



THE CARNEGIE TRUST

FOR THE UNIVERSITIES OF SCOTLAND

OFFSHORE WIND ENERGY PARASITIC NEMATODES AMBIGUITY IN HOMONYMS CYCLOSTRATIGRAPHY
VISUALISING ANGIOGENESIS SUPER-RESOLUTION OPTICAL IMAGING INDUSTRY-ALIGNED INNOVATION
TECTONIC COLLISION MUD VOLCANOES MARINE PLASTIC LITTER INDIA IN AFRICA RESTRUCTURING
OCEAN OXYGENATION RAREFIED GAS FLOW OUTDOOR LEARNING IN SCOTLAND VIRTUAL REALITY
AND GAMES MILK PRODUCTS IN CHALCOLITHIC ANATOLIA INVESTIGATIVE JOURNALISM SCOTTISH
SCREEN SECTOR DRINKING CULTURES IN URBAN INDIA ESTRANGED STUDENTS BIOMEDICAL
IMAGING ASIAN ENGLISHES TRANSNATIONAL POLITICS DARKNET CRYPTOMARKETS LAND REFORM
CANADIAN GAELIC CULTURE EARLY FILM TECHNOLOGY CULTURAL TRANSMISSION BREXIT ANTENATA
PHYSICAL ACTIVITY MARY QUEEN OF SCOTS COPYRIGHT AND MATERIALITY HUMAN DISTURBANCE
OF RED DEER LOCAL ELECTIONS IN DEVOLVED SCOTLAND POLITICAL INEQUALITY IN NATURAL
RESOURCES GEOGRAPHIC DEPRIVATION MEASURES ADRENOCEPTOR ACTIVITY MINIATURISATION
OF ELECTRONIC COMPONENTS MUSCULOSKELETAL INTERFACES IN VITRO NANOPARTICLE-STABILISED
FOAM FLUORIDE RESISTANCE IN BACTERIA REGENERATING TROPICAL FORESTS WILDLIFE CRIMINAL
STATUS QUO BIAS WOMEN IN SOCIAL WORK LASER-PLASMA PHYSICS SOLAR ACTIVE REGION
POSTCOLONIAL STUDIES BRONZE AGE TEXTILES OIL PRICE FLUCTUATIONS PRAIRIE REALISATION
DEMOCRATIC POLITICAL CULTURE SPINAL MUSCULAR ATROPHY NORAH BORGES' SCRAPBOOK
MILITARY CULTURE AND IDENTITY POLITICS IN SCOTLAND BRAIN PHOTONICS MAMMALIA
DEVELOPMENT LATE NEOLITHIC SARDINIA DE FACTO STATES CRYPTOGRAPHY GEOGRAPHY
RECOLONISATION REMOTE POLICING COORDINATION CHEMISTRY AND REACTIVITY ANTIPERSONNEL
MINE BAN NUMERICAL MODELLING BEHAVIOURAL ECONOMICS CENTROSOMES EDUCATION
BIOLOGY ENGINEERING PHYSICS ASTRONOMY RELIGION CHEMICAL ENGINEERING HISTORY
SOCIOLOGY PSYCHOLOGY MATHEMATICS POLITICS INEQUALITY DEMENTIA ENVIRONMENTAL
STUDIES WIDENING ACCESS HERITAGE LANGUAGES RECHARGEABLE BATTERY ELECTROLYTE
HIPPOCAMPAL BINDING IN MEMORY TRANSITIONAL HERITAGE SITES E-CIGARETTES EMISSION
NUCLEAR HETEROGENEITY LIGHT-DRIVEN CHEMISTRY ACCELERATED ANTIBIOTICS CUTANEOUS
LEISHMANIASIS UNACCOMPANIED ASYLUM SEEKING CHILDREN NEUROSCIENCE, FREE WILL AND
DISTRIBUTION CHINA IN BRITISH VISUAL CULTURE EXILE IN SPANISH MUSIC IMMUNE RESPONSE
IN ADIPOSE PROGENITORS NUCLEAR WASTE OFFSHORE WIND ENERGY PARASITIC NEMATODES
AMBIGUITY IN HOMONYMS CYCLOSTRATIGRAPHY VISUALISING ANGIOGENESIS SUPER-RESOLUTION
OPTICAL IMAGING INDUSTRY-ALIGNED INNOVATION TECTONIC COLLISION MUD VOLCANOES
MARINE PLASTIC LITTER INDIA IN AFRICA RESTRUCTURING OCEAN OXYGENATION RAREFIED
GAS FLOW OUTDOOR LEARNING IN SCOTLAND VIRTUAL REALITY AND GAMES MILK PRODUCT

Annual Report

One hundred and sixteenth Annual Report,
for the year to 30 September 2017



Established in 1901 under a Trust Deed signed by Andrew Carnegie, the income generated by his original endowment is to *“be applied towards the improvement and expansion of the Universities of Scotland”* and *“rendering attendance at these Universities and the enjoyment of their advantages more available to the deserving and qualified youth of that country to whom the payment of fees might act as a barrier”*.

For over a century the Trust has fulfilled these aims – by funding student fees, scholarships and bursaries, and through the award of research grants. Operating across all academic disciplines the Trust encourages wider access to higher education and supports high quality scholarships and research in all the Scottish universities.

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Figure 1: Dame Anne Glover,
Chair

Chair's Introduction

The 12 months to 30 September 2017 was another successful year for the Trust. Details of all our activities can be found in the pages of this report, together with examples of specific projects which we have supported and the many individuals who have benefited from our awards. Overall we distributed 372 grants to a total value of nearly £2.5 million.

I greatly enjoyed making the award of our 2017 Robertson Medal to the best candidate in this year's set of PhD Scholarship nominations. The recipient – Fiona Kirton – once again demonstrated the wonderful career and education backgrounds that our medallists frequently exhibit. In this case she managed a major change of direction – moving from a degree in physics and astronomy, through employment in the information technology sector, to a master's degree in Linguistics, the subject in which she is now undertaking her PhD.

This year saw the departure of Ian Sword as a Trustee. Ian had given the Trust outstanding service over a period of 12 years, including many years as the Chair of the Audit Committee. His support was greatly appreciated.

I am pleased to report that the strategy discussion day went ahead as planned in October 2016. This provided an excellent opportunity for the Trustees to develop their ideas about the future direction of the Trust, to learn more about each other and the office staff, and to identify immediate actions that could be implemented short-term. These discussions led to a number of modifications to the Trust's portfolio of grants and awards, as detailed in the Secretary's Report.

I am very pleased to note that we have been extremely fortunate this year to have received numerous very generous gifts in the form of donations and legacies. We are most grateful to each of these individuals and are particularly pleased to acknowledge the estates of Patricia Playfair-Woodward and of Keith Morgan for their substantial legacies. The latter is creating a new Carnegie-Cant-Morgan Scholarship for PhD study in Botany and Plant Science. Further details are provided below.

Legacies such as this are hugely valuable to the Trust, permitting continuation of our work in support of students and academics in the Scottish universities. Andrew Carnegie provided an outstanding example of philanthropy when he established his numerous charitable trusts and foundations at the start of the 20th Century. We are very grateful to see this spirit of philanthropy being maintained today.

The social and political environment in which we operate is changing constantly. We are committed to continuing to deliver the wishes of Andrew Carnegie in as flexible and as timely a way as possible to support the future success and impact of our scholars and universities. In carrying this out, I gratefully acknowledge the support of my fellow Trustees and the excellent work of our office staff.

Legacies and Donations

Legacy from Mr Keith Morgan

The Trust was delighted and honoured to receive a generous legacy from Mr Keith Morgan – physicist and engineer – who died in August 2016. The gift, to a value of £776,000, is directed at the establishment of a Research Scholarship in support of a student studying for a PhD in Botany at one of the Scottish universities.

This new award will be added to the Scholarships portfolio and will be directed specifically towards projects centred on plant science. The gift will permit the identification of a new Scholar once every three years, with support provided for tuition fees and living expenses throughout her or his PhD study.

These awards will be known as Carnegie-Cant-Morgan Scholarships. Mr Morgan was particularly interested in Andrew Carnegie – the philanthropist who founded the Trust in 1901 – and also wished to include recognition of Carnegie's uncle, William Cant. His extensive research into Carnegie's family history led him to identify connections both to royalty and with his own family.

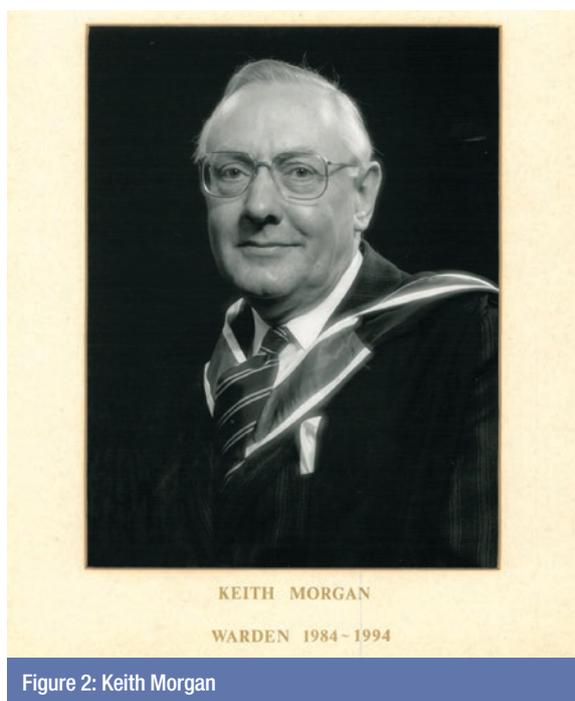


Figure 2: Keith Morgan

Mr Morgan lectured in electrical engineering at the University of Southampton. He had a passion for botany and was responsible for the planning, design and planting of many unusual trees and shrubs in his own garden and in various other locations, including Chilworth Manor in Southampton when it was a university hall of residence. Many of these beautiful trees remain today for everyone to enjoy.

The Trust plans to award the new Scholarship for research into botany and plant science in 2018. We are extremely grateful to Mr Keith Morgan for his generous gift.

Legacy from Patricia Playfair-Woodward

This legacy was in honour of Patricia Playfair-Woodward's mother Jean Burnie, who studied medicine at the University of Edinburgh between 1920 and 1924. Miss Burnie was assisted throughout those studies by grants from the Trust in support of fees payments. In recognition of the importance of this support to the development of her mother's career, Patricia Playfair-Woodward, who died in September 2016 at the age of 81, willed to the Trust a generous gift of £315,000.

Gift in memory of Prof K John Dennis (Kurt Deutsch)

The Trust also received a £2,000 gift from Mrs Elizabeth Dennis in memory of her husband, Prof K John Dennis MB ChB Edin. Born Kurt Deutsch, John Dennis left Prague aged 10 and arrived in Britain on the Kinder Transport. He spent the next few years at the Priory, a children's home in Selkirk with other refugee children. In 1945, he learnt that his entire family had perished in the Holocaust and took up British citizenship, changing his name to K John Dennis. With the help of Rev John McCallum from Mauchline in Ayrshire, John Dennis obtained a grant from the Carnegie Trust to study medicine at the University of Edinburgh.

Described as a very tolerant and caring individual by his family and colleagues, Prof

Dennis was very interested in the social aspect of medicine. During his career, John Dennis had the privilege to work under Sir Dugald Baird, another Carnegie Trust grant recipient (Glasgow, 1916-1921). Dr Dennis was the first Briton to be awarded an honorary fellowship of the Hungarian College of Gynaecology and was the first Chair of Human Reproduction at the University of Southampton.

The donation made on his behalf by his widow, Mrs Elizabeth Dennis, has funded the tuition fees of a young Asylum seeker from Iran studying Engineering at the University of Strathclyde.

The following table provides a full list of gifts and donations received during the year.

We are extremely grateful to all donors who support the work of the Trust with their generous contributions.

Dame Anne Glover DBE, FRSE, FASM



Figure 3: Prof Dennis, on the right with spectacles, with other children at the Priory

List of Benefactors

Name	Description	Value
Anonymous	Donation	£33,333
John Maxton Black	Legacy-Fee Repayment, Glasgow, Science, 1943-48	£2,000
A C Boswell	Fee Repayment, Glasgow, Science, 1935-42	£120
Bridgewater Associates	'Winter Holiday donation' (on behalf Sarah Burkhalter (fee repayment, UWS, Computer aided design, 2006-07)	£753
T C Kester Brown	Fee Repayment, St Andrews, Medicine, 1954-58	£1,000
Eric Norman Coleman	Legacy-Fee Repayment, Glasgow, Medicine, 1942-48	£10,000
Sandra Dawson	Fee Repayment, Glasgow, Veterinary Medicine, 1991-92	£250
E M Dennis	Re husband K J Dennis, Fee repayment, Edinburgh, Medicine, 1947-52	£2,000
James Jackson Ironside	Legacy-Fee Repayment, Edinburgh, Medicine, 1944-49	£5,697.36
Keith Morgan	Legacy	£775,907
Patricia Playfair-Woodward	Legacy-Fee Repayment re mother Jean K Burnie, Edinburgh, Medicine, 1920-24	£314,792
John Sawkins	Fee Repayment, Scholar Edinburgh, Economics, 1989-92	£220
Kurt Schoenenberger	Legacy-Fee Repayment, Edinburgh, Arts, 1945-49	£500
Stephen Walsh	Fee Repayment, Strathclyde, Engineering, 1988-89	£1,000
M Joni Wilson	Fee Repayment, Edinburgh, Social Anthropology, 1991-92	£5,000
CAF (James Williamson)	Fee Repayment, CAF donations	£212
Gift aid repayment	Based on eligible donations £7,590	£1,897

Secretary's Report

I am delighted to report another successful year for the Trust. We continue to deliver our mission in the manner set out by Andrew Carnegie 116 years ago – supporting students and academic staff who are studying and carrying out research in the Scottish universities.

Despite the continuing financial uncertainties, over the last sixty years the Trust has managed to maintain the real value of the income generated by our endowment and, currently, it shows an upward trend. This has permitted the Trust to continue its expenditure on the various grant schemes. Further financial details and information on grants awarded are provided below and in the body of this Report.

Strategy Review

In October 2016, at the start of the year under review, the Staff and Trustees met at the Garvock House Hotel, Dunfermline for what is believed to be our first ever Strategy Discussion Day. This provided an excellent opportunity to consider the ways in which the Trust's mission fits within the present day environment and how it might be better developed.

In 1901 Scottish students were directly responsible for meeting their university tuition fees and up to half the Trust's income was devoted to paying these charges on behalf of eligible students. Carnegie's key aim was to remove the financial barrier limiting access to higher education for many capable young scholars. Whilst in certain circumstances such a barrier does still exist today, for most students resident in Scotland tuition fees are paid on their behalf by the Student Awards Agency for Scotland (SAAS). Consequently, only a relatively small proportion of our grant expenditure goes to supporting undergraduate students. Nonetheless, there is scope both to improve mechanisms for ensuring that all the students who are in need and eligible

receive suitable support, e.g. through our fee scholarship scheme, and to seek other ways by which the Trust can contribute to widening access to higher education.

In considering the research funding element of our grant portfolio, the Trustees were conscious of the significant number of different schemes being operated resulting in the Trust's funding being very thinly spread. It was concluded that both the Carnegie Centenary Professorships scheme (introduced to mark the 2001 centenary of the Trust's foundation) and the Collaborative Research Grants scheme should be terminated. The latter suffered from being heavily over-subscribed, leading to very low grant award rates (5 to 10% of applications). In the absence of any new resources, sufficient to significantly increase the numbers of Collaborative awards, it was concluded that the funding would be better directed to the Research Incentive Grant (RIG) scheme. It was decided to raise the maximum value of a RIG award from £7,500 to £10,000 and to focus the funding on supporting early career academics.

These changes are being implemented in the year 2017-18 and will be closely monitored to evaluate their impact. In addition, the Trustees have decided to pause operation of the Carnegie-Cameron Bursaries – the scheme offering tuition fee grants for master's programmes. This will permit assessment of the future role of these grants in light of the, recently introduced, Scottish government's loan scheme for postgraduate (master's) studies.

Grants and Scholarships

In the course of the year 2016-17, the Trust distributed a total of £2.5m in grants and awards – a similar level to the previous year.

Through tuition fee assistance and supplementary grants, we were able to fund 97 undergraduate students who were not eligible for SAAS financial support. This figure is a little up on last year (81).

Undergraduate students have also been supported through the award of 79 Vacation Scholarships and, once again, 100 bursaries were allocated to the Scottish universities for students undertaking taught master's degrees. During the year, 74 Research Incentive Grants, to a total value of £469,111, and nine Collaborative Research Grants, totalling £445,876, were made to academics in Scottish universities. In addition, we have supported 45 PhD Scholarships plus 2 Carnegie Professorships. Further details on all these schemes are presented later.

We are delighted to have received the substantial legacy from Mr Keith Morgan which will endow a further PhD scholarship each year in the field of Botany and Plant Science. It will be known as the Carnegie-Cant-Morgan Scholarship.

Trustees

At the Annual General Meeting in May 2017, Mr Ian Sword stood down as a Trustee. Ian gave outstanding service to the Trust over twelve years, including a period as Chairman of the Audit Committee, and will be greatly missed by the other Trustees and staff.

There have been no new Trustee appointments this year, reflecting a plan to reduce the overall size of the Board. This, together with a number of other proposed amendments to the Trust's Royal Charter, are being discussed with the Scottish Government ahead of seeking the approval of the Office of the Scottish Charity Regulator (OSCR) and, ultimately, the Privy Council.

Trustees and staff were very pleased to note the election in 2016 of our Chair, Dame Anne Glover, as a Fellow of the Royal Society.

We are very fortunate to have the support of an outstanding set of Trustees. Further details about all our Trustees can be found at the end of this Report.

Research Grant Arrangements

The Research Incentive Grants have continued to be very popular with 234 applications in the course of 2016-17. As noted above, this scheme will be expanded significantly next year (2017-18) and will concentrate on supporting early career researchers – academics within seven years of the start of their first independent research position.

This has been the last year of the Collaborative Research Grants scheme. A total of 85 applications were received and with only nine awards affordable the scheme remained highly competitive.

Academics across Scotland (and more widely) have continued to be very supportive in offering their services as Carnegie Research Assessors – providing peer reviews of research grant applications and populating the selection committees at which final award decisions are reached. This assistance is greatly appreciated by the Trust. We have also benefited from the attendance of Trustees at Selection Committee meetings – providing an opportunity for them to observe the decision making process in action and bringing a different perspective to the discussions.

Scholarships for Asylum Seekers

A new scholarship agreement between the University of Strathclyde and the Trust is enabling talented asylum seekers currently resident in Scotland to access our higher education system. Under this partnership, students in receipt of Strathclyde's Asylum Seeker Scholarships will have their tuition

fee reduced from the international rate to the standard home student charge. Through our Undergraduate Tuition Fee funding scheme, the Trust is then contributing a tuition fee grant (of up to £1,820) to each Scholarship student. The University of Strathclyde is also providing bursaries in support of the students' study costs.

The first recipients of the combined scholarships were selected in June 2017 and 8 students commenced their studies in September 2017.

A similar arrangement has since been reached with the University of the West of Scotland, the University of Edinburgh and Glasgow Caledonian University.

Seminars and presentations

In October 2016, Dr Elaine Carnegie and Dr Carol Gray-Brunton (Edinburgh Napier University), together with Anne Whittaker and Catriona Kennedy, held a stakeholder seminar summarising the key findings of their Carnegie Collaborative Research grant. Their project examined cultural barriers and participant solutions regarding acceptance and uptake of the human papillomavirus (HPV) vaccine from the perspective of Black African, White-Caribbean, Arab, Indian, Bangladeshi and Pakistani young people.



Figure 4: Edinburgh Napier Talk

Through the Lens: Photography in 19th Century China and Japan

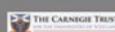
7 October 2016
11am - 4pm

Andrew Carnegie
Birthplace Museum
Moodie Street
Dunfermline, KY12 7PL



In 1878 Andrew Carnegie travelled around the world, starting from Japan and China. He acquired albumen prints both by local and western photographers (such as Lai A-fong, Felice Beato, Milton Miller, Shuzaburo Usui, Uchida Kuichi and Baron von Stillfried). This event brings together scholars of Chinese and Japanese art and photography with the aim of uncovering the rhetorical complexities of these prints and exploring the fluidity of the lines between local/western, insider/outsider, art/photography and commercial/fine art images.

