



The Royal Scottish Society of Arts

Celebrating 200 years of Scotland's Science, Technology and Innovation

Presidential Report for the 202nd Session of the Society (2022-23) To be presented at the AGM, Monday 5th June 2023

Dr Alison Morrison-Low, President

This is the **President's Report** for the 202nd Session of the Royal Scottish Society of Arts. My report concerns the objectives and activities of the Society from this time last year, when our activities have increased after the end of the pandemic, although its effects continue to be felt. Nevertheless, there is still much that has been achieved.

As you know, the Society was formed almost two hundred years ago for 'the encouragement of the useful arts in Scotland', which these days is taken to mean that we are concerned with advances in science, technology, engineering and manufacture – and indeed, our strap line is 'showcasing Scotland's Science, Technology and Innovation'. After a two-year gap, the Society was again able to award the medals and prizes for the highest marks in the SQA exam in Higher Engineering Science to Robin Ferguson from Hutchesons Grammar School, Glasgow, and for Advanced Higher Engineering Science to Logan Suddaby from Queen Anne High School, Dunfermline, at the Science and the Parliament event on 23 November 2022. For the first time, Council organised a stall manned by Fellows to raise the profile of the Society's activities, which produced a number of enquiries. We will probably do this again.

Council arranged a complete lecture series of seven talks (discussed in more detail below), continuing the methods used just after the pandemic through hybrid meetings in which people were free to attend at the Augustine United Church or stay at home to view on Zoom. We were able to consider virtually or in person the Society's future business at three Council meetings – for all of which I must thank Councillors, the Vice-Presidents, Office-holders and especially the Secretary for keeping the Society on track. Also many thanks from all of us to the Programme Secretary, Brigadier Ian Gardiner, for all the splendid efforts put into the programme, past and present. Thanks too, to Treasurer Graham Rule, who has managed the hybrid meetings (I found spotting the questioners difficult to master; but Graham had to run around the Hall with a hand microphone - ably assisted by Pat Jones) as well as recording events for later viewing on YouTube. Refreshments resumed last year, and were available all of this session; thanks to Peter Stewart and Pat Jones. We are most grateful to you all. I'd also like to thank you, the Fellows, for supporting what we do by turning up and/or tuning in on (mostly) the fourth Monday of the month to hear about new and recent aspects of cutting-edge Scottish scientific developments.

As you may recall, four years ago now, Council formed a small sub-committee, to work out how we might celebrate our forthcoming Bicentenary in 2021: two hundred years of 'showcasing Scotland's Science, Technology and Innovation' should not go unmarked. Because of coronavirus, we have been forced to postpone our celebrations not once but twice, and so the year of our intended events has been strung out over a number of years. However, this is the last time you will hear of them in the Presidential Report!

The subcommittee, which met once in the past year, has continued with organisation of the bicentenary events. Most of these have now been subsumed into the Council meetings, and the fullest expression of our Bicentenary celebrations has been put into the small booklet, *Commemorating the Bicentenary of the Royal Scottish Society of Arts*, which you will have received with this Report. Designed and produced by Professor Beverly Bergman, the Society is truly grateful to her for the long hours she has spent making this production look as professional as it does. It is a fitting tribute to the Society's Bicentenary, undertaken in difficult times.

Among the events that appear in the Bicentenary booklet which took place during the year of this Report, was the Bicentenary Seminar, with the President giving a short overview of 'Two hundred years of "The Useful Arts" in Scotland: the Bicentenary of the Royal Scottish Society of Arts', followed by RSSA Honorary Fellow, Professor Dame Anne Glover speaking about Post-Covid Scotland. She had recently been the Chair of the Royal Society of Edinburgh's Post Covid-19 Futures Commission. This occasion, with refreshments at the Royal Scots Club, had to be rescheduled from 13 December 2021, and was held on 16 June 2022 with seasonal prosecco and strawberries and cream.

Progress was made on the award of an RSSA Bicentenary Prize for Scottish undergraduates in STEM subjects. Delayed by the effects of the pandemic, applications were of a high standard, so Council took the decision to award two Travel Scholarships to third year students, each of £2000. These were awarded in March 2023 to Ann-Kathryn Hoffmans, Department of Chemistry, and Mac Walker (in absentia), Department of Mathematics, both University of Edinburgh. It is hoped that both students, having completed their Scholarships at the Arctic University of Norway and MIT respectively, will be able to come to a special meeting at the Augustine Church towards the end of the year, and tell the Society about their experiences.

Another Bicentenary event which occurred unexpectedly - but never let it be said that Council members let opportunity pass them by - was that Brigadier Ian Gardiner, Programme Secretary, met the editor of *Edinburgh Life*, who was happy to provide an illustrated article 'Celebrating 200 Years of the "Useful Arts"' in the magazine's September/October 2022 issue.

Outstanding, but nevertheless still moving forwards, is the project to get the Society's 19 volumes of *Transactions* - published between 1841 and 1927 - digitised and made accessible on-line to both Society Fellows and the general public. We continue to discuss this with the National Library of Scotland, who are prepared to do this for free, and will then support the project on their website. This did not move forward during lockdown,

understandably, and now that National Library staff are returning to their offices full-time we hope to have more positive news about this shortly.

