

annual report
2015



Healy Medical Research Foundation
annual report 2015



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Chair's Address

It is with great pleasure that I present to you the Annual Report of the Healy Medical Research Foundation for 2015.

Established in 1970 through a generous bequest to The University of Western Australia by the late Patrick Burselum and Mary Estelle Healy, the Healy Medical Research Foundation is a perpetual fund governed by a Deed of Trust.

The Healy Foundation has a proud history of supporting medical research since its inception with a commitment to promote and advance the careers of young investigators. The Foundation is based on similar principles to the Raine Medical Research Foundation; it is administered by the same Research Committee and shares the same philosophy and commitment to medical research.

Mission

In accordance with the terms of the Deed of Trust, income from the Fund is intended for the purpose of: *seeking, diagnosing and investigating the nature, origin and cause of diseases in human beings and the prevention, cure, alleviation and combating of such diseases.*

Capital Fund

The Healy Foundation has a capital base that is currently valued at approximately \$1.5m. I am pleased to report that the Capital Fund remains secure and stable, and well-placed to support the research commitments of its Charter.

Financial Statement

The University office of Treasury and Investments manages the Healy Foundation portfolio in line with the UWA Investment Policy Statement. The Healy Capital Fund is subject to the University's high standard of accounting processes that include internal controls, financial reports and audit reviews. I would like to take this opportunity to extend my thanks to the financial team in the office of Treasury and Investments who work closely with the Healy Finance Advisory Panel led by the Honorary Financial Consultant, Mr Peter Bird, to provide maximum investment returns each year with ongoing funding stability of the Capital Account.

Healy Research Collaboration Awards

Since the introduction of Healy Research Collaboration Awards in 2012, the Foundation has contributed approximately \$100,000 to encourage and foster collaborative links between early career scientists and their research partners. I am pleased to report that the benefits of these awards are already revealing some exciting outcomes achieved through an exchange of research



information and preliminary data. Some of the universities visited by our young scientists include the University of Texas, Ludwig-Maximilians-Universität, University of Otago, University of Canterbury and the University of Arizona. The Reports are provided at pages 6-7. In the past 12 months, there have been joint grants submitted, co-authored manuscripts prepared and training undertaken in new research procedures. It was also pleasing to note that the Awards provided the opportunity for some of our young scientists to attend international conferences and present research papers.

It is clear that these collaboration awards are providing important funding at a critical time in the career of young investigators. They help advance their research career, facilitate industry linkages and strengthen partnerships over the long term.

Finally, I would like to extend my personal thanks to members of the Research Committee for their prudent advice and guidance in managing the research activities and financial commitments of the Healy Medical Research Foundation. I look forward to another successful year in 2016.

A handwritten signature in black ink that reads "Robyn Owens".

Robyn Owens
Deputy Vice-Chancellor (Research)
Chair, Research Committee

Research Committee

The Raine Medical Research Foundation is governed by a Committee of Senate, constituted in accordance with the requirements of the Deed of Trust. The 2015 Research Committee consisted of the following members:



Professor Robyn Owens
Deputy Vice-Chancellor
(Research) Chair



Professor David Joyce
Professor of Medicine



Professor Paul Norman
Professor of Surgery



Professor Ryan Lister
Professor of Biochemistry



Dr Sharan Dogra
Fellow, Royal Australasian
College of Physicians



Mr Peter Smith
Fellow, Royal Australasian
College of Surgeons



Dr Richard Choong
General Practitioner
Australian Medical
Association
WA Branch Representative



**Professor Mariapia
Degli-Esposti**
Head – Experimental
Immunology
Centre for Ophthalmology
and Visual Science
Research Committee
nominee



Mr Peter Bird
Honorary Financial Consultant



Ms Lyn Ellis
Director







Dr Amanda Cleaver
Project Manager

2015 Healy Research Collaboration Awards

The Research Committee introduced the Healy Research Collaboration Awards in 2012 to foster the career development of early career scientists with a view to establishing cross-institutional partnerships, joint research projects, industry linkages and the advancement of new knowledge and skills.

