Royal Astronomical Society

Annual Report & Financial Statements 2024

[Image: L Offer/RAS]

Royal Astronomical Society

Patron
His Majesty the King

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Prof Silvia Zane (Councillor, A, University College London)

- Note: 'A' signifies all areas of astronomy and astrophysics; 'G' covers geophysics, solar-terrestrial physics and planetary sciences.

Cover image: Aurora seen over Oxfordshire on 10 May 2024 (L Offer/RAS)

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Deputy Executive Director: Dr Robert Massey

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Our Mission & Values

Our Mission Statement

The Royal Astronomical Society supports and connects astronomers and geophysicists, in the UK and globally, throughout their careers. We assist them to sustain and advance the rigorous scientific study of the origins and evolution of our own planet and the whole wider cosmos. We promote a better understanding of the relevance and value of our subjects throughout all society, from inspiration for young people to advice to government.

Our Values

We are a supportive community

We are passionately curious about the universe, and recognise the importance of mutual support in its study. We are custodians of the past, learning from the history of our sciences but looking to apply our knowledge for the future. We promote the need for vital research support, for appropriate collaboration and scrutiny, and for the sharing of methods and results.

We share our expertise in astronomy and geophysics

We are a respected, independent, self-governing organisation, free to speak frankly on behalf of our members, the science and the profession. For over 200 years, we have been a credible, independent source of the latest scientific discoveries in the field. Within our resource limitations, we willingly provide professional advice on all aspects of our subjects.

We are an inclusive and welcoming Society

We celebrate and encourage diversity, understanding that every individual is unique and recognising and appreciating our individual differences. We will provide an inclusive environment where every member of the Society is welcome and supported, and acts with respect to all other members.

We play our role in understanding and protecting our environment

We care about the future of humanity, the sustainability of our planet and the impact of our activities. We seek to understand our role in the wider universe and use our knowledge and expertise to the benefit of humankind.

Welcome From Our President

It is a pleasure to introduce the Annual Report of the Royal Astronomical Society for 2024.

We have, at last, secured a 999-year lease for New Burlington House, our home since 1874. This opens up new possibilities and opportunities for the society, especially in outreach and engagement – and indeed that we exploit those opportunities is part of the lease agreement. In addition, after a review by Buckingham Palace of the Patronages held by the monarch, I am delighted to say that HRH King Charles remains the Patron of our Society.

I am also pleased to report that Fellows of the Society were recognised in the New Year Honours list 2024. Former Presidents Profs Emma Bunce and Mike Cruise were awarded OBEs, Prof Philip Diamond, Director General of the Square Kilometre Array, was made a CBE and space scientist Dr Maggie Aderin Pocock was made a Dame.

2024 saw the launch of the new Strategy for our Society, to which a great many individuals contributed. There are many areas addressed; two important ones have already begun implementation. The first is that there is much behind-the-scenes work to do on updating our computer and information systems. The second is to build on the fantastic success of the Slough workshops based on the Herschels who, of course, lived and worked in the area: this is an exemplary partnership approach with a local organisation, which we will deploy again in the future. We later supported the public event that was part of NASA's International Observe the Moon Night at Reading University; another successful partnership.

The Society's journals are now all Open Access – something we are very pleased about, while monitoring the numbers of submitted papers. We are working with our publishers, Oxford University Press, to help inform potential authors about publishing under read-and-publish deals.

In 2024 the Society continued its excellent and vital programme of scientific meetings, now established in hybrid format. While this has its complications, it does prevent stretched budgets and busy schedules from stopping Fellows hearing talks that they are interested in. It also helps reduce our carbon footprint. It is an irony that an interval as dark as the Covid pandemic has driven forward an enhancement in our activities. The National Astronomy Meeting in Hull – also fully hybrid – was a great success. And it was a great pleasure to meet and honour the brilliant scientists at the RAS awards dinner.

We released our report on bullying and harassment in astronomy and geophysics. The results of the survey that it was based on gave cause for concern and there is work to be done. This was a good start, but it is just the start.

On behalf of the Society, I signed the international Zero Debris Charter, aimed at maintaining a safe and sustainable environment in space, which was launched in October in Tallinn, Estonia.

Council is in the process of responding to a wide-ranging governance review, to check that our procedures and byelaws are fit for purpose, observe due diligence, and accord with modern charity law. This process will be completed over the coming year.

Lastly, I want to thank all the people who have contributed time, effort and resources to allow the Society to further scientific studies and careers in astronomy and geophysics. This includes the trustees and officers, the staff, the committee members, the referees on proposals, the expert consultants, the donors, and the Fellowship as a whole. Thank you all.

Prof Mike Lockwood FRS
President

Objectives for 2024

The RAS exists to advance, and to record the history of, our understanding of the Earth, the solar system, the stars and galaxies, and the nature of the universe. It does this by promoting astronomy and geophysics, interdisciplinary sciences that encompass and further our understanding of physics, chemistry, mathematics, biology, engineering and computer science to answer deep questions about the origin and fate of the cosmos, and people's place in it. Through this, the Society contributes to the growth and dissemination of knowledge and thereby fulfils its charitable objective of serving the public interest.

The Society refers to the Charity Commission's general guidance on Public Benefit when reviewing its aims and objectives and in planning future activities. These disclosures comply with the Charities Act 2011.

Our objectives for 2024 fell within two broad areas: advancing understanding and sharing knowledge. The organisation of the Society supports these goals through our Strategy.

In 2024 we continued our current valuable activities:

- Providing a learned and professional membership Society
- Holding regular scientific meetings
- Publishing, in journals and more widely
- Giving policy advice to government
- Awarding grants and medals
- Providing education and outreach activities
- Curating our heritage.

In addition we worked to develop these areas:

- Meeting the needs of our members and improving how we communicate with them.
- Providing inspirational programmes in astronomy and geophysics education and outreach
- Achieving maximum impact from the library, archive and object collections.
- Publishing high quality research, accessible to all
- Exploring and nurturing partnerships for collaboration and influence

Advancing Understanding

Satellite data is valuable for understanding areas of active tectonics – the subject of a Specialist Discussion Meting in 2024 – and features such as ice cover, as here in Svalbard

[contains modified Copernicus Sentinel data (2024), processed by ESA]

Members

Our Strategy sets out a clear outline for us to meet the needs of our Fellows. We have developed a delivery plan that sets out key activities to help shape the future of our Fellowship.