This event is supported by:



FREE (booking necessary. See: eventbrite.com)

Figure 5: Museum Talk

The Trust co-funded an event held in October at the Andrew Carnegie Birthplace Museum with the Carnegie Dunfermline Trust. This one-day seminar focused on the Museum's photographic collection of Andrew Carnegie's travels to China and Japan in the 19th Century. The Trust also supported further research into the Museum's photographic collection by funding a Vacation Scholarship.

From 4-18 November 2016, the exhibition *Imaginarium : Contemporary Video Art from Macedonia* at Gray's School of Art (Robert Gordon University) showcased videos from 12 Macedonian artists. The exhibition, the biggest ever show of contemporary Macedonian art in the UK, was the culmination of Jon Blackwood's work on artistic production in the post-socialist context of Macedonia and was funded by a Carnegie Research Incentive Grant.



Figure 6: Arusa Qureshi

On 1st December, Arusa Qureshi a postgraduate master's student in Publishing Studies at Edinburgh Napier University and a recipient of a Carnegie-Cameron Bursary was named Postgraduate of the Year at the Scottish Magazine awards.

Scholars' Day

On 20th February 2017 we ran a Scholars Day at the Royal Society of Edinburgh. A total of 40 current and former PhD Scholars attended, including two alumni – Dr Jennifer Cadman, now working for the Terrence Higgins Trust, and Dr Ali Eslami, who is at Google DeepMind. They both gave excellent presentations, describing their current work and their experiences after completing



Figure 7: Scholars' Day

their scholarships. Dame Anne Glover also joined the event and spoke about her own experiences of working both in the academic world and in the Scottish government and the European Commission. The day included a brain-storming session, attempting to tackle some of the major issues currently facing the world such as the rise of fake news and climate change, or opportunities and dangers offered by artificial intelligence and robotics.

University Visits

Once again we greatly enjoyed taking up opportunities to visit the universities. In November 2016, I had the pleasure of attending the installation of Professor Sally Mapstone as the new Principal and Vice Chancellor of the University of St Andrews – an occasion replete with tradition.

Then in January 2017, Patricia Krus and I accompanied Dame Anne Glover to present the 2016 Robertson Medal – awarded to each year's best candidate for a Carnegie PhD Scholarship. On this occasion, the recipient was Fiona Kirton – a Physics and Astronomy graduate (Glasgow University) who, following a second degree in Modern Languages (Open University) is now a linguistics researcher at the University of Edinburgh. Her PhD project targets the development of a common explanatory framework to assist our understanding of the factors that shape linguistic structure and its evolution. Principal Sir Tim O'Shea hosted the reception and congratulated Fiona on her



Figure 8: Professor Dame Anne Glover, Fiona Kirton and Professor Sir Tim O'Shea

success, ahead of Dame Anne completing the presentation of the medal.

In April, Patricia Krus, Diane Stewart and I attended the Carnegie Lecture presented by Professor Claire Kramsch, University of California, Berkeley, during her period as a Carnegie Centenary Professor at the University of Stirling. Following her lecture on applied linguistics, and communication / miscommunication across cultures, we all enjoyed a very traditional Scottish tea.

In May, I accompanied Patricia Krus to give a presentation to staff at the University of Aberdeen, updating them on the latest developments with the Trust's research grants schemes. This proved a worthwhile event, stimulating some useful discussion. Further presentations were held at the University of Dundee in August and Edinburgh Napier University in September.

I also had the pleasure of attending one of the June graduation ceremonies at Heriot-Watt University, when I was invited to give the laureation for the award of an Honorary Doctorate to Professor Anne Neville. Professor Neville, now at the University of Leeds, acts as one of our PhD Scholarships Advisers.

Alumni news

We were delighted to see the work of past grant recipients recognised during the year under review. Former PhD Scholar and one of Britain's leading economists, John Kay, accepted the Saltire Society Literary Award for best non-fiction book of 2016 – *Other People's Money: Masters of the Universe or Servants of the People?* (London: Profile Books, 2015). Prof James Hunter (Emeritus, University of the Highlands & Islands) received the Saltire Society Scottish History Book of the Year Award for his study of the Sutherland Clearances – *Set Adrift Upon the World* (Edinburgh: Birlinn, 2016). Finally, Prof Sir Fraser J. Stoddart, Carnegie Centenary Professor at the University of Edinburgh in 2005, was awarded the 2016 Nobel Prize

in Chemistry for his work on the design and synthesis of molecular machines.

Office Developments

In the course of this year Julianne Black left the Trust. Julie had worked as an Administrative Officer for the Trust for nearly 25 years. We wish her well for the future.

A major development this year has been the preparation for the introduction of a new IT system. In the course of 2017/18 we shall be using the Salesforce platform to provide a customer relationship function and as a grant management system. This system offers greatly enhanced functionality when compared to the existing Access database and Excel spreadsheets. An implementation contract has been placed with software consultants Hyphen8.

Taking the new IT system together with the staff departures of the last two years, there was an opportunity to restructure our staffing in the office so as to better match our new requirements. Two new posts were created – a Grants Officer and an Administrator – and in late autumn 2017 Dr John Thompson and Sarah Self were appointed to fill these posts.

Carnegie Medals of Philanthropy

Finally, I can report that in June the list of recipients for the 2017 Carnegie Medals of Philanthropy was announced.

Managed by the Carnegie Corporation of New York in collaboration with the global family of Carnegie organisations, these awards recognise individuals who, through their philanthropic giving, demonstrate the spirit of Andrew Carnegie in the modern world. As a member of the Selection Committee, I had the honour of contributing to the presentations at the ceremony in New York, October 2017.

Professor Andy Walker
Secretary and Treasurer

Activity Report

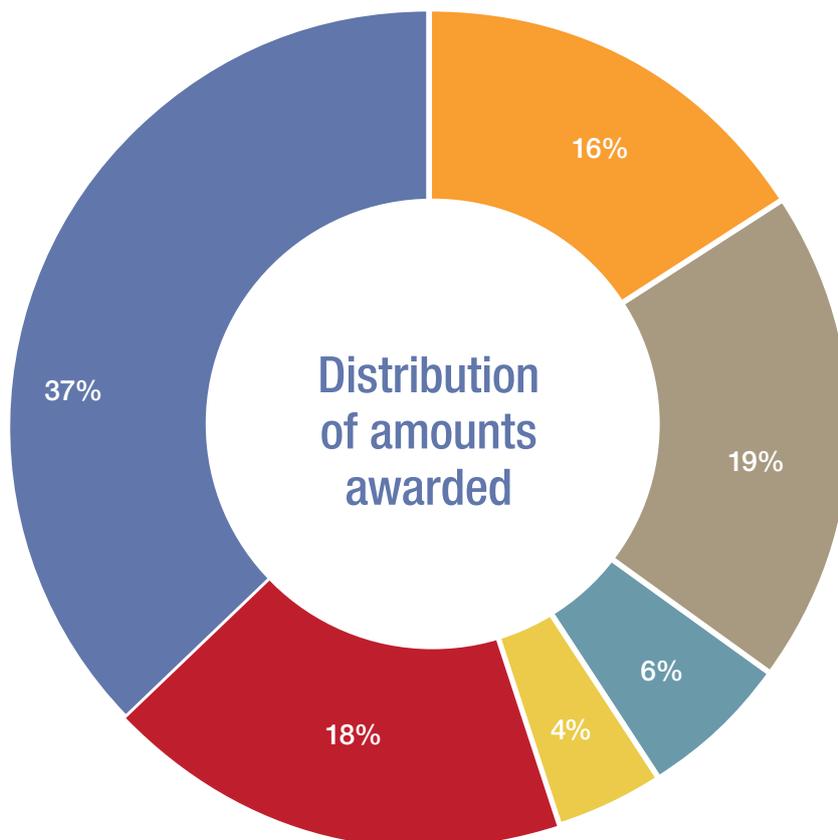
The Trust aims to support the very best students and researchers in the Scottish universities through a portfolio of grants open to undergraduate or postgraduate students and academic staff. The following sections provide an overview of the awards made and report on the progress of existing awards during the financial year under review.

Summary Statistics for 2016-17

637
applications
received

372
awards
made

15
universities
supported



£400,000 Carnegie-Cameron Bursaries
£469,111 Research Incentive grants
£162,107 UG Fee Assistance

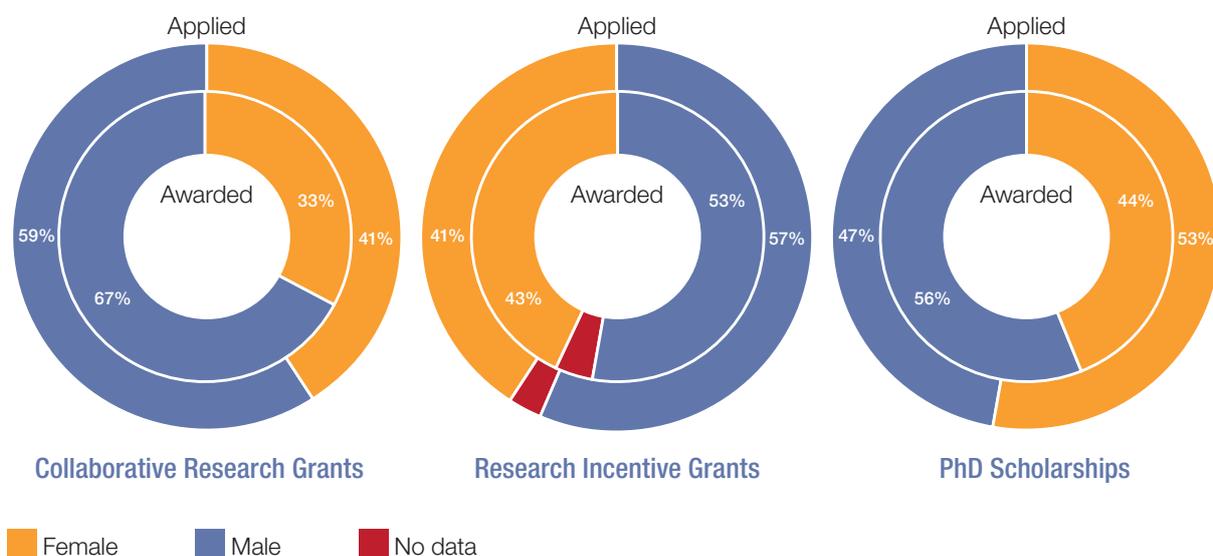
£103,725 Vacation Scholarships
£445,876 Collaborative Research Grants
£933,676 PhD Scholarsips

Applications numbers and success rates

Scheme	Applications received	Awards made	Success rate
Undergraduate Fee Assistance	114	97	85%
Vacation Scholarships	147	79	57%
Carnegie-Cameron Bursaries*	554	97	18%
PhD Scholarships	57	16	28%
Research Incentive Grants	234	74	32%
Collaborative Research Grants	85	9	11%

*Applications for the Carnegie-Cameron Bursaries made directly to the Scottish universities

Gender split of awards in the research funding schemes



Undergraduate Funding

Undergraduate Fee Assistance provides scholarships to students ineligible for government funding due to prior study or residency status. Vacation Scholarships aim to promote and develop research skills and experience in Scotland's undergraduate students.



176
awards
made



Figure 9: Elpis Tomba

Undergraduate Fee Assistance

This year, the number of awards under the Undergraduate Fee Assistance scheme increased slightly with 97 grants awarded to students attending fourteen Scottish universities, up from 81 in the previous year. The highest number of awards was to the University of Strathclyde and the University of the West of Scotland (both 16 awards), followed by Abertay University (13 awards). Of the students funded in 2016-17, 36%

received further support through the Special Supplementary Fund which helps with living and study costs.

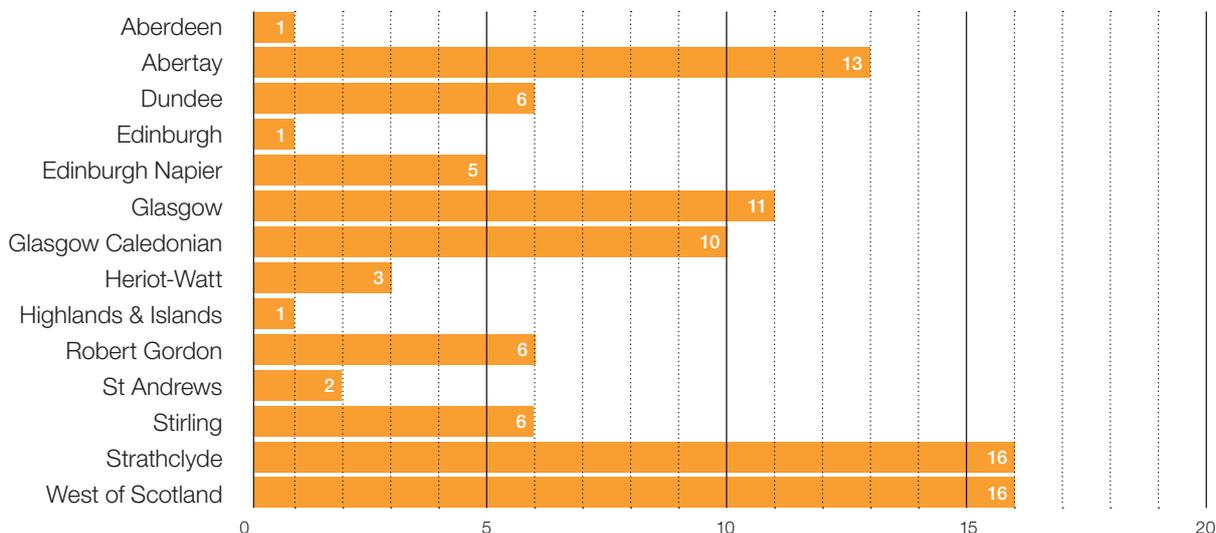
In 2017, thirty-five students previously supported by the Trust, graduated from the following universities: Abertay, Dundee, Edinburgh Napier, Glasgow, Glasgow Caledonian, Highlands & Islands, Queen Margaret, Robert Gordon, Stirling, Strathclyde and West of Scotland.

Key statistics



* This figure is based on the annual income before income tax.

Undergraduate fee assistance by university



35 students graduated in 2017



BASEM SAEDI, UNIVERSITY OF STRATHCLYDE

BEng in Aeromechanical Engineering

Basem, you are one of the first recipients of the Asylum Seeker Scholarships offered by the Carnegie Trust and the University of Strathclyde. Could you tell us a bit more about yourself?

I am from Ahwaz in Iran. I was a human rights activist, campaigning for Arab cultural and human rights. I was imprisoned and tortured for my activities by the Iranian regime. Fearing execution after my release (as happened to my close friend), I embarked on a perilous journey by foot and by boat to the UK. I am now an asylum seeker in Britain. After much hard work, I successfully won a scholarship from the Carnegie Trust to study Aeromechanical Engineering at the University of Strathclyde. I will be forever grateful for your generosity and kindness.



Figure 10: Basem Saedi

How did you become interested in Engineering?

Engineering and design has been my passion from a young age. Back in Iran, I previously graduated as a polymer engineer (University of Omidieh). My course included an overview of engineering analysis and design techniques for synthetic polymers, treatment of materials properties selection, mechanical characterisation, and processing in design of load-bearing and environment-compatible structures. More recently, I have developed an interest in aviation engineering, specifically the mechanics of transport safety.

What are your hopes for the future?

My ambition is to become a leading figure in the aviation industry, designing aircraft and working in Aerospace Engineering. I would like to work for a British engineering firm such as Rolls Royce and I am currently applying for internships in this field. By doing this, I further wish to serve as a source of inspiration and be a leader for my fellow Ahwazi citizens, achieving what they all assumed was impossible.



SANDRA CAMPBELL, UNIVERSITY OF DUNDEE

BDes in Graphic Design, graduated in 2017

A career change from marketing to graphic design led me to apply to the Carnegie Trust for support of my tuition fees from 2014 to 2017. I was lucky enough in 2014 to be accepted to Duncan of Jordanstone College of Art and Design in Dundee for the B(DES)(HONS) Graphic Design course. I have always been interested in art and design but wasn't aware of the kinds of opportunities that were available within the field until a previous job showed me the variety of work that could be completed and the impact graphic design can have on society. I have recently graduated with a 2.1 and a merit from the International Society of Typographic Designers and am currently undertaking freelance graphic design work. I am also applying to Junior Graphic Design roles throughout the UK. The payment of my fees from the Carnegie Trust allowed me to continue to study a subject I am extremely enthusiastic about and without it further training would have been much more difficult.



Figure 13: Sandra Campbell



REINALINE MORALES, ROBERT GORDON UNIVERSITY

MEng in Mechanical Engineering

I was browsing through my university's career website and saw a link to Carnegie Trust's website and I gave it a read through. I thought of giving it a try since I had been looking for scholarships to apply for previously to help me keep up with my educational and personal expenses whilst studying. I have not graduated yet however, as I am on the MEng Mechanical Engineering programme and I still have my master's year to complete. I have achieved a 1st Class Honours during my honours year. I am currently taking a gap year, interning at Baker Hughes, a GE company (formerly known as GE Oil & Gas). I am currently working on projects with respect to developing new technology to implement in oil and gas to decrease down time and maximise productivity.



Figure 11: Reinaline Morales

I decided to apply for MEng Mechanical Engineering whilst at school due to my natural inclination in Physics and Mathematics. I was very keen to learn the fundamentals of mechanical engineering and mechanical engineering design so I can contribute to solve the world's toughest challenges involving the ever increasing demand in energy. I want to take this opportunity to thank Carnegie Trust for helping me with my journey to be a Mechanical Engineer!



JOHN MCFARLANE, ROBERT GORDON UNIVERSITY

LLB in Law, graduated in 2017

Having only attended 1 year of a music degree at university before having to withdraw for personal reasons, I always felt I had missed out the chance of meaningful self-development. By the time the circumstances changed, I was no longer able to commit to attending at university in the traditional sense. I then found a programme offered by Robert Gordon University that would allow me the flexibility to study when it suited me, unfortunately this fell short of the SAAS criteria and I would have to self-fund.



Figure 12: John McFarlane

In researching funding, I came across the Carnegie Trust and saw the wealth of support they were providing students across a diverse range of study areas. Having previously studied music privately, I decided to commit to the study of law – a topic I had keen interest in and an education that is relevant to everyday life.

4 years later and I have my LLB. It was a thoroughly rewarding experience and I genuinely couldn't have achieved it without the support of the Carnegie Trust. Now that I have achieved a goal that I've had for over 10 years, I am about to progress to a masters course to continue to push myself and develop further. I can't thank Carnegie Trust enough!

