



FORREST  
RESEARCH  
FOUNDATION

# Annual Report **2017**



### Our Values

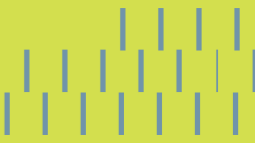
We will:

- set ourselves ambitious targets
- strive to be the very best we can be
- surprise ourselves and others with what we can achieve
- demonstrate integrity, inclusiveness, humility and generosity in work and in life
- support, encourage and respect each other
- make a positive impact on the world around us

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FOREWORD

*Research is a hidden force that underpins much of how we live and what we do.*

The technology that drives our smartphones, the medicines we use to counter disease, the actions we take to safeguard our environment, the understanding we have of what makes us happy or sad - they all depend on fundamental research. Research undertaken by brilliant and curious people who want to know more, and then use their knowledge to change the world.

Research progresses slowly; inch by inch, step by step. Today's researchers build on the knowledge of their predecessors, applying their energy, passion, commitment, imagination, and determination to the challenges of today. We believe in the power of research to find solutions to the many issues facing our world. At Minderoo Foundation we are pleased to support research which addresses Indigenous disadvantage through GenerationOne, tackles the insidious evil of modern slavery through Walk Free Foundation, promotes successful early childhood development through Thrive by Five and brings together the intellectual power of the world's best cancer researchers through the Eliminate Cancer Initiative.

The more we know about a problem, the better we can solve it. In 2017 Minderoo Foundation committed \$400 million to supercharge our philanthropic programs, including a further \$65 million to support the Forrest Research Foundation. Every Forrest Scholar and Fellow comes to Western Australia with outstanding academic accolades, a deep love of learning, and an intense desire to extend the boundaries of human knowledge. The Forrest Research Foundation supports them, and helps them to become not just good researchers but outstanding leaders who are keen to exchange ideas and share knowledge.

Knowledge has no geographical boundaries, and we are delighted that the Foundation is truly international, with our Scholars and Fellows hailing from 15 different countries. During their time here they will expand their own and other people's intellectual horizons and ultimately apply their knowledge and expertise to make a better future for us all.

**Andrew and Nicola Forrest**



“Knowledge has no geographical boundaries, and we are delighted that the Foundation is truly international, with our Scholars and Fellows hailing from 15 different countries.”

DRS ANDREW FORREST AND NICOLA FORREST, CHAIRMAN AND CEO OF THE MINDEROO FOUNDATION AND GOVERNORS OF THE FORREST RESEARCH FOUNDATION



## FORREST HALL: A VISION AND A BUILDING

*The mission of the Forrest Research Foundation is to create a world-leading collaborative centre of research and scholarship in Western Australia.*

The Forrest Scholarship and Fellowship programs attract outstanding researchers, and supports them as they develop their potential to address the world's most pressing problems. The vision for Forrest Hall is to create a community of scholars in which the intellectual energy and imagination of each Scholar and Fellow can be shared with others, and harnessed to challenge convention and advance knowledge.

The idea that knowledge needs to be shared in order to make intellectual progress lies at the core of the modern university. Writing in the 1850s, John Henry Newman famously described the ideal university as being 'a place where inquiry is pushed forward, and discoveries verified and perfected...by the collision of mind with mind, and knowledge with knowledge.' Exchange of knowledge is fundamental to academic research, and is the driving force behind the countless seminars and conferences attended, and journal articles published, every year.

Yet even as the pace of academic productivity increases, the challenge of communicating ideas grows. Academic disciplines have developed sub-disciplines, and sub-disciplines have developed specialisations, each with its own language, method and hierarchy of knowledge. Specialisation is essential - it creates deeper knowledge and sharper expertise - but it comes at the cost of broader engagement and exchange. Specialisation has driven academic research forward, but it has also driven a wedge between researchers in different disciplines, and between academia and the wider community.

From the outset the Forrest Research Foundation has recognised that it needs to support each of its Scholars and Fellows to develop their own unique research expertise, and at the same time provide an environment in which this expertise can be shared, both formally and informally, with others. Forrest Hall has been conceived and designed to be a place where Scholars and Fellows can share ideas, learn about each others' work, and jointly explore ways of using the latest research to address seemingly intractable problems.

The award-winning international practice of Kerry Hill Architects have translated the vision for Forrest Hall into a stunning modernist building on the banks of the Swan River, adjacent to the UWA campus. The Hall's 45 apartments provide superb self-contained accommodation for Forrest Scholars and Fellows, with a number of 2-bed apartments available for those with children. Extensive lounge areas on the ground floor provide an environment for residents to socialise, and a multi-purpose meeting room, library and riverside terrace create the space and facilities to host research workshops and policy forums.

The groundwork for Forrest Hall commenced in November 2016, with the major construction occurring throughout 2017 for completion in time for Semester One in 2018. Many people have been deeply involved in making the vision for Forrest Hall a reality, and the Foundation would particularly like to acknowledge the work of Sean McGivern (Kerry Hill Architects), Damien Smith (Jaxon), Cameron Stone (Insight Project Services), Sam Rizzo (Minderoo Foundation), Kate McLean (UWA Campus Management), Chris Massey (UWA Student Life) and Scott Thomas (UWA Accommodation).

**FORREST  
HALL**

DRONE SHOT FROM CIRCA SEP 16



2017 ANNUAL REPORT | 7

DRONE SHOT FROM DEC 17





MESSAGE FROM  
THE CHAIR  
MICHAEL CHANEY

## 2017 has been a transformational year for the Forrest Research Foundation.

The decision by Andrew and Nicola Forrest to make another magnificent gift of \$65 million, doubling their original donation, establishes the Foundation as Australia's largest endowment for the support of doctoral and post-doctoral research.

The expansion of the Foundation will ultimately support almost 50 PhD scholars and a dozen postdoctoral fellows who will bring their talents and creativity from around the world to Western Australia to conduct ground-breaking research.

Forrest Scholars and Fellows work across all fields of intellectual endeavour, in the sciences, social sciences and humanities, on both highly abstract and very applied topics. The Foundation supports them because, with their exceptional intellectual abilities and personal qualities, they have the potential to change the world.

The new knowledge generated by the Forrest Scholars and Fellows will directly improve people's lives by advancing medical understanding and by creating new technologies. It will help counter some of the unanticipated and unwanted consequences of modern life by helping to protect and conserve our heritage and natural environment. It will also help us find better ways to live a good life in a changing world by increasing our understanding of the social and psychological conditions of modern society.

The vision for the Forrest Research Foundation has always been ambitiously international: to bring to Western Australia bright minds from around the world, as well as to support exceptional young Australian researchers. Four fifths of the scholars and fellows appointed to date come from outside

Australia, divided roughly equally between Asia, Europe and the Americas. Not only does this create a multicultural and cosmopolitan research environment, it also builds a network of international connections that will bring benefits to researchers and universities in Western Australia for years and decades to come.

The vision has also been explicitly collaborative, embracing all five Western Australian universities, together with related research institutes and organisations. We are very pleased that at the beginning of 2018 the first Forrest PhD Scholar at Edith Cowan University will join colleagues undertaking doctoral research at UWA, Curtin and Murdoch. At a Forrest Research Foundation Planning Meeting in October the Governors were joined by Vice-Chancellors and other senior representatives from all five universities to map out the future collaborative development of the Foundation.

At the end of 2017 I hand over as Chair of the Governors to the incoming Chancellor of UWA, Dr Robert French, AC, and I would like to take this opportunity to thank the Governors for their support in guiding the Foundation in its initial years. I particularly wish again to express both my personal, and the Foundation's, deep gratitude to Andrew and Nicola for their vision in creating the Forrest Research Foundation, and their belief in the power of ideas to change the world.

"My research will shed light on how to harmonise native bee conservation with the Western Australian bee keeping industry to promote and preserve pollinators in this biodiverse region."