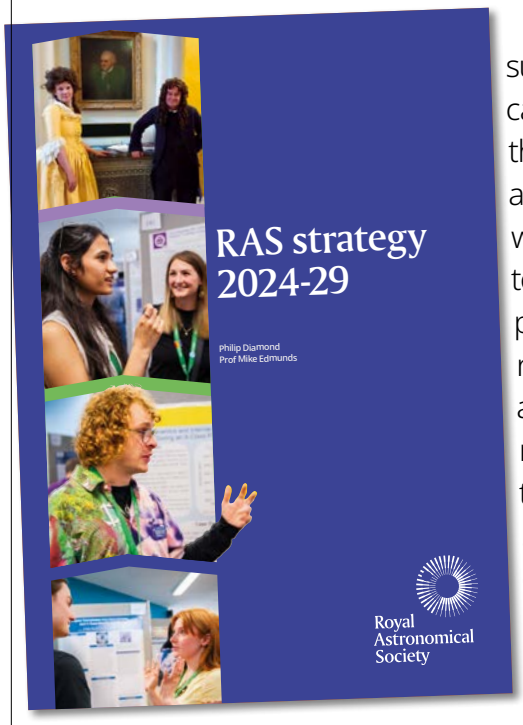
Our Fellows are at the heart of what we do and the activities in our delivery plan are intended to improve Fellows' interactions with the Society, heighten their experience, encourage and foster engagement, and create and develop opportunities.

In order to achieve these goals, we need to ensure that we have the resources and infrastructure in place to make them possible. We have begun to work on the internal infrastructure to ensure that we can deliver this. We have been making improvements to our customer relationship management (CRM) system, our payment systems, and processes. A key part of this initiative was the successful migration and cleanup of our data in the CRM system, ensuring more accurate and efficient membership management in future. We also reviewed and enhanced our membership subscription options to include both annual and monthly direct debit options that can be easily set up online, improving the ease and convenience of payments for all members. We are currently undertaking work on reviewing the website. While this is necessarily a background activity, we hope that Fellows will appreciate gradual improvements as this project progresses.

Membership of our Society is all about developing and maintaining links across our community. We are working to connect our Fellows through an online portal where they can communicate, connect, share and showcase their talents. By connecting Fellows online we can bring our scientific community closer together, locally, nationally, and globally.

The RAS is committed to advancing understanding of our sciences by:

- Supporting an open and inclusive membership that represents our community
- Producing a magazine for our members
- Publishing excellent research in our journals
- Supporting scientists financially with fellowships and grants
- Organising scientific meetings
- Recognising excellence through awards
- Running a Library and Archive for research
- Advocating for the community with government
- Promoting diversity in our community
- Supporting early-career researchers



The RAS's delivery plan sets out how we aim to shape and develop the Society's near-term future

We are committed to supporting our early-career members through the Early Career Network and we want to engage with our retired members too. We are exploring the possibility of a special rate for a 'one-day' attendance at NAM for retired members to keep them connected to the Society and their scientific community, and looking at having a town meeting for retired Fellows. During 2024, we held a Specialist Discussion Meeting in Edinburgh, to support Fellows based out of London.

While we continue to provide Fellows with our membership magazine, *A&G*, we have been looking at our communications to our Fellows. We have developed a new e-newsletter for both members and non-members.

Ensuring that we provide value for our Fellows is extremely important, especially given the current socio-economic climate. We are in the process of reviewing our offerings to Fellows, especially international Fellows, to provide an appealing and valued service. In addition,

we are exploring the opportunities of a 'green' membership to lessen our impact on the environment. Our roadmap set out in our delivery plan, underpinned by our Strategy, contains many activities which will help develop and shape our future.

Our membership magazine

A&G continued throughout 2024 to highlight both advances in research and activities of RAS Fellows and staff. We published 45 features, one in four of them reporting on scientific meetings; articles were downloaded 144,942 times over the year. Topics ranged from axions in astrophysics to comets in literature, including our President musing on how the RAS should react if there's a credible sign of aliens. A particular pleasure was a series of short articles from members of the Committee on Diversity in Astronomy and Geophysics, addressing some of the challenges involved in making our sciences open and appealing to all: these range from nominating excellent scientists for awards to simply saying "hello and welcome" to new faces at meetings. Thanks to all those who take the time to write about their research, outreach and interests; authors make it possible to produce a magazine reflecting the work of our community.

A&G goes from strength to strength, reflecting the work of our community

Journals

The Society's journal portfolio consists of three Open-Access (OA), peer-reviewed, scholarly publications: *Monthly Notices of the Royal Astronomical Society* (*MNRAS*), *Geophysical Journal International* (*GJI*) and *RAS Techniques and Instruments* (*RASTI*).

MNRAS is one of the world's leading astronomy journals and publishes articles in astronomy and astrophysics, including work that is observational, theoretical or concerned with astronomical instrumentation and software. The *MNRAS* editorial board of 24 scientific editors continues to be led by Prof David Flower as Editor-in-Chief. In 2024 *MNRAS* received 2866 submissions, published 3514 papers, and had 4.49m downloads. Its two-year impact factor for 2023 was 4.8.

GJI is an international journal publishing primary research articles on all aspects of theoretical, computational, experimental, applied and observational solid-Earth geophysics. New Editor-in-Chief Dr Margarita Segou leads an editorial board of 30 scientific editors. In 2024 *GJI* received 792 submissions, published 449 papers, and had 1.36m downloads. Its two-year impact factor for 2023 was 2.8. The RAS ceased the printing of *GJI* at the end of 2023 to reduce the carbon footprint of its publishing activities.

RASTI published its third volume in 2024. *RASTI* is broad in scope and encourages submission of papers that cover topics in both astronomy and geophysics, ranging from instrumentation, data science, machine learning, software, and numerical and statistical methods. The Editorial Board, led by Prof Jonathan Tennyson, consists of 15 scientific

A&G THANKS ALL THOSE WHO TAKE THE TIME TO WRITE ABOUT THEIR RESEARCH, OUTREACH & INTERESTS

editors. During 2024, *RASTI* received 74 submissions, published 62 articles and had 22,561 downloads. *RASTI* has recently been accepted for indexing in Scopus and will receive its first CiteScore in 2025.

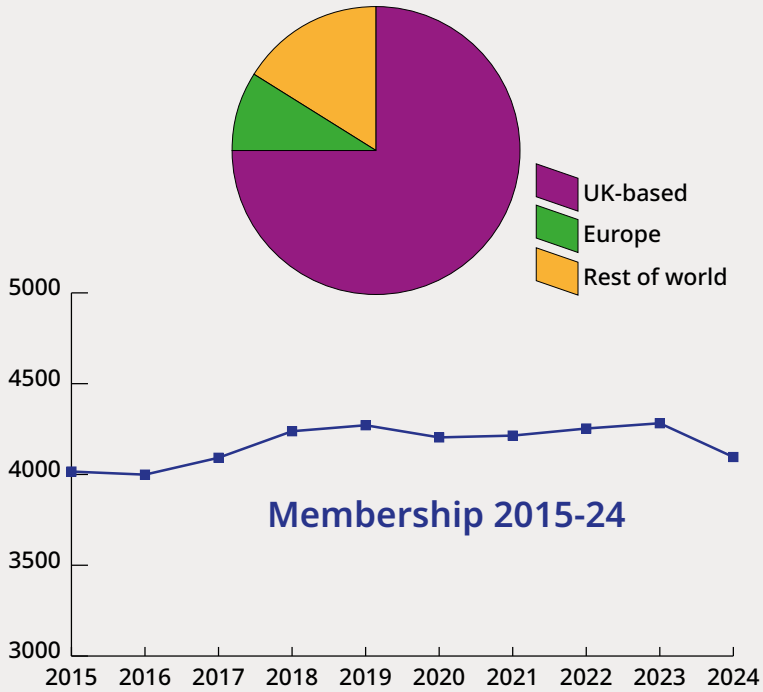
All three journals are published in partnership with Oxford University Press (OUP). OUP will remain the Society's publishing partner until the end of 2028.

