research For Life

Research For Life notes with great sadness the death of Professor Athol Mann who died suddenly at his home on Tuesday, 14 November 2017.

Athol Mann had a long association with Research For Life but, more importantly, his commitment and contribution has greatly assisted the ongoing success of our organisation.

In February 2017, the RFL Board appointed Athol an Honorary Life Member in recognition of his contribution to empowering the medical research community through his involvement over some 30 years with Research For Life and as the former chair of the Health Sponsorship Council and Medical Research Council.

Athol was first elected to our Board in 1988. He was President from 1996-1998 and was a member of the Investment Committee since 2003. Although he stepped down from the Board in March, he continued to serve as a member of our investment committee.

Athol was the dearly loved husband of Ngaire, loved father and father-in-law of David and Jan, Richard and Michelle, Alison, Helen and Michael, dearly loved brother of Barbara and the late Sally, loved grandfather of Sarah, Julia, Charlotte, Laura, Nicholas, Alexander, Kate, James, and their partners, and great-grandfather of 13.

Athol became a partner at the age of 21 in the accountancy firm now known as KPMG. He served on the Council of the New Zealand Institute of Chartered Accountants and as its President. He was the first New Zealander on the Council of the International Federation of Accountants and was a member of the New Zealand Securities Commission for seven years.

He subsequently was appointed Dean of Commerce at Victoria University of Wellington in 1987, a position he held for 10 years.

Athol had an outstanding record of community service. He was the inaugural chairman of the New Zealand Symphony Orchestra when it separated from the New Zealand Broadcasting Corporation and was a founding director of Te Papa Museum. In addition to his commercial board appointments, he has been a director of New Zealand Opera and the Symphony Orchestra, a director of Barnardos NZ, and Wellington Waterfront Limited. In 1986 he received a CMG for service to the accountancy profession, the arts, and the community.

We are privileged to have had Athol as a board member and acknowledge the tremendous contribution made to Research For Life and through this to our research community. In particular, his contribution has enabled many young investigators to successfully undertake innovative medical and biomedical research for the benefit of our community.



Prof John Nacey & Prof Athol Mann



The Wellington Medical Research Foundation Incorporated
Summary Performance Report
For the year ended 30 June 2018

The summary performance report has been extracted from the full performance report authorised for issue on 11 September 2018.

The summary performance report cannot be expected to provide a complete understanding as provided by the full performance report of the financial performance and financial position of the Foundation.

The full performance report has been audited and an unqualified audit opinion was expressed by the auditors on 11 September 2018.

For a copy of the full performance report, please contact the Secretary at PO Box 14186, Kilbirnie, Wellington.

The Wellington Medical Research Foundation Incorporated

Summary Statement Of Financial Performance

For The Year Ended 30 June 2018

	2018	2017
	\$	\$
Operating Revenue	744,288	446,899
Less: Operating expenses	(165,483)	(219,613)
NET OPERATING SURPLUS	578,805	227,286
FUNDS AT BEGINNING OF THE YEAR	4,570,107	4,485,553
Less: Research Grants (net of prior year grants written back)	(188,464)	(142,732)
Plus: Bequests received	-	-
FUNDS AT END OF THE YEAR	4,960,448	4,570,107

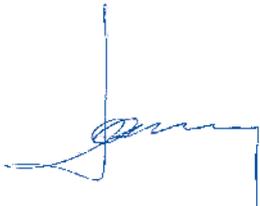
The Wellington Medical Research Foundation Incorporated

Summary Statement Of Financial Position

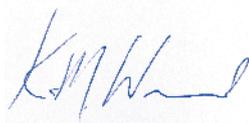
As At 30 June 2018

	Note	2018 \$	2017 \$
FUNDS	2	4,960,448	4,570,107
<hr/>			
<i>Represented by:</i>			
CURRENT ASSETS		663,189	338,900
Add: NON-CURRENT ASSETS			
Investments	1	4,496,563	4,438,427
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TOTAL ASSETS		5,159,473	4,777,327
Less: CURRENT LIABILITIES		(199,105)	(207,220)
NET ASSETS		4,960,448	4,570,107
<hr/>			

The Board of the Wellington Medical Research Foundation Incorporated authorised this performance report summary for issue on 11 September 2018.