Vacation Scholarships

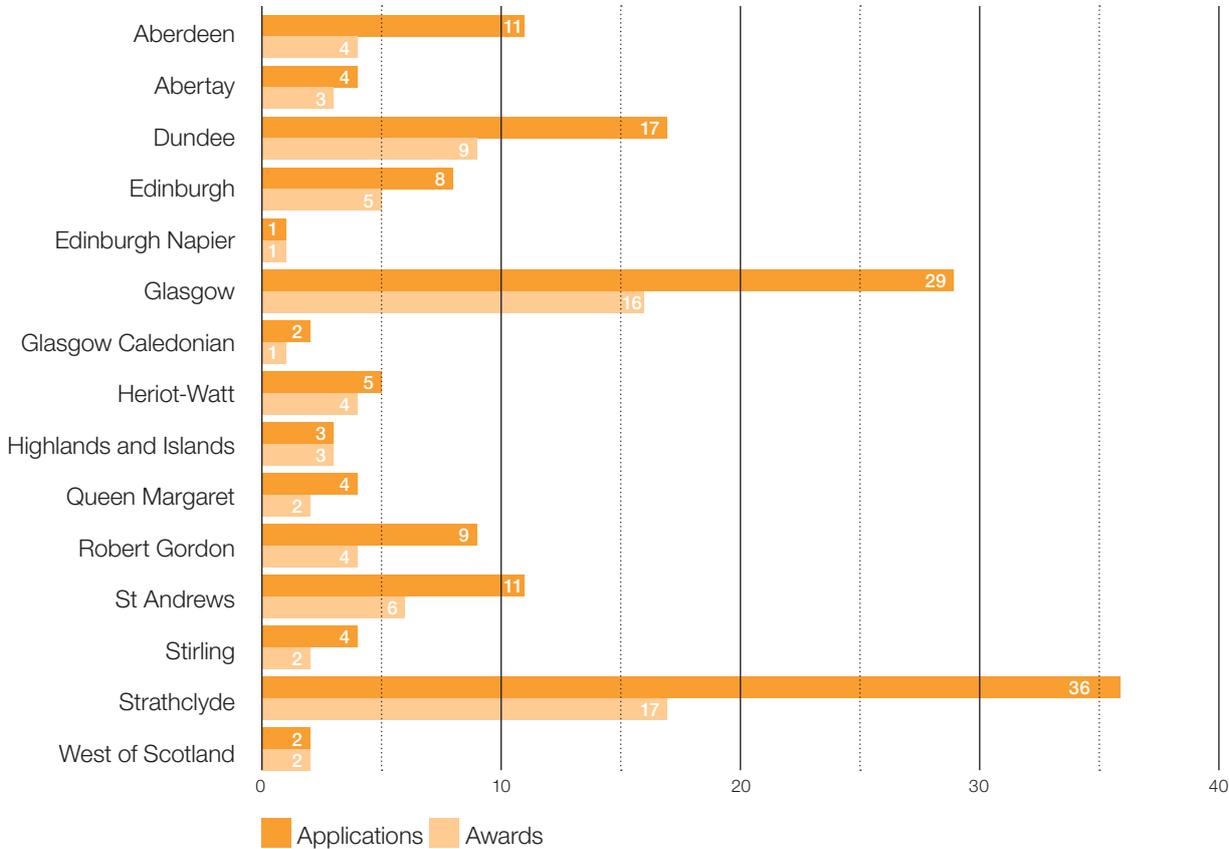
Vacation Scholarships encourage students to gain research experience in the long summer vacation before their final year of study. For the 2016-17 round of funding, the overall success

rate for this scheme was 57%, a rise of 9% from the previous year. The majority of applicants and award holders (47%) were students studying a subject in Science, Engineering and Technology.

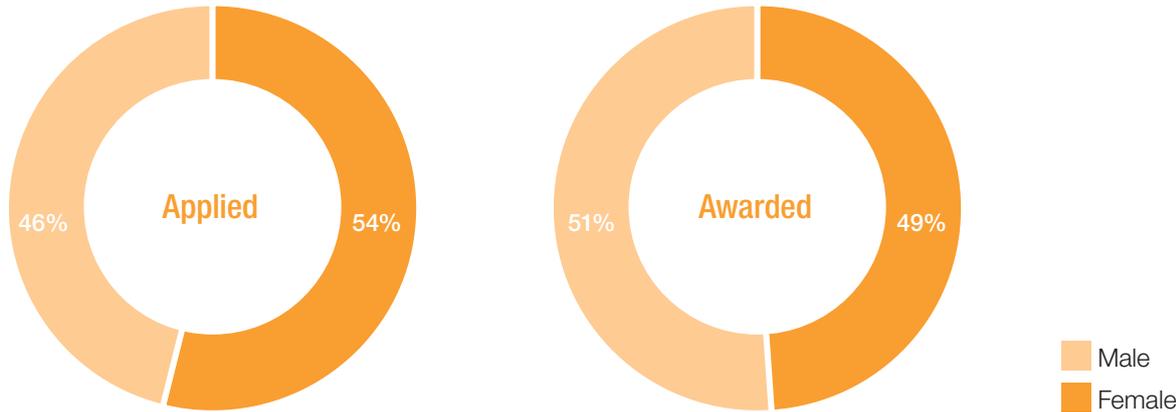
Key statistics

145 applications received **70** awards made **48%** success rate **15** universities supported

Vacation Scholarships by university



Gender balance of Vacation Scholarships





SUSAN GRAY, QUEEN MARGARET UNIVERSITY

The Lived Experiences of Parents with Children on the Autistic Spectrum in Lanarkshire

As an advocate of neurodiversity, I believe that further action must be taken to ensure that society does not only have a stronger understanding of what autism is, but also an awareness of how it impacts the lives of families. Therefore, my scholarship project was based upon a Photovoice research design, which offered a small group of parents of autistic children the opportunity to take photographs of places, spaces and objects, which illustrated their own lived experiences. I'm now currently in the process of arranging an exhibition, so that these photographs can be displayed to an invited audience of community members and policy makers. I am lucky enough to have had both personal and professional experiences with some wonderful autistic individuals, I felt my academic knowledge of autism was somewhat limited and this would still be the case if I hadn't convinced myself to apply for the Vacation Scholarship with The Carnegie Trust. To be able to conduct a research project, which has brought meaning to the experiences of inspiring individuals from within my own home community has been an invaluable experience. I'm certain that this process has also been beneficial in preparing me – both mentally and academically – for my upcoming dissertation project!



Figure 14: Susan Gray



FERGUS HALL, UNIVERSITY OF GLASGOW

A Study of Choral, Jazz and Scottish Traditional Music for Contemporary Composition

My Vacation Scholarship allowed me to carry out a study of jazz, choral and Scottish traditional music for contemporary composition. Having explored the musical intersections that exist between jazz and Scottish traditional music while writing my undergraduate dissertation, I wanted to explore how such sounds might be combined with choral music to create a work that was expressive and influenced by Scottish musical tradition while also being an exciting contemporary work influenced by jazz.

In order to do this I spent two weeks studying existing examples of choral music being combined with jazz or Scottish traditional music. This was then followed by two weeks of composing a multi-movement work for choir and jazz rhythm section which would combine traditional choral writing with jazz based improvisation.

The scholarship gave me a real insight into the working composer's process of full-time research based composition. I was able to combine my two enthusiasms for academic musicological research and practical composition. It was an intense experience but I developed significantly over the course of my four week project.



Figure 15: Fergus Hall

Postgraduate Funding

Carnegie-Cameron Bursaries enable students to enhance their employability and develop specialist skills by undertaking a Postgraduate Masters. The prestigious Carnegie PhD Scholarships support a limited number of graduates, who wish to pursue doctoral research at a university in Scotland.



**113
awards
made**



Figure 16: Fraser Logan

Carnegie-Cameron Bursaries

The Carnegie-Cameron Postgraduate Bursaries, introduced in 2008-09, provide fee assistance for Scottish students, or those who have studied in Scotland for at least three years, to undertake a one-year postgraduate degree course at a Scottish

university. Each university is allocated a number of Bursaries proportional to the total number of their UK domiciled postgraduate (taught) students. The universities award these Bursaries, informing the Trust when allocation decisions have been made.

Key statistics

100
bursaries
allocated

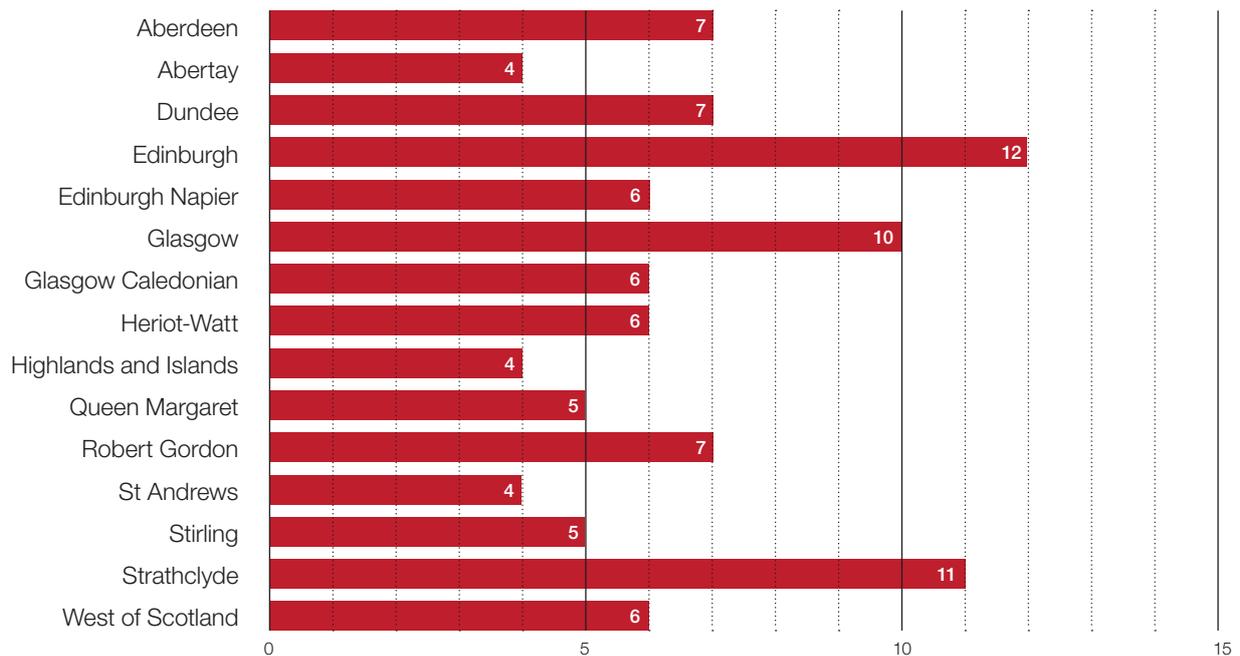
64%
of recipients
female

18%
overall
success rate

53%
of awards in the Arts &
Humanities or Social Sciences

Each university was allocated the following number of bursaries from the Trust:

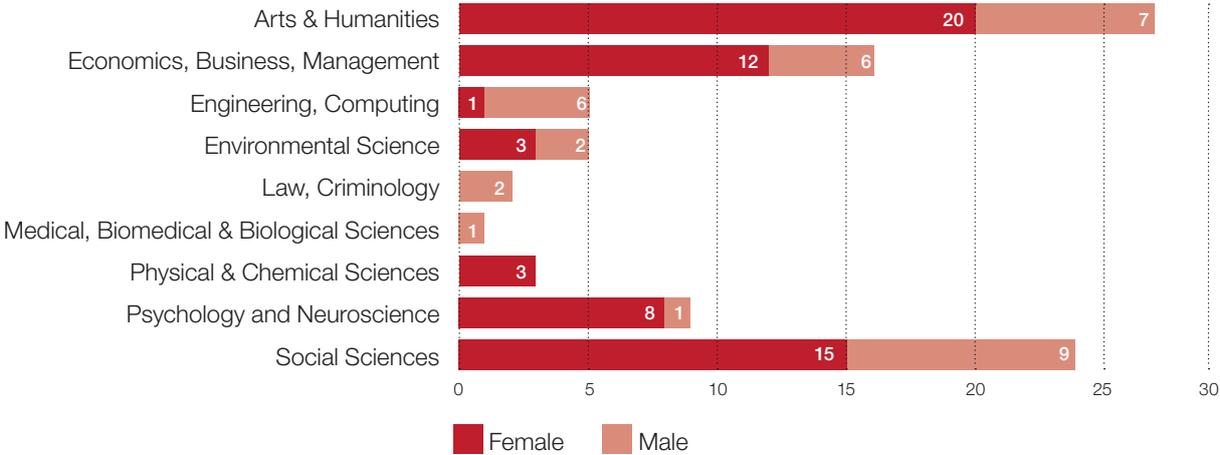
Allocation of Carnegie-Cameron Bursaries by university



Among the 97 recipients of the bursaries taken up, the majority are female (64% of the awards overall), although the gender balance depends on the subject area. The highest number of awards was made to

students enrolled on programmes in the Arts & Humanities with 27 bursaries in this category, followed by 21 awards in Social Sciences and 18 in Economics, Business or Management.

Gender and discipline balance – awarded Carnegie-Cameron Bursaries



LYDIA MOORE, QUEEN MARGARET UNIVERSITY

MSc in Global Health

Whilst I explored my interest in human biology at undergraduate level, I found my true calling in the humanitarian and development world – hence my desire to undertake an MSc in Global Health. Given my personal situation, this would not have been possible without the assistance afforded to me by the Carnegie Trust. The financial burden of study relieved, I was able to develop my professional experience by organising a fundraising conference for charity with speakers from Sage, Microsoft and UNICEF. The funding also afforded me the opportunity to do my dissertation research overseas in the Democratic Republic of Congo and participate in the Erasmus scheme open to students on my course. After my degree, I have been offered an internship position at the United Nations Regional Information Centre in Brussels, Belgium and I will be mentoring the Sustainable Development Goal 3 group at World Merit 360 for this cycle of volunteers. The Carnegie-Cameron bursary gave me the boost of funding and confidence which allowed the beginning of my career to skyrocket. Thank you!



Figure 17: Lydia Moore



LARISSA KENNEL, UNIVERSITY OF DUNDEE

MSc in Forensic Anthropology

I am extremely grateful for the funding I received from the Carnegie Trust for the academic year 2016-2017, and the scholarship contributed to my tuition fees for the MSc Forensic Anthropology degree at the University of Dundee. My desire to study forensic anthropology is based on my altruistic nature; I feel that my life and work can only be meaningful when I help others, and I am strongly motivated to put my effort into the privilege of higher education to make a difference. After I graduate I will start a part-time teaching and part-time PhD position at the University of St. Andrews medical school, including joint supervision with the Centre for Anatomy and Human Identification at the University of Dundee. I trust that my drive and academic competencies will allow me to acquire the professional abilities necessary to work towards positive change. I aim to provide my skills on the national and international forensic front in disaster victim identification and war crime settings to protect and support those that are unable to stand up for their own rights.



Figure 18: Larissa Kennel



DAVID LAN-PAK-KEE, UNIVERSITY OF ABERDEEN

MSc in Petroleum GeoScience

I chose to study the Integrated Petroleum GeoScience MSc, as I wanted to develop my understanding of the hydrocarbon exploration industry, learn the technical skills needed for a career in this field, and to prove to myself that I could complete such an intensive course of study.

Receiving funding from the Carnegie-Cameron postgraduate masters bursary allowed me to accept my place on the highly competitive MSc course, and focus on my studies – rather than worrying about the financial burdens of postgraduate study. Highlights of my course were fieldtrips to Sicilian salt mines, and to the spectacular Book cliffs in Utah. I also managed to secure an industry research project with Halliburton Landmark, looking at how spatial and temporal differences in sediment provenance effect Cretaceous reservoir potential in the Alaskan foreland basin, with my results showing important implications for future exploration on the Alaskan north slope.

After graduation, I'd like to work as a geoscientist in the UK or abroad, where I hope to be involved with finding new oil and gas plays around the world.



Figure 19: David Lan-Pak-Kee on Ben Ledi



JULIE RISKO, UNIVERSITY OF THE HIGHLANDS AND ISLANDS

MLitt in Viking Studies

During the 2016-17 academic year, I have been privileged to be the recipient of a 'Carnegie-Cameron Taught Postgraduate Bursary'. Prior to 2016 I had completed a degree after returning to education as a mature student, in order to pursue a long held passion for history and archaeology. Having rediscovered this passion for learning, the Carnegie-Cameron bursary allowed me to continue my studies and gain a MLitt in Viking Studies at the University of the Highlands and Islands. The funding has given me a wonderful opportunity, one which I would otherwise not have had, to expand my research and knowledge and to hopefully make a lifelong contribution to the field. Ultimately my studies have led to employment in the heritage field with Historic Environment Scotland. I am eternally appreciative of the Carnegie Trust for their belief and support as without them I would not have achieved my chosen career.



Figure 20: Julie Risko at Orphir Norse Settlement, Orkney



FRASER LOGAN, UNIVERSITY OF ST ANDREWS

MLitt in International Political Theory

The Carnegie-Cameron Bursary funded my MLitt in international political theory at the University of St Andrews. During this time I studied the major political theorists, including Hannah Arendt and Jean-Jacques Rousseau, paying particular attention to their (increasing) relevance in global affairs. With the bursary, I was fortunate enough to achieve a first-class standard in coursework from one of the world's leading institutions in my field; and, for my thesis, to research the liberal-egalitarian domestication of Friedrich Nietzsche's elitism. In this research, I argued that cultures which engage with alternative perspectives are healthier than those which seek to tame, distort and domesticate. Now that my studies are over, I plan to publish my thesis and, more optimistically, various short-stories which present the same argument in prose.



Figure 21: Fraser Logan

PhD Scholarships

As in the previous year, the total number of applications was limited to 60 with the quota of nominations per university calculated on the basis of the number of PhD degrees awarded by each Scottish university over a period of 5 years up to 2012-13, using *the UKPIs: Research output (table R1)* published by the Higher Education Statistics Agency. Each university is allowed 2 nominations by default, plus a percentage of the remaining 30 places.

In March 2017, the Trust received 57 nominations. Following a review of the nominations, a selection panel was convened, comprising Professor Dame Sue Black

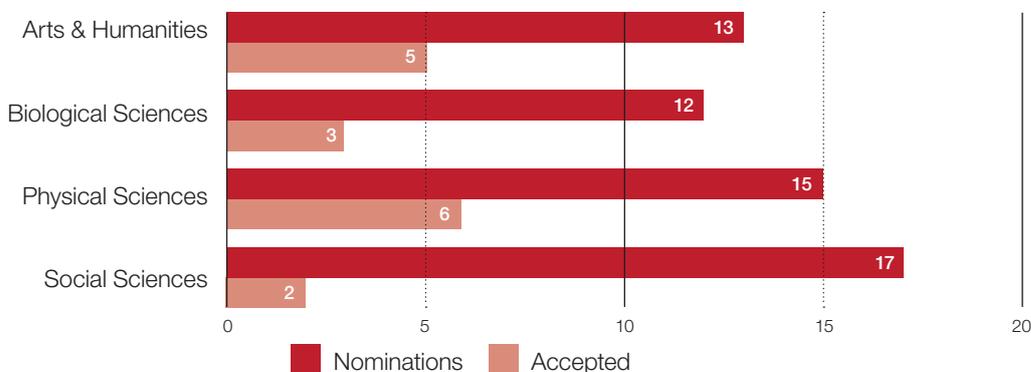
(University of Dundee), Professor Robert Donovan (University of Edinburgh), Professor Jan MacDonald (University of Glasgow), Professor Paul Hagan (Robert Gordon University), Professor Claire Wallace (University of Aberdeen), Professor Mary Orr (University of St Andrews), Professor John Roulston (CEO, Scimus Solutions Ltd), Professor Holger Nehring (University of Stirling) and Professor Andrew Walker (CTUS and Heriot-Watt University).

A total of 16 awards were agreed, with a reserve list to fill any offers of scholarships declined by nominees.

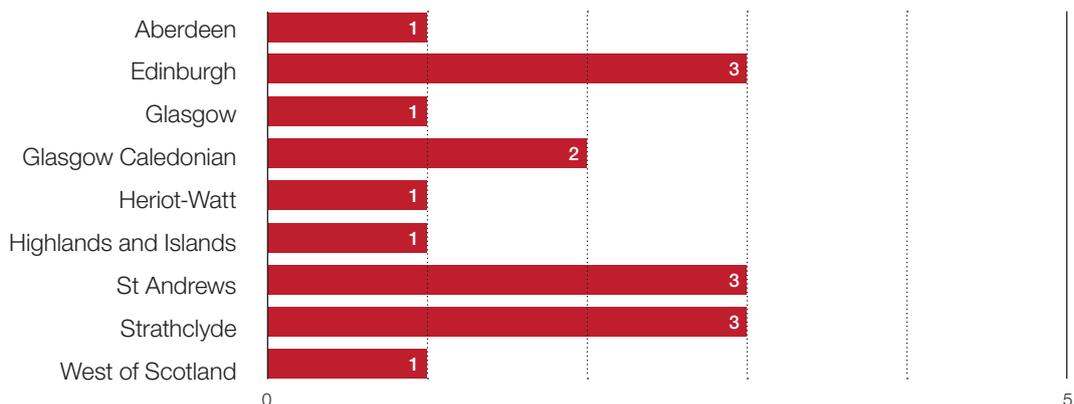
Key statistics



Field of research of PhD awards



PhD scholarship awards by university



The highest numbers of awards were in the Physical Sciences followed by Arts and Humanities.