The RAS portfolio completed its move to OA with the first issues of *MNRAS* and *GJI* in 2024 consisting of only OA articles. This means that subscriptions are no longer needed to read any content published in the journals and there are no RAS journal articles behind a paywall.

On 1 January 2024 the RAS back archive was made free to read in its entirety. This change has opened up readership to scientific communities across the world where previously subscription barriers restricted access.

ON 1 JANUARY 2024 THE RAS BACK ARCHIVE WAS MADE FREE TO READ IN ITS ENTIRETY

Our membership



During 2024, the RAS had 4096 Fellows, including 157 Honorary Fellows. 798 (19%) of our Fellows were female, 1281 (29%) aged 56 and over, and 150 (3%) under 25 years of age. Most of our Fellows, 3084 in total (75%), lived in the UK, with 368 (9%) in Europe and 636 (16%) elsewhere. We elected 255 new Fellows in 2024.

OA means authors pay an Article Processing Charge (APC) for publication and articles are published with Creative Commons licences allowing reuse of the work with attribution. Authors are able to access funding for the APCs via a number of routes which include Read and Publish agreements between OUP and institutions, and the OUP Developing Countries Initiative. The RAS introduced a waiver scheme to ensure that authors who do not have access to funding for APCs, and wish to publish in the RAS journals, can continue to do so.

To support membership of the RAS, a 20% reduction in the APC rate is offered to its members and a 20% reduction in the APC rate is also offered to members of the Deutsche Geophysikalische Gesellschaft when they publish in GJI.

All three RAS journals are now listed in the Directory of Open Access Journals (DOAJ) which indexes and promotes quality, peer-reviewed, OA journals from around the world that uphold the reputation for best practices and standards in OA journals.

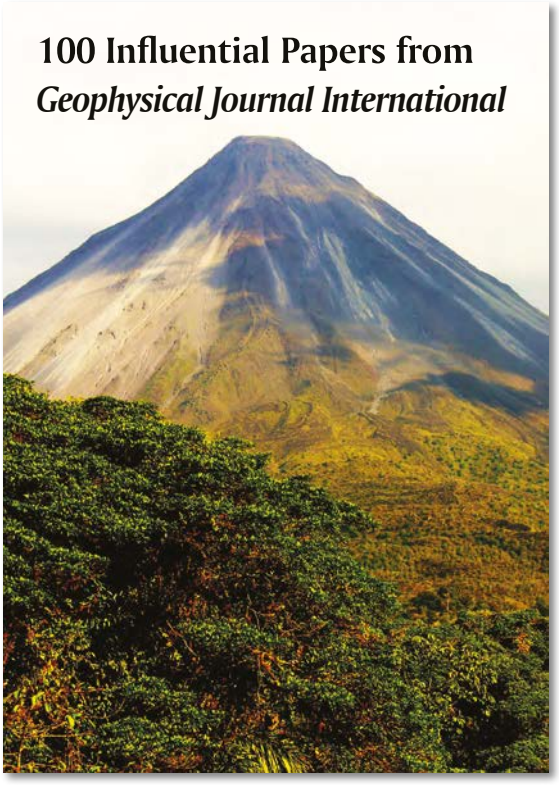
Two part-time heads of publishing manage the RAS journal team, and eight assistant editors oversee the administration of the peer-review process. The peer-review process on RASTI is provided by OUP. In April, the journal team, Editors-in-Chief and OUP presented their annual reports to the RAS Publications Management Committee.

At the 2024 meetings of the American Astronomical Society (AAS), American Geophysical Union (AGU), British Seismological Society (BSS), European Astronomical Society (EAS), European Seismological Commission (ESC) and the International Astronomical Union (IAU) the RAS, in partnership with OUP, promoted the RAS journals to international scientific audiences by exhibiting at these events.

At the National Astronomy Meeting at the University of Hull, the journal team organised an OA question and answer session with the *MNRAS* Editor-in-Chief and, at the ESC meeting, the *GJI* assistant editors and Editor-in-Chief ran a workshop for early career researchers. The journals were actively promoted on the RAS social media platforms X (@RAS_Journals) and BlueSky (@royalastrosoc.bsky.social), and the RAS Communications Team supported author press releases.

Direct engagement with scientists was made with commissioned special issues on Next-Generation Interferometric Image Reconstruction, from SKA to ngEHT in *RASTI*, and in *GJI* Advances in Induced Polarization, in addition to ongoing *MNRAS* collections of papers on the MillenniumTNG Project, and Zooniverse papers which are the results of collaborations with hundreds of thousands of 'citizen scientist' volunteers.

In June, the virtual collection series of the 100 most influential geophysics papers published in *GJI* was completed. The final illustrated interactive PDF included 12 collections of *GJI* papers selected by the *GJI* editors with accompanying editor introductions to each collection. The interactive PDF is free to download and was widely promoted at geophysics events throughout the year.



We published a collection of 100 Influential Papers from Geophysical Journal International, selected and introduced by the GJI editors to celebrate the centenary of geophysics publishing by the RAS.

The RAS journals were represented at international meetings, including the General Assembly of the International Astronomical Union. Head of Publishing Kim Clube and MNRAS Editor Ralph Wijers.

MNRAS launched its first student prize in 2024. The winners of the long-established *GJI* Student Award for the best paper by an early career scientist were Théo Santos and Simone Puel, who each received a certificate and cash prize.

Further details on the RAS journals, the editors and editorial boards can be found on our website at ras.ac.uk/journals.

Research fellowships and grants

The RAS grants, research fellowships and awards support research, education and outreach activities. 113 grants, fellowships and awards, totalling £257,975 were awarded to institutions and 38 grants, medals and awards totalling £32,723 were made to individuals. Expenditure supporting an RAS Research Fellowship totalled £35,733. The 2024 Norman Lockyer Fellowship totalled £57,000.

A full list of grantees and futher analysis can be found on the Society's website.

RAS research fellowships

In 2024 the Norman Lockyer Research Fellowship was held by Dr Christopher Osborne (University of Glasgow) to work on 'Unifying solar non-equilibrium radiative transfer and magnetohydrodynamic models'.

The RAS Research Fellowship was held by Dr Rebecca Smethurst of the University of Oxford on the topic of 'Co-evolution cracked: the contribution of non-merger processes to supermassive black hole growth.'

