




# Research For Life

WELLINGTON MEDICAL  
RESEARCH FOUNDATION

## Annual Report 2019





COVER PHOTO: Cintya del Rio, a PhD student in the Chemical Genetics Laboratory at Victoria University of Wellington, received a travel grant of \$1,500 to present a poster of her research findings at the Yeast Lipid Conference at the Institut "Jožef Stefan" in Ljubljana, one of the top ten research institutes in Europe. Cintya's research focuses on the anticancer activity of statins, one of the most prescribed drugs worldwide used to control the levels of cholesterol.

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**Research For Life (The Wellington Medical Research Foundation Incorporated) is a charity registered under the Charities Act 2005, Charity Number CC10659.**

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## 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

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Thanks to our generous corporate members for their support



# Notice of Annual General Meeting

The 59th Annual General Meeting of Research For Life the Wellington Medical Research Foundation Incorporated will be held on Monday 18 November 2019 in the Terrace Room, Level 5 of the Wellington Club, 88 The Terrace, Wellington at 6pm.

## Business

1. To receive and consider the Annual Report
2. To receive, consider and adopt the duly audited Financial Statements
3. To elect the President (who shall be a member of the Board)
4. To elect not more than nine members of the Board
5. To elect the Auditor
6. To consider any resolution, notice of which shall have been given in writing to the Secretary at least ten days before the date of the meeting
7. To consider any recommendations from the Board including the election to the Board of additional members who have been appointed to the Board pursuant to clause 10 of the Constitution

Kate Ward  
Secretary

## Guest Speaker



Following the AGM, Sir Richard Faull, the founder and Director of the Neurological Foundation Human Brain Bank, and Distinguished Professor of Anatomy and Director of the Centre for Brain Research at the University of Auckland, will speak on "Human Degenerative Diseases".

# Annual General Meeting 2018

Minutes of the 58th Annual General Meeting of the Wellington Medical Research Foundation held in the Terrace Room, Level 5, Wellington Club, 88 The Terrace, Wellington, on Monday 19 November 2018 at 5.55pm.

## Present

Professor John Nacey (Chairman) and 30 members and supporters.

## Apologies

Alaister Bamford, Dr David Ackerley, Professor John Miller, Dr Brian Corley, Doug Catley, Neil Manthel, Professor Franca Ronchese, Graham Malaghan, Dr Lance Lawler, Gerald and Susie Fitzgerald, Graeme and Helen Wong, Matthew and Debbie Birch, Karen McGregor.

## Minutes

The minutes of the 57th Annual General Meeting held on 20 November 2017 were adopted.

## Annual Report

The Chairman, in moving the adoption of the Annual Report for the year ended 30 June 2018, reflected on an active year for the Board consolidating emphasis on providing support for young and emerging researchers. He expressed indebtedness to the Research Advisory Committee chaired by A/Prof Rebecca Grainger. He reported that the Board approved funding for eleven research grants and ten travel grants during the year with just over \$200,000 in total made available to successful applicants.

The Chairman noted a net operating surplus for the year of \$578,805 comparing favourably with the previous year meaning that, in general terms, the Foundation is in good shape financially. Investment income was significantly higher than in 2017 with the market value exceeding the book value by \$1,383 million.

During the year, the Board saw the retirement of Secretary/Treasurer Ross Macdonald, and the appointment of Kate Ward in that position. The Chairman welcomed Kate and A/Prof Rebecca Grainger who took over from Professor Brett Delahunt as Chair of the Research Advisory Committee. Others appointed to that Research Advisory Committee during the year were Dr Lisa Connor, Dr Michelle Thunders and Dr Jeremy Owens, contributing to what is a very important part of the Foundation's work.

Finally, the Chairman recorded with deep regret the sudden unexpected death of long-serving board member Professor Athol Mann. Athol had only recently been appointed an Honorary Life Member of Research For Life.

## Financial Statements

The Treasurer, Kate Ward, in moving the adoption of the Financial Statements for the year ended 30 June 2018, referred to the summary statement of financial performance on page 10 of the Annual Report. The net operating surplus had increased by \$351,000 compared with the previous year due to lower operating costs, down \$54,000, a donation of \$150,000, and an increase in investment income of \$166,000.

Ms Ward said there had been an overall increase in funds (net assets) of \$390,000 and an increase in funds available for distribution of \$278,000.

The Financial Statements were duly adopted.

The Treasurer thanked Mr Graham Nelson and Mr Philip Hunter from FNZC for their assistance to the Foundation as investment advisors.



## **Election of President**

Professor John Nacey wished to stand down, and Dr Lance Lawler was declared elected as President for the ensuing year.

## **Election of Board Members**

The following were elected as Board members: Gaeline Phipps, Peter Barker, Professor Brett Delahunt, A/Prof Rebecca Grainger, Rob McGregor, Professor John Nacey, and Richard Simpson.

## **Appointment of Auditors**

PwC, Hawke's Bay, were re-appointed as Auditors.

## **Honorary Life Membership**

The Chairman reported on the recent election by the Board of Honorary Life Members Professor Brett Delahunt and Mr David Gault (retired Honorary Solicitor).

