

## Charity Beneficiaries, Supporters and Donors

It is vital that charities understand the impact on their beneficiaries of grants awarded and the ongoing encouragement to their supporters and donors of positive results.

To analyse this impact, Tenovus Scotland requests Final Reports from researchers immediately after the pilot research is complete (usually after 12-18 months) and carries out Annual Surveys to determine the achievements of pilot grants which were awarded five years previously.

Final reports are reviewed by the Regional Committees to understand the effectiveness of the pilot research. The Annual Surveys take a longer term look to evaluate the ongoing success of the research.

The results of the last six surveys (2006/7 to 2012/13) for pilot grants are:

- 50%** 50% of all pilot grants led to successful further external funding
- 12 x** External funding was 12 times the total of all pilot grants awarded
- 350** 350 publications, poster and conference presentations and press releases

Our annual survey results undoubtedly show that our pilot grants not only contribute to advances in research and future clinical outcomes but also progress careers by providing a pool of experienced researchers who are able to drive today's leading-edge research.

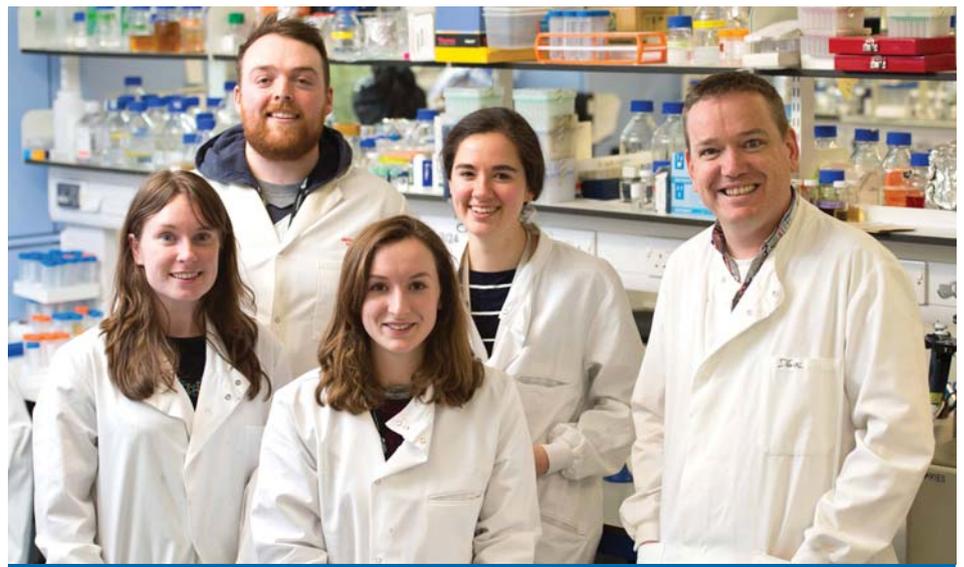
## Stepping Stone

One researcher to benefit in the long term from pilot funding is Dr Donal Wall. Here is his success story.

"Tenovus Scotland has been an essential aid in getting my career up and running.

In 2009, when I first set up my laboratory at the University of Glasgow, there were few funding options to help when getting started. Tenovus Scotland provided me with a research grant in my first year, allowing the lab to generate sufficient data for further applications for larger grants to the UK government Research Councils. The work funded by Tenovus Scotland contributed to a significant publication from the lab which gained worldwide media attention, and which led me to being awarded the Sir Robert MacLellan Award. This in turn further contributed to showcasing our work and ensuring our work attracted further research funding.

Now the lab has been funded continuously for over seven years through Research Council funding, and numerous postgraduate students have been trained in the lab, graduating with MSc and PhD degrees.



Dr Wall (extreme right) with his group of researchers

The current research focus of the group is three-fold; firstly, we strive to understand bacterial infection; secondly, we look at the impact of certain bacteria on exacerbation of the symptoms of Crohn's disease; and finally, we are utilising advanced imaging techniques to identify molecules produced by bacteria in the intestine and how these may contribute to human health and disease. For these projects we collaborate with clinicians from hospitals in Glasgow to increase the potential of our work to impact on the general public. Presently the lab has six members with two more to join shortly. I also now sit on grant funding panels for both the UK

government and European Union.

While my lab is now established, the first funding I received from Tenovus Scotland was a crucial factor in these subsequent successes. As a new Lecturer in 2009 the confidence gained from getting a first grant from Tenovus Scotland was really helpful in allowing me to pursue the science that I felt was important. Without the stepping stone it provided I am not sure pursuing larger grants would have been, or even seemed, possible."