Scientific Meetings

The Society held 16 Specialist Discussion Meetings in 2024, with a total attendance of 1136, just under half of whom were attending in person, on average (47% versus 53% online). In April, a Specialist Discussion Meeting about the future potential of ultraviolet astronomy was held at the Royal Observatory Edinburgh, in line with our Strategic objective to move some meetings out of London. These were the topics:

Simulation-based inference in astrophysics;
Energetic particle acceleration and heliosphere-interstellar medium attractions: **preparing for IMAP**;
A multi-tracer view of **galaxies in the first few billion years**;
Investigating the dynamic solar atmosphere in the age of **Solar Orbiter**;
Meeting the challenges of limited observations for global modelling of **the ionosphere-thermosphere system**;
Roadmap to the **next-generation infrared interferometric facility**;
Exploring the universe with **future UV facilities**;
Tectonics, magmatism and georesources of the East African Rift: perspectives on past and future research
Advances in techniques in **space plasma physics**;

An RAS grant supported work on the northern lunar standstill at Stonehenge

THE SOCIETY HELD 16 SPECIALIST DISCUSSION MEETINGS IN 2024, WITH A TOTAL ATTENDANCE OF 1136

30 years of superluminal motion in **GRS1915+105**;
Black holes and AGN in the era of the Event Horizon Telescope, JWST and the Rubin Observatory;
Non-equilibrium thermodynamics in the **solar atmosphere and interior**;
Third meeting on **Progress in Astrophysics with Type 1A supernovae (PATIAS)**;
Energetic particle injection: its causes and effects;
Blowing hot and cold: exploring the **plumes of Io and Enceladus**;
Exploring **the low-surface-brightness universe** with next-generation instruments.

Highlights Meetings

The RAS held eight A&G Highlights meetings (formerly Open (A&G) Meetings) in 2024, with a total attendance of 930; once again slightly more attendees participated online (53% versus 47%).

Dr Matina Gkioulidou (Applied Physics Laboratory, Johns Hopkins University, USA) Interstellar Mapping and Acceleration Probe (IMAP) mission: Exploring our solar neighbourhood;

Liyam Lin (University College London) Simulation-based inference of the Kilo-Degree Survey;

Dr Dominic Bowman (Newcastle University) Asteroseismology unlocks the hidden physics of stellar interiors – George Darwin Lecture;

Dr Laura A Hayes (ESA) The Active Sun: New scientific insights from ESA's Solar Orbiter Mission;

Dr Joris Witstok (Kavli Institute for Cosmology, University of Cambridge) The origin of metals and dust within galaxies in the first billion years of cosmic time;

Max Alexander Our Fragile Space: Protecting the near-space environment;

Dr Ravindra Desai (Imperial College, London) Extreme space weather events – the Winton award;

Dr Hannah Übler (Kavli Institute for Cosmology and University of Cambridge) Massive black holes during the first billion years with the JWST;

Dr Stephen Taylor (Vanderbilt University, Tennessee, USA) The dawn of galaxy-scale gravitational wave astronomy – the Eddington Lecture;

Dr Rita Kounoudis (University of Oxford) Continental break-up along the East African Rift: new insights from the Turkana Depression;

Dr Christopher Berry (University of Glasgow) Gravitational waves and the origins of black holes – Fowler award;

Dr Ziri Younsi (Mullard Space Science Laboratory/UCL) Magnetic fields at the edge of the Milky Way supermassive black hole;

Prof Mike Edmunds (University of Cardiff) Gas flows and the evolution of element abundances in galaxies – the 2024 Presidential Address;

Prof Roberto Orosei (IRA/INAF, Bologna) Unveiling the interior of the martian polar caps with radar;

Dr Dmitrii Kolotkov (Warwick University) What makes waves in the Sun's corona wavy?;

Dr Jan Roder (Max Planck Institute, Bonn, Germany) A multi-frequency study of sub-parsec jets with the Event Horizon Telescope;

Prof Pilar Ruiz Lapuente (Instituto de Física Fundamental, Madrid) What Type Ia supernovae are telling us about our universe;

Dr Or Graur (University of Portsmouth) Old dogs, new tricks: Late-time observations of Type Ia supernovae with the Hubble Space Telescope;

Prof Chiaki Kobayashi (University of Hertfordshire) The origin of elements in the universe – the George Darwin Lecture;

Dr Deborah Kent (St. Andrews University) To Burlington House and the Kerguelen Islands: The 150th anniversary of RAS movements near and far – The RAS Diary Talk 2024;

Prof Sugata Kaviraj (University of Hertfordshire) Dwarf galaxies in deep-wide surveys: a new frontier in the study of galaxy evolution;

Dr Ryan Ogliore (Washington University, St. Louis) Sample return missions: past, present and future.

National Astronomy Meeting 2024

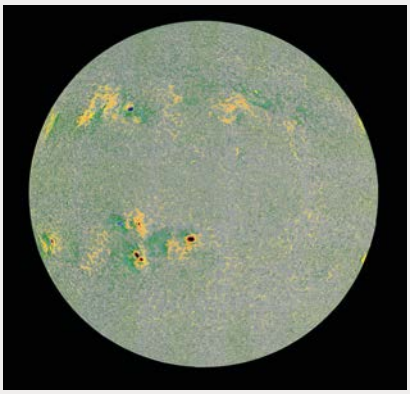
NAM2024 returned to the E A Milne Centre for Astrophysics in 2024, with 450 people (including around 80 online) enjoying the tried-and-tested mix of plenary lectures, specialised sessions held in parallel, and community- and career-focused sessions.

Astronaut Helen Sharman gave a very well-received public lecture and the research presented in Hull gave rise to a steady stream of press releases and social media posts.

Big hitters from STFC and UKSA welcomed the new government at the RAS Community session, while expressing concern at the prospects for future funding.

Once again, the winners of the 2024 RAS Awards received their medals and prizes at the conference dinner making for a very enjoyable evening.

Supporting undergraduate education



The Sun's magnetic field, subject of an RAS undergraduate grant (ESA&NASA/Solar Orbiter)

RAS grants supported bursaries for eight undergraduate students to carry out research as part of their degree courses. Topics covered all aspects of RAS sciences, ranging from runaway stars and exoplanets in white dwarf binary systems to classifying gravitational wave signals, supervoids and the large-scale structure of the universe. Others tackled models for extrapolating solar magnetic fields, tracking magentic activity cycles in Sun-like stars and developing statistical methods to identify galaxy clusters. Two of these projects have led to a publication; all of them opened up the research process to undergraduate students, as one of the recipients explained: "The project gave me an insight to how PhD students and post-doctoral fellows work in a professional environment and the sense of community that comes with working in a small office. This gave me an idea of what life in research would be like and strengthened my decision to choose this field of work."

2024 RAS Awards

Gold Medal for Astronomy Prof Gilles Chabrier, Ecole Normale Supérieure de Lyon and University of Exeter

Gold Medal for Geophysics Prof John-Michael Kendall, University of Oxford

Herschel Medal Prof Emeritus Roberta Humphries, University of Minnesota, USA

Eddington Medal Prof Pedro G Ferreira, University of Oxford

Chapman Medal Prof Valery Nakariakov, University of Warwick

Price Medal Prof Christopher Davies, University of Leeds

Jackson-Gwilt Medal Dr Keith Bannister, Australia Telescope National Facility, CSIRO, Australia, and Prof Ryan M Shannon, Swinburne University of Technology, Australia.