President



Secretary/Treasurer

Notes To And Forming Part Of The Summary Performance Report

For The Year Ended 30 June 2018

1. Investments

Market values of investments at balance date are as follows:

	2018	2017
	\$	\$
Notes and bonds - Main Fund	1,237,455	1,240,231
Notes and bonds - The Leonard Malaghan Medical Research Trust	741,407	866,229
Shares - Main Fund	2,162,147	1,973,315
Shares - The Leonard Malaghan Medical Research Trust	1,738,589	1,501,404
	5,879,598	5,581,179

2. Funds

	Balance 30 June 2017	Bequests and Grants	Operating surplus before research grants	Research Grants Approved	Research grants written back	Transfer to General fund	Balance 30 June 2018
	\$	\$	\$	\$	\$	\$	\$
Funds available for distribution:							
General Fund	6,112	-	150,701	(45,182)	-	-	111,631
Sir Fred & Lady Bowerbank Fund	513,750	-	55,683	(60,492)	2,822	-	511,763
Diabetes Wellington Inc. Research Fund	366,273	-	39,698	-	-	-	405,971
The Leura Trask Trust Kidney Research Fund	29,652	-	3,214	(14,000)	-	-	18,866
Sarah Mulholland Fund	1,809,534	-	196,126	(29,097)	1,617	-	1,978,180
Malaghan Fund	255,126	-	16,733	(18,455)	-	-	253,404
Cancer Standards Fund	97,939	-	4,041	(36,472)	10,795	-	76,303
Funds not available for distribution:							
The Leonard Malaghan Medical Research Trust	1,491,721	-	112,609	-	-	-	1,604,330
	4,570,104	-	578,805	(203,698)	15,234	-	4,960,448

3. Commitments

The Foundation has no commitments at 30 June 2018 (2017: nil).

4. Contingent Assets and Liabilities

There are no contingent assets or liabilities at 30 June 2018 (2017: Nil).



Independent auditor's report

To the Board of Management of the Wellington Medical Research Foundation Incorporated

The performance report comprises:

- the statement of financial position as at 30 June 2018;
- the statement of financial performance for the year then ended;
- the statement of movement in funds for the year then ended;
- the statement of cash flows for the year then ended;
- the entity information; and
- the notes to the performance report, which include a summary of significant accounting policies.

Our engagement did not extend to include the statement of service performance.

Our opinion

In our opinion, the performance report of the Wellington Medical Research Foundation Incorporated (the Foundation) on pages 1 to 10 present fairly, in all material respects, the entity information and the financial position of the Foundation as at 30 June 2018, and its financial performance and cash flows for the year ended on that date in accordance with Public Benefit Entity Simple Format Reporting – Accrual (Not-For-Profit).

Basis for opinion

We conducted our audit of the statement of financial position, the statement of financial performance, the statement of movement in funds, the statement of cash flows and the related notes to the performance report that include a summary of significant accounting policies and other explanatory information in accordance with International Standards on Auditing (New Zealand) (ISAs NZ). Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the performance report section of our report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

We are independent of the Foundation in accordance with Professional and Ethical Standard 1 (Revised) Code of Ethics for Assurance Practitioners (PES 1) issued by the New Zealand Auditing and Assurance Standards Board and the International Ethics Standards Board for Accountants' Code of Ethics for Professional Accountants (IESBA Code), and we have fulfilled our other ethical responsibilities in accordance with these requirements.

Our firm carries out other services for the Foundation in the areas of financial statement preparation. The provision of these other services has not impaired our independence as auditor of the Foundation.

Information other than the financial statements and auditor's report

The Board of Management are responsible for the performance report. Our opinion on the performance report does not include the statement of service performance included in the performance report on page 2 and we do not express any form of assurance conclusion on the statement of service performance.