**KIT PRENDERGAST**  
Awarded scholarship in 2016;  
Studying at Curtin University





**MESSAGE FROM  
THE CHAIR OF THE  
SELECTION COMMITTEE  
GRANT DONALDSON**

## *The Forrest Scholarship and Fellowship selection processes are hard and difficult work, both for the candidates and for the Selection Committee members.*

Competition is intense, quality is exceptional, and every shortlisted candidate, and many more, are deserving of support, though not everyone can be a winner.

In 2017 almost 300 PhD scholarship applications were received from all over the world, and we were able to make seven awards. The competition for post-doctoral fellowships was even more intense – 272 applications for three positions. It goes without saying that the academic quality of the successful candidates was outstanding. In their prior university studies most of them have achieved the maximum grade point average (GPA) of 4.0 out of 4.0, and no shortlisted candidate had a GPA below 3.89.

But exceptional academic results are not the determining factor. For the Selection Committee, outstanding academic prowess is seen to be a necessary attribute, but what then matters are the personal characteristics of each candidate. We are looking for early-stage researchers who not only know what they want to do, but know why they want to do it.

We look for people who have a deep and long-standing commitment to their chosen field of intellectual endeavour, who can demonstrate their passion for their subject, and can see how it fits into a bigger vision for the future of humanity.

We look for people who will share their ideas, who will teach and learn from others within their discipline and from outside, because we know that every scholar's own research is a collective endeavour, supported by supervisors, fellow students, and colleagues near and far.

We look for people who can communicate their ideas, and can do so in ways that are appropriate for their audience – in technical language with their peers, in accessible ways with the general public. Communication is vital, because ideas have power only to the extent that are shared and used by others.

We look for people who are resilient, who have faced up to the inevitable trials and tribulations of life, who have learned from challenging circumstances, and become stronger, more self-aware, and more generous in the process. Research is a long hard road, with many twists, turns and dead ends (if it were easy and predictable, it wouldn't be research), and scholars and fellows will at times have to draw on their inner strength to carry them through to their desired ends.

We cast our net wide – the scholarships and fellowships are open to candidates in all subjects and disciplines, from all countries – and 15 nationalities are represented among the 24 awards made to date. In 2018 we expect to make at least 10 further awards, and the Selection Committee looks forward, once again, to being amazed by the talents and potential of the next cohort of Forrest Scholars and Fellows.

## *Selection Committee Members*



**MR GRANT  
DONALDSON SC**  
Committee Chair



**PROF JONATHAN  
CARAPETIS**  
Director  
Telethon Kids  
Institute



**DR ANDREW FORREST**  
Chairman  
Minderoo Foundation



**DR NICOLA FORREST**  
CEO  
Minderoo Foundation



**PROF PAUL JOHNSON**  
Warden  
Forrest Research  
Foundation



**PROF HARVEY  
MILLAR**  
UWA



**PROF DAVID  
MORRISON**  
DVCR  
Murdoch  
University



**DR ALEC O'CONNELL**  
Headmaster  
Scotch College



**MS KATE O'HARA**  
Director  
Hawaiian Group



**PROF ROBYN OWENS**  
DVCR  
UWA



**PROF KATE TRINAJSTIC**  
Curtin University



## 2017 was a year of development and growth for the Forrest Research Foundation.

The first post-doctoral fellows were appointed, more scholars arrived from around the world to commence their PhD research in Perth, further links were forged with external partners, Forrest Hall construction progressed along a very tight timeline for completion in early 2018, and, most significantly, a further gift of \$65 million from Andrew and Nicola Forrest allows the Foundation to plan for a doubling of future scholarship and fellowship awards.

### Vale Ryuta Ujihara

The activities of the Forrest Research Foundation were overshadowed by the untimely death of Forrest Scholar Ryuta Ujihara on 31 July 2017. Having completed Bachelor and Masters degrees in engineering at Kyoto University, Ryuta joined the Forrest Scholars in October 2016 researching water filtration technologies at UWA. He was motivated by a concern about worldwide water shortages, and a desire to devise sustainable, robust and low-cost ways of providing clean water to the millions of our fellow citizens who lack this most basic resource. His research was using nuclear magnetic resonance to investigate ways of monitoring water filtration membranes and increasing their efficiency.



Ryuta was a highly motivated and highly creative researcher who was making great progress with his doctoral research, which he was preparing to present at an international conference in Singapore in September. He will be warmly remembered by his Forrest Scholar friends, his research group colleagues and his supervisors for his wisdom and careful contemplation of the world around him. In the words of one of his fellow Forrest Scholars; "Ryuta was one of the most intelligent and creative people I have ever had the pleasure of meeting."

### Minderoo Foundation Gift Announcement

On 22 May 2017 Andrew and Nicola Forrest announced the gift of a further \$65 million to the Forrest Research Foundation, as part of their remarkable and unprecedented \$400 million philanthropic donation through the Minderoo Foundation. This doubling of the Forrest Research Foundation's original endowment will be used to fund additional Forrest Scholars and Fellows to undertake

high quality research at any Western Australian university, and we are enormously grateful to Andrew and Nicola for their continued support. Forrest Scholars Dulce Vargas Landin and Marisa Duong were privileged to represent the Forrest Research Foundation at the Parliament House event in Canberra at which this historic announcement was made.

### Forrest Post-doctoral Fellows

More than 270 outstanding candidates from 44 different nationalities applied in the first ever round of Forrest Post-doctoral Fellowships. Just over three-quarters of applicants had completed, or were about to complete, doctorates in STEM subjects (science, technology, engineering and mathematics), with 23 per cent holding research degrees in the social sciences, arts and humanities. Three Fellows were appointed: Dr Philipp Bayer (Germany; bioinformatics), Dr Julie Ji (Australia; psychology), and Dr Giovanni Polverino (Italy; biology).

### New Forrest Scholars

We welcomed three new scholars into the Forrest Foundation community in Perth at the start of 2017, with two further scholars joining later in the year: Emily Hoffmann (Australia; ecology), Ana Motta (Argentina; archaeology), Bhedita Seewoo (Mauritius; neuroscience), Gladymar Perez Chacon (Venezuela; medicine) and Manou Rosenberg (Germany; mathematics).

In 2017 288 candidates from 38 nationalities applied for Forrest PhD scholarships. Six new scholars have been appointed and will commence their PhDs in 2018, together with one scholar who deferred from an earlier round. New scholars who will be joining the Forrest Foundation in 2018 are: Grace Goh (Singapore; human biology), Asja Kroeger (Germany; chemistry), Xuyen Le (Vietnam; plant biology), Sarah Leeson (Australia; environmental science), Masnun Naher (Bangladesh; chemistry), Liam Scarlett (Australia; physics) and Jincheng Wang (China; engineering).

### Future scholarship rounds

In its first three years of operation the Foundation has run two PhD scholarship application rounds each year, one in March-April, and one in September-October. Following a review by the Governors, it has been decided to operate a single annual scholarship application round for 2018, with applications open from September to October, with offers made by early December. The Post-doctoral Fellowship competition will continue to operate with an annual application period from March to May, with offers made by mid-July.

### Forrest Scholar activities

A number of events have been arranged throughout the year designed to help develop the presentational skills of Forrest Scholars. A three-day workshop at Minderoo Station in the Pilbara looked at how the detailed research of each scholar relates to one or more of the 'grand challenges' facing humanity in the 21st century (refer to the Highlights on page 19 for more details). This was followed by a workshop on science communication led by Michael Hopkin, former feature writer for Nature and now Environment + Energy Editor for *The Conversation*. And to see how it is done, we all attended a lecture on Cosmology by one of the world's pre-eminent science communicators, Professor Brian Cox.

### External links

Links have been made with a number of long-standing graduate scholarship schemes operating in other countries, both to draw on their experience, and to share information. I have had meetings with Charles Conn, Warden of Rhodes House in Oxford, and with Professor Barry Everitt, Provost of the Gates Cambridge Foundation. They have both agreed to disseminate information about Forrest Scholarships and Fellowships to Rhodes Scholars in Oxford and Gates Scholars in Cambridge. A similar arrangement has been set in place for Schwarzman Scholars at Tsinghua University in Beijing.