Annie Maunder Award The Africa Millimetre Telescope Planetarium Team working in Namibia, led from Radboud University, The Netherlands.

Primary Education Award Teresa McGrory, St Joseph's Catholic Primary School, Selly Oak, Birmingham

Secondary Education Award Arabi Karteepan, Croydon High School

Higher Education Award Dr David Cornwell, University of Aberdeen

Award for Service in Astronomy Prof Ian Robson, Science and Technology Facilities Council

Award for Service in Geophysics Prof Ian McCrea of RAL Space

Winton Award Astronomy Dr Chris Lovell, University of Portsmouth

Winton Award Geophysics Dr Andy Smith, Northumbria University

Fowler Award Astronomy Dr Leah Morabito, University of Durham

Fowler Award Geophysics Dr Christopher Smith, Huddersfield New College

Group Award in Astronomy The JWST-MIRI Consortium

George Darwin Lecture Prof Chiaki Kobayashi, University of Hertfordshire

Harold Jeffreys Lecture Dr Jessica Irving, University of Bristol

James Dungey Lecture Dr Gabrielle Provan, University of Leicester

Honorary Fellow, Astronomy Prof Ganesan Srinivasan of the Raman Research Institute, India

Honorary Fellow, Geophysics Dr Nicola Fox, NASA

The Caroline Herschel Medal

(ESO/M Zamani)

In 2024 the Caroline Herschel Medal was awarded to Dr Linda J Tacconi of the Max Planck Institute for Extraterrestrial Physics in Garching, Germany, former President of the European Southern Observatory Council. Dr Tacconi was recognised for her research in millimetre and submillimetre interferometry and high-resolution infrared spectroscopy, including her work on the evolution of dense star-forming molecular gas in galaxies and the formation and long-term evolution of galaxies. The medal also recognised her "unique contributions to international leadership in astronomy and service to the European Astronomical community". The medal was presented in a ceremony at the British Embassy in Berlin on 21 March 2024.

This award was launched in 2021 by the UK Government in honour of former German Chancellor Angela Merkel. It celebrates international collaboration in science and commemorates astronomer Caroline Herschel (1750–1828). She, with her brother William, revised and greatly improved catalogues of stars, clusters and nebulae, and herself discovered eight comets. The medal recognises both her legacy and the deep and enduring scientific links between Germany and the UK. The award recognises outstanding research by women in astrophysicists and is awarded in Germany and the UK in alternate years. The RAS and the Astronomische Gesellschaft together administer the award.

Grant support for early career researchers

RAS grants have been used to support early career researchers attending three major meetings in 2024. For the May meeting on Frontiers in Cosmology and Gravitational Physics at the University of Portsmouth, an RAS grant allowed the organisers to reimburse registration fees for postgraduate students from outside the university. At the 2024 European Lunar Symposium in Dumfries in June, RAS funding partially supported 14 early career researchers, one of whom said: "My participation was greatly enhanced by the travel grant I received, which covered registration fees and part of the accommodation costs. This financial support was instrumental in enabling my attendance, allowing me to engage fully with the conference activities." For the Galactic Star Formation Workshop held at Armagh Observatory and Planetarium in September, 15 postgraduate students received a grant of £100 each, reducing the cost of student registration and supporting their travel to Northern Ireland.

Individual travel grants allowed 23 researchers, including undergraduate and postgraduate students, to attend conferences that would otherwise have been unaffordable. Recipients valued the opportunities to share their work through talks and posters, and to meet people in their fields at different institutions. These grants made possible collaboration, learning, collecting data and networking, as well as opportunities to develop wider career skills.

DR LINDA J TACCONI WAS RECOGNISED FOR HER RESEARCH IN MILLIMETRE AND SUBMILLIMETRE INTERFEROMETRY AND HIGH-RESOLUTION INFRARED SPECTROSCOPY

RAS Thesis Prizes

In 2024 the RAS awarded prizes for the best PhD theses submitted during 2023 in the fields of astronomy and astrophysics (the Michael Penston Prize), geophysics and planetary science (the Keith Runcorn Prize), and instrumentation (the Patricia Tomkins Prize).

Dr Georgina Dransfield (University of Birmingham) won the Michael Penston Prize for her thesis entitled 'Planetary systems unlike the solar

system'. The runner-up was Dr William Roper (University of Sussex) with a thesis entitled 'A tale of birds and bug fixes: computational astrophysics in the Epoch of Reionisation'.

Dr Jesse Coburn (Queen Mary University) won the Keith Runcorn Prize for the thesis 'The Effective Mean-Free-Path of the Solar Wind'. The runner-up was Dr Joe McNeil (Open University) for his thesis entitled 'Mounds in Chryse Planitia and Oxia Planum, Mars: an unrecognised archive of Noachian geology'

Dr Lawrence Jones (Open University) won the Patricia Tomkins Prize 2023 for his thesis 'Advancements in image sensor technology for soft X-ray spectroscopy in space: CIS detectors for the Auroral X-ray Imaging Spectrometer'.

The runner-up was Dr Thomas Sweetnam (University of Manchester), for the thesis 'Development of Superconducting Parametric Amplifiers for Astrophysics Applications'.

Library and archives

The Library was open for research four days per week during 2024. There were 122 Library research visits by Fellows and Friends of the RAS and 103 by external researchers, to consult the Society's archives, photographs, book and journal collections. Some 215 research enquiries were handled remotely by RAS staff.

As in previous years, displays of archive and rare book materials suggested by Fellows and visiting speakers were put together to complement public lectures, Specialist Discussion Meetings, A&G Highlights talks and other scientific conferences; the Library also welcomed research visitors including groups from postgraduate training days. The Librarian spoke on Asian Collections at the Royal Astronomical Society at the National Committee for Information Resources on Asia Conference at the British Library.

THERE WERE 122 LIBRARY RESEARCH VISITS BY FELLOWS AND FRIENDS OF THE RAS AND 103 BY EXTERNAL RESEARCHERS, TO CONSULT THE SOCIETY'S ARCHIVES, PHOTOGRAPHS, BOOK AND JOURNAL COLLECTIONS

Advocating for the community with government

In 2024 the RAS expanded its policy work to include deeper engagement with UK parliamentarians and international bodies, as well as with partners such as the Campaign for Science and Engineering (CaSE), the Science Council and the UK Space Agency.

The Society responded to the following UK government consultations and inquiries:

- National Planning Policy Framework (light pollution)
- Rendezvous and Proximity Operations (for the Department of Science, Innovation and Technology, DSIT)
- Curriculum and Assessment Review (for the Department for Education)
- Subject Benchmarks Consultation (for the Quality Assurance Agency for Higher Education)
- Research Excellence Framework on Open Access
- House of Lords Science and Technology Committee inquiry into noise and light pollution
- House of Commons Science, Innovation and Technology Committee inquiry into astronomy
- Space Science Roadmaps workshops: Astronomy (for DSIT)

Additionally the Society agreed statements supporting the call for the UK to be a leading country in the G7 on R&D investment, and opposing space-based advertising.