In connection with our audit of the performance report, our responsibility is to read the statement of service performance and, in doing so, consider whether the statement of service performance is materially inconsistent with the financial statements or our knowledge obtained during the audit, or otherwise appears to be materially misstated. If, based on the work we have performed on the statement of service performance that we obtained prior to the date of this auditor's report, we conclude that there is a material misstatement of the statement of service performance, we are required to report that fact. We have nothing to report in this regard.

Responsibilities of the Board of Management for the performance report

The Board of Management are responsible, on behalf of the Foundation, for the preparation and fair presentation of the performance report in accordance with Public Benefit Entity Simple Format Reporting – Accrual (Not-For-Profit), and for such internal control as the Board of Management determine is necessary to enable the preparation of the performance report that is free from material misstatement, whether due to fraud or error.

In preparing the performance report, the Board of Management are responsible for assessing the Foundation's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Board of Management either intend to liquidate the Foundation or to cease operations, or have no realistic alternative but to do so.

Auditor's responsibilities for the audit of the performance report

Our objectives are to obtain reasonable assurance about whether the performance report, as a whole, is free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs NZ will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of this performance report.

A further description of our responsibilities for the audit of the performance report is located at the External Reporting Board's website at:

<https://www.xrb.govt.nz/standards-for-assurance-practitioners/auditors-responsibilities/audit-report-8/>

This description forms part of our auditor's report.

Who we report to

This report is made solely to the Board of Management of the Foundation, as a body. Our audit work has been undertaken so that we might state those matters which we are required to state in an auditors' report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Board of Management of the Foundation, as a body, for our audit work, for this report or for the opinions we have formed.

The engagement partner on the audit resulting in this independent auditor's report is Victoria Lawson.

For and on behalf of:



Chartered Accountants
12 September 2018

Napier

PricewaterhouseCoopers, 36 Munroe Street, PO Box 645, Napier 4140, New Zealand
T: +64 6 835 6144, F: +64 6 835 0360, pwc.co.nz

Research Grants 2017 – 2018

Eleven research grants to the value of \$183,816 were approved during the financial year to 30 June 2018, as follows:

Dr Mickey Fan

University of Otago, Wellington



Dr Fan received \$14,000 to investigate the role of the kidneys in the development of acute mountain sickness. Acute mountain sickness affects as many as half of the mountaineers in the Mount Cook region, while

2,500 New Zealanders travelled to the Himalayas in 2016 alone, a region with high prevalence of acute mountain sickness.

Dr Fan's research will explore novel ways to identify individuals who are susceptible to developing acute mountain sickness. This will ensure preventative measures can be taken to minimise their risk.

Dr Fan is a New Zealand Heart Foundation research fellow at the Centre for Translational Physiology at the University of Otago, Wellington.

Dr Ana Holley

University of Otago, Wellington



Dr Holley received \$24,214 to support research examining inflammatory molecules in patients suffering from heart attacks. Neutrophils are immune cells in the blood that are thought to drive

the initial inflammatory response, however very little is known about the role of these cells in patients throughout the acute phase of a heart attack.

Dr Holley's research focuses on examining the changes in neutrophil function to better understand those patients who might experience excessive or prolonged inflammatory responses following their heart attack.

This research aims to be a stepping-stone to better understand inflammatory processes that would allow for the development of targeted interventions to



reduce pathological inflammation in heart attack patients and improve their clinical outcomes.

Dr Holley is a postdoctoral fellow in the Cardiovascular Research Group at the University of Otago, Wellington.

Dr Michelle Thunders
University of Otago, Wellington



Dr Thunders received \$24,700 to undertake research to help identify cardiac biomarkers in young patients presenting with myocardial infarction (MI). Typically, 10% of MI patients have further cardiac events.

The identification of specific cardiac biomarkers could be used to aid patient management and rehabilitation.

Dr Thunders is a senior lecturer in the Department of Pathology and Molecular Medicine at the University of Otago, Wellington.