2015 Healy Research Collaboration Award Recipients

	Scientist	Project title
	Dr Gemma Cadby Centre for Genetic Origins of Health and Disease, UWA	Identifying genetic risk factors for cardiovascular disease in extended pedigrees in the Busselton Health Study
	Dr Kristyn Bates School of Animal Biology, UWA	How does repetitive transcranial magnetic stimulation affect the brain? A cellular and systems approach
	Dr Ashleigh Lin Telethon Kids Institute	Using support vector machine-based learning techniques to explore medical, developmental and psychiatric disorders
	Dr Nicole Smith School of Animal Biology, UWA	Targeting epigenetic markers to modulate G-quadruplex DNA topology as a novel therapeutic strategy for cancer

Healy Research Collaboration Awards

2015 RESEARCH REPORTS

There were some excellent outcomes from the 2015 Healy Research Collaboration Awards, as summarised below.



Dr Gemma Cadby

Dr Gemma Cadby took up her Healy award over the two year period 2014 and 2015.

In August 2014 Dr Cadby attended the Genetic Analysis Workshop and the International Genetic Epidemiology Society meeting in Vienna, Austria where she

presented work on her project entitled: *Identifying genetic risk factors for cardiovascular disease in extended pedigrees in the Busselton Health Study*. At the International Genetic Epidemiology Society Meeting, Dr Cadby presented a poster entitled: *Shared genetic risk of myocardial infarction and blood lipids using empirically derived extended pedigrees: results from the Busselton Health Study*. These two meetings provided Dr Cadby with an excellent opportunity to network with top researchers in the field of genetic epidemiology and to gain further experience in statistical methods, which will have a direct impact on her project.

In November 2015 Dr Cadby visited Texas where she spent ten days working alongside her collaborative partner, Dr John Blangero and his team at the University of Texas Rio Grande Valley in Brownsville. Dr Cadby ran a genetic analyses in SOLAR (a programme co-developed by Dr Blangero). The results of these analyses have been used as preliminary data for a NHMRC grant application being submitted in 2016 on mammographic density.

Dr Cadby also reported that the 2016 NHMRC Project Grant "The Busselton Family Heart Study" (\$2.2m. over five years) provided salary funding for Dr Cadby. This project will involve whole-genome sequencing in order to discover and clinically validate rare cardiovascular risk variants in the Busselton Health Study which was an aim of the Healy Research Collaboration Award. Dr Blangero is Chief Investigator C on the Grant.

In concluding her report, Dr Cadby acknowledged that the Healy Research Collaboration had made a significant contribution in advancing her research career. Furthermore, the time spent in Texas had enabled her to strengthen her collaboration with Dr Blangero and his team, which she believes will have a direct impact on the success of the NHMRC Grant.



Dr Kristyn Bates

In August 2015 Dr Kristyn Bates visited the laboratory of her New Zealand collaborator, Associate Professor John Reynolds at the University of Otago where she spent a week sharing her expertise in surgical and anaesthesia techniques. Dr Bates commenced

work on experiments that aim to measure the influence of astrocytes (non-neuronal cells) on brain plasticity and, in turn, gained expertise in various electrophysiological techniques used to measure the activity of living brain cells.

During her visit to New Zealand Dr Bates took the opportunity attend the Australasian Winter Conference on Branch Research in Queenstown where she gave a presentation as part of Queenstown Research Week.

In concluding her Report Dr Bates acknowledged that the visit to New Zealand was highly successful on several fronts: it enabled her laboratory and that of her colleague Professor John Reynolds to share equipment and standardise brain stimulation protocols; it facilitated research training and the advancement of skills and technical knowledge, particularly the training of co-tutelle PhD student, Mr Matthew Sykes, which will assure sustainability of the project over the long term; and it facilitated new links with Computer Scientists at the University of Canterbury.



Queenstown, New Zealand





Dr Nicole Smith

Dr Nicole Smith used her Healy Award to visit and present her research findings to Professor Laurence Hurley and his research team at the College of Pharmacy, University of Arizona in Lake City, Utah. The title of Dr Smith's research project is: *Targeting*

epigenetic markers to modulate G-quadruplex DNA topology as a novel therapeutic strategy for cancer.