The Chairman said that Mr Gault had given his time freely and willingly over the years working on some quite significant legal matters on behalf of the Foundation. The Chairman awarded the Foundation's medal for Honorary Life Members to Mr Gault.

The Chairman spoke about the outstanding contribution over nearly a quarter of a century of Professor Brett Delahunt. For many years Professor Delahunt chaired the Research Advisory Committee where he added enormous rigour to the process of ensuring that the Foundation funded research of tremendous value. The Chairman awarded the Foundation's medal for Honorary Life Members to Professor Delahunt.

The meeting expressed its congratulations and thanks to Professor Delahunt and Mr Gault.

Professor Delahunt said that he appreciated the recognition and acknowledged the contribution of others on the Research Advisory Committee. Professor Delahunt said we all owed Professor Nacey a huge debt for his excellence as President of the Foundation. The meeting expressed its thanks to Professor Nacey.

## **Conclusion**

There being no general business the meeting concluded at 6.15pm.

# Directory

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## Chairman of the Board

Dr Lance Lawler

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## Board Members

Mr Peter Barker

Mrs Susannah Batley

Professor Brett Delahunt

Associate Professor Rebecca Grainger

Mr Rob McGregor

Professor John Nacey

Ms Gaeline Phipps

Mr Richard Simpson

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## Research Advisory Committee

Associate Professor Rebecca Grainger (Chair)

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

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## Board Secretary/Treasurer

Ms Kate Ward

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## Finance and Investment Committee

Mr Peter Barker (Chair)

Mrs Susannah Batley

Mr Richard Simpson

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## Auditors

PwC Hawke's Bay

# President's Report 2019



It gives me great pleasure to present the 59th Annual Report of Research For Life.

The research we fund is vital to continuing improvements in health outcomes in our community, and we can be justifiably proud of our

achievements. I encourage you to read the companion to this report, our Annual Research Review, which showcases the investigations and findings of young medical and biomedical researchers in the Wellington region. The work that Research For Life is helping to support has the potential to change lives for the better, and we welcome your help by way of a bequest, donation, or simply by becoming a subscribing member and continuing to take an interest in our work.

## 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 the members of the Research Advisory Committee, in particular to the Chair Associate Professor Rebecca Grainger, for their professional expertise in assessing research grant applications.

In the two application rounds this year, we approved 14 research grants and 20 travel grants making a total of \$189,511 available to researchers. A synopsis of each grant is provided in this report.

Research grants under management during the year totalled 22 of which 10 remained open at year end.

## Financial

The net operating surplus for the year was \$1,269,515 compared to \$578,804 the previous year, and the overall funds under administration increased by \$1.081m to \$6.041m.

Investment income was significantly higher than in 2018, and operating expenses were reduced by \$64,541.

The market value of investments at balance date was \$6.851m, up from \$5.946m in 2018.

## Board and Committee Membership

I extend my thanks to long-serving board and committee members for their commitment to ensuring the ongoing success of Research For life.

It was great to welcome new members Richard Simpson and Susannah Batley to the Board. Richard, elected at the AGM last year, is an experienced and highly respected financial advisor and brings complementary skills to our work. He is enthusiastic about contributing to Research For Life's aim to advance the quality of healthcare in the Wellington region and beyond.

Susannah Batley was invited to join the Board in April this year and she will stand for election at the AGM. Susannah has been with investment banking firm Cameron Partners in the position of Associate since 2014. Both Richard and Susannah have quickly become actively involved as members of the board's Finance and Investment sub-committee.



## Honorary Life Membership

We were delighted to award Honorary Life Membership to Professor Brett Delahunt and to David Gault (retired Honorary Solicitor). Mr Gault gave of his time freely and willingly over the years working on some quite significant legal matters on behalf of Research For Life. Professor Brett Delahunt is an internationally recognised and prolific medical researcher on prostate and kidney cancer. For many years Brett also chaired the Research Advisory Committee and edited the Annual Research Review. My warmest thanks to both.

## Acknowledgment of Donors

Finally, I would like to thank all those who have supported the work of Research For Life this year. In particular, regular donors and our Corporate Members whose logos we are pleased to include on page one of this report.

## Acknowledgement of Major Gifts by Mr Stan Goodright

I would like to acknowledge the generous financial contributions made by Paraparaumu resident Mr Stan Goodright. Mr Goodright has made two major gifts to Research For Life in remembrance of his wife, Muriel Joyce Goodright, who passed away four years ago.

We very much appreciate Mr Goodright's generosity, which will make a difference in peoples lives by helping Research For Life to fund quality innovative medical research that advances the quality of healthcare in the Wellington region and beyond.



**Dr Lance Lawler**



### Sonja Hummel

As a Master of Biomedical Science student at Victoria University of Wellington, Sonja received a travel grant from Research For Life to participate in a Young Investigators Symposium at the AussieMit 2018 Conference in Melbourne. Sonja was awarded the International Prize for her presentation at the Conference and is now working on her PhD based in a US lab.



The Wellington Medical Research Foundation Incorporated

## Summary Performance Report

For the year ended 30 June 2019

The summary performance report has been extracted from the full performance report authorised for issue on 10 September 2019.

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 2019.