### Forrest Hall

Construction commenced in November 2016 and, despite design changes which included the addition of an extra floor, the project remains on track for completion before the beginning of Semester One 2018. More details on Forrest Hall are contained elsewhere in this report, but I would like to take this opportunity to thank the many people who have been involved in driving this project forward.

### Visiting Fellowships and Conferences

The Governors have agreed to support a number of international visiting fellowships and academic workshops across 2018 and 2019. Visiting Fellows will be established academics with international research reputations who already have some research links with colleagues in WA, and who wish to strengthen and deepen those links by spending two to four weeks in Perth, residing in Forrest Hall. Both the visiting fellowships and the academic workshops will be organised jointly with one or more of the WA universities, and will be aligned with the research priorities of the universities.

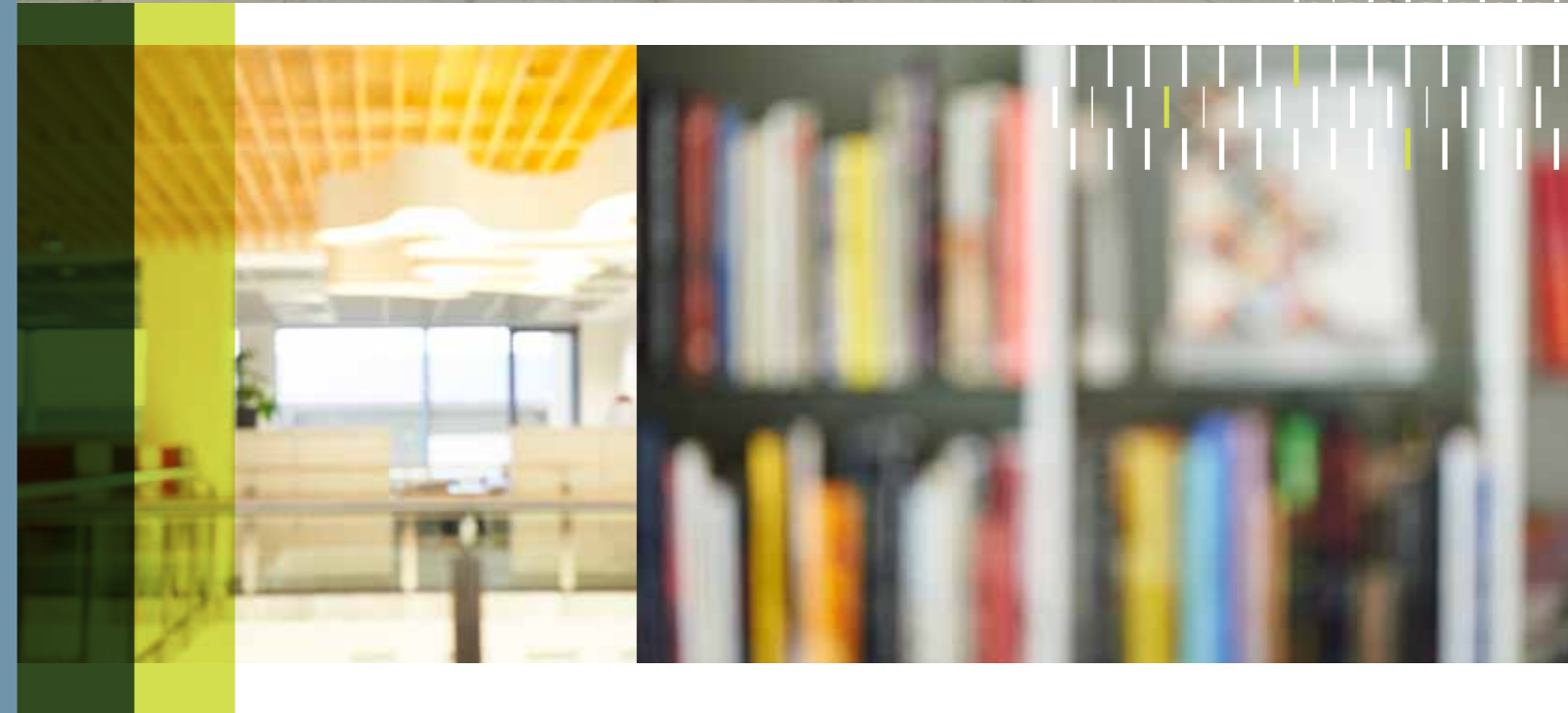
### Administrative changes

I took over the Wardenship of the Forrest Research Foundation from Mark Cassidy in late April. I would like to acknowledge the tremendous work Mark has done to guide and develop the Foundation in its first two years. We are fortunate that Mark is continuing to bring his experience and insight to the Foundation through his membership of the Committee of Governors.

The Foundation's Executive Officer, Madelaine Fisher, left in late July in order to commence a Masters degree in Aboriginal Studies. On behalf of the Foundation I would like to thank Madelaine for the work she has done in establishing the Foundation's administrative systems, and in supporting the Warden(s), Governors and Scholars. Madelaine's responsibilities have now been taken over by Rochelle Gunn in the new role of Program Co-ordinator.

Finally, I want to recognise the crucial role played by Michael Chaney, the outgoing Chair of Governors, in the creation and development of the Forrest Research Foundation. As Chancellor of UWA, Michael led the initial discussions with Andrew and Nicola Forrest about the need to support world-class research in Western Australia. Over the past five years he has guided the work of the Governors to turn that initial germ of an idea into the Forrest Research Foundation, Australia's largest endowment for the support of doctoral and post-doctoral researchers.

### Professor Paul Johnson Warden





## 2017 PhD Scholarship Competition

Number of  
applications

**288**

62% MALE  
38% FEMALE



Applications  
received from

**38**

NATIONALITIES



Largest  
concentrations

were **15% AUSTRALIA**  
**15% IRAN**  
**8% CHINA**  
**8% BANGLADESH**  
**6% INDIA**  
**6% PAKISTAN**

Number  
of awards  
made **7**

SUCCESS  
RATE

**2.4%**



Applications  
distributed across  
universities as  
follows:

**47% UWA**  
**26% CURTIN**  
**16% ECU**  
**10% MURDOCH**



SUBJECT  
AREA OF  
APPLICATIONS

**33%** Engineering  
and Technology  
**29%** Health and  
Bio-Medicine  
**14%** Agriculture  
and Environment  
**11%** Social Sciences  
**9%** Chemical, Physical  
and Earth Sciences  
**5%** Arts and Humanities



## 2017 Postdoctoral Fellowship Competition

Number of  
applications

**271**

65% MALE  
35% FEMALE



Applications  
received from

**44**

NATIONALITIES



Largest  
concentrations

were **32% AUSTRALIA**  
**10% CHINA**  
**5% INDIA**  
**5% UK**  
**4% USA**

Number  
of awards  
made **3**

SUCCESS  
RATE

**1.1%**



Applications  
distributed across  
universities as  
follows:

**52% UWA**  
**30% CURTIN**  
**10% ECU**  
**8% MURDOCH**



SUBJECT  
AREA OF  
APPLICATIONS

**29%** Health and  
Bio-Medicine  
**21%** Engineering  
and Technology  
**11%** Agriculture  
and Environment  
**16%** Chemical, Physical  
and Earth Sciences  
**12%** Social Sciences  
**11%** Arts and Humanities





**The contribution will be used to expand the Forrest Research Foundation and double the numbers of scholars and fellows the Foundation supports across the five Western Australian universities.**

## Highlights

### Forrest Scholar Workshop, Minderoo Station, 17-19 May 2017

Forrest scholars felt enormously privileged when they were invited to Minderoo Station for an academic workshop in May. Nine scholars participated in the workshop, which was led by the Warden, Professor Paul Johnson, together with Dr Susannah Morris. They were joined by hosts Drs Andrew and Nicola Forrest, together with the Chair of the Governors, Dr Michael Chaney and Mrs Margrete Chaney, and by the Chair of the Selection Committee, Mr Grant Donaldson.

