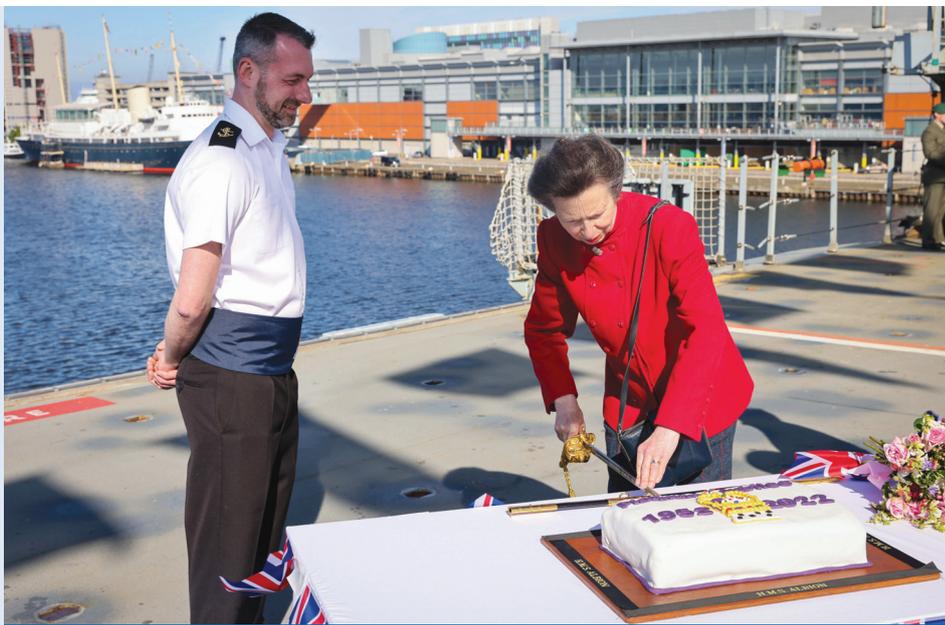


"Tenovus Scotland was saddened by the death of Her Majesty Queen Elizabeth II, albeit after a long life of service to the United Kingdom and people around the world.

We expressed our condolences to the whole Royal Family in a letter to our Patron, HRH The Princess Royal.

The General Secretary and I had met our Patron in rather happier circumstances some three months earlier, at an event hosted by the Royal Navy, to celebrate Her Majesty's Platinum Jubilee. HRH The Princess Royal and her husband, Vice-Admiral Sir Timothy Laurence, met representatives of 19 charities of which she is Patron aboard HMS Albion, moored in Leith. It was a chance to discuss the work of Tenovus with Her Royal Highness and also those representing other charities.



The Princess Royal cutting Platinum Jubilee cake

The Royal Navy invited us to use the occasion to make any award that we had outstanding, so we took the opportunity to present Professor John Dillon of Dundee University with the 2020 Lady Margaret

MacLellan Award (see more overleaf)."

*Professor Ken Paterson
National Chairman*

Assessing the value of our support

Five years after grants are awarded, a survey is carried out as part of our governance. In addition to assessing the projects that obtained further funding and the amount of that funding, it also gives researchers the opportunity to inform us of their experiences.

Here is a very small selection of excerpts from the 2017 survey.

“ We have identified a potential drug target for patients with Multiple Sclerosis and we are working towards understanding the role of cathelicidin, a target in the development of this and other autoimmune diseases. ”

*Dr Emily Gwyer Findlay
Edinburgh*

“ Tenovus Scotland Pilot Grants provided a springboard for our lab to foster new local and national collaborations, which have sparked an exciting research programme into uncovering novel drug targets for cardiovascular disease. ”

*Dr Fiona Murray
Grampian Highlands & Islands*

“ The generous and uncomplicated funding from Tenovus has allowed me to significantly advance a project, all the way to its publication. The results obtained during my research showed a novel way of how cancer cells can become resistant to cell death. ”

*Dr Florian Bock
Strathclyde*

EXCELLENCE AWARDS

In addition to providing funding to support research projects, Tenovus Scotland offers a small number of National Awards in recognition of research excellence.

We have been unable to present these awards for some time due to Covid restrictions but, with these now removed, we held Award presentations during this Summer and Autumn. These awards cover established and early career researchers and medical undergraduates.

Our thanks and congratulations go to all our award recipients.



LtoR: Hon VP Mrs Thia Begg, Dame Anna Dominiczak, Professor Gillian Mead, Dr Will Martin and Hon VP Mr Malcolm McIver OBE

Lady Margaret MacLellan Award

This biennial award is for 'outstanding contributions to medical science in Scotland'.

The 2018 Award went to Dame Professor Anna Dominiczak from the University of Glasgow in recognition of her work in 'Precision Medicine'.