Profiles of New Scholars



STUART FLANNIGAN, PHYSICS, UNIVERSITY OF STRATHCLYDE

Project Title: Designing Electron Transport in Nanoelectronics with Quantum Simulators

My PhD research focuses on computationally and theoretically investigating the fundamental physics of electron conduction for future nano-electronic devices. Understanding the quantum mechanical properties of electron dynamics is becoming an ever increasing necessity as our technological capabilities progress and our electronics shrink towards the nano-scale. Now, with recent improvements in experimental techniques it is possible to create an artificial crystal structure using lasers. And by confining ultra-cold atoms in this crystal structure we can experimentally simulate the behaviour of real materials with the atoms now playing the role of the electrons. These systems allow for the parameters of the crystal to be continuously varied throughout the experiment – a feat not possible using a conventionally grown material. I will tune my theoretical analysis towards an experimental realisation with these quantum simulators, and will attempt to predict interesting consequences of certain crystal structures, define optimal experimental regimes in which to observe these effects and propose potential applications for nano-electronic devices.



Figure 22: Stuart Flannigan



GERGANA DASKALOVA, GEOSCIENCES, UNIVERSITY OF EDINBURGH

Project Title: Attributing Biodiversity Change to Global Change Drivers

My research project aims to quantify the effects of land use change on global and local patterns of species richness, abundance and composition, and develop an innovative computational framework to facilitate answering fundamental questions in ecology using big data and global synthesis of long-term observations. In particular, I will investigate whether: 1) changes in species richness, abundance and composition can be attributed to land use change over recent decades, 2) land intensification and land abandonment are both causing species homogenisation, and 3) biodiversity change processes are more pronounced in areas of high land use change rates. Understanding how global change drivers, such as land intensification and abandonment, are influencing ecosystems around the world is vital for facilitating international policy regulations to inform conservation measures and safeguard ecosystem functionality.



Figure 23: Gergana Daskalova



**EWAN HANNAFORD, ENGLISH LANGUAGE & LINGUISTICS,
UNIVERSITY OF GLASGOW**

Project Title: Questioning the Mental/Physical Health Divide: A Corpus Linguistic Analysis of Press Coverage

Having graduated from the University of Glasgow in 2016, I decided to continue my studies and I am currently completing an MPhil, investigating UK newspaper coverage of mental illness. My PhD project develops and broadens this line of research, investigating press coverage of a variety of physical and mental health conditions, in the UK and US. Whilst previously mental illness was seen as distinct from physical illness, the division between physical and mental health conditions is now recognised as largely unhelpful and inaccurate by medical experts. However, amongst the general public, mental illness remains highly stigmatised and is treated as distinct from physical illness. Media representations have been shown to significantly influence public perceptions and the prevalence of stigmas, and differences in media coverage of different illnesses may therefore be contributing to the persistence of a societal distinction between ‘physical’ and ‘mental’ illness. This study will identify areas of concern in press health coverage, enabling the development of stigma-reduction proposals.



Figure 24: Ewan Hannaford



**STEVEN WORTH, ARCHAEOLOGY, UNIVERSITY OF THE HIGHLANDS
AND ISLANDS**

Project Title: Upon the Margins: Why did many Post-Improvement Farms in the Scottish Highlands Prove Unsustainable?

I am a mature individual with youthful enthusiasm for History and Archaeology and have lived in north east Scotland for 25yrs. On leaving the RAF I decided to follow a lifelong interest and started an Honours degree in Archaeology through the UHI graduating with first class honours and winning two awards for my dissertation, in 2015.

I became increasingly interested in the agricultural revolution of the 18th and 19th centuries, which swept away communal farming methods and transformed the landscape of Scotland into the individual farms, with regular shaped fields, that we see today. During the Improvement period many new farms pushed onto the marginal lands of the Highlands. Today, however, across the Highlands many of these farms stand in ruins, next to those of the townships and shielings they replaced. Using a cross discipline approach my research will investigate sustainability of Highland farming during this period. I will examine a number of abandoned and decaying farms across north east Scotland, using archaeological landscape, survey techniques and soil analysis with historical archival research, assessing why so many new farms proved unsustainable.



Figure 25: Steven Worth

Profiles of Continuing Scholars

A total of 42 scholars were continuing their studies during the year under review, many of whom have been taking part in field work, publishing their research findings, presenting at international conferences or participating in public engagement activities.



KRISTIN LUND, PHYSICS AND ASTRONOMY, UNIVERSITY OF ST ANDREWS

My name is Kristin Lund and my research looks at how stars form on a galactic scale, specifically, in spiral galaxies like our Milky Way. One of the main influences on galactic scale star formation theory is feedback from high-mass stars. High-mass stars are objects with massive impact, both on small and large scales. Through their lifetime, and at the end of it, they inject energy into their surroundings and spread heavy elements, affecting both the dynamical and chemical evolution of the galaxy. There is general agreement on the significance of high-mass stars and they are widely studied, but how they are formed is still up for debate. Formation theories currently include accretion, stellar mergers and combinations of these. The focus of my project this past year has been accretion as a way of creating the most massive stars, specifically, accretion onto binary star systems in the presence of magnetic fields and accretion onto stars after they begin to emit ionising radiation.



Figure 26: Kristin Lund



NICOLA JOHN, ART HISTORY, UNIVERSITY OF ST ANDREWS

My research explores the role of pre-colonial objects and motifs in Southeast Asian painting. Focusing on Indonesia and the Philippines during the late 19th and early 20th century, I am investigating the significance of these elements in the development of consciously localized visual languages which consciously assert the artists' non-Western identity while also engaging actively with contemporary trends in Euro-American art.

I also consider the importance of colonial influence, particularly in the fields of archaeology, ethnography, art education and museology, in fostering the conditions under which these works were created. In studying the use of vernacular motifs comparatively across different colonial contexts, I seek to understand the impact of differing approaches to the documentation and administration of the region on the way artists trained within these various systems came to understand their own position in relation to both local visual tradition and Western art.



Figure 27: Nicola John



AILSAL QUIRIE, GEOLOGY, UNIVERSITY OF ABERDEEN

My doctoral research focusses on the geology of the Rattray and Ron volcanics, two sequences of volcanic rocks buried to 2-5km depth beneath the seabed of the North Sea. The volcanics have been drilled during hydrocarbon exploration but limited work has been carried out on the Rattray and Ron compared to the more prospective intervals of the North Sea stratigraphy. Recent hydrocarbon discoveries in volcanic sequences in the Faroe-Shetland Basin has emphasised the importance of studying volcanic rocks in the subsurface.

I am using data gathered from well penetrations and seismic surveys to map out the Rattray and Ron volcanics in three dimensions and investigate the sequences in more detail. The volcanic piles reach up to 1.5km thick, and yet until now have only been considered as two units with no internal subdivision. I am studying the different types of volcanic rocks – or ‘facies’ – to investigate the timing and nature of the volcanic eruptions that emplaced the Rattray and Ron. Reviewing the varying proportions of volcanic facies will enable the creation of a more detailed stratigraphy of the volcanic sequences, with different eruptive phases and hiatuses being manifested in the changing nature of the volcanic rocks. The eruption of the Rattray and Ron volcanics is linked to the opening of the North Sea, and a detailed investigation into the volcanism will allow for a more complete geological history of this important basin.



Figure 28: Ailsa Quirie at Mount Ngauruhoe in New Zealand



COLIN REILLY, ENGLISH LANGUAGE, UNIVERSITY OF GLASGOW

In 2014, a new English-only language-in-education policy was announced in Malawi. There is now increased debate around the appropriateness of English versus Malawian languages for use in education. My research highlights and analyses the ways in which these languages co-exist within higher education.

My project is a linguistic ethnography and during my fieldwork I conducted interviews, focus groups, and classroom observations, through which I am able to collect evidence of attitudes towards language policy and language practice amongst students and staff members in universities.

As in the country itself, in my data there is a wide range of attitudes towards different languages. My findings so far suggest that, while there is an overwhelmingly positive attitude towards the use of English in universities, it is also highly common for students and staff to use their multilingual linguistic repertoire for social and pedagogical reasons in university. I have found that Malawian universities are, in practice, multilingual environments. Crucially, key stakeholders in Malawian universities are not opposed to a policy which embraces more than one language.



Figure 29: Colin Reilly



HEATHER BRANIGAN AND MARGARITA KANEVSKI

Heather and Margarita are both working on PhDs in Education, at the Universities of Stirling and Edinburgh respectively

Heather, you recently received funding from the Scottish Developmental Psychology Network for Graduates (ScotDPN) to develop a collaboration with fellow Carnegie Scholar Margarita Kanevski. What motivated you to apply?

Margarita and I met at a networking and knowledge exchange event hosted by ScotDPN in September 2017. We quickly realised that we had similar research interests and had discussed the possibility of us collaborating together. When we saw that ScotDPN were supporting collaborations through awards to support research exchange visits, we saw this as an excellent opportunity to meet again, to find out more about each other’s host institutions, and to work on a collaborative piece of writing.

What were the key benefits of this scheme and how did the visit contribute to your PhD studies?

The grant supported our collaboration by providing funding for us to visit each other’s host institution. The grant provided an opportunity for us to dedicate time to discussing our research areas and the ways that they fit together. Together, Margarita and I wrote a blog post that has been published on the Learning Scientists blog. This article describes our research areas of metacognition and executive functioning in relation to classroom practices. For me, one of the greatest advantages of this collaboration has been in developing my understanding of my own PhD research through discussing and debating the theoretical connections between our own specific research areas.



Figure 30: Heather Branigan and Margarita Kanevski



LOU DEAR, MODERN LANGUAGES & CULTURES, UNIVERSITY OF GLASGOW

Lou, during your PhD you received funding from the Principal’s Early Career Mobility Scheme to visit the University of Sydney in Australia. What motivated you to apply?

I wanted to take the opportunity to connect with researchers, and every day people living, working and resisting settler colonialism and its impact in the present.

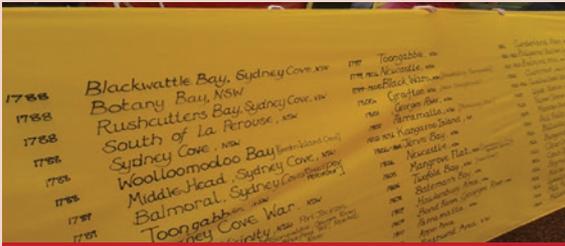


Figure 31: Lou Dear’s visit to Balmoral, Sydney Cove

What were the key benefits of this scheme and how did the visit contribute to your PhD studies?

I learned a great deal on my trip and made connections which will last a lifetime. It was also very important for me to visit the Aboriginal Tent Embassy in Canberra and to participate in an Anzac Day demonstration. This was partly to recognise and commemorate the genocide of aboriginal peoples that occurred as a result of settler colonialism in Australia alongside peoples who lost their lives in European wars.

Viva Voces and Graduations

Of the scholars in post in 2016-17, 9 graduated. Among the scholars who completed their degrees in 2016-17, Dr David Miles graduated from the University of St Andrews in June 2017 with a thesis entitled *Notions of Identity in American and German Constitutionalism*.

Dr Kenneth Goudie also graduated from the University of St Andrews with a thesis on *Holy War in Islamic and Christian Eschatology*. Since his graduation Kenneth has taken up a position as postdoctoral researcher in Arabic historiography at Ghent University, working on the project “The Mamlukisation of the Mamluk Sultanate, II: Historiography, Political Order and State Formation in 15th-Century Egypt and Syria.”

Dr Sean Murphy graduated from the University of St Andrews with a thesis on *Lowland Scottish Language, Imperial Identities and the Scottish Diaspora*. Since June of 2017, Sean has been working as an Associate Lecturer in History at the University of St Andrews, as well as assuming the role of Academic Support Officer for the School. He is also teaching at St Andrews on the undergraduate Modern History degree course, MO1008, ‘Themes in Late Modern History 1776-2001,’ as well



Figure 32: Dr David Miles



Figure 33: Dr Joseph Dewhurst

as teaching English for Academic Purposes at International College Dundee, a pathways program affiliated with the University of Dundee.

Dr Penelope Barter graduated (in absentia) from the University of St Andrews in June 2017. Penelope currently works as Assistant Professor of Biblical Studies and Biblical Hebrew at Tilburg University in the Netherlands, and will shortly be submitting her monograph *Ezekiel 20 and the Composition of the Torah* (a revised version of the PhD thesis kindly funded by the Carnegie Trust) for consideration for publication.

Dr Fiona Clubb graduated from the University of Edinburgh in 2017 with a thesis entitled *Investigating Geomorphological process domain transitions using high resolution topographic data*. Fiona is currently completing a 2 year post-doctoral fellowship at the University of Potsdam, Germany on a project of *Fusion of high-resolution point cloud and spectral data for deriving topographic metrics*.

Dr Joseph Dewhurst also graduated from the University of Edinburgh in July 2017 with a thesis entitled *Folk psychology embodies and extended*. Joseph is currently working as a Teaching Assistant in Philosophy at the University of Edinburgh, until the end of August. He will then become a Junior Fellow at the Ruhr-Universität Bochum, Germany in the summer of 2018.

Interviews with Recent PhD Alumni



DR GILL MURRAY-DICKSON, RZSS EDINBURGH ZOO

Dr Gill Murray-Dickson was a Carnegie Scholar 2007-10 at the University of Aberdeen and is now a RZSS Conservation Geneticist

Gill, can you tell us a little more about your role?

I am a conservation geneticist working at the Royal Zoological Society of Scotland's WildGenes laboratory. I use genetic and genomic tools to help inform conservation management which may include answering questions about individual ID, hybrid status, relatedness, parentage, geographic origin, population diversity, or taxonomic distinction.



Figure 34: Dr Gill Murray-Dickson

How does it relate to your PhD research?

My PhD research used evolutionary and population genetic theory to understand the distribution of contemporary genetic diversity in the palmate newt. My research and work now involves the use of similar genetic theories to assess the status of and inform management (both captive and in situ) of species that have been flagged as priorities for conservation action. This includes many endangered and susceptible populations/species both in the UK and overseas.

How can genetic tools help conservation management and address illegal wildlife trade?

Conservation of endangered species frequently involves the management of small and fragmented populations and the genetic problems associated with them. Genetic data can be used to manage both individuals and populations so as to maximise the persistence of populations and the evolutionary potential of a species. Similarly, when genetic data is used to confirm species ID or geographic origin, assessments can be made as to whether the animal (or part) has been traded illegally. DNA tools are particularly useful for both monitoring and enforcement as they can be applied to samples that maybe otherwise unidentifiable (e.g. when no morphological characteristics remain).

If you could go back in time to the start of your PhD, what would you tell your younger self?

Careful and strategic planning of sampling and laboratory analysis to meet the aims of clearly defined questions can save a lot of time later. Even if it means re-thinking your whole strategy. Recognise the limitations of the methods that you are using and don't be fearful of negative results. It is better to know what a method is NOT capable of as it provides a clue to the direction that new methods and development should take (so limitations are positive rather than negative bits of information!).



DR JENNIFER CADMAN, TERRENCE HIGGINS TRUST

Dr Jennifer Cadman was a Carnegie Scholar 2008-11 at the University of St Andrews and is now a Service & Business Development Manager

What does your role with the Terrence Higgins Trust entail?

I am responsible for service development and cross-sector research. I work within a small team responsible for securing statutory income and implementing new services.

Our services are informed by cultural, societal and behavioural shifts, wider academic/medical/third-sector research and make use of emergent technologies to deliver the greatest service-user impact in the most effective manner. I greatly enjoy being a line manager and I find that fostering development is very rewarding. Given my research background, I am also involved in cross-organisation research, and find opportunities to shape organisational strategy and development through my involvement in operational projects highly rewarding.

Recent highlights include: leading on a number of strategically important projects, being awarded 'Staff Member of the Week' and attending the House of Lords World AIDS Day Receptions. Having completed a third-sector management development programme, I am honoured to be an assessor for the third-sector graduate management programme Charityworks and next year I will become a Charityworks mentor for graduates embarking on a career in the third-sector.

How did your PhD prepare you for your current role?

I believe that undertaking a PhD is a life-changing experience, one which imbues young researchers with a variety of skills that are invaluable across a broad spectrum of roles, fields and industries. Research has continued to be an important aspect of my working life. More broadly, I think that my PhD experience fostered an ability to focus on both the 'big picture' as well as the small nuanced details and developed my project-management, critical thinking, analytical and problem-solving skills. The attention to detail, intellectual curiosity, and analytical skills fostered through my doctoral research have helped me excel throughout these earlier stages of my career. Furthermore, I've been able to put my research skills to good use in a voluntary capacity, completing sector-based research for another charity that I am involved with, Cardiac Risk in the Young. Through a combination of my doctoral research, my voluntary commitments and my role at THT, I was delighted to be elected as a FRSA this year.

If you could go back in time to the start of your PhD, what would you tell your younger self?

It was a real privilege to be able to be part of such a stimulating and supportive research community, both at my alma mater, the University of St Andrews, and across the wider world of academics specialising in Hispanic, Exile and women's writing studies. However, I think that during the course of your PhD it is very easy to fixate on "the PhD" and "the viva". If I could give my younger self some advice it would be to: allow yourself the time to look beyond your own field; enjoy the day-to-day experience of undertaking a PhD more; appreciate having the time to devote to a project and the rewarding nature of research and teaching.



Figure 35: Dr Jennifer Cadman

Research Funding

Three highly competitive schemes support research through:

- Research Incentive Grants, for small scale projects,
- Collaborative Research Grants for joint interdisciplinary projects involving different Scottish universities, and
- Centenary Professorships for visits from overseas academics of the highest standing to Scotland.



83
awards
made

Figure 36: Professor Hayden Lorimer, Kilmahew-St. Peters, Argyll & Bute

Research Incentive Grants

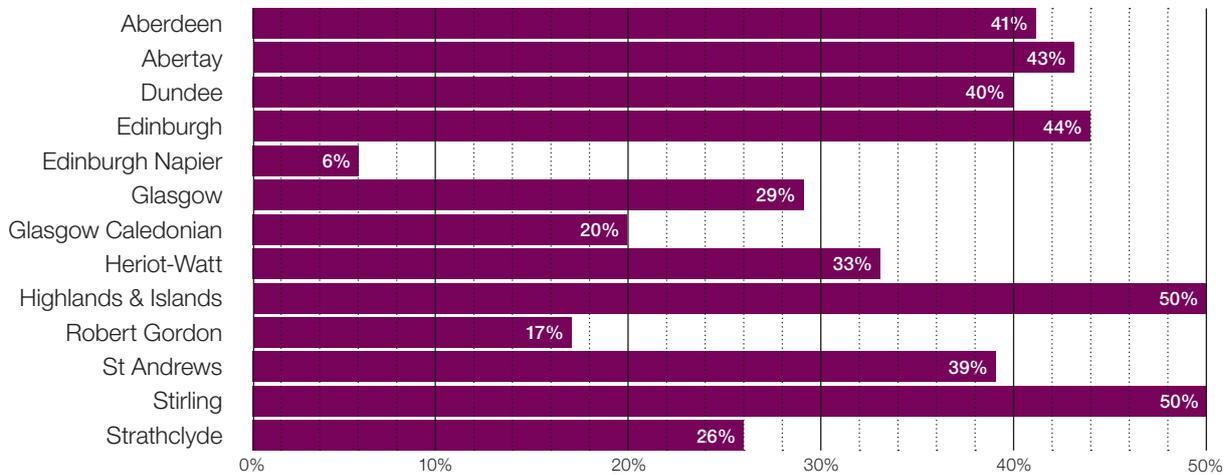
Following the successful launch of the Research Incentive Grants in 2014, the scheme continues to attract high quality proposals from all the Scottish universities. Projects are now assessed by peer reviewers recruited

across the Scottish academic community and beyond. Over six hundred academics are now registered as Carnegie Research Assessors with additional individuals recruited for specific proposals on an ad hoc basis.