The academic sessions were focussed on how to navigate the PhD journey, and how to communicate research findings. Each scholar presented their research to their peers as a '10-minute thesis', which was further slimmed down to a '3-minute thesis' presented to the broader group at a Billy Tea camp on the banks of the Ashburton River.

Sessions were also held on 'How to manage your supervisor' and on how to relate the detailed research that forms the core of any doctoral dissertation to the broader challenges faced by society. The scholars were asked to consider how their research related to some of the 'wicked problems' faced by modern society. The final session involved a presentation by the scholars to the broader group in which they mapped out these linkages.

After the hard work in the academic sessions, we were all able to enjoy the beauty of Minderoo Station: swimming in the river, stargazing in the deep black of the Pilbara night sky, watching vast flocks of budgerigars cartwheeling above our heads at breakfast, sharing good conversation and fine food. This was an exceptional experience for all the scholars, and the Forrest Research

Foundation is deeply grateful to Andrew and Nicola for allowing us to share their beautiful homestead for a few days, and to the wonderful team at Minderoo Station who looked after all our needs.

### Australia's largest philanthropic donation creates history, 22 May 2017

Andrew and Nicola Forrest made philanthropic history in 2017, donating \$400 million over 6 initiatives, including an additional \$65 million to the Forrest Research Foundation.

The contribution will be used to expand the Forrest Research Foundation and double the numbers of scholars and fellows the Foundation supports across the five Western Australian universities.

Together, the two gifts from Andrew and Nicola to fund the Forrest Research Foundation represent the largest contribution by private individuals to Australian higher education and will result in an increased intellectual firepower in Western Australia.

Forrest Scholars Dulce Vargas Landin and Marisa Duong attended the special announcement event in Canberra. Marisa described the experience of witnessing the announcement by the Prime Minister as an experience she will never forget.

### Forrest Hall Topping Out, 17 August 2017

A Topping Out Ceremony was held at Forrest Hall to mark a construction milestone with the completion of the top floor structure for Forrest Hall.

An arrangement of Australian wattle was hung above the top floor of Forrest Hall to celebrate the efforts of all involved in the construction of Forrest Hall.



**CLOCKWISE FROM TOP**  
 1. PROF DAWN FRESHWATER, DR ANDREW FORREST, DR NICOLA FORREST & DR MICHAEL CHANEY AO  
 2. WORKSHOP AT MINDEROO STATION  
 3. DULCE VARGAS LANDIN, PROF DAWN FRESHWATER & MARISA DUONG  
 4. TOURING MINDEROO STATION



**"I am extremely grateful for the generous support from the Forrest Research Foundation, which has provided invaluable opportunities to work with world-class researchers and establish a network of like-minded peers from disciplinary fields outside my own."**

**GRACE GOH**  
Awarded scholarship in 2015; Studying at UWA



## Scholar Update

Forrest Scholars are at the forefront of world leading research in ecology, conservation and biodiversity, mathematics and engineering, archaeology and health and medical science. Their research has the potential to change the world.



**GLADYMAR  
PEREZ CHACON**

Venezuela  
Curtin University & Wesfarmers Centre of Vaccines and Infectious Diseases - Telethon Kids Institute  
**Studying:** Public Health  
Appointed in 2017

Gladymar's research is focussed on the allergy protective benefits of the addition of an early single dose of the whole-cell whooping cough (pertussis) vaccine into the immunisation schedule, and the reduction of the burden of food allergy and eczema in Australian children. This innovative strategy is also expected to provide a better protection against pertussis.

*I believe the outcomes from this study will not only be relevant for Australia as it searches for feasible interventions to counter its 'tsunami' of food allergy in young children, but will be of particular significance to my own country and other low and middle income countries as they consider how to optimise their own vaccine strategies - in particular whether they should invest scarce resources into replacing whole cell with acellular pertussis vaccines.*



**MARISA  
DUONG**

Vietnam  
The University of Western Australia  
**Studying:** Biochemical & Molecular Health & Medical Science  
Appointed in 2015

Marisa is developing an analytical biochemistry method to better understand how protein thiol oxidation contributes to worsening the disease progression of muscular dystrophy.

In 2017, Marisa set up a fluorescent-based assay to identify which thiol proteins become oxidised in dystrophic muscles. Marisa presented her work at the 2017 Lorne Proteomics Symposium in Victoria and the 7th Asia Oceania Mass Spectrometry Conference in Singapore.



**GRACE  
GOH**

Singapore  
The University of Western Australia  
**Studying:** Physiology & Biology  
Appointed in 2015

Grace's research will investigate the role of ambient temperature, body temperature and circadian rhythms to determine what impact lifestyle disruptions like shift work or jet lag can have on metabolic functions.

*I have always been driven by a child-like curiosity to understand the world around me, complemented by a conviction that it is our duty to apply the knowledge gained for the betterment of humanity. My curiosity is easily piqued, and this has manifested in a large range of research interests; before starting my PhD, I have worked in neuroecology, genetics, bioimaging, and physiology labs. Nevertheless, these research interests have a common overarching theme: to understand how organisms work.*



**TIM  
HAMMER**

USA  
The University of Western Australia  
**Studying:** Biodiversity  
Appointed in 2015

Tim's research on the *Ptilotus* genus of wildflowers is delivering new insights into the evolution of the arid Western Australian biota, including how and when groups of plants dispersed to Australia from Asia and their response to their new environment.

An outcome from Tim's work is that he will be naming two new genera and, for the first time, clearly delimiting the boundaries of this group of genera, which have been taxonomically troubling since Linnaeus. Tim has previously named another genus of plant, *Wadithamnus*, from preliminary work in his PhD.



**EMILY  
HOFFMANN**

Australia  
The University of Western Australia  
**Studying:** Biological Science  
Appointed in 2017

Emily has a strong interest in amphibian conservation. Her PhD research focusses on the critically endangered white-bellied frog (*Geocrinia alba*) which is restricted to a small area of remaining habitat in the Margaret River Region of Western Australia.

Since commencing her PhD, Emily has been preparing her habitat requirements study and started preliminary field work, examining pilot study sites, locating calling males and marking nest site locations.

*Finding and observing my study species in the wild has been a major highlight!*



**DULCE VARGAS  
LANDIN**

Mexico  
The University of Western Australia  
**Studying:** Epigenetics  
Appointed in 2015

Dulce is using genomic and epigenomic technologies to evaluate the impact of environmental stimuli and L1 mobilisation to better understand brain function and dysfunction.

*Throughout my PhD, I have learnt and developed a lot of techniques that are at the frontier of the field, together with bioinformatics pipelines needed to analyse the type of data generated by these methods.*



**KARISSA  
LEAR**

USA  
Murdoch University  
**Studying:** Behavioural ecology  
Appointed in 2016

Karissa is developing a new tagging system that gives insight into the behaviour of 60 million year old critically endangered sawfish.

Karissa's sawfish work has been featured on the ABC and by the Australian Academy of Science. In 2017 Karissa was awarded the best talk prize at the Australian Marine Science Association student workshop. She was also runner-up for the best poster prize at Murdoch University's Research Symposium.



**ANA PAULA  
MOTTA**

Argentina  
The University of Western Australia  
**Studying:** History & Archaeology  
Appointed in 2017

Ana's research focusses on the Kimberley region of Western Australia to analyse human and animal relations by studying art depictions where these two species are engaged (e.g. hunting and dancing), to explore the contribution of animals to human identity.

In December 2017, Ana was awarded a Research Travel Grant from the Kimberley Society to conduct a detailed rock art recording trip to Planigale Creek.