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

## Summary Statement Of Financial Performance

For The Year Ended 30 June 2019

	2019 \$	2018 \$
Operating Revenue	1,370,457	744,288
Less: Operating expenses	(100,942)	(165,483)
<b>NET OPERATING SURPLUS</b>	1,269,515	578,804
<b>FUNDS AT BEGINNING OF THE YEAR</b>	4,960,448	4,570,108
Less: Research Grants (net of prior year grants written back)	(188,193)	(188,464)
Plus: Bequests received	-	-
<b>FUNDS AT END OF THE YEAR</b>	6,041,769	4,960,448

## Summary Statement Of Financial Position

As At 30 June 2019

	Note	2019 \$	2018 \$
FUNDS	2	6,041,769	4,960,448
<i>Represented by:</i>			
<b>CURRENT ASSETS</b>		24,366	596,248
<b>Add: NON-CURRENT ASSETS</b>			
Investments	1	6,222,562	4,563,306
<b>TOTAL ASSETS</b>		6,246,928	5,159,553
<b>Less: CURRENT LIABILITIES</b>		(205,159)	(199,105)
<b>NET ASSETS</b>		6,041,769	4,960,448

The Wellington Medical Research Foundation Incorporated

## Notes To Performance Report

For The Year Ended 30 June 2019

### 1. Investments

Market values of investments at balance date are as follows:

	2019 \$	2018 \$
Current Cash Accounts - Main Fund	224,545	54,199
Current Cash Accounts - The Leonard Malaghan Medical Research Trust	114,005	12,743
Notes and bonds - Main Fund	1,389,397	1,237,455
Notes and bonds - The Leonard Malaghan Medical Research Trust	1,002,338	741,407
Shares - Main Fund	2,325,578	2,162,147
Shares - The Leonard Malaghan Medical Research Trust	1,795,849	1,738,589
	<b>6,851,712</b>	<b>5,946,540</b>

## 2. Funds

	Balance 30 June 2018	Bequests and grants	Operating surplus before research grants	Research grants approved	Research grants written back	Transfer to general fund	Balance 30 June 2019
	\$	\$	\$	\$	\$	\$	\$
<b>Funds available for distribution:</b>							
General Fund	111,631	-	47,358	(26,646)	557	-	132,900
Sir Fred & Lady Bowerbank Fund	511,763	-	107,935	(25,190)	125	-	594,633
Diabetes Wellington Inc. Research Fund	405,971	-	85,623	(11,327)	-	-	480,267
The Leura Trask Trust Kidney Research Fund	18,866	-	3,979	-	76	-	22,921
Sarah Mulholland Fund	1,978,180	-	417,214	(77,572)	560	-	2,318,382
Malaghan Fund	253,404	-	48,779	(24,942)	-	-	277,241
Cancer Standards Fund	76,303	-	16,093	(23,834)	-	-	68,562
<b>Funds not available for distribution:</b>							
The Leonard Malaghan Medical Research Trust	1,604,330	-	542,534	-	-	-	2,146,864
	4,960,448	-	1,269,515	(189,511)	1,318	-	6,041,770

## 3. Commitments

The Foundation has no commitments at 30 June 2019 (2018: nil).

## 4. Contingent Liabilities and Guarantees

There are no contingent liabilities or guarantees as at 30 June 2019 (2018: Nil).





## Independent auditor's report

To the governing body of The Wellington Medical Research Foundation  
Incorporated

We have audited the performance report which comprises:

- the entity information;
- approval of financial report;
- the statement of service performance;
- the statement of financial performance for the year ended 30 June 2019;
- the statement of movement in funds;
- the statement of financial position as at 30 June 2019;
- the statement of cash flows for the year then ended;
- the statement of accounting policies; and
- notes to the performance report

### Our opinion

In our opinion, the performance report of the Wellington Medical Research

In our opinion:

- a) the accompanying performance report of The Wellington Medical Research Foundation Incorporated (the Incorporated Society) on pages 8 to 12 present fairly, in all material respects, the entity information and the financial position of the Incorporated Society as at 30 June 2019, and its service performance, 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); and
- b) the reported outcomes and outputs, and quantification of the outputs to the extent practicable, in the statement of service performance are suitable.

## Basis for opinion

We conducted our audit of the statement of financial position, the statement of financial performance, the statement of cash flows, statement of accounting policies and the related notes to the performance report in accordance with International Standards on Auditing (New Zealand) (ISAs (NZ)). The audit of the entity information and the statement of service performance was conducted in accordance with International Standard on Assurance Engagements (New Zealand) 3000 (Revised) (ISAE (NZ) 3000).

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 Incorporated Society 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.

Other than in our capacity as auditor we have no relationship with, or interests in, the Incorporated Society.

## Information other than the financial statements and Information other than the performance report and auditor's report

The Board of Management are responsible for the annual report. Our opinion on the performance report does not cover the other information included in the annual report and we do not express any form of assurance conclusion on the other information.

In connection with our audit of the performance report, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the performance report or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If, based on the work we have performed on the other information that we obtained prior to the date of this auditor's report, we conclude that there is a material misstatement of this other information, 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 Incorporated Society, for identifying outcomes and outputs, and quantifying outputs to the extent practicable, that are relevant, reliable, comparable and understandable, to report in the statement of service performance.