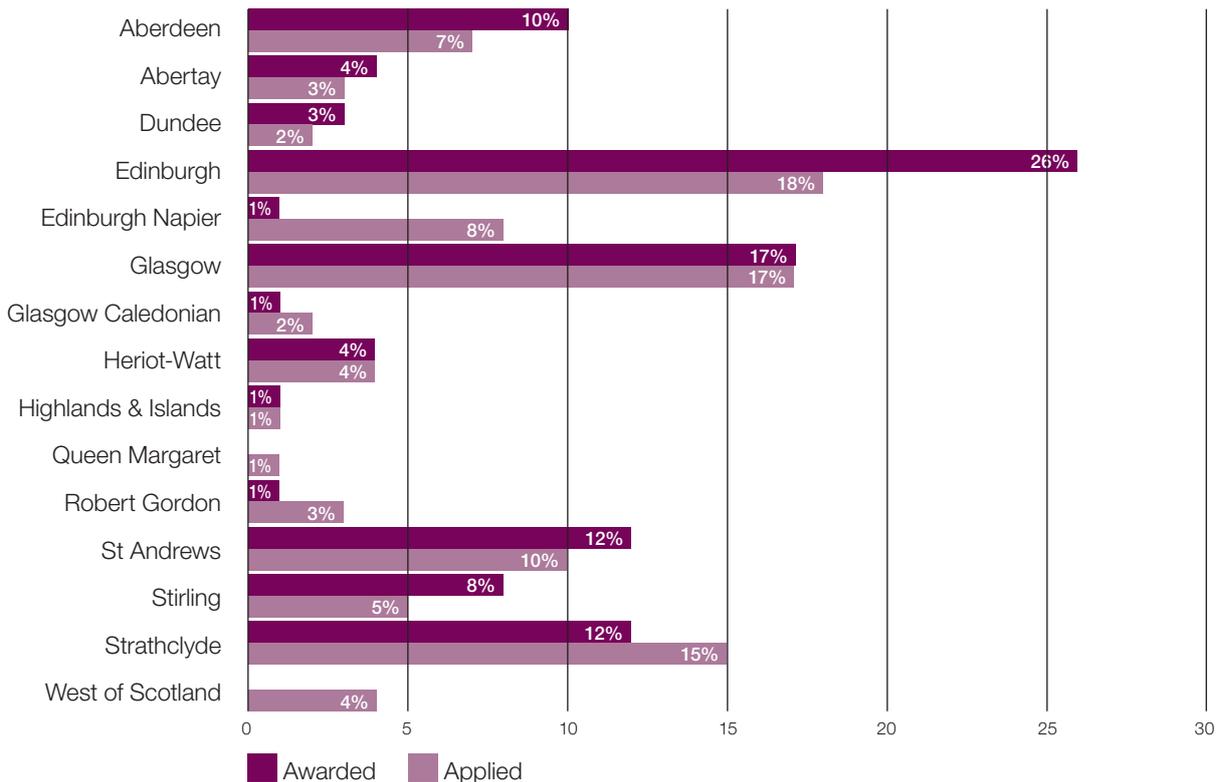
Key statistics



Research Incentive Grants – Success Rate by university



Rate of applications and awards by university



Highlighted Projects from 2016-17



DR JED LONG, GEOINFORMATICS, UNIVERSITY OF ST ANDREWS

Project Title: Conflict and Coexistence in the Scottish Uplands: Quantifying Human Disturbance of Red Deer

Red deer populations are actively managed through stalking and other control activities, and where land is under private tenancy conflicts can arise between land owners and recreational users over responsible use. Our project (joint between St Andrews, Durham, and the James Hutton Institute) will inform the debate surrounding responsible access and impacts on wildlife. Specifically, we will study the impact of outdoor recreation on the spatial distribution of red deer. The Research Incentive Grant from The Carnegie Trust is helping to fund two research students to conduct the field-work at a study site, setting up and maintaining wildlife camera traps to collect data on the spatial-temporal distribution of red deer and administering a GPS-based survey of hill-walkers combined with a wildlife viewing survey. We will present the findings of our research at international conferences, publish our work in leading academic journals, and make our data openly accessible to others.

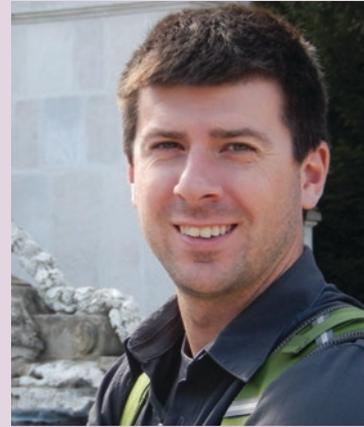


Figure 37: Dr Jed Long



DR GILLIAN HUNTER, GENETICS, GLASGOW CALEDONIAN UNIVERSITY

Project Title: Is Neural Crest Cell Development Altered in Spinal Muscular Atrophy?

I am an early career researcher and this award will support my research into understanding the role of a previously unexplored cell type in Spinal Muscular Atrophy (SMA).

SMA is the biggest genetic killer of children. It is a neurodegenerative disorder that primarily affects muscles, although recently it has become clear that non-muscle cells are also affected (for example, cardiac and gastrointestinal tissue). An improved understanding of each cell and tissue affected in SMA is likely to impact on future therapy development. We will examine a cell type that has not been looked at in SMA before.

Neural crest cells (NCCs) are precursor cells present from a very early stage in embryonic development and we will determine whether NCC development is affected in SMA, using a zebrafish model of SMA and measuring two characteristics that are indicative of normal NCC development. Pigmentation patterns and jaw cartilage develop from NCCs and we will use established methods to compare these phenotypes in SMA zebrafish and healthy zebrafish. This model will identify the developmental time point that provides most benefit to SMA zebrafish following therapeutic intervention. A better understanding of the cell types affected in SMA pathogenesis, and when this pathology occurs, could have potential clinical implications for both genetic diagnosis of SMA and therapy.



Figure 38: Dr Gillian Hunter



DR KAREN MEYER, APPLIED MATHEMATICS, ABERTAY UNIVERSITY

Project Title: Simulating the Effect of Small-Scale Processes on the Evolution and Decay of Solar Active Regions

Active regions are intense and complex regions of magnetic activity on the Sun that can produce huge, energetic eruptions. These eruptions can have an impact on Earth and in particular on our technology in the form of Space Weather. The focus of my project is on developing a numerical model to simulate how an active region will evolve during its lifetime. The ultimate goal of this work is to be able to predict when an active region will produce an eruption, as well as the eruption's expected size and direction. To this end, the model must strike a balance between being fast enough to be predictive, but also accurate enough to be of value. To improve on the accuracy of existing techniques for active region simulation on a global scale, this project also considers in detail how the surrounding solar surface motions and smaller scale magnetic fields affect the active region's evolution. Satellites and telescopes provide us with images of the Sun's surface magnetic field up to every 45 seconds. The aim is that the model will take such images as a starting point from which to simulate an active region's subsequent evolution over the following hours and days.



Figure 39: Dr Karen Meyer



DR NANDINI BHATTACHARYA, HISTORY, UNIVERSITY OF DUNDEE

Project Title: 'From Toddy to Country Liquor' Drinking Cultures and Working Men in Urban India 1906-1920

This project examines how the cultures of drinking changed in the early twentieth century in British India. This was in response to the government's attempts to raise revenues through taxation on alcohol and at the same time negotiate criticisms from temperance activists both in Britain and India. In spite of temperance activists of all political persuasions, the consumption of alcohol (and revenues derived from it) increased incrementally in this period. In the cities working men consumed new kinds of alcohol; distilled liquors of various strengths made locally and known as 'country liquor'. This was a change from the fermented brews that was the drink of the masses in the nineteenth century. Further, the act of drinking itself changed; drinking became commonplace in sites such as bars, brothels and seedy back-rooms of liquor shops. The project looks at the popular culture of the period to learn how debates over new liquors and the sites where they were consumed were represented.



Figure 40: Dr Nandini Bhattacharya



DR DONNA YATES, SOCIOLOGY, UNIVERSITY OF GLASGOW

Project Title: Towards an Understanding of the Links Between Transnational Organized Antiquities and Wildlife Crime in Africa

I'm an archaeologist and criminologist who studies antiquities smuggling at the Scottish Centre for Crime and Justice Research at the University of Glasgow. Last summer, I met the University of Cape Town's Dr Anette Hübschle, an expert in rhino horn trafficking, at a conference in London and I was surprised and intrigued by how much our research overlapped. We saw so many similarities between the destruction of nature and the destruction of culture to meet international market demand that we resolved we had to explore the crossover academically.

With my Research Incentive Grant, I travelled to South Africa and spent three weeks with Dr Hübschle at the Institute for Safety Governance and Criminology at the University of Cape Town. In that time we not only prepared two papers for publication, but we developed what seems to be an innovated methodology and theoretical framework to explore the smuggling of what we are calling "criminal collectables": art, antiquities, fossils, rare wildlife, and other goods that seem to inspire people to acquire them...and to commit crimes. To support our future research in this area, during my time in South Africa we prepared major grant applications to the European Research Council, the Global Challenges Research Fund, and we are also applying for a small Newton Mobility Grant to bring Dr Hübschle to Scotland for more collaborative research.



Figure 41: Dr Donna Yates (left) with Dr Anette Hübschle in Cape Town



DR UISDEAN NICHOLSON, GEOSCIENCES, HERIOT-WATT UNIVERSITY

Project Title: Modelling Submarine Landslides and Tsunamis in the South Atlantic

The southern margin of the Falkland Plateau is tectonically active because of the ongoing collision of a number of tectonic microcontinents, resulting in extensive sea-floor deformation and frequent large earthquakes (up to moment magnitude 7). As these earthquakes are far from land, and are not in themselves large enough to cause tsunamis, they have not previously been recognised as a major geological hazard. However, analysis of 3D seismic data have revealed the presence of multiple, giant (100km³) submarine landslide deposits in the shallow subsurface, which were likely triggered by these earthquakes and may be capable of producing large tsunamis. Detailed observations of these deposits are allowing us to construct a series of numerical models of such events, and understand the risk to nearby human populations and infrastructure in the South Atlantic region, including in the nearby Falkland Islands. Intriguingly, anomalous marine sediments tens of metres above sea level in the Falklands have recently been tentatively re-interpreted as recent tsunami deposits. Our observations and models may highlight a likely source for these deposits – as well as the waves that carried them.



Figure 42: Dr Uisdean Nicholson



MALCOLM COMBE, LAW, UNIVERSITY OF ABERDEEN

Project Title: Land Reform – Insights for Scotland from Mixed Legal Systems

My grant has set the groundwork for a dedicated property law analysis of the Scottish land reform programme, drawing particularly on relevant comparative perspectives from South African law. That “mixed” legal system shares many commonalities with Scotland, but a study of its different responses when answering its own questions about land allocation, not to mention visiting the place and seeing what is happening there in person, has brought fresh insight to me. My own new insight will be converted into new insight for Scotland, by way of writing and editing ongoing projects.

This grant has also allowed for collaboration with recognised overseas experts in property law and land reform. A happy outcome of this was meeting a South African PhD student at the University of Cape Town looking at abandonment of land there and in Switzerland. As a direct result of this grant, he is now researching the Scots law of abandonment in his PhD. This grant was designed to further the understanding of the law of abandonment of land and it will now help do so in at least two jurisdictions!

Finally, the grant allowed for the employment of a research assistant, who provided invaluable work scrutinising specific Scottish land law issues. The grant also gave him time to develop his own undergraduate dissertation on an aspect of land reform for publication in a Scots law journal.



Figure 43: Dr Malcolm Combe (3rd left, back row) at a seminar in Cape Town



DR ANTONIO HURTADO, PHOTONICS, UNIVERSITY OF STRATHCLYDE

Project Title: Brain Inspired Networks of Ultrafast Photonic Neurons

This Research Incentive Grant project will help to support our long-term research vision in Neuromorphic Photonics for novel paradigms in ultrafast brain-inspired information processing. Neurons compute information in the brain by firing spikes when stimulated. Remarkably, semiconductor lasers, the very same devices used to generate the light signals used to transmit internet traffic over high optical fibre telecommunication networks, can also undergo a rich variety of spiking responses upon the arrival of external perturbations but at much faster speeds (up to 1 billion times faster) than the timescales of biological neurons. Hence, this Research Incentive Grant project will contribute to our research in novel photonic neuronal models based on semiconductor lasers able to emulate the powerful processing features of biological neurons in the brain but at much faster speeds.



Figure 44: Dr Antonio Hurtado

Collaborative Research Grants

Key statistics

86 applications received	9 awards made	11% success rate	£49,542 average grant value	13 universities collaborating
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A total of 86 applications were received by the deadline of 31 January 2017 and after an initial sift in the office against the strategic priorities, 41 applications were selected for peer review by Carnegie Research Assessors. In May 2017, a panel of experts met at Andrew Carnegie House to discuss 31 applications

shortlisted for further consideration. In total, 9 awards were made, 2 of these were in Arts & Humanities and 7 in Science Engineering and Technology.

The successful projects awarded funding in 2017 were:

LIST OF AWARDS

- ▶ **Chandra, Tamir, Chancellor's Fellow, Edinburgh**
Exploring nuclear heterogeneity in the senescence tumour suppressor response combining microfluidics based phenotyping and single cell genomics. Awarded £47,952.00
Principal Investigators: Dr Graeme Whyte, Heriot-Watt
- ▶ **Duncan, Katherine, Chancellor's Research Fellow and Lecturer, Strathclyde**
A comparative multi-omics platform for accelerated antibiotic drug discovery from ancient Polar bacteria. Awarded £49,924.00
Principal Investigators: Dr Simon Rogers, Glasgow; Professor Marcel Jaspars, Aberdeen; Dr Justin Van Der Hooft, Glasgow; Dr Nicholas Tucker, Strathclyde; Dr Joe Wandy, Glasgow
- ▶ **Fiore, Alberto, Lecturer, Abertay**
Modelling the pathways of toxicant formation in emissions from heated vapourised nicotine delivery devices. Awarded £49,995.00
Principal Investigators: Dr William Stephens, St Andrews; Constantinos Stathopoulos, Abertay; Jonathan Wilkin, Abertay
- ▶ **Kirrandar, Adam, Lecturer, Edinburgh**
Light-driven chemistry – towards highly accurate simulations of photochemical reactions. Awarded £49,264.00
Principal Investigators: Professor Martin Paterson, Heriot-Watt
- ▶ **Lorimer, Hayden, Professor, Glasgow**
Re-Placing Risk and Ruination: Experimental Approaches to Access, Design and Engagement in Transitional Heritage Sites. Awarded £49,988.00
Principal Investigators: Professor Edward Hollis, Edinburgh; Dr Luke Bennett, Sheffield; Dr Ursula Lang, Glasgow; Angus Farquhar, Glasgow
- ▶ **Robertson, Stuart, Lecturer, Strathclyde**
Non-chlorinated magnesium aluminate complexes for rechargeable battery electrolytes. Awarded £49,589.00
Principal Investigators: Dr Serena Corr, Glasgow; Professor Konrad Koszinowski, Georg-August Universität Göttingen

LIST OF AWARDS continued

► **Shing, Yee, Lee, Lecturer, Stirling**

Development of hippocampal binding in memory: An investigation linking rodents and humans. Awarded £50,000.00

Principal Investigators: Dr Emma Wood, Edinburgh; Dr Rosamund Langston, Dundee; Dr Paul Dudchenko, Stirling

► **Sorace, Antonella, Professor, Edinburgh**

Language, Place and Identity: exploring children's linguistic and cognitive development in heritage and cognitive development in heritage and community languages. Awarded £49,212.00

Principal Investigators: Dr Gillian Munro, UHI; Professor Bronwen Cohen, Edinburgh; Professor Lynn Jamieson, Edinburgh; Professor Kay Tisdall, Edinburgh; Dr Philomena de Lima, UHI

► **Williams, Roderick, Lecturer, West of Scotland**

Evaluation of the essentiality and druggability of Leishmania HSD for drug development. Awarded £49,952.00

Principal Investigators: Dr Katharine Carter, Strathclyde; Professor Michael Barrett, Glasgow; Professor Sabbir Ahmed, Portsmouth; Professor Jeremy Mottram, York



PROFESSOR HAYDEN LORIMER, GEOGRAPHY, UNIVERSITY OF GLASGOW

Project Title: Re-Placing Risk and Ruination: Experimental Approaches to Access, Design and Engagement in Transitional Heritage Sites

This research project addresses a single problem: How do you activate a modern ruin? Responses will be drawn from a unique interdisciplinary study investigating the on-going transformation of a Scottish site of international architectural significance and its surrounding historic landscape (Kilmahew-St. Peters, Argyll & Bute). Fusing individual areas of expertise in legal geographies, architecture and design, cultural landscapes and creative arts practice, the project team will investigate how public access to, and engagement with, this transitional heritage site, is being enabled in ways that are safe, creative and collaborative. Methodologically, the project will gather original data through a combination of critical literature review, stakeholder interviewing, and immersive, participatory fieldwork activity in the site under investigation. Studying the novel and experimental approach to heritage site presentation and management, being taken by artists, architects and designers at Kilmahew-St. Peters, will be the means to produce exemplary research findings with widespread relevance and applicability. Nationally and internationally, there are a multitude of valued heritage landscapes, in a ruinous, vulnerable, degraded state, requiring equivalent levels of creative intervention for the purposes of rehabilitation and to safeguard cultural legacies for the future.



Figure 45: Professor Hayden Lorimer



DR KATHERINE DUNCAN, DRUG DISCOVERY, UNIVERSITY OF STRATHCLYDE

Project Title: A Comparative Multi-Omics Platform for Accelerated Antibiotic Drug Discovery from Ancient Polar bacteria

Our collaborative research grant funded by the Carnegie Trust is an opportunity to bring 'omics and microbiology (PI, K. Duncan, University of Strathclyde) together with natural products chemistry (co-I, M. Jaspars, University of Aberdeen) and computational machine learning tools (co-I, S. Rogers, University of Glasgow) to accelerate antibiotic discovery.



Figure 46: Dr Katherine Duncan

Using this approach, we will be able to link biosynthetic gene clusters (the genetic blueprint for making metabolites) with the metabolites they encode. We will study the taxonomic group (Phyla) of bacteria called Actinobacteria. The genome sequencing of these bacteria tells us that up to 90% of the specialized metabolite gene clusters which encode for the antibiotic-like molecules are cryptic, which means we do not see them under standard laboratory conditions. Thus, in this project by using a tailored fermentation approach combined with specialised computational algorithms, new areas of chemical space can be revealed and layered with genetic information. This provides an exceptionally exciting and multidisciplinary approach to expanding the chemical power of these antibiotic producing bacteria isolated from our underexplored Polar regions.



DR TAMIR CHANDRA, HUMAN GENETICS, UNIVERSITY OF EDINBURGH

Project Title: Exploring Nuclear Heterogeneity in the Senescence Tumour Suppressor Response Combining Microfluidics Based Phenotyping and Single Cell Genomics

Our organs are made up of cells, and all cells in our body carry the same DNA. Heart and kidney cells are so different because they “read” or transcribe the DNA in distinct ways into RNA and the collection of RNAs within a cell is known as the transcriptome. Biologists have been able to record transcriptomes of mixtures of millions of cells for a decade, but only recently has it become possible to record transcriptomes from individual cells, which is very important, because many different cells exist within the same tissue. Characterising cells within a tissue based on their shape or other visual features using a microscope has a much longer tradition in biology.



Figure 47: Dr Tamir Chandra

“The Carnegie Collaborative Research Grant enables us, molecular biologists and engineers, to team up to develop an exciting new instrument that will allow researchers to connect the collection of visual features with recording single cell transcriptomes. To showcase our new device we proposed to record the transcriptomes of cells that undergo a visually distinct change when they age or become stressed, and we have already been approached by numerous scientists with interesting ideas to test our device.”