Dr Donal Wall, Senior Lecturer (Bacteriology) and Associate (School of Life Sciences), University of Glasgow

## Sir Robin MacLellan 2018 Travel Award



*Dr Kang being presented with her Award from Sir Kenneth Calman, Honorary President of Tenovus Scotland at the 2018 AGM*

This annual award is for the most outstanding Final Report of a pilot study which has recently been completed.

"I am extremely honoured to be awarded the Sir Robin MacLellan Award. My research project aimed to understand how proteins and molecules outside the cell communicate

with their partners on the cell surface and how this process regulates the ability of heart muscle cells to use glucose as a source of energy in diabetes and heart failure. Our pilot study clearly shows that abnormalities in the extracellular space of the heart contribute to insulin resistance, a condition in which cells fail to respond to the normal actions of the hormone insulin, therefore resulting in elevated blood glucose. The results of our studies provide important and novel insights into underlying mechanisms for the development of cardiac insulin resistance and suggest the therapeutic potential of targeting cardiac extracellular abnormalities in diabetes and heart disease. These results have formed important preliminary data for a recently awarded project grant funded by the British Heart Foundation. This grant will allow us to further elucidate the therapeutic capability of targeting these extracellular abnormalities. My

project supported by Tenovus Scotland has also enabled me to establish important collaborations which are essential for the newly funded project. Being a recipient of two Tenovus Scotland small grants and this year's Sir Robin MacLellan Award, I was able to disseminate our important research results in international conferences, including the recent European Association for the Study of Diabetes conference in Berlin this October. My deepest gratitude goes to Tenovus Scotland for the opportunity of conducting such an exciting project, which has served as a springboard for what I hope will be a long, productive career for me as an independent researcher. The significant funding from Tenovus Scotland has enhanced my knowledge, expanded my research areas and networks, and raised my international profile in the scientific community of diabetes and heart disease."

Li Kang, University of Dundee,  
2018 Award winner

## Sir Roddy MacSween Medal

A highlight of last year was the first award of the Sir Roddy MacSween Medal to Antonia Mentel. This award, commemorating our past National Chairman, was made possible by the generous donations at the time of Sir Roddy's funeral, subsequent memorial service and the wonderful generosity of Lady MacSween and the MacSween family. In a new departure for Tenovus Scotland, this is a prize to an undergraduate, specifically a medical student with exceptional performance in pathology, in the University of Glasgow Medical School. The award consists of a prize medal and a significant monetary award.

"I had the honour to receive the Sir Roddy MacSween prize and medal for pathology at the year three viva, as I was one of the highest scoring students in the final year three exam.

Receiving this award has given me several unique opportunities. I had the privilege of meeting the wonderful widow of Sir Roddy MacSween, Lady MacSween, as well as several figureheads of Scottish medicine, with whom it was inspiring and enriching to speak.

The money I have received has allowed me to finance my travels to Vienna this summer, where I was working in the largest hospital in Austria to broaden my knowledge of endocrinology. I got an insight into another health care system and was able to follow several rare endocrinological cases. It has further contributed to financing my intercalated year, in which I am studying for a Bachelor of Clinical Medicine in cardiovascular sciences. As part of my degree I am currently working on a paper on the effect of atrial fibrillation



*Lady MacSween and Antonia at the Medal ceremony*

type on secondary stroke and systemic embolism risk.

The prize has allowed me to grow academically, and as an individual. Furthermore, the opportunities to which this prize has contributed will certainly make me more competitive in the future."

Antonia Mentel, Award winner

## Pre-eclampsia . . . first steps towards a bigger study

An Aberdeen University multidisciplinary research team, supported by a £20,000 Tenovus Scotland pilot grant, is studying methods of identifying women who, having suffered pre-eclampsia during pregnancy, go on to develop cardiovascular disease, including hypertension, heart attacks and strokes, later in life.

Pre-eclampsia, a condition affecting 1 in 20 pregnancies, is marked by hypertension and possible other organ damage; rarely a cause of maternal death in UK, it globally contributes to the deaths of 76,000 mothers and half a million babies annually.

Using the Aberdeen Maternity and Neonatal Databank, which holds details

of all pregnancies since 1950, four groups of women will be recruited, to include women who did/did not have pre-eclampsia and who, later in life, have/have not got cardiovascular disease. Participants will undergo a series of tests which mark early heart disease to seek differences in the different groups.