The Board of Management are also responsible, on behalf of the Incorporated Society, 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 Incorporated Society'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 Incorporated Society 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) or ISAE (NZ) 3000 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.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the performance report, including performing procedures to obtain evidence about and evaluating whether the reported outcomes and outputs and quantification of the outputs to the extent practicable, are relevant, reliable, comparable and understandable.

As part of our audit we perform procedures to obtain evidence about and evaluate whether the reported outcomes and outputs, and quantification of the outputs to the extent practicable, are relevant, reliable, comparable and understandable.

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 directors/trustees of the Board of Management, 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 directors/trustees of the Incorporated Society, as a body, for our audit work, for this report or for the opinions we have formed.

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

For and on behalf of:



Chartered Accountants  
11 September 2019

Napier

PricewaterhouseCoopers, 188 Quay Street, Private Bag 92162, Auckland 1142, New Zealand  
T: +64 9 355 8000, F: +64 9 355 8001, [pwc.co.nz](http://pwc.co.nz)

## Research Grants 2018 – 2019

Fourteen research grants to the value of \$162,865 were approved during the financial year to 30 June 2019 as follows:

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### **Morgane Brunton-O'Sullivan** University of Otago, Wellington



Ms Morgane Brunton-O'Sullivan, a PhD student at the Department of Surgery and Anesthesia, University of Otago, Wellington, received a research grant of \$15,040.

Working in collaboration

with the Wellington Cardiovascular Research Group, her research aims to characterise a pathological fibrotic phenotype in order to identify patients at risk of adverse remodelling processes.

Acute myocardial infarction represents a significant health and economic burden worldwide. Despite advances in medical treatment and management following a heart attack, a subset of patients will undergo fibrotic remodelling which significantly contributes to the development of heart failure and poor cardiac function.

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### **Dr Laura Ferrer-Font** Malaghan Institute of Medical Research, Wellington



Dr Ferrer-Font, a Research Fellow at the Malaghan Institute of Medical Research received a research grant of \$11,531 to undertake research to evaluate different immune cells in cancer.

Dr Ferrer-Font is specifically using new techniques to establish how macrophages contribute to cancer, and whether their activity can be modified with specific drugs that alter their function.

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### **Professor John H Miller** Victoria University of Wellington



Professor Miller received a \$10,000 research grant to undertake the screening of new compounds for bioactivity against cancer cells.

New drugs or modifications to old drugs

are needed in the fight against cancer. New natural products from marine animals or algae, or from terrestrial plants, or synthesised analogues will be screened for their ability to inhibit cancer cell growth in tissue culture.

Professor Miller is an Emeritus Professor in the School of Biological Sciences and the Centre for Biodiscovery at Victoria University of Wellington.

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**Dr Andrew Munkacsi**  
Victoria University of Wellington



Dr Munkacsi, a Senior Lecturer in the School of Biological Sciences at Victoria University of Wellington, received a \$7,272 research grant to undertake research to help children suffering from a rare disease and also

provide insight into a fundamental process that is not well understood in healthy people.

Sphingolipids are critical structural and signalling molecules in all eukaryotic cells that, when defective in humans, are involved in the onset and progression of many human diseases including cardiovascular disease, diabetes, cancer and neurodegenerative diseases. However, the molecular regulation of sphingolipid metabolism is not fully understood in healthy or diseased cells.

Dr Munkacsi's research is exploring new therapeutic options to treat Niemann-Pick type C disease, a fatal paediatric neurodegenerative disease caused by sphingolipid toxicity that typically results in loss of life before adolescence.

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**Dr Christina Baggott**  
Medical Research Institute of New Zealand,  
Wellington



Dr Baggott, a specialist respiratory medicine doctor currently undertaking a PhD in asthma at the Medical Research Institute of New Zealand and Victoria University of Wellington, received \$10,150 to

research how asthma treatments can be improved for patients.

Asthma is a significant problem and affects over 10% of people in New Zealand. With more different types of asthma treatment regimens becoming available, Dr Baggott's research is aiming to understand what matters most to people about their asthma treatments. Future treatments can be designed with these findings in mind, and current treatments can be used more appropriately leading to improvements in how patients' asthma is managed.



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**Dr Davide Comoletti**  
Victoria University of Wellington



Dr Comoletti and his team of researchers received \$14,000 to study reelin, a protein which is key to brain development and for which mutations have been implicated in autism and schizophrenia.

Because of the complexity of the reelin structure and its function, Dr Comoletti's team plans to study how reelin binds to its known receptors to activate them.

Dr Comoletti is a senior lecturer in the School of Biological Sciences at Victoria University of Wellington.

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**Dr Lisa Connor**  
Victoria University of Wellington



Dr Connor, a lecturer at the School of Biological Sciences at Victoria University of Wellington, received \$15,300 to investigate the molecular cues shared between immune cells during the

initiation of an allergic immune response.

New Zealand has one of the highest rates of allergic diseases in the world, affecting up to 20% of the population. The immunological mechanisms involved when an individual becomes allergic to an allergen are not well understood. Dendritic cells are master regulators of the adaptive immune system and provide the signals required to drive specific immune responses.