DR YEE SHING, PSYCHOLOGY, UNIVERSITY OF STIRLING

Project Title: Development of Hhippocampal Binding in Memory: An Investigation Linking Rodents and Humans

Episodic memory (EM), the ability to remember the past with specific details, is a fundamental aspect of cognition. EM improves substantially during development and its implications are far reaching in predicting children's academic outcomes. However, the exact mechanisms underlying age-related improvements in EM are still poorly understood. Particularly, it is unclear to what extent binding, the linking of separate elements of an encountered episode into a cohesive unit, contributes to age-related improvement in memory. Binding depends on regions within the Medial Temporal Lobe (MTL) of the brain. Research in this field faces the obstacle that measuring memory in young children is challenging and there is no measurement task that differentially engages binding in an unambiguous way. As a team consisting of a developmental psychologist and two neuroscientists, we will collaborate to address this problem by adapting a task from the animal literature that clearly delineates levels of binding that are dependent on different regions within the MTL of rodents. By aligning the experimental setups between human and animal studies, this interdisciplinary project will be the first to gauge age trajectories of binding from early childhood to young adulthood across species.

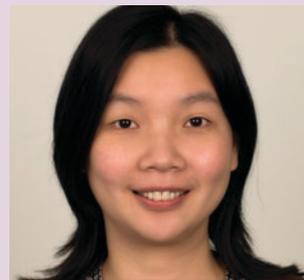


Figure 48: Dr Yee Shing



DR RODERICK WILLIAMS, BIOMEDICAL SCIENCE, UNIVERSITY OF THE WEST OF SCOTLAND

Project Title: Evaluation of the Essentiality and Druggability of Leishmania HSD for Drug Development

Cutaneous Leishmaniosis (CL) affects approximately 12 million people in 98 countries and current treatments are inadequate as the parasite has become resistant to most anti-Leishmanial. The need for new drugs is urgent so, we are investigating the tractability of an enzyme for ergosterol biosynthesis, absent in humans, for drug development. Ergosterol located in the cell membrane of the parasite anchors virulence factors the parasite use to evade and protect against host immunity. Earlier, an ergosterol biosynthetic inhibitor did not stop ergosterol production in Leishmania, but increased it many-fold. Concurrently, the level of another sterol, ergosta 7,22 dien- 3β -ol was reduced suggesting a role for, and the inhibition of the activity of 17β hydroxysteroid dehydrogenase (17β HSD), whose role in sterol biosynthesis in Leishmania spp is unknown. Now, we will use the DiCre/LoxP system to create a 17β HSD gene knockout cell line for a comparative analysis of its metabolome and activity towards novel 17β HSD inhibitors relative to naïve parasites.



Figure 49: Dr Roderick Williams

The project will provide strong evidence that will validate sterol biosynthesis in Leishmania as target for drug development, inform funding from research council and with the commitment and expertise of UWS and its partners develop effective and affordable new medicines for CL.

Centenary Professorships

Centenary Professors in Scotland during 2016-17

Following the decision to close this scheme, the final awards were decided in October 2016, as reported in the previous Annual Report. The last recipients are Prof David Dunson, Professor of Statistics at Duke University, nominated by the University of Edinburgh and Prof Leo Hollberg, Professor of Physics at Stanford University, nominated by the University of Strathclyde. Both will be visiting their host universities in 2018.

During the year under review, Prof Claire Kramersch (University of California, Berkeley) spent four months at the University of Stirling. Prof Kramersch specialises in language, languages and language learning from an applied linguistics perspective. Her research focuses on multilingualism, detailing and theorising how multilinguals perceive and articulate the world, as well as on the relationship between language and culture. Her contribution to academic and intellectual life has been recognised by a

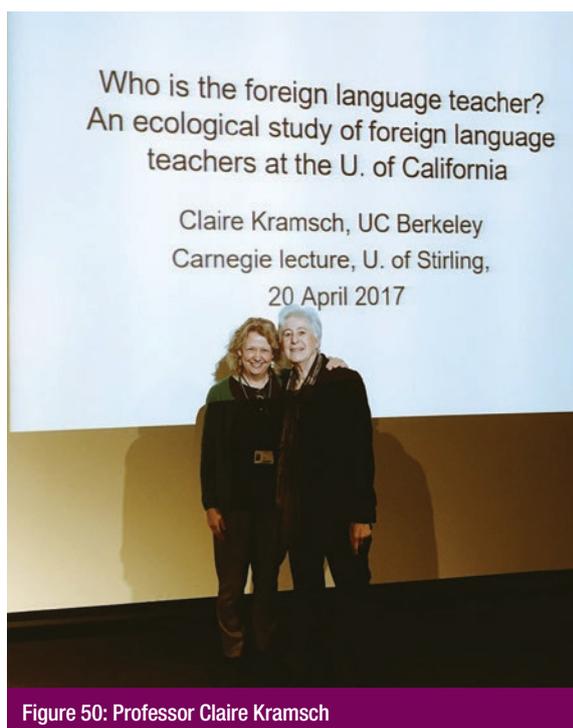


Figure 50: Professor Claire Kramersch

number of prestigious international awards, including the Goethe Medal and the MLA Mildenerger Prize.

During her visit to the University of Stirling, Professor Kramersch contributed to the teaching of post graduate and doctoral students in the Faculty of Social Sciences and Faculty of Arts and Humanities. She also supported and advised researchers, contributed to seminar series and discussed her work with staff and students at the Universities of Aberdeen, Glasgow and Edinburgh.

The highlight of Professor Kramersch's visit was a Conference on Multilingualism and Language Learning hosted by the University of Stirling in March 2017. Her Carnegie Lecture, held on 20th April 2017 during Stirling's Research Week examined paradox of the language learner as a multilingual "subject" who is at once in control of and at the mercy of language and of the remembered and imagined communities that language evokes.

Professor Elizabeth Thompson (University of Washington) specialises in Statistics and spent several months in the Centre of Biological Diversity (CBD) at the University of St Andrews where her visit was hosted by Professor Thomas Meagher. During her visit, Professor Thompson gave a number of research presentations, both in St Andrews (Centre for Research in Ecological and Environmental Modelling, St Andrews; Department of Biological Sciences, St Andrews and CBD, St Andrews) and at other Scottish Institutes (Roslin Institute, University of Edinburgh; Royal Society of Edinburgh; University of Edinburgh; University of Glasgow; James Hutton Institute and Highlands Royal Statistical Society, Aberdeen). Additionally, her visit to Scotland enabled her to give seminars and to participate in research conferences in England (February), Estonia (April), Greece (May), and Denmark (June).

Professor Thompson also attended many informal meetings and discussions with faculty

and graduate students, both at St Andrews and at the other places she visited, which proved productive and stimulating for her. She very much appreciates the award from the Carnegie Trust that enabled her visit.

During his tenure as Centenary Professor, Professor Doug Lin (Astronomy, University of California, Santa Cruz) undertook two separate visits to the University of St Andrews where he worked alongside his academic host, Professor Keith Horne in the School of Physics and Astronomy. During his visit, Prof Lin gave a Physics department colloquium at the University of Glasgow and gave a Higgs colloquium at the University of Edinburgh.

During the second stage of his visit, he spent most of his time at the universities of St Andrews and Edinburgh. These visits led to new directions and stimulated considerable progress in his research in four areas. Firstly, the beginning of his first visit occurred right after the first LIGO detection of a gravitational wave event. He quickly developed a theoretical model to attribute it to seed black hole mergers in the proximity of active galactic nuclei. In this context, he benefited not only from discussions with several colleagues in Glasgow who were directly involved with the LIGO experiment but also with Dr Ken Rice at Edinburgh who have investigated dynamical evolution of self-gravitating disks as well as companion disk interaction.

During his second visit, Doug had a close collaboration with Professor Keith Horne in an effort to construct a model to extract relevant physical parameters for accretion disks

“ I am very grateful to the Carnegie Trust for providing support to my visits to three universities in Scotland. These visits have been mutually beneficial and enabled me to initiate several new lines of research. Although not yet completed, they have led to advances and well defined pathways for me to further develop some of the projects in the foreseeable future. I acknowledge my sincere appreciation to the Carnegie Trust for the generous and essential support, which made this visit so fruitful. ”

Prof Doug Lin

around active galactic nuclei based on the exquisite reverberation map he and his student David Starkey obtained from an extended Hubble Space Telescope observation. Prof Lin also pursued his own research on the characterization of exoplanets. He held several in depth discussions with Professor Andrew Collier Cameron about the implication of hot Jupiters' obliquity distribution on the effectiveness of planet-star tidal interaction. He also had discussions with Professor Moira Jardine and Dr Scott Gregory about several important effects of stellar magnetic fields on their surrounding disks and planets which have led him to construct theoretical models to analyze these physical processes. Finally, he has initiated discussions with Dr Anna Lisa Varri about the kinematic structure and dynamical evolution of globular clusters near galactic centers.

Structure, Governance and Management

Trust Constitution and Powers

The Trust was founded by Andrew Carnegie through a Trust Deed dated 7 June 1901 and incorporated by Royal Charter on 21 August 1902. This Charter was replaced on 10 July 1978 by the present Royal Charter, which, with its By-Laws, governs the operations of the Trust. During 2015 amendments proposed to the 1978 Charter and By-Laws were submitted to the Privy Council and these were approved on 8 October 2015.

The amendments to the Charter abolished the Executive Committee that had previously been required to conduct the administration and management of the Trust. The revisions have brought the governance of the Trust in line with modern expectations and enable equal participation of all Trustees in the governance of the Trust, reflecting their joint responsibility for its operation. The ex officio Trustees are the Principals of the Universities of Scotland. There are fourteen nominated Trustees, who are elected or re-elected at the Annual Meeting of Trustees. The Royal Charter requires that three of the nominated Trustees shall retire each year, in order of seniority of appointment. Additionally, the Board has resolved that all nominated Trustees should be asked every three years whether they wish to seek re-election.

Nominated Trustees are appointed by the existing Trustees following an open advertisement. They are selected by the Trustees on the advice of a nominations sub-committee, which works to ensure an appropriate range of experience in the Trust. Trustee induction takes place through provision of relevant background information and early involvement as a participant or observer in the committees of the Trust.

Investment Committee

The Trustees are required to constitute an Investment Committee numbering not fewer than four members, of whom not fewer than three shall be persons qualified by their ability in and practical experience of financial matters. The Investment Committee keeps the Trust's investments under frequent review.

Audit and Risk Committee

The Trustees are also required to constitute an Audit Committee, comprising no fewer than three Trustees, of whom at least one shall be an ex officio Trustee, chaired by a nominated Trustee. In 2015, the Trustees agreed to naming this committee the Audit and Risk Committee, recognising its role in overseeing risk management.

Staffing and Nominating (Trustees) Committees

The Trustees convene these Committees on an ad hoc basis, as required.

Objects of the Trust

By the Royal Charter, one half of the net income is to be applied to the improvement and expansion of the Universities of Scotland (Clause A) and one half to the payment of fees for qualifying Scottish students in respect of courses leading to a degree at a Scottish University (Clause B). The Trustees have complete discretion over the disposal of any surplus under Clause B and may transfer any unexpended income to Clause A objectives or a reserve fund.

The activities undertaken by the Trust in fulfilling these objects are summarised in the Secretary and Treasurer's Report and in the activity report.

Statement of the Trustees' Responsibilities

The Trustees are responsible for preparing the Annual Report and the financial statements in accordance with applicable law and United Kingdom Accounting Standards (United Kingdom Generally Accepted Accounting Practice).

The Royal Charter and the By-Laws of the Trust, dated 10 July 1978 and amended 8 October 2015, together with the law applicable to charities in Scotland require the Trustees to prepare financial statements for each financial year which give a true and fair view of the state of affairs of the charity and of the incoming resources and application of resources of the charity for that period. In preparing these financial statements, the Trustees are required to:

- select suitable accounting policies and then apply them consistently;
- observe the methods and principles of the Charities SORP;
- make judgements and estimates that are reasonable and prudent;
- state whether applicable accounting standards have been followed, subject to any material departures disclosed and explained in the financial statements; and
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the charity will continue in business.

The Trustees are responsible for keeping proper accounting records that disclose with reasonable accuracy at any time the financial position of the charity and enable them to ensure that the financial statements comply with the Charities and Trustee Investment (Scotland) Act 2005, the Charities Accounts (Scotland) Regulations 2006 (as amended) and the provisions of the Royal Charter and By-Laws of the Trust. They are also responsible for safeguarding the assets of the charity and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

The Trustees are responsible for the maintenance and integrity of the charity and financial information included on the charity's website. Legislation in the United Kingdom governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

Operating Policies of the Trust

Reserves policy

The General Fund Reserve is an unrestricted fund, corresponding to the sums accumulated from historical surpluses of income over expenditure, which the Trustees are free to use in accordance with the charitable objects of the Trust. It is held to protect the Trust from unexpected fluctuations in future income so as to maintain, at a minimum, continuing support for staff and administration costs, including investment management fees, as committed for the next 12 months. The appropriate level of the reserve is reviewed by the Trustees annually.

Special Supplementary Fund – a fund created from sums placed at the disposal of the Trustees to alleviate hardship of students already receiving fee assistance from the Trust who find themselves in exceptionally necessitous circumstances.

Property Reserve Fund – a fund set up to support the investment in Andrew Carnegie House which is jointly owned and occupied with the other UK based Carnegie Trusts.

The **Endowment Fund** represents the original endowment, together with surpluses and deficits to date, and larger legacies received.

Investment policy and performance

The Trustees' investment powers are governed by the Royal Charter, which permits them to invest in a broad range of investments issued by any government or municipal or public authority authorised to borrow money or any company

with limited liability, and to invest in property in Scotland, England, Wales, and Northern Ireland.

The objective agreed with the Trust's investment managers is to achieve real growth in both income and capital, within the investment guidelines in respect of type of investment and asset allocation contained within the discretionary management agreement with the investment managers. The current risk guidelines agreed are that there will be a minimum of 50 holdings, none of which may represent more than 10% of the net asset value of the fund; that the ten largest holdings of the fund will represent no more than 60% of the net asset value of the fund; and that no single stock should account for more than 4% of the forecast income for the fund. The current guidelines set asset allocation as follows:

Asset allocation

	Permitted Range	Performance Benchmark
UK Equities	55–100%	FTSE All share Index
Overseas equities	0–20%	-
Bonds/Cash	0–25%	-

The flexibility on changing the asset allocation depends on the investment managers' requirement to grow the income in real terms. The types of investment permitted include UK equities, convertibles, preference shares, UK and European fixed interest securities, unit trusts and investment trusts. Non UK equity investments are also permitted as necessary to provide flexibility in maintaining balance of sectors in the context of the risk guidelines. Underwriting or sub-underwriting of issues or offers for sale of securities is permitted but the funds may not, without permission of the Trust, include securities where an issue or offer for sale was underwritten, managed or arranged within the previous twelve months by the

investment managers. Investments in tobacco companies are not permitted.

The Investment Committee meets three times annually with the investment managers to review the reports on performance and to monitor the risk strategy for investments in respect of business risk and portfolio risk. As part of the periodic reporting, the investment managers report on internal compliance with risk management procedures, with an annual review of such risk management arrangements being carried out by the Bursar and Secretary and Treasurer. The performance for the year is set out in the Financial Review on page 47.

Grant making policy

In accordance with Andrew Carnegie's wishes, the Royal Charter enables the Trust to support the 15 Universities of Scotland, their staff and students. The schemes of support available during the year ended 30 September 2017 are described below.

Fee Assistance may be provided to support undergraduates studying for a first degree who are not eligible for support through the SAAS. A competitive **Vacation Scholarship** scheme is operated to assist undergraduate students who wish to undertake research in the summer vacation.

At the postgraduate level, **Carnegie-Cameron Bursaries** are made available to support fees for one-year postgraduate degree courses and are awarded through the Universities. Awards were made for 2016-17 but the scheme was then suspended for 2017-18.

A prestige scheme of **PhD Scholarships** supports a limited number of graduates, with first class Honours degrees, who will pursue three years of postgraduate research.

Academic members of staff of Scottish Universities are eligible to apply for the Trust's **Research Incentive Grant** scheme, which awards grants of up to £7,500 for personal research.

A competitive **Collaborative Research Grant Scheme** with awards of up to £50,000 encourages applications for joint programmes of collaborative projects from research groups within two or more Scottish Universities. The scheme is now closed and the last round was in 2016-17.

The Scottish Universities are invited to compete for up to three **Carnegie Professorships** per year to encourage World Class scholars to spend a sabbatical period in Scotland. The scheme is now closed and the last nominations were received in July 2016.

Pay policy

The Trustees and the Trust Secretary are the key management personnel. No Trustees receive remuneration; details of the reimbursement of Trustees expenses are in Note 4 to the financial statements. Staff terms and conditions of employment are set by the Staffing Committee from time to time. The pay of all staff is reviewed annually in line with contractual terms, using the pay scales operated by the universities.

Related parties

Material transactions with related parties are disclosed in the notes to the financial statements. The Trust's policy is for Trustees,

executive and advisers to declare their interest and exempt themselves from all relevant discussions and decisions which may involve a transaction with a related party or in which they may have a conflict of interest.

Going concern

The Trustees have considered the Trust's reserves and cash position and the expected income over the next 12 months, and consider that it is appropriate to prepare the financial statements on a going concern basis.

Risk Management

The Trustees have considered the major strategic, business and operational risks which the Trust faces and confirm that systems have been established to monitor and control these risks and to mitigate any adverse impact on the Trust. The Trustees receive regular reports on the key risks recorded in the Trust's risk register. The remit of the Audit and Risk Committee includes keeping under review the effectiveness of internal control and risk management systems of the Trust. The Trustees believe that the existing systems and the structure of decision taking and reporting through senior staff continue to provide assurance that risks are assessed and carefully managed.

The principal risks in the risk register include:

Description of risk	Action to manage risk
Risk of IT systems failure resulting in interruption of operation and/or loss of data and/or inappropriate access to confidential data.	Ensure continuing operation of all back-up systems. Test new systems extensively ahead of introduction. Work is proceeding on getting "Cyber Essentials" certification.
Failure to maintain/grow real value of endowment income.	Regular review of investment policy and performance, with independent advice from Investment Managers and professionally expert members of the Investment Committee.
Risk that Data Protection policy and related procedures fall short of legal requirements.	Ensure regular training/update sessions for all staff on Data Protection responsibilities. Extensive work to put in place new policies and resulting administrative processes in preparation for introduction of GDPR in May-18.

Financial Review

The Trust's investments at 30 September 2017 had a market value of £81.1million-an increase of £7.8million from the previous year; in addition to the increases due to market movements the funds increased by £0.7m as a result of a major legacy.

The unrealised revaluation for the year was a surplus of £7.3million, which was offset by losses on investments realised of £0.2m. The average month end valuation was approximately £77million. Performance in the year exceeded the Trust's benchmark target for both total and capital returns. The performance over three years was impacted by the relatively poor short term performance in 2016 but the five year position continues to exceed the target for both capital and total return.

At the year-end, 17.9% by value was invested in European stocks and 1.1% in North American stocks, a similar level to 2016. Fixed interest holdings amounted to 1.3% and the cash balance at year end was 4%, including cash from legacies recently transferred to Martin Currie.

Dividend income for the year increased to £3.22million from the previous year total of £2.95million. Special dividends, which were not included in initial forecasts, added £134,000 to the total. After deducting costs of investment management the net incoming resource available for charitable application was £3.01million compared to £2.76million in the previous year.

Two major unrestricted legacies amounting to £1.09m were accounted for in the year. The first was from Mr Keith Morgan and the sum

received was £775,907. In a letter of wishes, Mr Morgan set out his hope that the legacy would be used to create a fund, called the Carnegie-Cant-Morgan fund, to be used to support scholarships in plant sciences. The second was from Pamela Playfair-Woodward in memory of her mother Dr Jean Burnie. The sum notified as receivable was £314,792. These amounts increased total income for the year to £4.38m.

The overall amount expended under Clause A and Clause B (see page 57) was £2.83 million including the support costs, an increase of 5.6% from £2.68million last year. Support costs in the year were increased due to the cost of staff restructuring and the development of new IT systems. Costs of running the office in Andrew Carnegie House remained stable; cost of communication by post and telephone decreased but this was offset by additional expenditure incurred on interactions with Trustees, the universities and beneficiaries.