**TRUNG VIET  
NGUYEN**

Vietnam  
The University of Western Australia  
**Studying:** Epigenetics  
Appointed in 2015

Trung is developing innovative molecular tools based on recent advanced genome editing technology that has the potential to control gene expression.

In 2017 Trung attend the Australian Epigenetics Conference in Brisbane where he presented a poster titled "Assessing specificity and efficiency of targeted DNA methylation and demethylation with dCas9-Suntag system."

*I have always been inspired by the complexity of the molecular mechanism of how our human genome is regulated, and whether it is possible to learn from nature to design tools that turn genes on or off.*



**KIT  
PRENDERGAST**

Australia  
Curtin University  
**Studying:** Biodiversity and Ecology  
Appointed in 2016

Kit is undertaking a PhD project to discover what native bees inhabit urban areas in South West Western Australia and the factors that enhance or limit their diversity and abundance, including whether the introduced honeybee is outcompeting native bees.

In 2017 Kit featured in a Curtin FM radio segment. She also gave numerous presentations and native bee walk and talks to schools and community groups, and had a stall on native bees in collaboration with the WA Museum for Science Week. Kit has had numerous publications in both academic journals and in popular magazines.



**MANOU  
ROSENBERG**

Germany  
The University of Western Australia  
**Studying:** Engineering and Mathematics  
Appointed in 2017

Manou's research will apply mathematical techniques to develop new infrastructure for renewable energy applications that is cost effective and offers a more stable energy supply.

*My research has the potential to improve the effectiveness and optimise the cost of renewing the power supply infrastructure in Western Australia.*



**FREDERIK  
SEERSHOLM**

Denmark  
Curtin University  
**Studying:** Biodiversity  
Appointed in 2016

Frederik is combining his passion for archaeology with his interest in science to understand how biodiversity has changed historically both before and under human influence.

Frederik was awarded first prize for a student oral presentation at the 2017 Combined Biological Sciences Meeting.



**BHEDITA  
SEEWOO**

Mauritius  
The University of Western Australia  
**Studying:** Neuroscience  
Appointed in 2017

Bhedita's PhD involves the use of in-vivo MRI to examine the effects of low-intensity repetitive transcranial magnetic stimulation on brain activity, chemistry and structure in rodents, setting the scene for direct comparisons between rodent and human studies.

During 2017, Bhedita presented her work at the Annual Combined Biological Sciences Meeting where she was presented with the best poster design award. She was also awarded the Neurotrauma Research Program Student Travel Scholarships to present her work at the Australasian Neuroscience Society (ANS) annual scientific meeting.

*Forrest Scholars and Fellows  
come from around the world*



“We cast our net wide - the scholarships and fellowships are open to candidates from all countries and 15 nationalities are represented among the 24 awards made to date.”  
GRANT DONALDSON SC  
CHAIR OF THE SELECTION COMMITTEE



“I decided to specialise in Neuroscience because I have always felt shaken by how many individuals have to cope with neurological and psychiatric conditions and the impact these conditions have on families and on the society as a whole.”

**BHEDITA SEEWOO**  
Awarded scholarship in 2017;  
Studying at UWA

## Fellow Recruitment

An evolutionary biologist fascinated with animal behaviour who hopes to help tackle global problems such as climate change, a bioinformatics specialist who uses computational methods to better understand the genetics of wheat and a psychologist who is working towards advancing our understanding of depression and anxiety have been named as the inaugural Forrest Fellows.



**PHILIPP BAYER**  
UWA



**JULIE JI**  
UWA



**GIOVANNI POLVERINO**  
UWA

Philipp's research will focus on the genomics of wheat collections. These are older bread wheat cultivars collected from all over the world that are usually not being used in modern wheat breeding for many different reasons. These old varieties harbour unexplored genetic diversity such as novel and unknown resistance genes, genes linked to yield, or genes linked to salt tolerance. Philipp will use genome sequencing technology to search for these genes in several forgotten wheat cultivars.

Philipp completed his PhD in bioinformatics at the University of Queensland.

*The Forrest Fellowship will give me the freedom to pursue my goals. What interests me especially is the mentoring aspect. I have always loved to share my knowledge and I believe knowledge that is not shared is lost. The Forrest Fellowship will put me into a position where I can continue to share my knowledge and experience.*

Julie's research will focus on how mental imagery representations of past and future experiences can be leveraged to alleviate depression and build resilience. To do this, Julie will be the first to bring together insights from the cognitive neuroscience of memory and emotion, as well as social and moral cognition, to the field of clinical psychology. Ultimately, Julie's Fellowship research will drive the development of an innovative cognitive training tool with the potential to enhance depression treatment efficacy by restoring the wanting and seeking of rewarding experiences in daily life.

Julie completed her PhD in psychology at The University of Cambridge.

*I am extremely grateful and proud to be an inaugural Forrest Research Fellow. I believe psychological scientists have a unique and vital role to play in generating novel solutions to complex and large-scale problems in society. I am attracted by the Forrest Foundation's bold and global vision that values knowledge discovery and propagation above geographic and disciplinary divides.*

Giovanni's project aims to investigate the role of phenotypic plasticity in the ecological success of invasive fishes over native Australian ones to predict species response to rising water temperatures, as expected at the end of this century. In addition, his research will integrate an interdisciplinary component at the interface between animal behaviour and engineering to investigate whether bioinspired robots can effectively represent a novel, autonomous, and effective solution to selectively combat invasive species in Australian freshwater ecosystems.

Giovanni completed his PhD in evolutionary biology at Humboldt University of Berlin.

*The Forrest Fellowship offered me a unique opportunity to join The University of Western Australia, a leading university for scientific research in the fields of ecology and evolutionary biology. I am very honoured for being awarded one of the inaugural Forrest Fellowships.*

## Scholar Recruitment

In late 2017, six students from around the world were awarded Forrest Scholarships to study at Curtin University, Edith Cowan University and The University of Western Australia. The students come from a broad range of academic backgrounds and will research everything from how to reduce the cost of developing drugs to treat illnesses, how to address our global food shortage, to ways of using physics to further developments in energy production.

Andrew and Nicola Forrest said they were delighted to welcome six new Forrest Scholars, including the first Scholar to undertake research at Edith Cowan University. "The Forrest Research community has been further strengthened by these appointments and we look forward to following their research progress across numerous fields," Andrew and Nicola Forrest said.

A full list of recipients is below.



**ASJA KROEGER**  
UWA

Asja from Germany is studying chemistry and will be researching how to improve reliability and reduce the cost of developing new drugs.

*The Forrest Scholarship makes it possible for students to stay together in a residential college. These friendships will allow me to see different perspectives and make me a more open-minded person.*



**XUYEN LE**  
UWA

Xuyen from Vietnam will be researching the molecular process by which plants create fuel for mitochondria – the 'engine' of plant growth – to address global food security and supply issues.

*The Forrest Research Foundation is a contributing factor for why I chose Western Australia to be my future second home. The establishment of the Foundation proves that there is an appreciation of scientists who want to make a difference to the world. The biggest reward of all is to spend time living with exceptional student cohorts coming from different cultures and fields of expertise and to be able to meet with Mr. and Ms. Forrest who care for the future development of Western Australia and the world.*



**SARAH LEESON**  
UWA

Sarah from Mandurah, WA, will look at genetic variation and environmental adaptability in dung beetles to help improve performance of Australian pastoral sector and develop improved understanding of species translocation.

*I have cycled along Mounts Bay Road to UWA almost every day during my Honours year. As I rode by, I watched the foundations of the Forrest Hall being built. I spent the better part of that year pondering the unique experience that a Forrest Scholarship would offer. What excites me is the opportunity to be a part of a community of bright and motivated individuals, with the potential to spark new collaborations and innovations.*



**MASNUN NAHER**  
UWA

Masnun from Bangladesh will research molecular electronics to help develop the next generation of technology in electronics.