Georgina Bird
Victoria University of Wellington



Georgina Bird received \$11,578 to conduct research into how the immune system influences a heart attack. Heart attacks are a leading cause of morbidity and mortality in New Zealand. The immune system is activated

in response to the damaged heart during a heart attack. We currently do not understand how some aspects of the immune system contribute to a heart attack.

The purpose of this study is to characterize what a specific immune cell, the B cell, is doing during a heart attack, with a view to understanding whether it plays a pathological role in heart attacks.

Georgina is a PhD student applicant at Victoria University and is part of the Wellington Cardiovascular Research Group. Her research focuses on cardiovascular immunology.

Dr Kirsty Danielson
University of Otago, Wellington



Dr Danielson received \$18,110 towards the purchase of an ultracentrifuge. This piece of equipment will be used to isolate and study membrane-enclosed packages called extracellular vesicles that

are released by cells in the body. These packages act as a communication system between cells and are being increasingly studied as biomarkers for disease.

This equipment will be used in projects studying colorectal cancer, cardiovascular and metabolic disease, and infectious diseases by researchers at the University of Otago, Capital & Coast District Health Board, and Massey University College of Health.

Dr Danielson is a lecturer at the Department of Surgery and Anesthesia, University of Otago, Wellington.

Dr Janet Pitman and Ms Sarah Szelecki
Victoria University of Wellington



Dr Pitman and Ms Szelecki received \$18,362 to improve ovarian cancer (OC) diagnosis in women.

OC has the highest mortality rate of all gynaecological cancers due to the lack of symptoms in patients, and lack of a screening test for early detection.

The research will explore genetic changes throughout tumour development with the aim of identifying potential biomarkers to establish a pre-screening method for early detection. This will facilitate early diagnosis and potentially improve OC mortality rate.

Dr Pitman is a Senior Lecturer and the head of the Reproductive Biology group at VUW and Ms Szelecki is a Research Assistant at VUW's Reproductive Biology group.

Dr Wayne Patrick
Victoria University of Wellington



Dr Patrick received \$10,000 to investigate collateral sensitivity to combat antibiotic resistance. This is a war, and one that humankind is losing. Microbes have now evolved resistance to every available class of antibiotic.

Rather than focusing on the costly development of new antibiotics, this work will investigate an alternative strategy that manipulates an aspect of

bacterial evolution known as collateral sensitivity. Evolving resistance to one antibiotic often results in increased sensitivity to others. Currently, a detailed understanding of this phenomenon does not exist.

The team of biochemists and microbiologists at Victoria University's School of Biological Sciences will use high throughput approaches to systematically map the collateral sensitivity profiles of three resistant bacterial species. Ultimately, this may allow doctors to prescribe exactly the right antibiotic — every time.

Dr Patrick is Associate Professor of Biochemistry at the School of Biological Sciences, Victoria University of Wellington

Dr Joanna MacKichan
Victoria University of Wellington



Dr MacKichan received \$15,000 to investigate a novel mechanism of bacterial inhibition of wound healing. *Neisseria meningitidis* is a bacterial pathogen that is usually carried

asymptotically in the upper airway tissues, but occasionally can cause severe, invasive meningococcal disease. The early interactions between the bacteria and the host mucosal airway tissues remain poorly understood, even though they can lead to invasive disease or transmission of the pathogen to new hosts.

Dr MacKichan is studying a bacterial protein that binds host haptoglobin and exploring whether this protein influences the development of invasive disease by compromising host wound repair. She will also investigate whether bacterial binding of haptoglobin can enhance bacterial resistance to the antimicrobial effects of host haptoglobin.

These findings may be relevant both for meningococcal disease, as well as other opportunistic bacterial pathogens of the respiratory tract, including

pneumococcus and Haemophilus spp, which can either reside harmlessly in the airway mucosa or cause invasive diseases, such as meningitis or septicemia.

Dr MacKichan is a Senior Lecturer in Medical Microbiology at the School of Biological Sciences, Victoria University of Wellington.