We continued to give formal advice to bodies such as the UK Space Agency (via the Discovery Advisory Committee) and the Science Council (through its Policy Forum). In April we presented

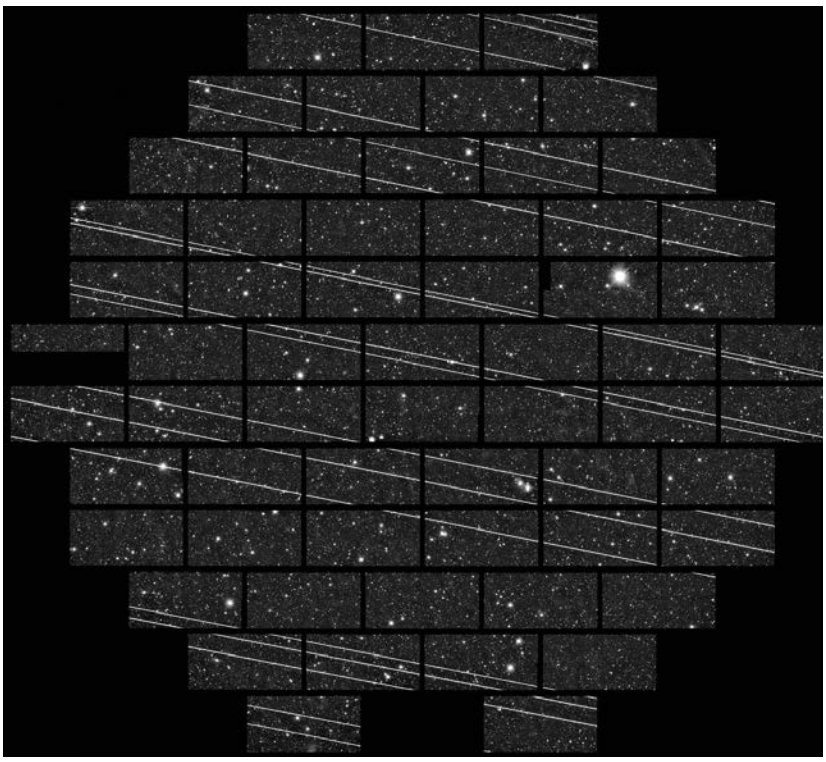
at the Science Council conference on Perspectives in Policy Work, citing our work on satellite constellations. The RAS president gave oral evidence to the Commons Science, Innovation and Technology Committee, as part of their inquiry into astronomy, advocating longer-term funding and for funding to be restored to the levels of a decade ago. MPs noted the value of astronomy in engagement in STEM subjects, citing the 'Lockdown Learning' virtual lessons run by the RAS Education and Outreach team during the Covid pandemic.

Before the General Election in July, we asked Fellows to contact their parliamentary candidates to solicit their views on fundamental science. In October the Society was one of 37 signatories of the CaSE open letter to Chancellor of the Exchequer Rachel Reeves, making the case for investment in science and technology. In the subsequent budget the allocation for science received some protection.

The impact of satellite constellations on astronomy was debated in parliament with responses from the science minister, who later referred to examples from the RAS in the debate on the economic benefits of science and technology. The Society also provided the secretariat for the All-Party Parliamentary Group for Dark Skies, which now has 24 members.

In the devolved parliaments, the Society was represented at the annual science policy events in the Senedd and the Northern Ireland Assembly, meeting members of these bodies to raise awareness of astronomy and geophysics in both nations.

Internationally, the RAS worked with United Nations bodies and their affiliates, and the IAU Centre for the Protection of the Dark and Quiet Sky from Satellite Constellation Interference, to which we are a contributing member. At UN level



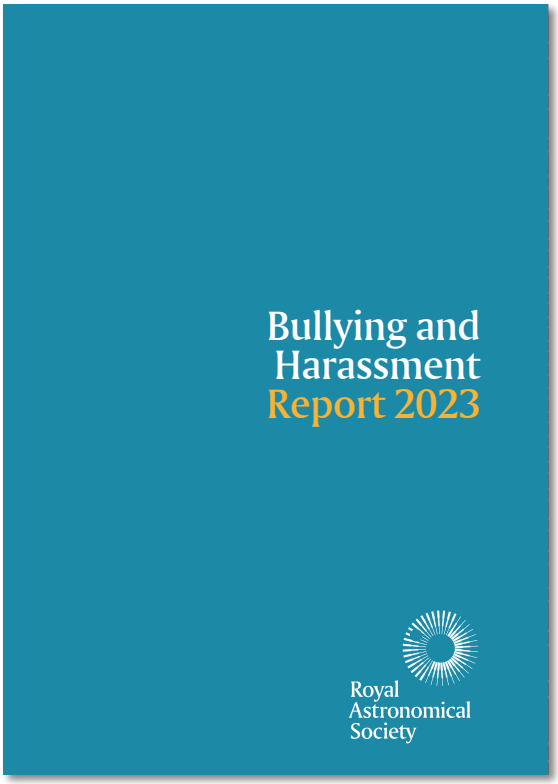
Trails from 19 Starlink satellites observed in 5.5 minutes with DECam on the Blanco 4m telescope at the Cerro Tololo Inter-American Observatory (NSF's National Optical-Infrared Astronomy Research Laboratory/CTIO/AURA/DELVE)

the RAS was appointed as an advisor to the UK delegation to the Committee on the Peaceful Uses of Outer Space, and our Policy and Diversity Officer addressed the UN Conference on Space Law and Policy in Vienna in November, on the challenge of protecting radio astronomy. The Society joined the executive committee of the new UK group, the Earth Space Sustainability Initiative, in May.

The RAS also campaigned to oppose the planned demolition of a building marking the location of Flamsteed's meridian telescope in the Royal Observatory Greenwich. The plans were approved and the Society continues this work with ROG to minimise the impact of this change on the heritage of the site. The RAS is also supporting the campaign to preserve the Observatory Science Centre at the former site of the Royal Greenwich Observatory in Herstmonceux, Sussex, and its telescopes.

Promoting diversity in our community

The RAS Committee on Diversity in Astronomy and Geophysics (CDAG) worked to support diversity in our community by sharing with RAS Fellows



In May the Society formally launched its report into Bullying and Harassment to an audience of 50 in person and 200 online.

issues discussed by the committee through regular articles in *A&G*. Early-career researchers – and their supervisors – shared strategies for better supervision; RAS staff shared the way that unusual venues and activities bring a wider audience to outreach; the imbalance between the diversity of people in our research communities and those receiving prizes and awards; steps fellows can take to make meetings more widely accessible; and the pressures of a research career and how to mitigate their effects.

CDAG continued to highlight diversity with sessions at the National Astronomy Meeting in Hull and with the RAS Early Careers Network. CDAG continued the financial support to help carers attend NAM2024.