*Imagine a world in which electronic technology can be made available not only to the advanced nations, but to all people. Imagine a world where electronics is freed from current constraints. The basic science in this area is advancing at great pace, but less is being done to migrate the science to achievable device structures. As a student from a developing country, the Forrest Scholarship will help me to contribute to the economic development of my country and above all my achievements will play a significant role in national development as well.*



**LIAM SCARLETT**  
CURTIN UNIVERSITY

Liam from Fremantle, WA, will be undertaking a PhD with the Theoretical Physics Group at Curtin, using supercomputers and quantum mechanics to study atomic and molecular collisions.

*I am honoured to receive this scholarship from the Forrest Research Foundation and I can't wait to further progress my research while working with the Theoretical Physics Group, a group that holds a very esteemed reputation in the industry. My PhD will focus on molecular collisions which are fundamental processes that play a major role in a diverse range of fields including energy production, medicine and astrophysics.*



**JINCHENG WANG**  
EDITH COWAN  
UNIVERSITY

Jincheng Wang from China, will be researching 3D printing of materials for wastewater treatment and medical implant applications.

*The Forrest Research Foundation is a centre for top researchers and scholars that focuses on driving world-class research and innovation in Western Australia. The Forrest Scholarship offers a stimulating, inspiring and unique experience that encourages each Forrest Scholar to make positive change to the world.*



*Born and raised in Mexico City, it was Dulce Vargas Landin's curiosity for how life works that led her to science.*

Now, this bubbly 25 year old, one of just nineteen Forrest Research Foundation Scholars, is breaking new ground in human brain research at The University of Western Australia.

Dulce is conducting her research on Rett Syndrome, a neurological disorder found exclusively in females which becomes apparent in infants from 6 months of age. It ceases normal brain development causing the loss of previously acquired skills, such as conscious control of the hands and the ability to vocalise most sounds or words.

It has a prevalence of approximately 1 in 10,000-15,000 females worldwide and there are about 200 girls in Australia who have been diagnosed with this incurable condition.

It's a genetic disorder, caused by a mutation of a particular gene, which is found on the X chromosome, but less than one percent of recorded cases are inherited. In most cases, the mutation occurs randomly.

"Although we know the genetic cause of Rett Syndrome, we don't understand how a mutation of this particular gene can produce the symptoms of this disease. The gene affected controls the activity in the brain but, at the same time, it controls virus-like sequences in our genome that tend to alter our DNA," explains Dulce.

"I used to work with these virus-like sequences, so their possible involvement in a neurological disease led me to study Rett Syndrome."

She is developing molecular techniques for her experiments to look at single cell level transcriptome, genome and epigenome. This will create a comprehensive picture of what is happening in each Rett Syndrome brain cell and will bring insights about the mechanism of the disease and probably the discovery of drug targets. Overall, this research could

potentially determine the molecular and cellular mechanisms of Rett Syndrome and the development of new techniques for molecular biology.

Dulce feels very fortunate to be working alongside UWA's Prof Ryan Lister, regarded as the world expert in sequencing technology. "I'm really lucky to have smart and passionate colleagues and I feel very proud to be part of the Lister Lab team. In terms of facilities and equipment UWA, the lab and The Harry Perkins Institute have everything we need.

"I was writing my undergrad thesis at Cold Spring Harbour Labs in New York when I saw Ryan present at a conference. I was excited about what he was doing; I was a genomics person but he was going to the next frontier: epigenomics."

Genomics is the study of information that is encoded within the full DNA sequence complement of an organism. Epigenomics is the study of all of the epigenetic changes in a cell. Epigenetic changes are changes in the way genes are switched on and off without changing the actual DNA sequence.

Dulce has spent the past two years under the supervision of Prof Lister developing and perfecting new techniques for her research. Each experiment costs thousands of dollars and she will need to complete at least eight.

She's now ready to experiment on the tiny brains of Rett Syndrome mice using her single cell technique. Current protocols use fresh brain tissue and require 200 mg, but Dulce's techniques require only 15-20 mg of frozen tissue, which is ground breaking in itself.

However, her research has far greater implications than just Rett Syndrome. It has the potential to transform medicine as we know it.

DULCE VARGAS LANDIN  
DISSECTING A MOUSE BRAIN.



Fostering research of this calibre in Western Australia is the sole purpose of the Forrest Research Foundation. It was Prof Lister who first told Dulce about the scholarship opportunities and encouraged her to apply. She was in France, completing her Masters in Systems Biology and Genomics and was keen to continue her studies.

"The Lister Lab was undertaking some really interesting research and making breakthroughs and I decided I wanted to be part of it. I also wanted to become a leading international researcher like Ryan, and with him being based at UWA, it was a perfect fit."

Forrest Research Foundation Scholarships are one of the most financially generous in the world. As Prof Paul Johnson, Warden of the Foundation, explains, "We don't want our Forrest Scholars and Fellows to have to take on other work. The priority is their research and that cannot be compromised."

Dulce says, "It's the people behind the Foundation who really make the difference; they genuinely care. Andrew and Nicola treat me like family. I'm living away from my friends and family, halfway around the world, but I don't feel alone; I feel appreciated and valued, I'm not just a number, and this is extremely important."

After completing her PhD Dulce hopes to continue her work by combining industry with research but for now, she's very grateful for the opportunity this scholarship has afforded her. "Living in Perth has taught me the value of quality of life. It's important to feel safe and free."

As for her research, her curiosity and passion will continue to drive her. "I want to generate new knowledge that can be used to cure diseases and share this information with future generations."

Watch this space.

## TIM HAMMER

### *As Western Australians, we often take for granted the vibrant, rich and diverse environment in which we live.*

We have some of the oldest soils in the world and our historical isolation has enabled unique lineages of native plants to evolve and rapidly diversify.

Fascinating stuff, especially if, like Tim Hammer, your life's work involves reconstructing the unresolved evolutionary tree of *Ptilotus*, one of the largest genera (groups of species) in Australia. Tim was in the first wave of Forrest Scholars and is studying for his PhD at UWA.

Born in Illinois, much of his childhood was spent on his family's farm and running barefoot through the woods. "I grew up with a good knowledge of plants in my environment. Whether it was to avoid Poison Ivy or knowing the difference between the poisonous berries and the delicious ones, without even knowing it, I was studying botany throughout childhood.

"I suppose that I was always interested in natural history, specifically how life came to be. Like many kids, I was interested in dinosaurs. As I learned more about biology this became a fascination with evolution and mechanisms that led to the diversification of all biota."

Tim studied a Bachelor of Science and Master of Science at Old Dominion University in Norfolk, Virginia. "It was a course at university on plant biodiversity and evolution that ignited my curiosity and passion for plants.

"I chose to research *Ptilotus* because it was a large, interesting genera in the amaranth family (Amaranthaceae) that had not been studied using modern systematic approaches, and there were many potential projects to do on it. Furthermore, there was the potential of revising the taxonomy (the branch of science concerned with classification) of the genus (and family in which it sits) and describing new species."

Most *Ptilotus* species are found in WA, particularly in the Pilbara, making Perth the perfect setting to study the rapid speciation of these plants.

"This evolutionary tree will be used to analyse the evolution of characters in order to understand what has driven speciation within this group, including the changes in its physiology, high uptake and accumulation of phosphorous, and its shifts in both habitat and pollination.

"Knowing how plant life responds to changes in climate, soil chemistry and pollinators will become even more important to the future of human life, especially with the challenges we are facing feeding our growing population and with our changing global climate."

WA's rate of discovery of new plant species, approximately 100 each year, is one of the highest in the world. There are currently around 110 *Ptilotus* species and Tim is discovering more every year.

"Naming a new genus is quite rare in the career of a modern taxonomist. I have named one new genus and relative of *Ptilotus*, which I called *Wadithamnus*. This was a result of research conducted early in my PhD at UWA. A paper that I will submit for publication very soon will name an additional two genera.

"I have authored five names of new species so far (not including other taxonomic ranks like genus and subspecies). Additionally five species names are awaiting acceptance. Before the end of the year, I will have submitted papers to include at least another six."