The goal of this project is to develop a screening strategy to identify novel interactions between dendritic cells and T cells (the cell population responsible for the symptoms of allergic disease) hoping to identify new targets for immunotherapies to stop allergic symptoms.

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**Dr Darren Day**  
Victoria University of Wellington



Dr Day, a senior lecturer in the School of Biological Sciences at Victoria University of Wellington, received \$17,000 to investigate whether altered serotonin uptake leads to changes in how serotonin modifies the

activity of enzymes that control how connections between neurons are made and broken.

Depression and anxiety are a significant social problem that arises from both genetic and environmental influences that alter the way the brain responds to the neurotransmitter serotonin. Medications for treating depression often selectively target the serotonin transporter to prevent the reuptake of serotonin, and hence are known as selective serotonin reuptake inhibitors (SSRIs). There are natural human variations in the DNA sequence that control how much of the serotonin transporter we have in the brain, which in turn influences the likelihood of suffering from depression. Dr Day will examine cells for changes in how key proteins involved in making connections are altered.

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**Dr Brendan Desmond**  
University of Otago, Wellington



Dr Desmond received \$13,834 to undertake research into 'liquid biopsies', or blood tests which may aid in the earlier detection of bowel cancer. Bowel cancer is the second most common

cancer in New Zealand with over 3000 new cases diagnosed and approximately 1200 deaths annually. Early diagnosis is key for reducing deaths; five-year survival for stage I and II disease is 90%, which drops to approximately 10% for Stage IV disease. Many people may not have symptoms until they have more advanced disease. Blood tests which can help detect bowel cancer early may help more people survive the disease.

Dr Desmond is a Research Fellow in Surgery at the Department of Surgery and Anaesthesia, University of Otago, Wellington.

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**Dr Joanna MacKichan**  
Victoria University of Wellington



Dr MacKichan, a senior lecturer in medical microbiology at Victoria University of Wellington, received \$14,000 to examine the bacterial pathogen *Bartonella Quintana* which causes

trench fever, a globally prevalent infection associated with poverty and homelessness. The bacteria thrive and persist for long periods in the bloodstream,

evading immune clearance. *B. Quintana* express a specialised secretion system that injects bacterial effectors directly into host cells.

Dr MacKichan and her team hypothesise that this system aids in manipulation of the immune response. Their preliminary data support this hypothesis. This is the first study into the function of *B. Quintana* effectors.

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**Dr Johannes Mayer**  
Malaghan Institute of Medical Research, Wellington



Dr Mayer, a Postdoctoral Research Fellow at the Malaghan Institute of Medical Research, received \$13,411 to undertake research into intestinal parasite infections.

Around 1.5 billion people are affected by parasite infections worldwide, with chronic infections lasting for years. However, recent studies have also shown that certain parasites can protect from more severe autoimmune and allergic diseases and Dr Mayer plans to characterise the local immune cell populations in the infected gut that might be responsible.

Dr Mayer's project is among the first to study intestinal immune responses during parasite infections and will provide essential information for the development of new vaccines and immunotherapies.

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**Terry O'Donnell**

University of Otago, Wellington



Terry O'Donnell, a PhD candidate at the University of Otago, Wellington received \$4,280 to advance research into the link between cold housing and obesity. Over a third of New Zealanders are

now classified as obese and those living in deprived areas are more likely to be part of this group.

Mr O'Donnell's PhD research will investigate the effect that temperature has on factors which cause obesity. In particular, it will assess whether exposure to cold temperatures may be stimulating poor eating habits.

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**Dr Amber Parry-Strong**

Capital and Coast DHB, Wellington



Dr Parry-Strong, a Diabetes Research Fellow at Capital and Coast DHB, received \$7,047 to further two previously completed studies examining the effect of a lower carbohydrate diet

(<100g per day) in people with type 1 diabetes.

Many people with type 1 diabetes choose to eat lower carbohydrate as this requires them to give less insulin. However, Dr Parry-Strong's first study demonstrated that in the absence of carbohydrate, protein is

converted to glucose and hence insulin is required for the protein content of the diet. Standardly, only carbohydrate is taken into account for insulin dosing.

A second study trialled a ratio for estimating how much insulin to give for protein in a meal test setting. This study will trial the same ratio in a free-living population under normal conditions in a real-world environment.

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**Dr Abigail Sharrock**

Victoria University of Wellington



Dr Sharrock, a Postdoctoral Fellow in Biotechnology in Professor Ackerley's Microbial Biotechnology Research Group at Victoria University of Wellington, received \$10,000 to

undertake research into the improvement of gene delivery vectors for gene directed enzyme prodrug therapy (GDEPT).

GDEPT is a targeted anticancer strategy being developed to address the limitations of current chemotherapies including unwanted associated side-effects due to low selectivity of chemotherapeutic drugs.

## Travel Grants 2018 – 2019

During the year 20 travel grants assisted local researchers to meet the cost of presenting their research findings at international conferences. The grants were made to the following:

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### Deanna Ayupova



Deanna, a PhD student from the MacDiarmid Institute for Advanced Materials and Nanotechnology at Victoria University of Wellington received a travel grant of \$3,000 to present her research

at the first conference on Computational Biology of Cancer in Paris, France in September 2018 and at the Applied Nanotechnology and Nanoscience International Conference which will be held in Berlin from October 22-24 October 2018.