Professor Dominiczak was among the first to recognise the potential in the emerging field of precision medicine in Scotland.

Subsequent to this, she has led the development of a globally competitive eco-system in Scotland in this field, centred on the Stratified Medicine Scotland-Innovation Centre (SMS-IC) at the Queen Elizabeth University Hospital in Glasgow. She offers an outstanding internationally competitive research and scholarship track record, upon which she has built a formidable precision medicine capability in Scotland which will enhance the current and future generations of investigators in the clinical, molecular and informatics fields.

The 2020 award went to Professor John Dillon from the University of Dundee in recognition of his work in the field of hepatitis, particularly Hepatitis C.

His early work characterised the epidemiology of Hepatitis C and led to the development of new models of care provision such that, by the end of 2019, NHS Tayside had diagnosed 90% of cases and treated 80% of eligible patients. This met, 11 years early, the WHO target for reducing Hepatitis C. The new models of care are being widely copied across Europe and beyond.

The Lady Illingworth Trust Prize Award

This five-yearly award is for an outstanding contribution to the understanding of the disabilities which affect elderly people within the British Isles.

Professor Gillian Mead from the University of Edinburgh was the recipient for her work on post-stroke rehabilitation.

In particular, she pioneered physical fitness training for stroke survivors, working with exercise professionals to develop pathways into community exercise. She has also undertaken considerable research into post-stroke fatigue, showing definitively that antidepressant therapy is not helpful for this symptom. More recently, she has developed interests in palliative care following stroke and has a worldwide reputation in the field.



Professor Dillon received his award from JJ Chalmers at the Platinum Jubilee event on HMS Albion at Leith in June

Sir Robin MacLellan Travel Award

This annual award is for the researcher whose final pilot research report has been judged the most outstanding of the year.

The recipients of this award for the two years to 31st March 2022 are Professor Damion Corrigan and Dr Christos Pliotas.

Professor Corrigan's research funding at the University of Strathclyde was for 'Rapidly diagnosing meningitis and septicaemia in critical care facilities'.

With pilot funding from Tenovus Scotland and further external funding, Professor Corrigan and his team at the University of Strathclyde have developed an innovative, low-cost test for earlier diagnosis of sepsis which could save thousands of lives.

The simple system for sensitive real-time measurement of the life-threatening condition is much quicker than existing hospital tests, which can take up to 72 hours to process.

Using a microelectrode, a biosensor device is used to detect if one of the protein biomarkers of sepsis – interleukin-6 (IL-6) – is present in the bloodstream. It is a molecule secreted by the immune system and the levels of it in the blood increase in many of those who have the condition.

The research results show that increased levels of the molecule can be detected by the test in as little as two and a half minutes. The small size of the devices - microelectrodes on needle-shaped substrates - makes them ideal for initial testing and continuous monitoring for sepsis, which is notoriously difficult to diagnose.

Professor Corrigan said: "With sepsis, the timing is key. For every hour that you delay the antibiotic treatment, the likelihood of death increases. At the moment the 72-hour blood test is a very labour-intensive process, but the type of test we envisage could be at the bedside and involve doctors or nurses being able to monitor levels of sepsis biomarkers for themselves.



Professor Corrigan with Professor Paterson

When the pandemic hit during March 2020 the research team's track record and capability built for sepsis enabled it to bid successfully for funds from the Chief Scientist Office to adapt the technology for Covid-19 detection and has led to focussing on developing a point-of-care platform technology to address many diseases including heart disease, cancer, sepsis and infectious disease.

On a personal level, the Tenovus pilot funding has helped greatly in the development of my research career. At the time of receiving the pilot award I held no other research grants and this enabled me to equip my laboratory and provide chemical reagents to PhD students for the development of the biosensor technologies. In the time since receiving the grant, I have won several more and built a critical mass in my research which has enabled me to progress from Lecturer through to Professor in five years."



Dr Pliotas with Professor Paterson

Dr Christos Pliotas' pilot grant funding was for research at the University of St Andrews into 'Tackling Antimicrobial Resistance (AMR) by controlled manipulation of cell membrane channel pores - molecular gating studies leading to effective drug targeting'.

"Tenovus Scotland was the first grant I was successful in, during the first and crucial steps of my independent career at the University of St Andrews. Receiving this generous support from Tenovus Scotland at that early and challenging stage of my career was crucial as it allowed me to obtain essential tools, reagents and consumables to further develop my research.