Expenditure on Clause A increased by 0.6% and that on Clause B by 5.2%. In Clause A, this mainly reflected decisions taken to increase the numbers of Research Incentive Grants and Collaborative Research Grants awarded to utilise some of the additional income generated from the investments. These increases in amounts awarded were, to some extent, offset by unused sums from previous years returned by the universities. In Clause B, all

Performance of the investments

	Actual for the year	Benchmark/ income target	3 Year actual	3 year benchmark	5 year actual	5 year benchmark
Total return	14.21%	11.94%	26.49%	27.77%	71.90%	61.21%
Capital return	9.46%	7.84%	11.30%	14.60%	40.11%	35.05%
Dividend and interest income from investments	£3,220,580	£2,944,000				

but three of the one hundred Carnegie-Cameron bursaries allocated were taken up, compared to six not used in 2016. The numbers and duration of Vacation Scholarships were increased leading to an uplift of 12% in the expenditure to £99,450.

The total support costs, including governance, rose to £414,605 from £303,493 last year. The development of the new database system to support the grant-giving process, which is a non-recurring cost, was the sole reason for the overall increase as the net total of other support costs decreased. Under the FRS102 SORP the costs previously separated as governance costs are now classified as part of the support costs shown in note 4 to the Accounts. Governance costs of £52,222 decreased from the 2016 level of £56,615, which included expenditure on the changes made to the Charter and the ongoing review of its provisions. As a result of the non-recurring expenditure, the ratio of support costs to total income (less investment management costs and legacies) has increased from 10.8% last year to 13.4%; excluding the IT development the ratio in 2017 would have been 9.8%.

Taking the General Fund, the Special Supplementary Fund and the Property Reserve together, the operating result for the unrestricted funds, before gains and losses on investments was a surplus of £223,502. This compares to the prior year result of £94,526.

The net operating result for the year on the General Fund was a surplus of £190,980 (see note 10) (surplus of £95,915 in 2016). This outcome was better than the planned position where Trustees had approved a budget with a small deficit, recognising that it was likely that there might be improvements in the income forecast due to special dividends. The nature of the Trust's schemes and timing dictated by the academic year mean that there is little capacity to adjust spending plans to reflect changes in the income receivable.

The Special Supplementary Fund received a welcome addition to its income from donations and small legacies with total income amounting to £76,000, giving rise to an operating surplus

in the year of £50,335. The depreciation of £15,645 on the building and a small loss on disposal of assets of £2,168 make up the movement of £17,813 on the Property Reserve.

Net investment losses realised amounted to £0.23 million (2016-losses £0.25 million) and together with the unrealised investment gain of £7.38 million (2016 gain of £3.49 million) brought the net movement in funds for the year to £8.46 million.

The proceeds of the unrestricted legacy from Keith Morgan and the Playfair-Woodward legacy have been added to the endowment in accordance with the Trust's current policy. The Trustees will use the additional income from the Morgan legacy to support scholarships in plant science in accordance with Mr Morgan's suggestion in a letter of wishes.

The total funds at 30 September 2017 were £82,472,082 comprising the Endowment Fund of £80,804,844, the amount of £313,659 designated as the Special Supplementary Fund, the Property Reserve Fund of £509,399 represented by the share of Andrew Carnegie House, and the General Fund Reserve of £844,180.

The Reserves policy set by the Trustees is intended to protect the Trust from unexpected fluctuations in future income so as to maintain, at a minimum, continuing support for staff and administration costs, including investment management fees, as committed for the next 12 months. Based on 2017 levels of expenditure this would imply a reserve of approximately £0.6 million. The net amount available as General Reserve at September 2017 remains in excess of the amount required by the policy. The Trustees will continue to review the level of reserves, reflecting on the prospects for income and the effects of external decisions made, for example on student tuition fees and the funding of Scottish universities. The Trustees will use the reserve as required, to make any necessary adjustment to schemes and to maintain the Trust's ability to deliver for its beneficiary groups.

Approved by the Trustees on date 2018 and signed on their behalf.

Dame Anne Glover DBE, FRSE, FASM, Chair

Accounts for the year ended 30 September 2017

Statement of financial activities

For the year ended 30 September 2017

	Note	Unrestricted funds £	Endowment funds £	2017 Total £	2016 Total £
Income from;					
Investments					
Dividends and interest on investments	2	3,220,580	-	3,220,580	2,954,946
Bank deposit interest		1,656	-	1,656	2,116
		3,222,236		3,222,236	2,957,062
Donations and legacies					
Other income (Clause B)		68,983	-	68,983	26,783
Legacies		-	1,090,699	1,090,699	
Total income	2	3,291,219	1,090,699	4,381,918	2,983,845
Expenditure on;					
Raising funds- investment management fees					
		203,127	-	203,127	188,508
Charitable activities					
		2,864,590	-	2,864,590	2,700,811
Total expenditure	3	3,067,717	-	3,067,717	2,889,319
Operating surplus/(deficit)		223,502	1,090,699	1,314,201	94,526
Net gains/(losses) on investments					
Realised gains		-	1,024,453	1,024,453	731,471
Realised losses		-	(1,258,517)	(1,258,517)	(984,622)
			(234,064)	(234,064)	(253,151)
Unrealised gains		-	9,409,747	9,409,747	7,335,033
Unrealised losses		(7,690)	(2,018,347)	(2,026,037)	(3,839,034)
		(7,690)	7,391,400	7,383,710	3,495,999
Net income/(expenditure)		215,812	8,248,035	8,463,847	3,337,374
Net movement in funds		215,812	8,248,035	8,463,847	3,337,374
Reconciliation of funds					
Total funds brought forward at 1 October 2016		1,451,426	72,556,809	74,008,235	70,670,861
Total funds carried forward at 30 September 2017		1,667,238	80,804,844	82,472,082	74,008,235

All of the above results are derived from continuing activities.

Balance sheet

As at 30 September 2017

	Note	2017		2016	
		£	£	£	£
Fixed assets					
Tangible Assets:					
Andrew Carnegie House and contents	7		526,826		547,066
Investments					
At market value	8		81,149,948		73,290,302
Total fixed assets			81,676,774		73,837,368
Current assets					
Accrued income from investments		193,430		225,787	
Other debtors and prepayments		484,503		17,880	
Cash at bank and in hand		2,156,631		1,664,408	
		<u>2,834,564</u>		<u>1,908,075</u>	
Current liabilities					
Amounts due within one year					
Grants awarded but not taken up		784,801		577,643	
Centenary Professorships		44,760		52,350	
Accrued expenses of administration		131,907		69,417	
		<u>961,468</u>		<u>699,410</u>	
Net Current assets			1,873,096		1,208,665
Provision for scholarship costs	9		(1,077,788)		(1,037,798)
NET ASSETS			82,472,082		74,008,235
Represented by					
Endowment Funds			80,804,844		72,556,809
<i>Unrestricted funds</i>					
General fund		844,180		657,311	
Designated funds					
Property reserve fund		509,399		523,101	
Special Supplementary Fund		313,659		271,014	
			<u>1,667,238</u>		<u>1,451,426</u>
TOTAL FUNDS	10		82,472,082		74,008,235

Approved by the Trustees on 9 February 2018 and signed on their behalf

Dame Anne Glover DBE
Chairman

Cash Flow Statement

For the year ended 30 September 2017

	Unrestricted funds £	Endowment funds £	2017 Total £	2016 Total £
Cash flows from operating activities				
Net income/ expenditure	215,812	8,248,035	8,463,847	3,337,374
Depreciation	23,007	-	23,007	26,701
(Gains)/losses on investments	7,690	(7,157,336)	(7,149,646)	(3,242,848)
Loss on disposal of fixed assets	2,168	-	2,168	-
(Increase)/decrease in debtors	(53,568)	(380,699)	(434,267)	(51,013)
Increase/(decrease)in creditors	262,059	-	262,059	120,403
Provision for scholarships	39,990	-	39,990	84,099
Net cash provided by/ (used in) operating activities	497,158	710,000	1,207,158	274,716
Cash flows from investing activities				
Acquisitions of fixed assets	(4,935)	-	(4,935)	(8,037)
Payments to acquire investments	-	(10,967,628)	(10,967,628)	(7,645,243)
Receipts from realisation of investments	-	8,204,736	8,204,736	9,157,370
(Increase) /decrease in cash in investment portfolio	-	2,052,892	2,052,892	(1,512,127)
Net cash provided by/ (used in) investing activities	(4,935)	(710,000)	(714,935)	(8,037)
Change in cash for the year	492,223	-	492,223	266,679
Transfers	-	-	-	-
Cash at bank and in hand at 1 October 2016	1,664,408	-	1,664,408	1,397,729
Cash at bank and in hand at 30 September 2017	2,156,631	-	2,156,631	1,664,408

Notes to the financial statements

For the year ended 30 September 2017

1. Accounting Policies

The financial statements of the Trust have been prepared in accordance with the following policies:

(a) Accounting Basis – The financial statements have been prepared in accordance with Accounting and Reporting by Charities: Statement of Recommended Practice (Charities SORP (FRS102)) applicable to charities preparing their financial statements in accordance with the Financial Reporting Standard applicable in the UK and the Republic of Ireland (FRS102), with FRS102, and with the Charities and Trustee Investment (Scotland) Act 2005 and the Charity Accounts (Scotland) Regulations 2006 (as amended). The financial statements comprise three primary financial statements: the statement of financial activities, which incorporates the income and expenditure account, the balance sheet and the statement of cash flows. The financial statements are prepared under the historical cost convention, as modified by the revaluation of UK listed investments, in £ sterling which is the functional currency of the entity. Under FRS102 the charity is classified as a public benefit entity.

(b) Going concern – On the basis of the Trust's reserves and cash position and the expected income for the next twelve months, the Trustees consider that it is appropriate to prepare the financial statements on a going concern basis.

(c) Fixed Assets and Depreciation – Expenditure on heritable property and on contents is recorded as capital expenditure. Depreciation is provided to write off the cost of fixed assets over their estimated useful lives on a straight line basis as follows:

Buildings	2%
Furniture, fixtures and fittings	5-25%
Computers	25%
Plant and equipment	5-10%

(d) Investments – Investments are stated at fair value as at the balance sheet date. The statement of financial activities includes the net gains and losses arising on revaluation and disposals throughout the year.

(e) Debtors – Debtors are recognised at the settlement amount due. Prepayments are valued at the amount prepaid.

(f) Cash – Cash at bank and in hand includes cash and short term highly liquid investments with a short maturity of three months or less from the date of acquisition or opening of the deposit or similar.

(g) Creditors and provisions – Creditors and provisions are recognised where the charity has a present obligation resulting from a past event that will probably result in a transfer of funds to a third party and the amount due to settle the obligation can be measured or estimated reliably. Creditors and provisions are normally recognised at their settlement amount.

(h) Income – Income is recognised when the Trust has entitlement to the funds, it is probable that the income will be received and the amount can be measured reliably.

- **Investment income** is accounted for in the year in which the Trust is entitled to receipt.
- **Legacies and donations** – Larger legacies of a non-recurring nature are credited to the Endowment fund in the year. Other legacies and donations, on a scale commensurate with students' fees advanced in earlier years, are included in Clause B income, or, if agreed by the donor, added to the Special Supplementary Fund.

(i) Expenditure – Liabilities are recognised as soon as there is a legal or constructive obligation committing the Trust to the expenditure. Expenditure is accounted for on an accruals basis.

- **Charitable activities** – Costs of charitable activities include grants made and overhead and support costs as shown in note 5. Grants payable are charged when approved by the Trustees except where approval is subject to subsequent fulfilment of conditions.
- **Provision for scholarship costs** – Postgraduate scholarships are awarded for a duration of 36 or 42 months subject to satisfactory progress being made. Provision is made for the outstanding future costs estimated to be payable for all scholars in post during the financial year.

(j) Employee benefits – Since 1 August 2015 eligible employees are auto-enrolled in a workplace pension scheme operated by NOW Pensions. For three existing employees who opted out of the NOW scheme, contributions continue to be paid towards personal pension plans. Total pension contributions amounted to £10,026 (2016 £10,300). These contributions are included in support costs. Redundancy

and termination payments are recognised in the financial statements when there is a legal or constructive obligation.

(k) Fund accounting – The General Fund Reserve is an unrestricted fund which the Trustees are free to use in accordance with the charitable objects of the Trust.

Designated Funds

- **Special Supplementary Fund** – consists of sums placed at the disposal of the Trustees to alleviate hardship of students already receiving fee assistance from the Trust who find themselves in exceptionally necessitous circumstances.
- **Property Reserve fund** – a fund set up to support the investment in Andrew Carnegie House which is jointly owned and occupied with the other UK based Carnegie Trusts.

Endowment Fund – the original endowment of the Trust as augmented by net surpluses, together with the larger legacies received. The income from the fund, less costs of management, is treated as unrestricted income in line with the terms of the Royal Charter. Transfers to and from General Reserve are made each year to bring the Endowment Fund into balance with the value of its net assets.

2. Income

	Notes	General Fund £	Special Supplementary Fund £	Property Reserve Fund £	Endowment funds £	Total £
Year ended 30 September 2017						
<i>Investments</i>						
Dividends and interest on investments		3,210,999	9,581	-	-	3,220,580
Bank deposit interest		1,656	-	-	-	1,656
		3,212,655	9,581			3,222,236
<i>Donations and legacies</i>		2,699	66,284		1,090,699	1,159,682
Total income 2017		3,215,354	75,865		1,090,699	4,381,918
Year ended 30 September 2016						
<i>Investments</i>						
Dividends and interest on investments		2,945,334	9,612	-	-	2,954,946
Bank deposit interest		2,116	-	-	-	2,116
		2,947,450	9,612			2,957,062
<i>Donations and legacies</i>		4,774	22,009			26,783
Total income 2016		2,952,224	31,621			2,983,345

3. Expenditure

	Notes	General Fund £	Special Supplementary Fund £	Property Reserve Fund £	Endowment funds £	Total £
Year ended 30 September 2017						
Raising Funds - Investment management fees		203,127	-	-	-	203,127
Charitable Activities						
Grants awarded						
Clause A	5	1,784,868	-	-	-	1,784,868
Clause B	5	634,184	-	-	-	634,184
Special Supplementary Fund payments		-	25,530	-	-	25,530
Wider Carnegie activities (Medals of Philanthropy)		5,403	-	-	-	5,403
Support costs	4	396,792	-	17,813	-	414,605
Total charitable activities		2,821,247	25,530	17,813	-	2,864,590
Total expenditure 2017		3,024,374	25,530	17,813	-	3,067,717
Year ended 30 September 2016						
Raising Funds - Investment management fees		188,508	-	-	-	188,508
Charitable Activities						
Grants awarded						
Clause A	5	1,773,797	-	-	-	1,773,797
Clause B	5	602,595	-	-	-	602,595
Special Supplementary Fund payments		-	18,451	-	-	18,451
Wider Carnegie activities (Medals of Philanthropy)		2,475	-	-	-	2,475
Support costs	4	288,934	-	14,559	-	303,493
Total charitable activities		2,667,801	18,451	14,559	-	2,700,811
Total expenditure 2016		2,856,309	18,451	14,559	-	2,889,319

4. Support costs

	Notes	2017	2016
		£	£
Salaries and pension (Note 6)		202,504	207,151
Staff training, temporary staff and other costs		29,714	18,828
Recruitment costs		-	1,590
Rates and insurance		3,966	2,421
Heating, lighting and cleaning		5,815	5,728
Upkeep of premises and equipment		4,356	5,909
Computer maintenance and support		8,802	8,552
Computer development		116,725	864
PR & promotion		2,350	3,243
Printing and stationery		2,497	3,132
Postages and telephones		1,756	1,157
Travel and subsistence		2,178	2,482
Legal and professional fees		-	4,500
Audit fee		7,160	6,830
Meeting costs		5,031	2,873
Scholars day		2,868	-
Loss on disposal of Fixed assets		2,168	-
Miscellaneous		(6,292)	1,532
		391,598	276,792
Depreciation			
Andrew Carnegie House		15,645	14,559
Other fixed assets		7,362	12,142
		414,605	303,493

Support costs are the central costs incurred directly in support of expenditure on the objects of the Trust. – Governance costs comprise all costs involving the public accountability of the Trust and its compliance with regulation and good practice. These costs include statutory audit and legal fees together with costs of meetings of the Trustees and committees.

Total attributable to governance costs	52,222	56,615
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No Trustee received any payments other than reimbursements of expenditure on travel and subsistence costs actually and necessarily incurred in carrying out their duties. The aggregate of such reimbursements, including payments on behalf of three trustees, was £3,842 (2016 £660) including £ 3,153 (2016 nil) in connection with liaison with the international network of Carnegie foundations.

5. Clause A and Clause B analysis

	2017		2016	
	Clause A	Clause B	Clause A	Clause B
	£	£	£	£
INCOME				
Unrestricted income	2	3,212,655		
Investment management costs	3	(203,127)		
Net annual income		3,009,528	1,504,764	1,504,764
			1,379,471	1,379,471
Legacies and students' fees repaid		-	2,699	-
				4,774
Net income available for grant making			1,504,764	1,507,463
			1,379,471	1,384,245
EXPENDITURE				
Research Grants (refunded)		(8,040)	-	(20,161)
Research Incentive Grants		428,149	-	395,501
Collaborative Research Grants		440,484	-	416,130
Scholarships		886,167	-	915,172
Centenary Professorships		38,108	-	67,155
Carnegie-Cameron Bursaries		-	380,213	-
Fee Assistance		-	154,521	-
Vacation Scholarships		-	99,450	-
		1,784,868	634,184	1,773,797
				602,595
Support costs of grant making		198,396	198,396	144,467
		1,983,264	832,580	1,918,264
				747,062
CLAUSE A AND CLAUSE B SURPLUS INCOME		(478,500)	674,883	(538,793)
				637,183
			(478,500)	(538,793)
Wider Carnegie Activities (Medals of Philanthropy)			(5,403)	(2,475)
Net incoming resources on general fund			190,980	95,915

In terms of Clause A of the Trust Deed, one half of the net annual income shall be applied towards the improvement and expansion of the Universities of Scotland; under Clause B the other half of the income, or such part thereof as in each year may be found requisite, shall be devoted to assistance with fees eligible by the Universities. Any surplus income which may remain after satisfying the requirements under Clause A and B shall be at the disposal of the Executive Committee of the Trust.

Details of the numbers of grants awarded are set out in the activity report on pages 8-9. All grants are awards to individuals, but mainly payable to their institutions.

6. Salaries and pension

	2017 £	2016 £
Average number employed, including part-time employees	5	5
Wages and salaries	184,941	188,322
Social security costs	16,475	16,711
Other pension costs	10,026	10,300
Total emoluments of employees	211,442	215,333
Less reimbursed by co-owners of building	(8,938)	(8,182)
	202,504	207,151

Key management is considered to be the Trust Secretary. Key management remuneration in the year, including National Insurance, totalled £76,925 (2016 – £76,264). No pension contributions were made in relation to key management in the year. One employee received remuneration in the band £60,000- £70,000 (2016- one). There were no prepaid or outstanding pension costs. Termination payments totalled £24,879 (2016- £nil).

7. Fixed assets

	Andrew Carnegie House (25% share) £	Contents £	Total £
Cost at 1 October 2016	650,126	106,154	756,280
Additions	4,111	824	4,935
Disposals	(5,175)	-	(5,175)
Cost at 30 September 2017	649,062	106,978	756,040
Depreciation at 1 October 2016	127,025	82,189	209,214
Disposals	(3,007)	-	(3,007)
Charge for year	15,645	7,362	23,007
Depreciation at 30 September 2017	139,663	89,551	229,214
Book value at 30 September 2017	509,399	17,427	526,826
Book value at 30 September 2016	523,101	23,965	547,066

Andrew Carnegie House assets include £62,500 of land that is not depreciated.