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# Face to Face

with Angela Ianniciello, a Princess Royal Tenovus Scotland Medical Research Scholar and Dr Vignir Helgason, Angela's Supervisor

## Angela

### What is your background?

I graduated in medical biotechnology from the University of Florence in 2012. I then studied for a Masters degree in regenerative medicine, which included an internship at the University of Bordeaux in 2014. I am currently in my final year of a PhD in Dr. Helgason's laboratory at the University of Glasgow, studying the role of autophagy in the survival of chronic myeloid leukemia stem cells.

### Why did you decide to get involved in medical research?

During my studies in Florence, I had the chance to train in the laboratory of Professor Renato Fani, a very passionate microbiologist and a truly inspiring scientist for most of my colleagues at the time. This was a great research experience that motivated me to pursue a career in science. During my Masters degree studies, my desire to gain work experience abroad led me to the University of Bordeaux to work in Professor Mahon's laboratory, where I became passionate about understanding and studying cellular mechanisms that drive drug resistance in chronic myeloid leukaemia. Of particular interest was the process of autophagy and its critical role in promoting survival of leukaemic stem cells.

### Why did you apply for the Scholarship?

My ambition to undertake a PhD with world leading experts in the autophagy and leukaemia field encouraged me to contact Dr Helgason and Professor Holyoake at the University of Glasgow. After a few emails and a Skype interview, we started to look for scholarship opportunities to allow me to work in Dr Helgason's laboratory. We were pleased to find the opportunity provided by The Princess Royal Tenovus Scotland Medical Research Scholarship and decided to apply. Thankfully, the outcome of our application and the interview that followed was positive.

### What has your research revealed to date and what is the expected outcome?

My PhD project is focused on chronic

myeloid leukemia and, in particular, on understanding the role of ULK1, a protein involved in the early stages of the autophagy process, in the survival of drug resistant leukaemic stem cells. We have been testing a new ULK1 inhibitor which appears a very promising candidate in combination with tyrosine kinase inhibitors to eradicate chronic myeloid leukaemic stem cells. We are currently further investigating the metabolic effect of the inhibitor and conducting pre-clinical efficacy studies. Our aim is to publish our results in a high impact factor journal and hope, in the longer term, to propose a new treatment option for chronic myeloid leukaemia patients. So far, these results have also allowed my supervisor to apply and obtain further funding to continue the work.

### What are your next steps after obtaining your PhD?

I am very satisfied with my research experience at the University of Glasgow. Dr Helgason's laboratory has given me the chance to work in a very genuine and highly skilled environment that has further motivated me to continue working in science. I am aiming to submit my Thesis in March and have already accepted a short-term contract to continue in Dr Helgason lab after the submission. After that, I will search for new and exciting opportunities to work in the field of medical science.

## Vignir

### What is your background?

I trained for a PhD degree in Professor Kevin Ryan's "Tumour Cell Death Laboratory" at the Cancer Research UK Beatson Institute and graduated with a PhD from University of Glasgow in October 2007. I then worked in Professor Tessa Holyoake's lab at the Paul O'Gorman Leukaemia Research Centre. From 2013-15 I was awarded a Kay Kendall Leukaemia Fund Research Fellowship, University of Glasgow Leadership Fellowship and John Goldman Fellowship for Future Science, which allowed me to set up my own research group at the world-class Wolfson Wohl Cancer Research Centre. My team works on leukaemia, focusing on the role of autophagy and energy metabolism in disease persistence and drug resistance.

### Why did you select Angela and has she met your expectations?

Angela initially contacted me in May 2015 to express her interest in pursuing a PhD in my laboratory. During our e-mail and Skype conversation that



Dr Vignir Helgason and Angela

followed, it became very clear to me that she was a highly motivated undergraduate student and shared my interest in autophagy and leukaemia research. When I saw the advertisement for the Princess Royal Scholarship, I immediately contacted Angela, as I believed she would have the enthusiasm and ability to deliver the aims of the project I had in mind and therefore, be a highly suitable candidate for this PhD Studentship. Indeed, Angela has met the expectations I have for any PhD students. For example, Angela has already i) represented the lab and presented her work at national and international conferences, ii) written a comprehensive review article about the role of autophagy and metabolism in leukaemic stem cells, iii) actively participated in drug-development collaboration with industry and iv) generated high quality research data required for her thesis and subsequent submission for peer-reviewed publication.

### How are you planning to continue the research after Angela has completed her PhD?

The Princess Royal Scholarship has already been used to leverage additional funding. Based on Angela's work and the encouraging results she has obtained, I have recently been awarded a Medical Research Scotland PhD Studentship to further develop this work.