And there is a note of failure: we had hoped that a Bicentenary Lunch, with an invitation to the Society's Patron H.M. The Queen would take place in the Upper part of the Signet Library. Our delayed Bicentenary celebrations moved into the Platinum Jubilee anniversary year, and the two dates we hoped to entertain Her Majesty turned out to be unsuitable for the royal diary. And then, as we all know, our Royal Patron sadly died.

As the Society's representative, I was present on 12 September 2022 at the Scottish Parliament for the 'Motion of Condolence for H.M. The Queen', read aloud in the presence of H.M. The King, and I was subsequently introduced to H.M. The Queen Consort. A few days later, with Council Member Professor Beverly Bergman, I met with H.R.H. The Princess Royal to discuss Her Late Majesty's patronages. These are now all under review by H.M. The King, and we will be hearing in due course - probably after the Coronation - who our new Royal Patron might be.

The Society resumed excursions just before the last AGM; and I missed it out of our Annual Report - so for completion's sake, about 20 Fellows visited the Bayes Centre of the University of Edinburgh on 23 May 2022. Another visit, the first of the session, was held on 5 September, when a group of Fellows were welcomed to the Royal Botanic Gardens Edinburgh, and after an introductory talk we visited the Herbarium to be shown some of their treasures, and then moved on to the marvellous Gardens themselves.

The 202nd annual lecture series began in September, all given both in person to attendees in the Augustine United Church and virtually through Zoom, and recorded by Graham Rule and subsequently put on YouTube for access by Fellows, if the speaker gave permission. There were in total seven lectures, the first given by Air Vice-Marshall Ross Paterson, Air Officer Scotland. He spoke about the Royal Air Force's current mission and role; its commitment to addressing climate change and its impact; its growing interest in space; and what is being done to build and sustain a Royal Air Force for whatever the future might bring. Our second speaker, Dr Georgia Perona-Wright, Senior Lecturer at the School of Infection and Immunity at the University of Glasgow, delivered an enlightening talk on 'Immune Cells as Trained Defences: The Biology of Vaccine Design', which, in the light of the recent past was very much what many of our audience wanted to hear about. She explained that the human immune system is our principal defence system, how it tackles respiratory diseases, but sometimes it does so with fatal collateral damage. She demonstrated how vaccines can be designed to prevent both lung damage and viral spread. Our third absorbing presentation came from Professor Stefan Symeonides, Senior Clinical Lecturer in Medical Oncology, University of Edinburgh, who spoke to us about 'Developments in the Field of Cancer Immunotherapy'. Continuing to improve the survival of numbers of patients who contract this disease, he explained that we need to expand treatment options and better tailor these to individual patients. The last decade has seen cancer immunotherapy take a great step forward to becoming a new key component of cancer therapy, bringing with

it a potential for more durable benefit for some patients with advanced disease. Subsequently, we heard from Dr XinRan Liu, Research Fellow, School of Physics and Astronomy, University of Edinburgh, on the fascinating topic of 'Searching in the Dark', essentially looking for dark matter on Earth. Over the past century, there have been indications that our universe and most of the matter in it is indeed dark; XinRan has been working on the LUX-ZEPLIN dark matter search experiment, located in the Sanford Mine in South Dakota, where he has been involved in ultra-low background radiation detection. Our fifth presentation came, at very short notice, thanks to a last-minute postponement, from Professor Pete Smith, Professor of Soils and Global Change at the University of Aberdeen, who talked about 'Looking after our Soils so that they can look after us', observing that we rarely turn our thoughts downwards to consider the role that soils play in supporting life on Earth. Soil degradation is widespread and increasing: we must continue to look after our soils to ensure that they continue to look after humanity. Next we heard from Dr Sarah Lynagh, Chief Executive Officer of Fios Genomics, speaking about 'The Big Data Revolution - the journey from discovery of DNA structure to the sequencing of the human genome and beyond'. Data, Dr Lynagh revealed, is being collected all the time, from our spending habits to our international movements. It is increasingly important to provide robust, consistent and secure ways to store, process and use this data. She used human genetic data as an example, showing how this is now providing aspects of personalised medicine but there remain some difficult challenges alongside the positive outcomes. Our final presentation came from Will Whitehorn, Chancellor, Napier University. The title of his talk was: 'The UK and Scotland's participation in the global space industry as we undergo an industrial revolution in space'; however, his talk centred on the bigger issues of global problems - many of which had been touched upon individually by earlier speakers during this session. Climate change, population growth, soil degradation, and other issues: Mr Whitehorn had some radical, if broad-brush answers to these. Space and its exploration could, he suggested, be used to provide arrays of powerful solar panels, which could be used to feed and provide sufficient power to meet the world's expanding population, due to peak at 10 billion in 2050. I think you'll agree that Council suggested some quite extraordinary and powerful speakers, who gave some inspiring talks: and our thanks to Graham Rule for his mastery of the technology in enabling larger audiences to listen to our lecture series.

I trust that the coming year, now that we are, we hope, coming further out of the shadow of Covid-19, will prove as interesting and as varied as the past (perhaps more so): and thank you all again for your support.

Dr Alison Morrison-Low

President

5th May 2023