Dr Katherine Woods
Malaghan Institute of Medical Research



Dr Woods received \$18,455 to undertake studies in a newly described subset of human immune cells called MAIT cells. MAIT cells are involved in protection from a range of human diseases including bacterial and viral

infections, autoimmune diseases, and cancer. Several different subtypes of MAIT cells have been described in humans, and we don't yet know the role that each of these play in different human illnesses.

By comparing how these MAIT cell subtypes are activated and blocked in experimental models, we can figure out which MAIT cells are most important for protection from different diseases. We can use this knowledge to help people suffering from various illnesses.

Dr Woods is a Senior Postdoctoral Research Fellow at the Malaghan Institute of Medical Research in Wellington.

Lisa Denny
Victoria University of Wellington



Lisa Denny received \$7,647 to carry out research to help people suffering from the debilitating neurodegenerative disease multiple sclerosis (MS). This disease affects approximately 2.5 million

people worldwide with higher than average rates in New Zealand. MS occurs when the body's immune system recognises the protective myelin sheath of neurons in the central nervous system (CNS) as foreign and launches an attack, leading to severe neurological deficits.

As the cause of MS is not completely understood there is currently no cure and finding effective treatments has been challenging with current therapies having a limited success rate.

Lisa's research is investigating new targets for an effective treatment option that functions to drive the repair of the damaged myelin sheath of the CNS, and will complement existing therapies targeting the immune system.

Lisa Denny is a PhD student at the School of Biological Sciences at Victoria University of Wellington.

Dr Darren Day
Victoria University of Wellington



Dr Day received \$21,450 to explore new ways of developing aptamers for treating bacterial infections using a cross-disciplinary approach that uses recent advances in computer

science and molecular biology. Aptamers are a type of drug that act like antibodies that are finding great use in biomedical applications for diagnostics and as therapeutics.

Dr Day is a Senior Lecturer at Victoria University of Wellington's School of Biological Sciences.

Travel Grants 2017 – 2018

During the year, 10 travel grants assisted local researchers to meet the cost of presenting their research findings at international conferences. These grants totalled \$19,882 and were made to the following:

Carl Beyers

Victoria University of Wellington



Carl, a PhD student in the School of Biological Sciences at Victoria University of Wellington, received \$1,500 to present his research findings to the 46th Australasian Society for Immunology's annual

conference in Brisbane in November 2017.

Carl's research interests lie in studying new therapies for progressive multiple sclerosis (MS), and in profiling the human immune system. He aims to present data in Brisbane that contrasts the immune systems of healthy people with those who suffer from MS to highlight the differences as a way to study MS pathology.

Dr Mark Calcott

Victoria University of Wellington



Mark, a postdoctoral fellow at the School of Biological Sciences at Victoria University of Wellington, received a \$1,000 travel grant to present his research findings at the conference 'Natural

Products and Synthetic Biology: Parts and Pathways' in the USA early next year.

Dr Calcott's research involves searching for new bacterial natural products. The aim of this research is to identify new natural products with antibiotic activity.

Dr Lisa Connor

Malaghan Institute of Medical Research



Lisa, a senior research fellow at the Malaghan Institute of Medical Research received a \$1,500 travel grant to present her research at the 46th Australasian Society of Immunology Conference in

Brisbane in November 2017.

Lisa's research interests involve elucidating the immunological events that lead to the development of allergic disease. Exposure to allergens (eg house dust mite) initiates a cascade of signalling events within dendritic cells, which result in the production of factors that instruct adaptive immune responses to become inappropriately activated and cause disease. Lisa's goal is to identify what the driving factors are and provide targets for therapeutic interventions.

Kathryn Hally

Victoria University of Wellington



Kathryn, a PhD student at the School of Biological Sciences at Victoria University of Wellington, received a travel grant of \$1,312 to present her research findings at the

Australasian Society for Immunology's Annual Scientific Meeting in Brisbane, Australia.

Kathryn's research has focussed on platelet immunology in patients with acute myocardial infarction (heart attacks). In particular, she is interested in determining how platelets may be alternatively activated by immune mediators in heart attack patients, and how this may relate to patient outcome.