In particular, with these funds I supported an existing and initiated a new high-impact project that led to discoveries in antimicrobial resistance. While studying membrane pore-forming proteins, which constitute gateways to enter and/or exit the cell, using Tenovus funding I identified the key membrane lipids that were involved in the controlled opening and closure of these pores. Since these proteins (or channels) are present in organisms that span most bacterial pathogens but not humans, they are ideal drug targets for tackling antimicrobial resistance. This could be achieved by developing new antimicrobials and antibiotics which specifically target the bacterial pathogenic pores and leave the healthy human cells intact.

These discoveries led to a series of high-impact publications which, without the Tenovus Scotland support, could not have been implemented. Importantly, following the successes underpinned by the Tenovus-funded research, I acquired multiple major grant awards totalling several million pounds to further develop my research portfolio.

For all those reasons and the trust Tenovus Scotland has shown to me at an early stage of my career, I am highly indebted to it. Its generous support was vital and a testament to my personal development both as an academic and as a research group leader".

Dr Christos Pliotas

Face to Face

with Dame Professor Anna Dominiczak who is Chief Scientist, Health and Regius Professor of Medicine, at the University of Glasgow



Can you define your background and how did you become interested in medical research?

Both of my parents were professors of medicine, it was therefore both interesting and inevitable for me to study medicine. In my third year of medical school, I became interested in mechanisms of high blood pressure, and this has led to a life-long interest in hypertension research and cardiovascular disease prevention.

What is Precision Medicine?

Precision medicine is best described as a very practical way to utilise all discoveries of molecular research to prevent, diagnose and treat diseases better than ever before. This broad definition recognises that medicine has always aimed at precision, but discoveries of the past two or three decades have positioned us to understand mechanisms, to develop biomarkers and to stratify diseases. It is important to note that successful precision medicine requires "triple helix" collaborations between academia, NHS and industry to work at its best.

Thus far the biggest progress has been in cancer, where genomic markers sub-stratify difficult-to-diagnose and treat cancers to allow for the holy grail of precision medicine, the right treatment for the right patient at the right time.

What factors led you into Precision Medicine and how successful has your research been?

My colleagues and I at the University of Glasgow and the Greater Glasgow and Clyde Health Board, have made some progress in precision medicine applied to hypertension, where we studied mechanistically a gene and protein called uromodulin. We translated our laboratory studies from bench to bedside to stratify patients with high blood pressure based on easy to test genetic

differences in uromodulin. We are completing a clinical trial to use this biomarker to help patients with difficult-to-treat hypertension.

What future advances do you anticipate?

There are many possible future advances in precision medicine, including the ability to perform a simple genetic test before prescribing drugs as the very best way to prevent adverse drug reactions as well as utilising machine learning and artificial intelligence to improve prevention, diagnostics and treatment choices at whole population level (precision prevention).

How important is Tenovus Scotland funding to early career researchers?

Tenovus Scotland funding for early career researchers is of great importance for Scotland. For any young biomedical scientist, this first ever grant is the most important win in their career. It allows young scientists to start developing preliminary data and then succeed in winning much bigger funding in UK-wide competition. Research, development and innovation are very strong in Scotland and have become even more important as we recover from the pandemic. The support for the young clinical and biomedical scientists is vitally important for the Scottish population and our economy.

What interests outside Medicine do you have?

I like reading and fashion and try to exercise regularly with running and walking being my favourites.

DAN FRASER

"It was with great sadness that we learned of Dan Fraser's death in July, at the age of 80. Dan, a retired banker, was a greatly valued, long-term contributor to Tenovus Scotland, firstly as the treasurer of the Grampian, Highlands & Islands (GHI) Regional Committee when he steered us through the vagaries of our fluctuating financial resources, but also, latterly as a Trustee on the National Committee.

We could always rely on Dan's commitment, constancy, wisdom and good humour. Members of GHI Committee fondly remembered their association with Dan, in addition, through his enthusiastic golfing activities and his work with other charities in Northeast Scotland."

*Professor Jamie Grieve,
Grampian Highlands & Islands
Chairman and National Trustee*

SAVE THE DATE!

Tenovus Scotland Researchers & Supporters Networking Symposium at the Royal College of Physicians of Edinburgh on 6th October 2023

Researchers -

- Present your latest research to your fellow researchers
- Meet and network with like-minded researchers
- Meet and discuss your research with funders and supporters

Supporters -

- Hear the very latest research news from across Scotland
- Meet researchers supported by Tenovus Scotland funds
- Discuss ongoing and future research plans

CONTINUED FROM PAGE 3 SIR RODDY MACSWEEN AWARD

Sir Roddy MacSween Award

This is awarded annually to an undergraduate, specifically, a medical student with exceptional performance in pathology in the University of Glasgow Medical School.



The Awards were presented by Sir Roddy's son, Gordon, to Dr Will Martin (see p.2), Sarah Clark and Jessica Jackson (above). We wish them well in their studies and future medical careers