We are in the herbarium library in the Botany building at UWA, which Tim describes as 'quite spectacular', and he applauds the work that Australia, and now New Zealand, has done in digitising research, making it available to everyone. "Australia is one of the first countries in the world to push forward in this area", he said.

It was during his Masters research (also on *Ptilotus*), that Tim visited Perth to collect specimens and later, when applying to attend UWA as an international student for his PhD, he came across the Forrest Research Foundation Scholarship.

When asked where he'd be without this scholarship, Tim responds, "I honestly do not know. But I wouldn't have achieved a fraction of what I've accomplished here, without it. It has enabled me to be as productive as possible during my PhD, giving me the ability to apply new technologies and methods in systematics and to travel across remote areas of Australia to discover new, isolated and rare species."

Tim and his wife Dominique, also a Biologist whom he met at university in Virginia, welcomed their first child Linnéa, in March 2017. She was named after one of Tim's favourite

TIM HAMMER IN  
A PATCH OF TALL  
MULLA MULLA  
(PTILOTUS NOBILIS)



flowers, commonly known as twinflower, which was a favourite of Carl Linnaeus, the 18<sup>th</sup> Century founder of the system of binomial nomenclature, for whom it was named.

They are about to move into their new two bedroom apartment at Forrest Hall. Located on the Swan River, Forrest Hall offers Tim, and all Forrest Scholars and Fellows, an opportunity to reside in an environment that has been designed to cultivate and stimulate their learning.

Tim has devoted his spare time to publishing taxonomic revisions of the species of *Ptilotus*, including naming new species and resolving problematic taxonomies.

"I have produced dichotomous identification keys, which other botanists and consultants can use to identify any of the nearly 110 *Ptilotus* species using a combination of morphological characters. These keys are essential tools to aid other biologists to apply the correct names to the specimens they are collecting or studying.

"I hope to make a lasting impact on the taxonomy of *Ptilotus* and the amaranth family of plants by updating the taxonomy to conform to modern concepts, to name species for science and posterity, and to increase our understanding of the diversification of life on the Australian continent."

When asked what the future holds, Tim says, "I would love to stay in WA and continue to work in botany and taxonomy. There is so much to do. Ultimately, I will have to go where I can find work."

Tim is supported by supervisors Dr. Kevin Thiele (School of Biological Sciences, UWA; previous director of the Western Australian Herbarium), Prof Ladislav Mucina (School of Biological Sciences, UWA), Assoc/Prof Megan Ryan (School of Agriculture and Environment, UWA) and Prof. Ian Small (ARC Centre of Excellence in Plant Energy Biology, UWA). He also collaborates with Robert Davis at the Western Australian Herbarium.



## Governors



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Curtin University



# Financial Update

*The cumulative donation received as at 31 December 2017 was \$61m.*

The total carrying value of the Foundation assets as at 31 December 2017 was \$42.9m, of which 82% is invested in the long term pool (representing the cumulative donation and investment returns net of capital expenditure and annual spending since inception).

The investment income from both the long term and short term pools was distributed in December 2017 in the sum of \$1.6m<sup>1</sup> and \$380k<sup>2</sup> respectively. The long term pool outperformed budget, largely due to strong performance driven by equity capital appreciation.

The annual 5% spending distribution made available to fund awards and administrative costs in 2018 was \$689k.

Overall the Forrest Research Foundation returned a positive net operating result of \$36.4m, being a net increase of \$29m compared to budget primarily driven by higher than budgeted investments returns and additional donations received following the execution of the second deed of gift.

The Income and Expenditure Statement and Statement of Investments that follow show financial performance and position of the Foundation funds for the year ended 31 December 2017.

A detailed summary capital split and investment in each respective investment pool is also attached (Appendix 1).

<sup>1</sup> Representing a LTP investment distribution of 11.33% (2017 budget: 5.56%)  
<sup>2</sup> Representing a STP investment distribution of 3.50% (2017 budget: 3.50%)

## Forrest Research Foundation: Income and Expenditure (Year ended 31 December 2017)

		2016	2017	
Notes		December \$	December \$	
<b>INCOME</b>				
	Funds from Forrest Foundation	1	6,500,000	35,000,000
	Investments Income	2	1,453,428	1,941,804
	Other		-	-
<b>NET INCOME</b>		<b>7,953,428</b>	<b>36,941,804</b>	
<b>EXPENDITURE</b>				
	Forrest Research Scholarships		144,296	221,777
	Scholarships			
	Administration Costs			
	Salaries	3	106,801	270,598
	Marketing		28,345	20,392
	Operating		169,861	61,972
<b>TOTAL EXPENDITURE</b>		<b>449,303</b>	<b>574,739</b>	
<b>NET OPERATING RESULT</b>		<b>7,504,125</b>	<b>36,367,064</b>	
<b>SUMMARY OF FUNDS</b>				
	Balance of Funds Brought Forward from Previous Years	4	20,096,464	27,430,848
	Add: Net Operating Result		7,504,125	36,367,064
	Less: Forrest Hall 1 Construction Project	5	(276,437)	(20,863,492)
<b>BALANCE OF FUNDS</b>		<b>27,324,152</b>	<b>42,934,420</b>	

### Notes:

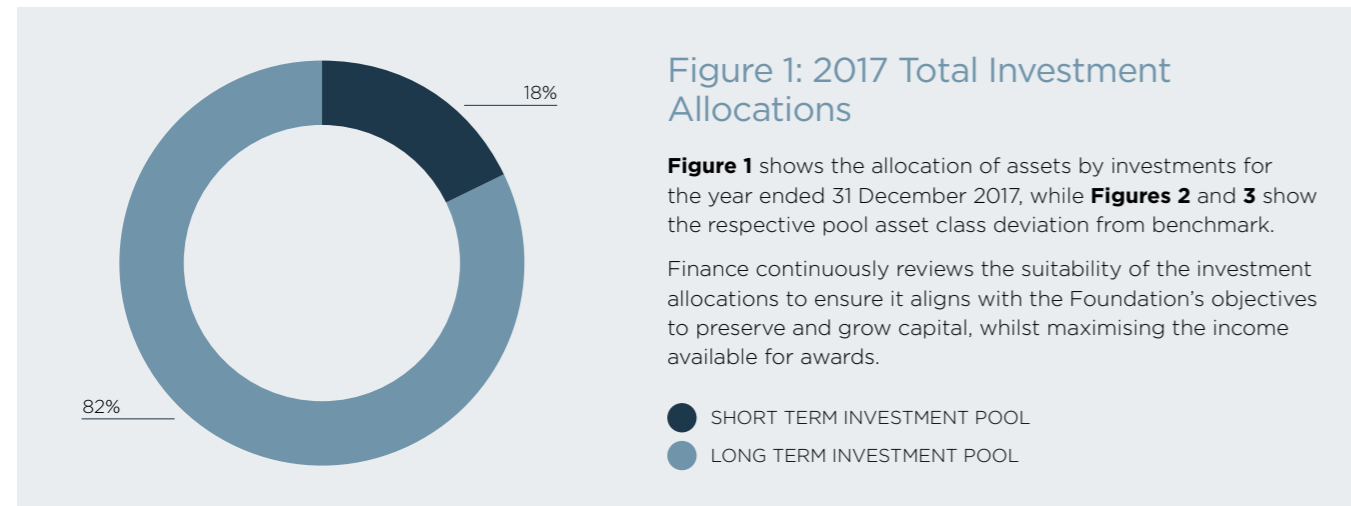
- Capital funds received annually. An additional donation of \$27m during 2017 following the execution of the second deed of gift on 4th November 2017.
- Investment income distribution occurs in December each year.
- Increase in salary due to Wardens full time appointment.
- 2016 closing balance of \$27,324,153 excluded UWA Scholarships Awarded amount of \$106,695. Difference is now included in Balance Brought Forward.
- Construction cost for additional floor and block was excluded from Reforecast.