8. Investments

	UK equities £	Overseas Equities £	Fixed Interest £	Cash deposits £	Settlements outstanding £	Total £
Fair value at 1 October 2016	52,635,745	13,917,117	1,371,940	5,261,145	104,355	73,290,302
Purchases	7,428,607	3,104,273	-	(10,967,628)	434,748	-
Sales proceeds	(4,383,257)	(3,282,376)	-	8,204,736	(539,103)	-
Exchange gain	-	820	-	-	-	820
Gain/(Loss) on sale	(632,166)	397,282	-	-	-	(234,884)
Revaluation for the year	6,094,924	1,330,149	(41,363)	-	-	7,383,710
Cash introduced	-	-	-	710,000	-	710,000
Fair value at 30 September 2017	61,143,853	15,467,265	1,330,577	3,208,253	-	80,149,948

The historical cost of Listed investments was £57,124,468 (2016-£53,311,563).

The gain on sale of investments at historical cost was £944,841 (2016 – loss £356,918)

Shareholdings with a value in excess of 5% of the total portfolio value:-nil (2016 nil).

9. Provision for scholarship costs

Awarded	2013 and earlier £	2014 £	2015 £	2016 £	Total £
Provision Brought forward at 1 October 2016	24,006	390,770	623,022	-	1,037,798
Provision made for scholars commencing in year	-	-	-	933,676	933,676
Payments in the year	(19,255)	(252,678)	(291,918)	(282,325)	(846,176)
Adjustments to earlier awards	10,885	(58,395)	-	-	(47,510)
Provision carried forward at 30 September 2017	15,636	79,697	331,104	651,351	1,077,788

Provision payable	Payable within 1 year £	Payable 2-5 years £	Total £
Scholars appointed 2013 and earlier	15,636	-	15,636
Scholars appointed 2014	79,697	-	79,697
Scholars appointed 2015	294,980	36,124	331,104
Scholars appointed 2016	293,040	358,311	651,351
Total	683,353	394,435	1,077,788

10. Movements on funds

	Unrestricted funds			Total Unrestricted funds	Endowment funds	Total funds
	General Fund	Designated funds				
		Property Reserve Fund	Special Supplementary Fund			
£	£	£	£	£	£	

Year ended 30 September 2017

At 1 October 2016	657,311	523,101	271,014	1,451,426	72,556,809	74,008,235
Incoming resources	3,215,354	-	75,865	3,291,219	1,090,699	4,381,918
Outgoing resources	(3,024,374)	(17,813)	(25,530)	(3,067,717)	-	(3,067,717)
Net operating result	190,980	(17,813)	50,335	223,502	1,090,699	1,314,201
Transfers	(4,111)	4,111	-	-	-	-
Gains and losses	-	-	(7,690)	(7,690)	7,157,336	7,149,646
At 30 September 2017	844,180	509,399	313,659	1,667,238	80,804,844	82,472,082

Analysis of funds

Fixed assets	17,427	509,399	-	526,826	-	526,826
Investments	500,000	-	225,803	725,803	80,424,145	81,149,948
Net current assets	1,404,541	-	87,856	1,492,397	380,699	1,873,096
Provision	(1,077,788)	-	-	(1,077,788)	-	(1,077,788)
	844,180	509,399	313,659	1,667,238	80,804,844	82,472,082

	Unrestricted funds			Total Unrestricted funds	Endowment funds	Total funds
	General Fund	Designated funds				
		Property Reserve Fund	Special Supplementary Fund			
£	£	£	£	£	£	

Year ended 30 September 2016

At 1 October 2015	562,766	536,290	250,914	1,349,970	69,320,891	70,670,861
Incoming resources	2,952,224	-	31,621	2,983,845	-	2,983,845
Outgoing resources	(2,856,309)	(14,559)	(18,451)	(2,889,319)	-	(2,889,319)
Net operating result	95,915	(14,559)	13,170	94,526	-	94,526
Transfers	(1,370)	1,370	-	-	-	-
Gains and losses	-	-	6,930	6,930	3,235,918	3,242,848
At 30 September 2016	657,311	523,101	271,014	1,451,426	72,556,809	74,008,235

Analysis of funds

Fixed assets	23,965	523,101	-	547,066	-	547,066
Investments	500,000	-	233,493	733,493	72,556,809	73,290,302
Net current assets	1,171,144	-	37,521	1,208,665	-	1,208,665
Provision	(1,037,798)	-	-	(1,037,798)	-	(1,037,798)
	657,311	523,101	271,014	1,451,426	72,556,809	74,008,235

11. Financial Instruments

	2017 £	2016 £
The carrying values of financial instruments as defined by the Accounting standards are as follows:		
Financial assets		
<i>Debt instruments at amortised cost</i>		
Legacy receivable	380,698	-
Other debtors	18,008	17,880
	398,706	17,880
<i>Debt instruments at fair value through income & expenditure</i>		
Listed investments	81,149,948	73,290,302
Financial liabilities		
<i>Liabilities at amortised cost</i>		
Grants payable	829,561	629,993
Accrued expenses of administration	131,907	69,417
	961,468	699,410

12. Financial commitments – operating leases

The financial commitment at 30 September 2017 in respect of operating leases for printing and copying equipment was £2,041 (£628 payable in less than one year and £1,413 within two to five years) (2016-2,671: £628 payable in less than one year and £2,041 within two to five years).

13. Ultimate Controlling Party

The Trust is incorporated by Royal Charter and is controlled by its Trustees.

Report by the Auditors

HENDERSON LOGGIE
Chartered Accountants

34 Melville Street
Edinburgh
EH3 7HA
United Kingdom

Independent auditors' report to the Trustees of The Carnegie Trust for the Universities of Scotland

Opinion

We have audited the financial statements of The Carnegie Trust for the Universities of Scotland (the 'charity') for the year ended 30 September 2017 which comprise the Statement of Financial Activities, the Balance Sheet, the Cash Flow Statement and notes to the financial statements, including a summary of significant accounting policies. The financial reporting framework that has been applied in their preparation is applicable law and United Kingdom Accounting Standards, including FRS 102 *The Financial Reporting Standard applicable in the UK and Republic of Ireland* (United Kingdom Generally Accepted Accounting Practice).

In our opinion the financial statements:

- give a true and fair view of the state of the charity's affairs as at 30 September 2017 and of its income and expenditure for the year then ended;
- have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice; and
- have been prepared in accordance with the requirements of the Charities and Trustee Investment (Scotland) Act 2005 and Regulation 8 of the Charities Accounts (Scotland) Regulations 2006 (as amended)

Basis of opinion

We conducted our audit in accordance with International Standards on Auditing (UK) (ISAs (UK)) and applicable law. Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the financial statements section of our report. We are independent of the charity in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, including the FRC's Ethical Standard, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Conclusions relating to going concern

We have nothing to report in respect of the following matters in relation to which the ISAs (UK) require us to report to you where:

- the Trustees' use of the going concern basis of accounting in the preparation of the financial statements is not appropriate; or
- the Trustees have not disclosed in the financial statements any identified material uncertainties that may cast significant doubt about the charity's ability to continue to adopt the going concern basis of accounting for a period of at least twelve months from the date when the financial statements are authorised for issue.

Other information

The other information comprises the information included in the Report of the Trustees, other than the financial statements and our auditor's report thereon. The Trustees are responsible for the other information. Our

opinion on the financial statements does not cover the other information and, except to the extent otherwise explicitly stated in our report, we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated. If we identify such material inconsistencies or apparent material misstatements, we are required to determine whether there is a material misstatement in the financial statements or a material misstatement of the other information. If, based on the work we have performed, 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.

Matters on which we are required to report by exception

We have nothing to report in respect of the following matters where the Charities and Trustee Investment (Scotland) Act 2005 and the Charity Accounts (Scotland) Regulations 2006 (as amended) require us to report to you if, in our opinion:

- The information given in the financial statements is inconsistent in any material respect with the Trustees' report; or
- proper accounting records have not been kept, or
- the financial statements are not in agreement with the accounting records and returns; or
- we have not received all the information and explanations we require for our audit.

Responsibilities of Trustees

As explained more fully in the Statement of Trustees' responsibilities the Trustees are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view, and for such internal control as the Trustees determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Trustees are responsible for assessing the charity'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 Trustees either intend to cease operations or have no realistic alternative but to do so.

Auditor's responsibilities for the audit of the financial statements

We have been appointed as auditor under section 44(1)(c) of the Charities and Trustee Investment (Scotland) Act 2005 and report in accordance with the Act and relevant regulations made or having effect thereunder.

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are 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 (UK) 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 these financial statements.

A further description of our responsibilities for the audit of the financial statements is located on the Financial Reporting Council's website at <https://www.frc.org.uk/auditorsresponsibilities>. This description forms part of our auditor's report.

This report is made solely to the Trustees, as a body, in accordance with Section 44 (1) (c) of the Charities and Trustee Investment (Scotland) Act 2005 and Regulation 10 of the Charities Accounts (Scotland) Regulations 2006 (as amended). Our audit work has been undertaken so that we might state to the Trustees those matters we are required

to state to them in an auditor's 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 charity and its Trustees as a body for our audit work, for this report, or for the opinions we have formed.

Henderson Loggie

*Chartered Accountants & Statutory Auditors
Eligible to act as an auditor in terms of section
1212 of the Companies Act 2006*
34 Melville Street
Edinburgh
EH3 7HA

30 April 2018

Trustees and Standing Committees 2016-17

Nominated Members of the Trust

Professor Dame Anne Glover, DBE FRS FRSE FASM. *Chair since May 2015. Trustee since 2015.* A Biologist and Professor of Molecular and Cellular Biology at the University of Aberdeen, Anne Glover gained a first class Bachelor of Science honours degree at the University of Edinburgh and a PhD at King's College, Cambridge. Glover was recognised in 2008 as a Woman of Outstanding Achievement by the UK Resource Centre for Women in Science, Engineering and Technology and was awarded a CBE for services to environmental science. She recently completed a three year term as the first Chief Scientific Adviser to the President of the European Commission. Prior to that appointment she was the first Chief Scientific Adviser for Scotland (2006-11). Since June 2016, she is a member of the Standing Council on Europe, appointed by the Scottish Government.

Richard Burns Esq., MA LLB. *Trustee since 2005.* MA from Oxford in Modern History and LLB from Edinburgh University. Formerly joint senior partner of Baillie Gifford & Co, investment managers in Edinburgh, Chancellor's Assessor and Chairman of the Finance Committee of the Court of the University of Dundee. Chairman of two investment trust companies.

The Rt Hon Lord Eassie (Ronald D Mackay), PC. *Trustee from May 2016.* Lord Eassie holds the degrees of MA (Hons) from the University of St Andrews and LLB from the University of Edinburgh. Admitted to the Faculty of Advocates in 1972, he practised at the Bar until 1979, when he took up a post as an official of the Court of Justice of the European Communities in Luxembourg. He resumed practice as an advocate in 1983 becoming Queen's Counsel in 1986. He served as an Advocate depute between

1987 and 1990. From 1997 until retirement in 2015 he held office as a judge in the Court of Session and the High Court of Justiciary; and between 2002 and 2006 was also chairman of the Scottish Law Commission. Among extra-judicial activities, in 2005 Lord Eassie accepted an invitation to assume convenorship of the Joint Standing Committee on Legal Education in Scotland. He is also president of the council of the Scottish Universities Law Institute. He is an honorary member of the Society of Legal Scholars and has contributed to, or edited, a number of legal textbooks.

Alison Fielding, BSc MSc MBA PhD. *Trustee from May 2016.* Alison Fielding is an experienced entrepreneur; creating, building and investing in high-growth companies. Her career has spanned scientific research at Zeneca plc, strategy consultancy at McKinsey & Company, and investment, business building and CEO coaching at IP Group plc, where she was COO until 2013 and is currently Director of Strategy and IP Impact. She has extensive executive and non-executive experience and is currently NED at Getech plc, Perachem Holdings Limited and a trustee of Royal Voluntary Service. Alison holds a First Class Hons. BSc and PhD from the University of Glasgow, an MBA from Manchester Business School and a MSc in Mindfulness from the University of Aberdeen.

Sir John Grant, KCMG. *Trustee since 2013.* Formerly Executive Vice President, Policy and Corporate Affairs, BG Group. Before joining the BG Group in 2009, John had been president of BHP Billiton Europe since 2007. Prior to that he was a member of the Diplomatic Service from 1976-2007, holding posts in Stockholm, Moscow and Brussels, where he was the UK's Permanent Representative to the European Union from 2003-2007.

Lord Kerr of Kinlochard, GCMG HonLLD FRSE. *Deputy Chairman since 2013, Trustee since 2005*. Educated at Glasgow Academy and Pembroke College, Oxford. A Diplomatic Service career included spells as Permanent Representative to the EU, Ambassador to the USA, and Foreign Office Permanent Under Secretary (when he was a member of the British Council Board). Chairman of Imperial College 2005-11, and Deputy Chairman of Royal Dutch Shell 2005-12. Now Deputy Chairman of Scottish Power, Chairman of the Centre for European Reform and a director of the Scottish American Investment Company plc. Member, Standing Council for Europe since June 2016. Formerly a Rhodes Trustee and Fulbright Commissioner. A crossbench peer since 2004.

Donald McDonald, CBE. *Trustee from March 2016*. Donald MacDonald, a law graduate of Edinburgh University and a chartered accountant. Involved in corporate finance and a variety of businesses. Past President of Edinburgh Chamber of Commerce. Over 30 years involvement in the arts, formerly Chair (now life President) of Scottish Chamber Orchestra, also served on Board of Edinburgh Festival. Joint Founder of East Neuk Festival and also Research Centre into Motor Neurone Disease at Edinburgh University and Euans Guide.

Sir Iain McMillan, CBE FCIB FCIBS FAIA CCMi FSQA FRSA. *Trustee since 2010*. Sir Iain McMillan spent twenty-three years with the TSB Group prior to joining the Confederation of British Industry (CBI) in 1993. He held the position of Director, CBI Scotland for nineteen years until his retirement in 2014. Sir Iain now holds a number of Board positions in the business and charitable sectors. He is currently Chairman of SkillForce and the University of Strathclyde Business School Advisory Board, a Member of the Competition Appeal Tribunal and Honorary Patron of the Scottish North American Business Council (SNABC). In 2009, Sir Iain was appointed

Honorary Air Commodore of 602 (City of Glasgow) Squadron, Royal Auxiliary Air Force. In 2003, Sir Iain was appointed CBE for services to the business community and lifelong learning in Scotland. In 2015, Sir Iain was knighted for services to the Scottish economy.

Sandy Nairn, BSc PhD CFA. *Trustee from March 2016*. Investment Partner and CEO at Edinburgh Partners an Edinburgh based asset manager. Senior Non Executive Director at The Mercantile Trust. Previously Chief Investment Officer at Scottish Widows Investment Partnership (2000-2003) and Director of Global Equity Research at Templeton Investment (1990-2000). Prior to this he worked at Murray Johnstone an investment manager in Glasgow and as an economist at the Scottish Development Agency. He has authored two books on investment related topics.

Sara Parkin, OBE. *Trustee from March 2016*. Sara Parkin is Principal Associate of The Sustainability Literacy Project and co-Founder and Trustee of Forum for the Future. She was born in Aberdeen and began her working life as a nurse in Edinburgh. During the 1980s she played leading roles in the UK Green Party and in the growth of green politics worldwide. With Forum for the Future she designed and ran a Masters in Leadership for Sustainable Development for 20 years and wrote *The Positive Deviant: Sustainability Leadership in a Perverse World*, now a course book in several countries. She sits on the Board of the Higher Education Academy, is Chair of the Richard Sandbrook Trust and advises the NUS and others on sustainability. Past Board experience includes NERC, the Environment Agency (E&W), Friends of the Earth and the New Economics Foundation. She is also a Patron of Population Matters, the Urban Orchard Project and the Museum of Islay Life. Her honours include recognition by engineering, other professional and education institutions and, in 2001, an OBE for services to education and sustainable development.

Judith Sischy, OBE BA MA. *Trustee since 2011.* Former Chief Executive/ Director of Education for the Scottish Council of Independent Schools (SCIS); appointed on the Scottish Qualifications Authority Advisory Board, General Teaching Council for Scotland, Government's Curriculum for Excellence Management Board. Member of the Court of Queen Margaret University, the Institute of Chartered Accountants for Scotland and of the Appointments Committee of the General Teaching Council for Scotland. She has previously served on the Sick Children's Trust in Edinburgh, Childline, Common Purpose and Edinburgh Rotary (Past President). Awarded an OBE in 2009 for services to education and the voluntary sector.

Ian Sword, CBE HonDSc PhD FRSC FRSE FRCPE. *Trustee 2005 – May 2017.* Honorary Research Associate, University of Glasgow.

Ed Weepie, CB MA. *Trustee since 2016.* Formerly, Head of Lifelong Learning, Scottish Government – responsible for post-school education and training, including HE and FE. Since 2003, has held posts as: Court Member, Heriot-Watt University; Member and Chair, Telford College; Special Adviser to Principal, University of the West of Scotland; Secretary, Goodison Group in Scotland; and First Minister's Assessor to the CTUS. Posts held prior to 2003 include: Membership of: UK Chief Scientist's Advisory Committee; UK Science and Engineering Base Committee; and AFRC Management Board and Visiting Groups. Also, Common Purpose, Business in the Community Executive Council and Trustee, Garvald Edinburgh.

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Henry Duncan House, 120 George Street,
Edinburgh EH2 4TS

Investment Managers

Martin Currie Investment Management Ltd,
Saltire Court, 20 Castle Terrace,
Edinburgh EH1 2ES

Solicitors

Lindsays WS, Caledonian Exchange,
19A Canning Street, Edinburgh EH3 8HE

Copies of the Royal Charter and of its By-Laws may be obtained from the Secretary of the Trust on payment of a reasonable charge. The charity registration number of the Trust is SC 015600.

Photo credits

Figure 1 Dame Anne Glover, Chair

Figure 2 Keith Morgan, courtesy of University of Southampton

Figure 3 Prof Dennis, courtesy of the US Holocaust Memorial Museum, Washington DC

Figure 4 Edinburgh Napier Talk

Figure 5 Museum Talk

Figure 6 Arusa Quresh

Figure 7 Scholars' Day

Figure 8 Professor Dame Anne Glover, Fiona Kirton and Professor Sir Tim O'Shea

Figure 9 Elpis Tomba

Figure 10 Basem Saedi

Figure 11 Reinaline Morales

Figure 12 John McFarlane

Figure 13 Sandra Campbell

Figure 14 Susan Gray

Figure 15 Fergus Hall

Figure 16 Fraser Logan

Figure 17 Lydia Moore

Figure 18 Larissa Kennel

Figure 19 David Lan-Pak-Kee on Ben Ledi

Figure 20 Julie Risko at Orphir Norse Settlement, Orkney

Figure 21 Fraser Logan

Figure 22 Stuart Flannigan

Figure 23 Gergana Daskalova

Figure 24 Ewan Hannaford

Figure 25 Steven Worth

Figure 26 Kristin Lund

Figure 27 Nicola John

Figure 28 Ailsa Quirie at Mount Ngauruhoe in New Zealand

Figure 29 Colin Reilly

Figure 30 Heather Branigan and Margarita Kanevski

Figure 31 Lou Dear's visit to Balmoral, Sydney Cove

Figure 32 Dr David Miles

Figure 33 Dr Joseph Dewhurst

Figure 34 Dr Gill Murray-Dickson

Figure 35 Dr Jennifer Cadman

Figure 36 Professor Hayden Lorimer, Kilmahew-St. Peters, Argyll & Bute

Figure 37 Dr Jed Long

Figure 38 Dr Gillian Hunter

Figure 39 Dr Karen Meyer

Figure 40 Dr Nandini Bhattacharya

Figure 41 Dr Donna Yates (left) with Dr Anette Hübschle in Cape Town

Figure 42 Dr Uisdean Nicholson

Figure 43 Dr Malcom Combe (3rd left, back row) at a seminar in Cape Town

Figure 44 Dr Antonio Hurtado

Figure 45 Professor Hayden Lorimer

Figure 46 Dr Katherine Duncan

Figure 47 Dr Tamir Chandra

Figure 48 Dr Yee Shing

Figure 49 Dr Roderick Williams

Figure 50 Professor Claire Kramersch



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