Johannes Mayer
Malaghan Institute of Medical Research



Johannes, a postdoctoral research fellow in the Immune Cell Biology programme at the Malaghan Institute of Medical Research, received a travel grant of \$1,500 to present his research

findings at the Australasian Society for Immunology Conference 2017 in Brisbane, Australia.

Johannes' research interest focuses on dendritic cells, which are instrumental in driving the appropriate differentiation T cells. The correct development of specific effector T cells with characteristic cytokine profiles is essential to mount a robust immune response against a wide variety of pathogens, ranging from single-cell microorganisms to large parasitic worms. Thus, dendritic cells play an important role in pointing the immune system in the right direction and Johannes' work focuses on deciphering the signals dendritic cells produce to accomplish this task.

Abigail Sharrock
Victoria University of Wellington



Abigail, who is completing a PhD in biotechnology at Victoria University of Wellington, received a travel grant of \$2,000 to spend two months conducting research at the Wilmer Eye Institute, Johns

Hopkins School of Medicine, USA in 2018.

Abigail's research seeks to identify and engineer bacterial nitroreductase enzymes that will be used to create models of retinal degenerative disease – a major cause of human blindness. The aim of creating such models is to aid researchers in finding new approaches to cure the disease or improve existing treatments.

Diana Atigari
Victoria University of Wellington



Diana, a PhD student at the School of Biological Sciences at the Victoria University of Wellington, received a travel grant of \$3,000 to present her research findings at prestigious international

meetings on drug abuse including the 2018 National Institute on Drug Abuse (NIDA) International Forum, the College on Problems of Drug Dependence (CPDD) Annual Scientific Conference and the International Narcotics Research Conference (INRC). The three conferences are being held in San Diego, USA in June this year.

Diana's research focuses on investigating the anti-addiction & analgesic effects of a new opioid analgesic that targets a combination of opioid proteins in the brain. The long-term goal of her research is to develop non-addictive opioid pain medications.

Dr Michelle Rich
Victoria University of Wellington



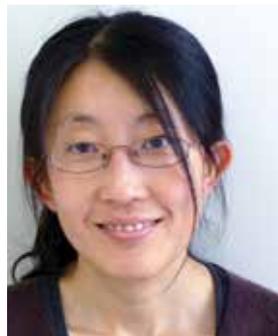
Michelle, a postdoctoral research fellow at the School of Biological Sciences at Victoria University of Wellington, received a travel grant of \$2,240 to present her research findings at the

annual Gordon Research Conference on Enzymes, Coenzymes and Metabolic Pathways in New Hampshire this year. Michelle's research interest lies in the use of bacterial nitroreductase enzymes in the