In May the Society formally launched its report into Bullying and Harassment to an audience of 50 in person and 200 online. The report was also the subject of the first plenary session on diversity and inclusion to be held at the NAM. The Society also created a digital 'Inclusion Best Practice' guide, primarily for higher education (tinyurl.com/3the9fey).

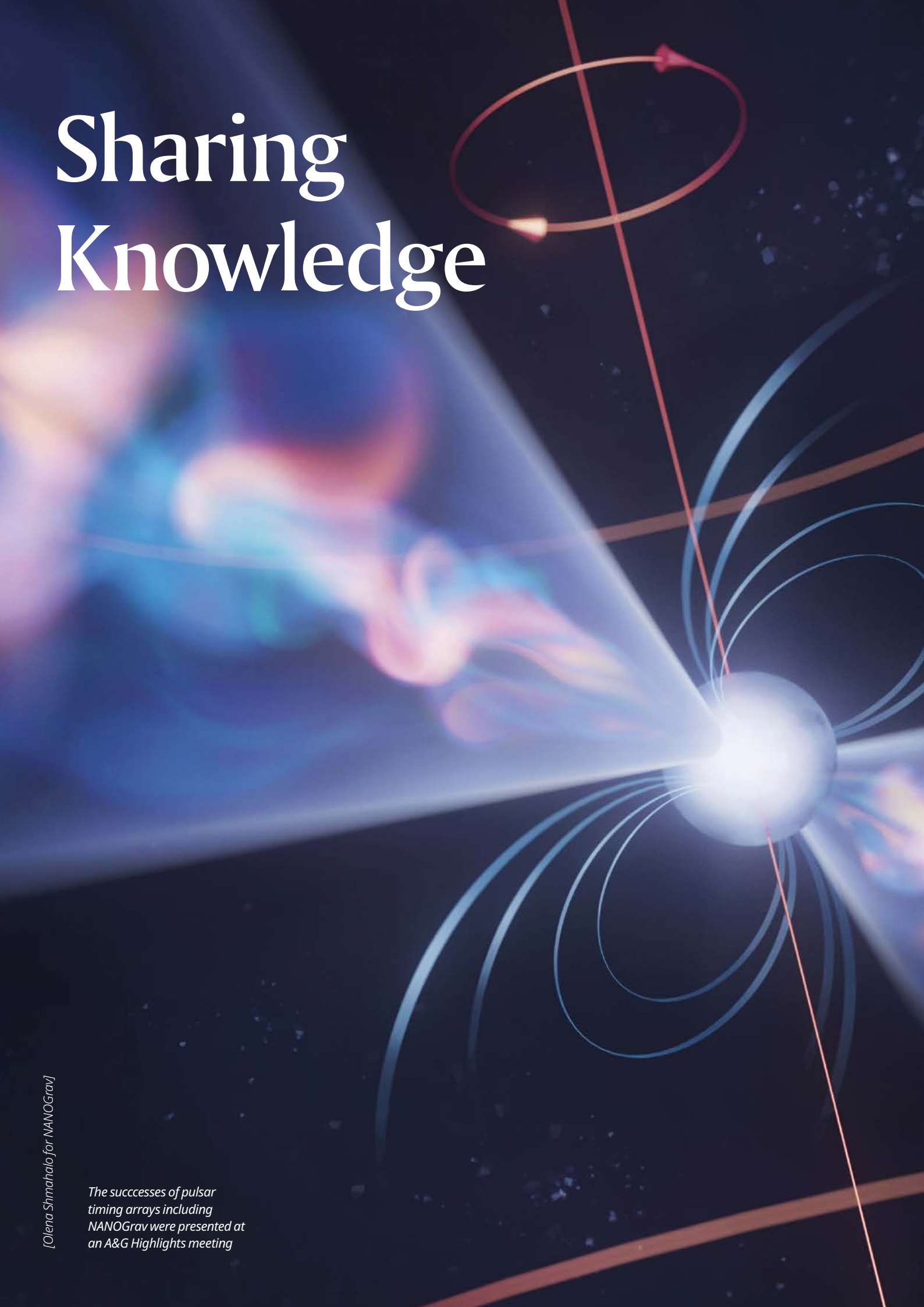
Early Career Network

The Early Career Network continued to draw together researchers in the early stages of their careers. A highlight of the year was the careers session organised by the Early Career Network at the National Astronomy Meeting in Hull. The session began with a presentation on the variety of options available for those embarking upon careers in astronomy and geophysics, illustrating possibilities in education, research, and outreach. From this, the session then moved to open discussion among the participants.

Thereafter, a networking session provided an important forum in which early-career researchers could mingle with their colleagues, and nourish the relationships with each other which will support them throughout their careers.

A highlight of the year was the careers session organised by the Early Career Network at the National Astronomy Meeting in Hull
(RAS/Darryl Brooks)

Sharing Knowledge



[Olena Shmahalo for NANOGrav]

The succcesses of pulsar timing arrays including NANOGrav were presented at an A&G Highlights meeting

Education and outreach events

June saw the final cohort of GCSE Astronomy students (33 in total) in London schools (Grey Coat Hospital, St Marylebone and Queen's College), and in the northwest of England (Ashton Community Science College, Garstang Community Academy, Armfield Academy and Montgomery Academy) completing their two-year programmes. Pupils based in London were taught at Burlington House. In September the RAS launched a new Higher Project Qualification course in astronomy to replace the GCSE. Each completed year of HPQ is equivalent to half a GCSE qualification. Some 27 students from secondary schools near Burlington House are taking part.

The Society also set up a new Astronomy Educators Online Network to serve GCSE Astronomy teachers more widely, providing support, events and training. We also carried out teacher training in partnership with the UK Space Education Resource Office.

Talks to large audiences included an online presentation about space careers with the National Extension College and six school talks/assemblies in the northwest in this period, amounting to direct intervention for over 1500 students. RAS education and outreach staff also gave talks at the Communication Astronomy with the Public conference, the European Astronomical Society annual meeting and the European Astrofest.

The outreach team got off to a flying start to 2024 with a grant from the Association of Science Discovery Centres to run a series of workshops for families in partnership with Slough Museum. These took place over four Saturdays in May, focusing on aspects of the lives and work of William, Caroline and John Herschel. Actors brought Caroline and John into the room to talk about their lives and their science, and items from the RAS collections linked their work to hands-on activities such as making cyanotypes.

Staff from the RAS and Slough Museum, together with volunteers including RAS Fellows, worked together to share the achievements of these former residents of Slough. Feedback showed that the workshops were highly valued by attendees – as were the stickers and certificate of attendance.

The Society disseminates knowledge to students, the press and the wider public by:

- Organising education and outreach events
- Arranging a programme of Public Lectures
- Exploiting the resources of the Library and Archives
- Promoting research in the media and social media
- Supporting the Friends of the RAS
- Working with the Courtyard Societies as a cultural hub

The outreach team ran a series of workshops for families in partnership with Slough Museum. These focusing on aspects of the lives and work of William, Caroline and John Herschel, who were there 'in person'. (RAS/M Wrigley)

In January the annual RASreach conference on public engagement took place at ThinkTank in Birmingham, with about 60 people attending in person and 50 online. The conference aims to upskill those working with the public, including RAS Fellows, and this year had 19 speakers covering various topics ranging from ethics to working with libraries. September saw the Interact meeting for public engagement professionals, co-organised by the Science and Technology Facilities Council with the RAS, which took place at Northumbria University in Newcastle. Outreach staff also took part in events with the British Science Festival and National Numeracy Day, and chaired the UK office of the IAU Office for Astronomy Education.