Her research aims to develop a non-invasive device (such as a breathalyser) that can help detect lung cancer by using breath exosomes as biomarkers. Deanna is using exosomes that she isolates from a cancer cell line and serum from patients for the detection of proteins carrying tumour gene and plans to use it to capture these proteins using nanomaterials (InP/ZnS quantum dots). Exosome studies are very innovative and not many researchers take this unknown path. One of the important steps in that process is to determine the cytotoxicity of nanomaterials so they don't result in harming patients.

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### Jude Ball



Jude, a PhD candidate at the Department of Public Health at the University of Otago Wellington, received a grant of \$2,750 to present her research findings in Poland this year at a thematic meeting of the Kettil Bruun Society

for Social Epidemiological Research on Alcohol. The conference focused on an under-researched phenomenon: the international decline in youth drinking, which has occurred over the past 10-20 years in most high-income countries.

Jude's doctorate aims to describe and explain concurrent declines in adolescent drinking, smoking, drug use and sexual activity that have occurred in New Zealand since 2000.

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### Dr Naomi Brewer



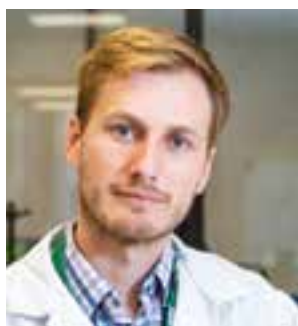
Dr Brewer from the Centre for Public Health Research, Massey University, Wellington, received a grant of \$3,445 to present her research findings at the World Indigenous Cancer Conference in Calgary, Canada.

Naomi is an epidemiologist with research interests in cancer and inequalities. The research she will be presenting investigates the acceptability amongst Māori women of self-sampling for cervical-cancer screening.

Naomi hopes that if it is acceptable in Māori and other women, this new method will be introduced in New Zealand and will increase cervical-cancer screening rates, without increasing the current disparities.

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### Alistair Brown



Alistair, a postdoctoral researcher in the Ackerley Lab at the School of Biological Sciences, Victoria University of Wellington was awarded a grant of \$2,000 to present his research at Enzyme

Engineering XXV in Canada this year.

Alistair's research focuses on the discovery and development of novel antibiotic drug candidates. Applications of his research include high throughput screening for novel antibiotics and the development of biosensors to detect amino acids for use in both research and industry.

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### Kaitlin Buick



Kaitlin is a Master of Biomedical Science candidate at Victoria University of Wellington and works in collaboration with the Malaghan Institute of Medical Research and the Ferrier Research Institute. Kaitlin

received a grant of \$1,000 to attend the International Congress of Mucosal Immunology conference in Brisbane, Australia. Her research interests include mucosal immunology and how the immune system can be enhanced to combat disease.

Kaitlin's thesis aims to investigate a novel way to improve mucosal vaccinations, through activation of mucosal-associated invariant T (MAIT) cells in the lung.

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### Olivia Burn



Olivia, a PhD student in the Cancer Immunotherapy Programme at the Malaghan Institute of Medical Research, received a travel grant of \$2,122 to present her research at the International Cancer

Immunotherapy Conference in New York in October 2018. Olivia's research is focused on a new immunotherapy that acts by disrupting a key pathway in immune cells to enhance their activation against cancer-specific proteins and drive a strong anti-tumour immune response.



As this research was recently patented and therefore not previously presented, Olivia noted it was exciting to promote New Zealand-based research to an international audience and discuss her findings with experts in the field.

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### Dr Hayley Denison



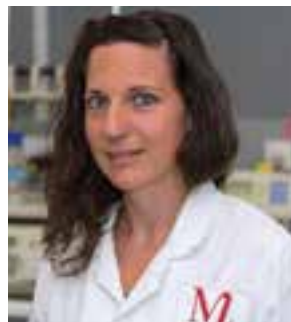
Hayley, from the Centre for Public Health Research Massey University, received a travel grant of \$1,539 to present her research findings at the International Union against Sexually Transmitted Infections

Asia Pacific Congress in Auckland this year. Hayley is an epidemiologist, with a particular interest in sexually transmitted infections.

The research she will be presenting examines the trends in gonorrhea diagnoses at the Christchurch Sexual Health Centre. Hayley hopes that a better understanding of diagnosis trends will enable more targeted testing and treatment of sexually transmitted infections, and lead to a reduction in infection and subsequent ill-health.

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### Dr Laura Ferrer-Font



Laura, a postdoctoral research fellow in the Cancer Immunotherapy Programme at the Malaghan Institute, received a grant of \$4,946 to present her research at the 34th Congress of the

International Society of Advancement of Cytometry in Vancouver in June. She has extensive expertise in cellular immunology and with high-dimensional spectral flow cytometry.

Within the last year, Laura has established, validated and evaluated multiple different 22 to 24-colour spectral flow cytometry panels developed for different cell types, tissues and disease models, and she will present part of her work at the conference. Also, she will be promoting New Zealand-based research to an international audience and discussing her finding with experts in the field.

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### Kelsi Hall



Kelsi, a PhD student in the School of Biological Sciences at Victoria University of Wellington received a grant of \$2,000 to present her research findings at the biennial Enzyme Engineering

Conference in Whistler, Canada this year.