## Statement of Investments (Year ended 31 December 2017)

		2016	2017
		December	December
	Notes	\$	\$
Investments			
<b>Short Term Investment Pool</b>	1		
Forrest Foundation Short-term Funds		1,372,576	1,440,341
Forrest Foundation Salaries		(12,631)	(34,927)
Forrest Foundation Admin (Operating)		(54,163)	67,804
Forrest Foundation Scholarships		65,432	322,719
		1,371,214	1,795,937
<b>Long Term Investment Pool</b>			
Forrest Foundation Capital	2	11,908,066	35,256,679
<b>Total investments (Capital Corpus)</b>		<b>13,279,280</b>	<b>37,052,616</b>
<b>Forrest Hall</b>			
Forrest Hall Construction	3	14,044,872	5,881,804
<b>Total Investments</b>		<b>27,324,152</b>	<b>42,934,420</b>

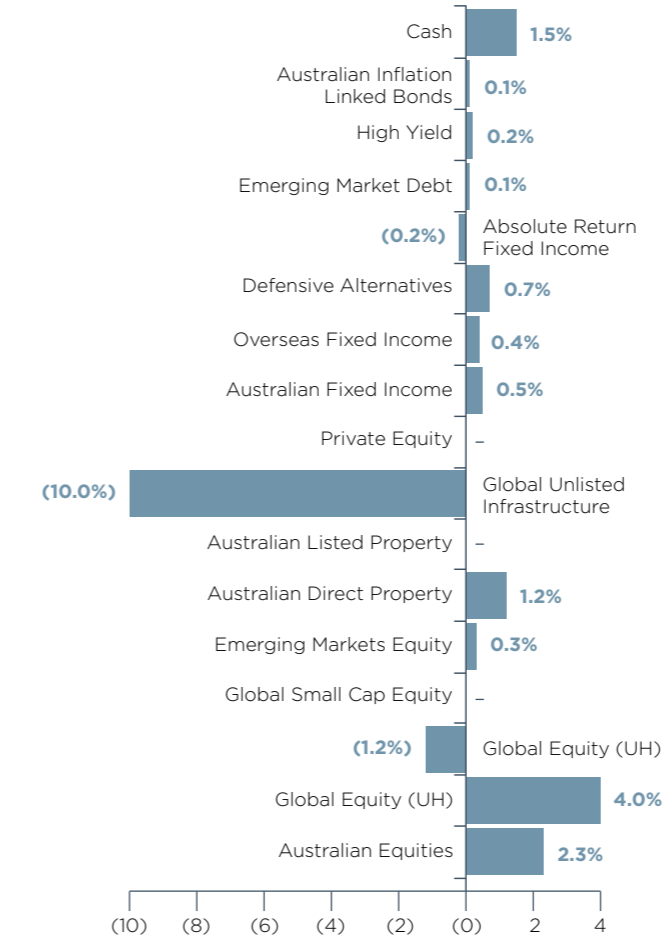
### Notes:

- The funds invested in the STP receive a 5% spending distribution each year or otherwise determined by the Committee.
- \$689,054 spending distribution from the LTP investment funds at the end of 2017 for 2018 admin cost, salaries and costs associated with award.
- Funds available for completion of Forrest Hall 1.



### Figure 2: LTP

Asset Class Deviation From Weighted Portfolio Benchmark

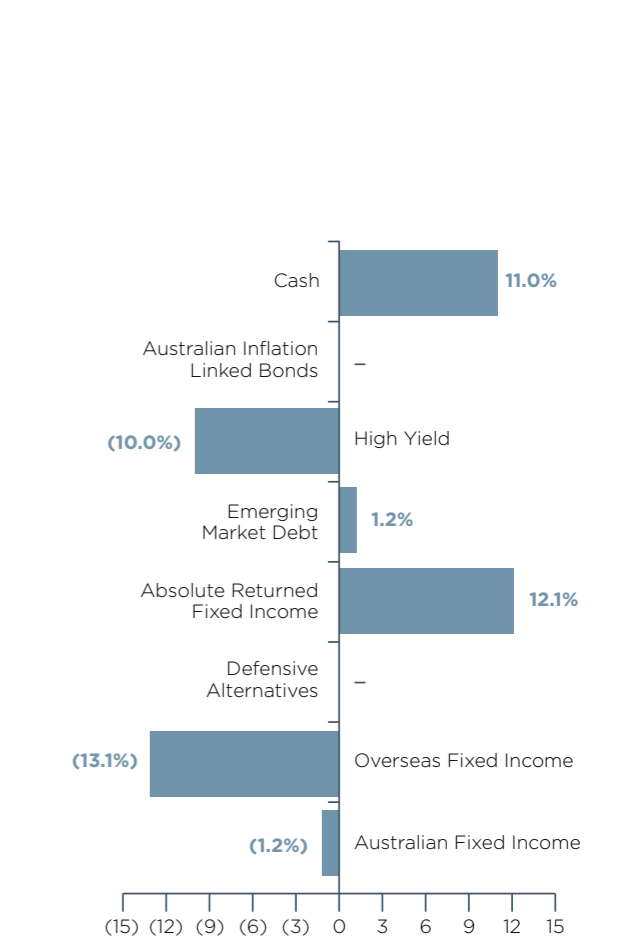


**Long Term Pool:** The long term pool has predominately transitioned to its overall growth benchmark position, with overall 77% growth and 23% defensive.

The primary dynamic asset allocation strategy within the long term pool is an overweight position in International Unhedged Equity with a corresponding underweight to International Hedged Equity.

### Figure 3: STP

Asset Class Deviation From Weighted Portfolio Benchmark



**Short Term Pool:** The short term pool comprises 100% defensive assets.

Dynamic asset allocation positions within the short term pool endeavour to manage fixed interest duration risk through an underweight position in Australian and Global Sovereign Bonds, offset with an overweight position held in Global Absolute Return Bonds.

## Appendix 1

### FORREST FOUNDATION LONG TERM POOL

	December 2016	December 2017	
Opening Balance	19,300,503	11,908,066	
<b>Add:</b>			
Capital donation	6,500,000	35,000,000	
LTP Investment Income	1,262,020	1,561,397	
	27,062,523	48,469,463	
LTP Investment Distribution Rate	8.20%	11.33%	
<b>Less:</b>			
5% Spending Distribution	1	769,525	689,054
Forrest Hall Construction Funding	14,384,932	12,523,730	
	15,154,457	13,212,784	
<b>Closing Balance</b>	<b>11,908,066</b>	<b>35,256,679</b>	

### FORREST FOUNDATION SHORT TERM POOL

	December 2016	December 2017	
Opening Balance	795,961	15,522,782	
<b>Add:</b>			
5% Spending Distribution	1	769,525	689,054
Forrest Hall Construction Funding	14,384,932	12,523,730	
STP Investment income	191,408	380,406	
	16,141,826	29,115,972	
STP Investment Distribution Rate	3.48%	3.50%	
<b>Less:</b>			
Expenses – Forrest Scholars	144,296	221,777	
Expenses – Salaries	106,801	270,598	
Expenses – Operating	106,238	61,972	
Expenses – Marketing	28,345	20,392	
Expenses – Forrest Hall Construction Project	340,060	20,863,492	
	725,740	21,438,231	
<b>Closing Balance</b>	<b>15,416,086</b>	<b>7,677,741</b>	

### FORREST FOUNDATION TOTAL PORTFOLIO

<b>Total Funds</b>	<b>27,324,152</b>	<b>42,934,420</b>
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Note 1: Annual distribution occurs in December each year.

“Accelerometers measure three-dimensional movement and can detect each tailbeat a fish makes and fine-scale changes in their posture which provides information about an animal’s behaviour. I love being able to use this technology to learn what these animals do in the field, where it is difficult, if not impossible, to directly observe them.”

**KARISSA LEAR**  
Awardee in 2016;  
Studying at Murdoch University.





FORREST  
RESEARCH  
FOUNDATION

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