Dr Smith was pleased to report that the Western Australian Neurotrauma Research Program had awarded Dr Smith and Professor Hurley a Program Grant to study secondary DNA structures in astrogliosis and tissue scarring following neurotrauma. They aim to use the Grant to target these structures to alter gene expression and promote axonal regeneration.

During her visit to the University of Arizona, Dr Smith took the opportunity to meet the Director of the College of Pharmacy, Professor Danzhou Yang, and to discuss NMR experiments to study secondary DNA structures identified from her genome-wide analysis. Professor Yang was excited with the results of Dr Smith's work and invited her to give a presentation of her work to his research team. It is pleasing to note that as a result of their discussions, Dr Smith and Professor Yang have set up a collaborative partnership that will enable the exchange of future research findings and, hopefully, the publication of scientific papers.

In her report, Dr Smith acknowledged the success of the Healy Research Collaboration Award which enabled her to learn two important techniques during her time in Professor Hurley's laboratory; and further strengthened the collaborative partnership which saw the submission of a joint NHMRC Project Grant application for 2017-2019. Professor Hurley and Dr Smith are currently working on manuscripts on the experimental results attained from both labs which they hope will be published by mid and end of year.



Dr Smith with Professor Hurley's team



Dr Ashleigh Lin

The Healy Research Collaboration Award provided Dr Ashleigh Lin with the opportunity to spend a month at the Department of Psychiatry and Psychotherapy, Ludwig-Maximilians-Universität working with Prof. Dr. Nikolaos Koutsouleris and his team.




The purpose of the visit was to enable Dr Lin to learn the Support Vector Machine-based Learning method (SVM-L).

In her report, Dr Lin has acknowledged that the visit to Ludwig-Maximilians-Universität was invaluable with long-term benefits. She is now trained in the complex SVM-L methodology and can apply this method to future biostatistical datasets and explore the diagnosis, origins and causes of a range of medical, developmental and psychiatric disorders. She was also able to bring this new knowledge back to her Perth laboratory and train team scientists in the SVM-L method.

Dr Lin further acknowledged that her visit to Munich also strengthened the collaborative links in the research partnership with joint scientific papers now in preparation.

2016 Healy Research Collaboration Awards

Three new Healy Research Collaboration Awards, with a total value of approximately \$30,000, were announced by the Chair at the Annual Awards Ceremony held on 9 December 2015, as detailed below:

	Scientist	Project title
	Dr Jiawen Li School of Electrical, Electronic and Computer Engineering, UWA	Smart needles for better lung cancer assessment.
	Dr Aleksandra Debowski School of Pathology and Laboratory Medicine, UWA	Development of an inducible <i>Helicobacter pylori</i> cag-T4SS system for in vitro and in vivo studies.
	Dr Jessica Terrill School of Chemistry and Biochemistry, UWA	Investigating the role of taurine in disease pathology of Duchenne Muscular Dystrophy (DMD) using the GRMD dog model.

Financial Statement

P B HEALY MEDICAL RESEARCH BEQUEST Statement for year ended 31 December 2015

	2015 Actual	2014 Actual
Capital Fund		
Opening Balance	1,294,838	1,248,398
LTP Distributions	58,009	108,860
	1,352,847	1,357,258
Less:		
Senate Policy Distributions to I&E	¹ -	(62,420)
Closing Balance	1,352,847	1,294,838
Income & Expenditure		
Opening Balance	301,134	289,910
Senate Policy Distributions from Capital	-	62,420
STP Distributions	14,232	12,606
Total Income	315,366	364,936
Less Expenditure:		
Healy Travel Awards	² (41,626)	(40,000)
Operating Expense	(34,240)	(23,802)
Closing Balance	239,500	301,134

Notes:

¹ 2015-Agreed with committee in meeting held on 12 November 2015 to suppress the 5% distribution from capital.

² Include \$1,626 fringe benefit tax (FBT) refunded from Dr T William.



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