Kelsi's research involves using directed evolution to evolve bacterial nitroreductases as a tool for targeted cell ablation. The research aims to develop retinal degenerative disease models. This work offers prospects for the discovery of new drugs to combat human degenerative disease.



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### Natalie Hammond



Natalie, a PhD candidate from Victoria University of Wellington, received a grant of \$1,500 to present her research findings at the Yeast Lipid Conference (YLC) in Ljubljana, Slovenia in May 2019.

Natalie's research entails investigating the molecular interactions of NPC1, a protein involved in cholesterol transport, that when mutated causes a rare, neuro-visceral disorder termed Niemann-Pick type C disease (NP-C) disease. Specifically, Natalie is working with NCR1 (the yeast orthologue of NPC1), to identify and characterise protein-protein interactions that will provide insight into the rare disease as well as cholesterol transport in healthy individuals.

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### Cintya Del Rio Hernandez



Cintya, a PhD student in the Chemical Genetics Laboratory at Victoria University of Wellington, received \$1,500 to present her research findings at the Yeast Lipid Conference at the Institut "Jožef

Stefan", the leading Slovenian scientific research institute located in Ljubljana.

Cintya's research focuses on statins, one of the most prescribed drugs worldwide used to control the levels of cholesterol. Beyond their primary function, statins have shown potential as anticancer agents. Her intention is to develop combination therapies to enhance their efficacy against prostate and breast cancer.

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### Sonja Hummel



Sonja, a Master's student at Victoria University of Wellington, received a travel grant of \$1,000 to present her research findings at the AussieMit conference in Melbourne this year.

Sonja's research investigates a mechanism cancerous cells use to resist the effects of chemotherapy and radiation therapy called mitochondrial transfer. By using yeast to model the conditions that cancer cells are in, Sonja aims to identify the underlying genetical signals which could lead to the potential development of new cancer treatments in the future.

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### Alvey Little



Alvey, a PhD student at Victoria University of Wellington, is investigating how Bartonella Quintana subverts the immune system by modulating host cells using a molecular syringe called a type IV secretion system. Alvey

received a grant of \$2,000 to assist him to present his research at the annual meeting of the American Society for Rickettsiology, an organisation that fosters research on a wide range of vector-borne bacterial pathogens.

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### Nicholas Lowther



Nicholas, a PhD student at the University of Canterbury, is advancing radiotherapy treatment techniques to improve outcomes for head-and-neck cancer patients. Nick is conducting research at the Wellington Blood

& Cancer Centre and was awarded a travel grant of \$1,457 to present his research at the Engineers & Physical Scientists in Medicine conference in Adelaide last year.

His research aims to optimise current treatment approaches by reducing toxicity and unwanted side-effects, such as xerostomia – a dry mouth resulting from reduced or absent saliva flow. This research will ultimately lead to an enhanced quality of life for patients.

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### Dr Johannes Mayer



Johannes, a Postdoctoral Research Fellow at the Malaghan Institute of Medical Research, received a grant of \$1,628 to present a novel technique of tissue preparation and high-dimensional flow cytometry data at the

International Conference of Mucosal Immunology in Brisbane this year.

With the help of other researchers at the Malaghan Institute of Medical Research Wellington, he was able to simultaneously characterise over 20 innate and adaptive intestinal immune cell populations during

different stages of parasite infection, which provide essential information about anti-parasite immune responses and help the development of new vaccines and immunotherapies.

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### Olga Palmer



Olga, a Masters student at Victoria University of Wellington, received a grant of \$1,469 to present her research findings at the 19th International Congress of Mucosa I Immunology Meeting held in Brisbane this year.

Olga's research interest is about vaccination and the resulting immune response. Her research involves comparing the immune responses to vaccines delivered via the skin or lung to determine any differences and the mechanisms by which these differences arise. Identifying the signals that shape distinct immune responses in these environments can be used to develop more effective vaccines.

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### Theresa Pankhurst



Theresa, a PhD student in the Cellular Immunology and Vaccination group at Victoria University of Wellington, received a grant of \$1,000 to showcase her research at the 19th International Congress of Mucosal

Immunology meeting in Brisbane this year. Theresa's research is focused on promoting enhanced humoral immunity towards pathogens that invade mucosal sites of the body by targeting Natural Killer T (NKT)

cells as vaccine adjuvants. Theresa's research goal is to develop effective adjuvant vaccines that provide long-lasting antibody-mediated protection against pathogens that infect the mucosae.

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### Denise Steers



Denise, a PhD student at the Paediatric Department, Wellington Hospital/Suicide and Mental Health Research Unit at the University of Otago, Wellington, received a grant of \$4,200

to present her findings to the second international conference on Interdisciplinary Perspectives on Intersex at Lincoln University, United Kingdom this year. Denise's research interest lies in the bioethics surrounding the health care provided for children born with a variation in sex characteristics.

The research highlights the need for change especially concerning support for parents and for young people with a variation. Education/ training of health professionals' communication, diversity, bias and ethical decision-making are recommended.