### What are the benefits of the Princess Royal Scholarship?

Any investment into medical research is hugely important. An additional benefit of the Princess Royal Scholarship is that it provides a great opportunity for motivated graduate students to undertake a PhD degree in Scottish leading research and training centres. Moreover, as an Early Career Researcher, the Scholarship award was a crucial step towards establishing my own research group here at the Wolfson Wohl Cancer Research Centre in Glasgow.

## Tenovus Medal Lecture

This year's Tenovus Medal was awarded to Professor Anne Ellaway of the MRC Public Health Unit in Glasgow. Anne is a social scientist with a longstanding interest in exploring the processes by which features of the local social and physical environment might influence health and the ability to lead a healthy life.

She has led an internationally recognised and prestigious programme of work on these topics in the MRC funded Social and Public Health Sciences Unit at the University of Glasgow for 10 years.

She gave her lecture at the CRUK Beatson in Glasgow on 7th November last year and was joined by a stellar cast of international speakers at the UK Biochemical Society's meeting on



**Professor Ellaway receiving her medal from Professor Ken Paterson, Acting Chairman of Tenovus Scotland**

Mechanisms of Ageing and Disease. All aspects of ageing research were covered, including mechanisms, models and translational research, which went down so well with the audience that an annual conference of this topic has been a major item requested via audience feedback.

## CHANGES

Professor Andrew Calder has recently retired as National Chair and Professor Ken Paterson has taken over as Acting Chair until a new Chair is elected at this year's AGM. Professor Calder served on the National and Edinburgh Regional Committees for many years and was National Chair for seven years. He has carried out his duties with enthusiasm, professionalism and humour, and he will continue to serve on the National and Edinburgh Committees.

Mrs Thia Begg, who served on the Strathclyde Committee for many years, was appointed an Honorary Vice President at last year's AGM. She will continue to fundraise and carry out our annual survey of research projects, a particularly important task which she has been doing for over a decade.

## TRIO HONOURED

Nicola Benedetti, Honorary Vice President, and Professor Iain McInnes, Strathclyde Local Scientific Advisory Committee member, have been made Commanders of the Order of the British Empire (CBE) for services to music and to medicine respectively.

Professor Andrew Calder, recently retired National Chair, has been made a member of the Most Excellent Order of the British Empire (MBE) for his services to obstetrics and gynaecology.

We offer all three our sincere congratulations on this well-deserved recognition of their contributions.

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Professor Phyo Myint, Professor of Old Age Medicine commented, "It is widely acknowledged that pre-eclampsia can lead to a range of complications with the heart in middle and later life, but some may be surprised that standardised tests have never been developed to identify those most at risk. This small pilot study will make use of the excellent data available to us via the Aberdeen Databank to take the first steps towards a bigger study which

could eventually see the development of globally applicable tests that ultimately could save women's lives."

Dr Gamble, award lead applicant said, "I am delighted to get this prestigious grant support from Tenovus Scotland, and I look forward to working with an expert team of researchers in this neglected area of research. This project will provide essential data for my future research project and programmes as a PhD fellow and programme lead."

## Support Us

### Donations

Our income is totally dependent on donations from individuals, companies and trusts. We receive no government funding.

Funds are spent in the region (Edinburgh, Grampian, Strathclyde and Tayside) where they are raised, supporting research in academic institutions and clinical centres in that area. This local accountability ensures close monitoring of funding to maximise the benefits.

By donating, you are making a difference at the key early stage of medical research, funding tomorrow's potential big medical breakthroughs. You are also helping early-career scientists, enabling them to develop their research career in Scotland.

Please donate online at [www.justgiving.com/tenovusscotland](http://www.justgiving.com/tenovusscotland) or send a cheque to:

**Tenovus Scotland**  
At Royal College of Physicians and Surgeons Glasgow  
232-244 St Vincent Street  
Glasgow G2 5RJ

### Business Sponsorship

By sponsoring Tenovus Scotland, businesses can play a part in helping develop potential healthcare and medical breakthroughs in Scotland, and in supporting a new generation of outstanding medical researchers locally.

If this would be of interest to your business, or if you know of a business that could be interested, please contact the General Secretary at [general.secy@tenovus-scotland.org.uk](mailto:general.secy@tenovus-scotland.org.uk)

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You can browse their website for the store you want to shop with. Click 'shop & raise' to go to their website, then continue to shop as normal.

Give as you Live will then email you within 1-7 days to let you know how much you've raised.