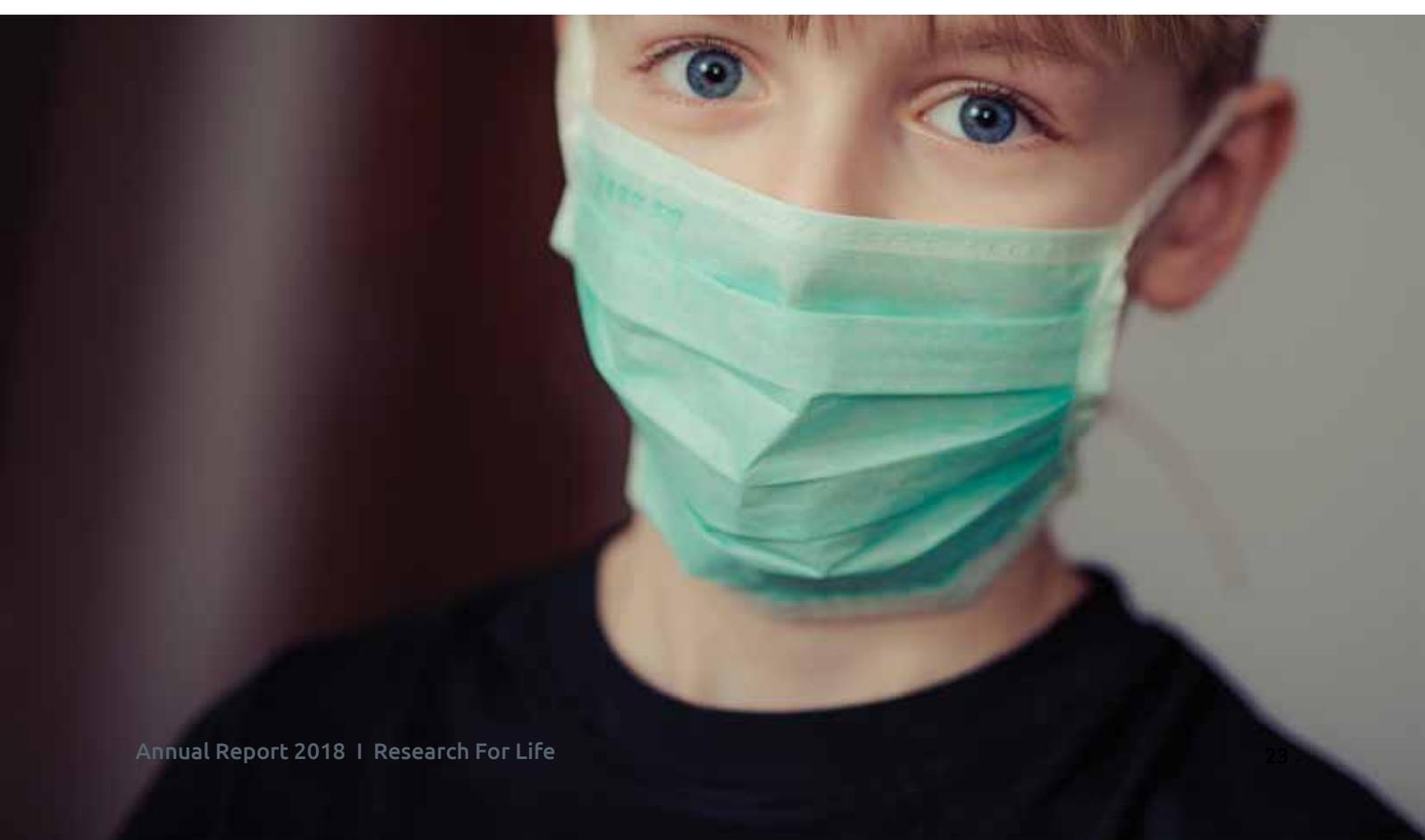
anti-cancer gene therapy strategy known as gene-directed enzyme prodrug therapy (GDEPT).

Michelle has developed nitroreductase enzymes that are not only improved in their ability to activate anti-cancer drugs to a toxic form but can also activate positron emission tomography (PET) imaging probes, which will allow the therapy to be tracked by doctors in real time.

Dr Xiaoyun Ren
ESR (the Institute of Environmental Science and Research)



Xiaoyun, a Senior Scientist in the Invasive Pathogens Laboratory at ESR, received a \$3,800 travel grant to present her research on the evolution and possible origin of the New Zealand group B meningococci



epidemic strain at the 21st International Pathogenic Neisseria Conference in Monterey, California in September. This work is a result of international collaboration with the University of Oxford.

The researchers hope that understanding how epidemics emerge and evolve, specifically in the NZ setting, will aid in the establishment of effective surveillance programmes that could prevent or reduce the impact of future epidemics.

Rachelle Martin
University of Otago, Wellington



Rachelle, a PhD student at the Rehabilitation Teaching and Research Unit at the Department of Medicine, received a travel grant of \$2,030. This grant will allow Rachelle to travel to Paris in July to present the

findings of her research at the International Society of Physical and Rehabilitation Medicine International Congress, as well as attend a workshop in which international researchers will share innovative thinking around synthesising rehabilitation research evidence and making it accessible for health service providers and funders.

Rachelle's research has evaluated the effectiveness of therapeutic horse riding in positively influencing health outcomes, and has explored the importance of positive participation opportunities for children experiencing disability.



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