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### Dr Michelle Thunders



Michelle, a Senior Lecturer at the Department of Pathology and Molecular Medicine at the University of Otago, Wellington, received a travel grant of \$4,480 to present her research at the Chromatin

and Epigenetics workshop held at the European Molecular Biology Laboratory Advanced Training Centre in Heidelberg Germany.

Michelle's research interests lie with the identification of epigenomic biomarkers to aid in clinical diagnosis, prognosis and treatment of Myocardial Infarction and in Renal Cancer. Her intention is to aid in understanding the molecular pathogenesis of both conditions to facilitate improving outcomes for patients.

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### Heidi Verhagen



Heidi, a Masters student with the Rehabilitation, Teaching and Research Unit, University of Otago Wellington received a grant of \$881 to present her research at the Australian Society for the Study of Brain Impairment

and the New Zealand Rehabilitation Association Inaugural Trans-Tasman Conference in May 2019.

In her practice as a massage therapist, Heidi developed a manual therapy treatment that aims to improve pain and function by assisting the expression of non-intentional movements which are responses to hand pressure. Her research indicates non-volitional movement could be a beneficial component of massage therapy treatments for chronic musculoskeletal pain.

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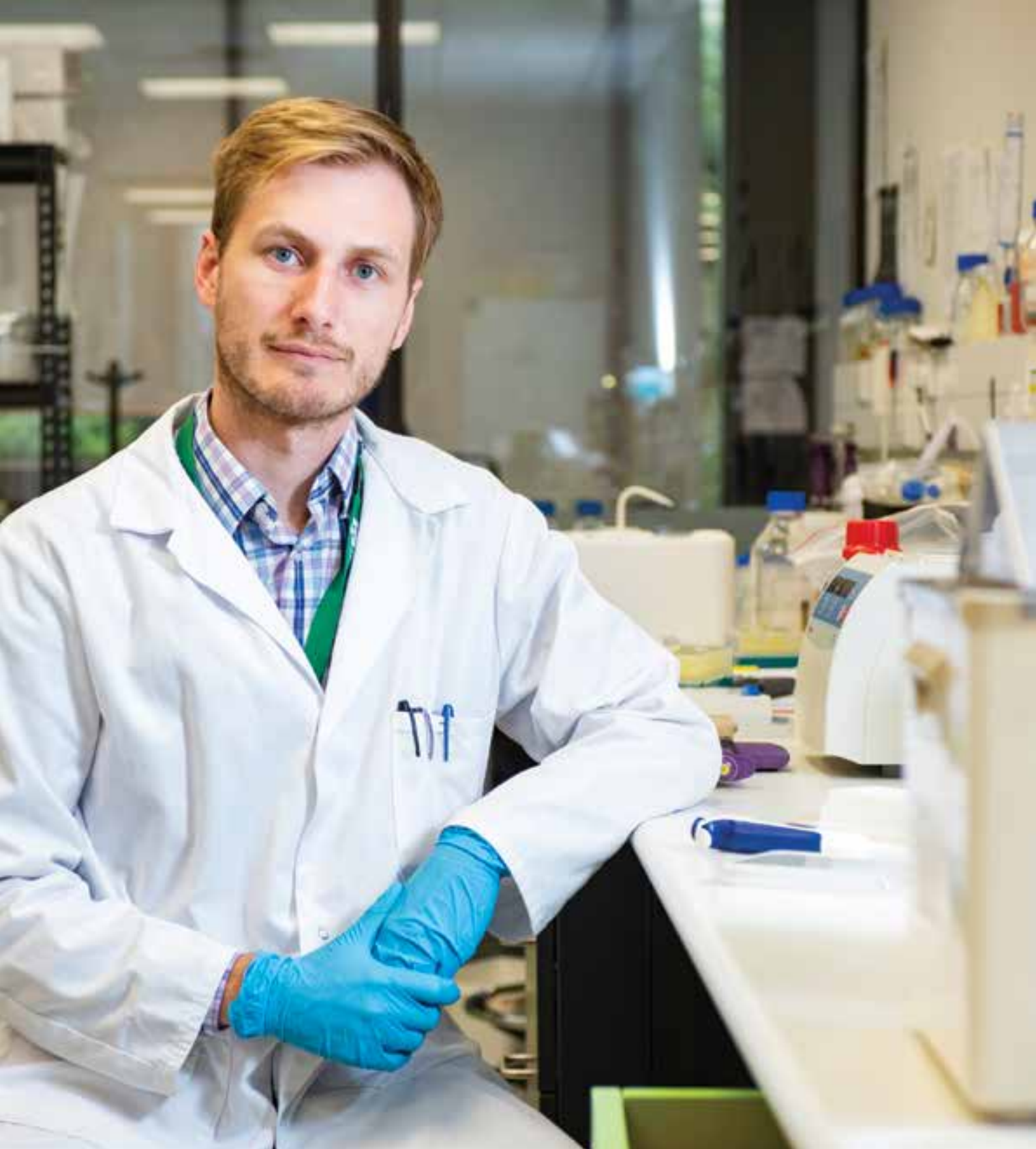
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Alistair Brown

A post-doctoral researcher in Professor David Ackerley's lab at Victoria University of Wellington, Alistair received a travel grant from Research For Life in 2018 to present his research at Enzyme Engineering XXV in Canada.

# Research For Life

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