Public lectures

A total of 1412 people attended the eight public lectures offered by the RAS in 2024; most of them (75%) watched online. They carried on attracting viewers after the event, with more than 4000 views on the RAS YouTube channel. They included:

Dr Sam Illingworth (Edinburgh Napier University) Science communication through poetry – from dissemination to participation;

Catherine Regan (MSSL/UCL) Eyes on Mars – Increasing awareness of UK Mars exploration;

Dr Marie Van de Sande Dying stars seeding the universe;

Prof Kevin Walsh (University of Westminster) Astronomy – Teaching and learning about the oldest science;

Dr James O'Donoghue A planetary scientist's unexpected (animated) journey;

Anna Von Mertens The Resonance of Astronomer Henrietta Leavitt's Life and Work;

Prof Ian Crawford The Fermi Paradox – where are the aliens?

Dr Jenny Shipway Look up! Working together to bring astronomy to people across the UK.

1412 PEOPLE ATTENDED THE EIGHT PUBLIC LECTURES OFFERED BY THE RAS IN 2024

The Life Scientific

Burlington House was the setting for a live recording of an episode of the BBC Radio 4 series 'The Life Scientific', featuring RAS President Mike Edmunds. The interview by Jim Al-Khalili covered Mike's research on the chemistry of the universe as well as his interest in ancient artefacts, and featured a 'guest appearance' by Sir Isaac Newton.

The second John Brown Memorial Lecture

Burlington House was the setting for the second John Brown Memorial Lecture in December. In 'Exploring Cosmological Phenomena: An Artist's Perspective', the artist Ione Parkin shared her work and work by other artists inspired by astronomy and planetary science, giving the audience a spell-binding – and mind-expanding – sequence of images. Her work references scientific imagery such as the evolution of features on the solar

Funding school astronomy in rural India

RAS grant funding supported astronomy in schools in rural East Rukum, India. Astronomy workshops and an observing session in October 2023 took 'astro-kits' to students from 12 local schools. Local communities were also involved. The team led from Pokhara Astronomical Society demonstrated the use of clinometers, sundials, star wheels and star clocks in the astro-kits, and distributed telescopes to all the schools involved. They trained teachers and some of the students to use the telescopes and left each school with a video tutorial and more astro-kit equipment. The team reached 2000 people – aged between 13 and 50 – from varied geographical and ethnic backgrounds, 100% of whom were excited about having a telescope in their local school.

surface, dust-blown polar ice caps on Mars and cometary surfaces, and raises questions about observation in science and art.

Ione Parkin's art, which references scientific imagery such as the evolution of features on the solar surface, dust-blown polar ice caps on Mars and cometary surfaces, formed the core of the second John Brown Memorial Lecture (Ione Parkin)

Our Library and archive

We hosted a further 261 visitors during 17 group visits and other library-centred events, including Open Age and local astronomical societies. At an event to mark the 150th anniversary of the move to New Burlington House and the 1874 Transit of Venus expeditions in November, the Assistant Archivist led an exclusive behind-the-scenes tour of the RAS.

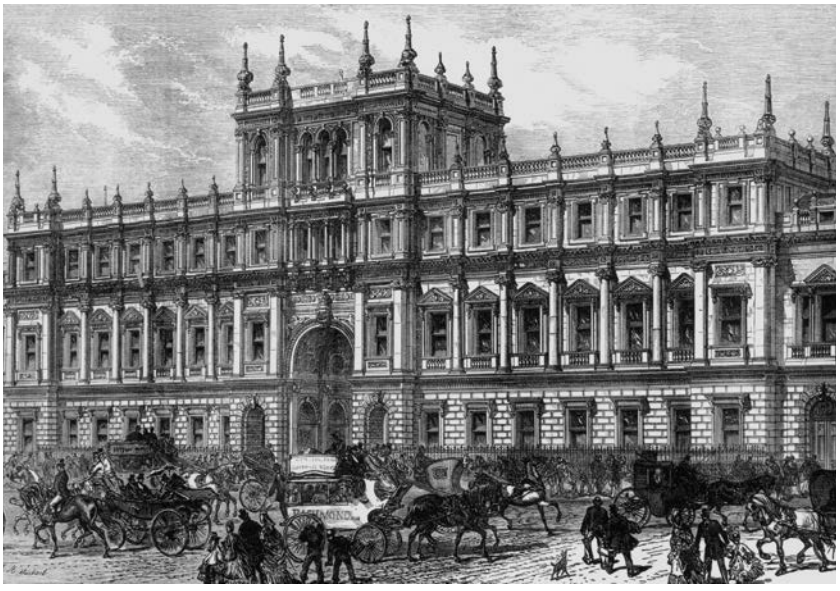
The RAS Bicentennial Quilt was on display in St Magnus Cathedral in Kirkwall as part of the Orkney Science Festival in September. Over the seven days that the quilt was on show, the cathedral had more than 8000 visitors; about a quarter of them spoke to the RAS staff and Festival volunteers (who included an RAS Fellow). The story of the quilt and the skills on display appealed to visitors, as did the scientific stories within the 100 squares. Feedback included: "Superb – makes me think about the cosmos, nature, beauty and being part of a greater existence. Really special and poignant. A great connectedness"; and "Totally amazing. So much information shown in one place! Truly talented people."

The partnership with Orkney Science Festival also made it possible for local primary schools to come and see the quilt; eight groups (146 pupils and 32 staff) came and took away with them a classroom activity we created for pupils to draw their own astronomical 'quilt squares' with chalk on black origami paper.

Lectures given this year based on the RAS collections included Astronomy Past and Present: the History of the RAS, at Paddington Public Library and The Sky above, the Earth below, at Orkney International Science Festival.

The RAS Library was an invaluable resource for the team behind the play 'The Lightest Element' at the Hampstead Theatre. This original production explored the life of Cecilia Payne Gaposchkin, who as a research student in 1925 determined that the Sun and stars were made mostly of hydrogen and helium. RAS staff supported the writer and director and briefed the cast, as well as taking part in after-show discussions with the audience.

It is 150 years since the Royal Astronomical Society arrived at New Burlington House (RAS/SPL)



Promoting research in the media

The Society issued 35 press releases in 2024, and RAS staff gave 41 radio and TV interviews. Over the year, the Society concentrated on targeting specific relationships with journalists, and yielded more impactful coverage from press releases as a result. There was a huge

An imperfect account of a comet

An RAS grant supported the display of 'An Imperfect Account of a Comet', developed by Orkney artist Lynda Laird, at Orkney International Science Festival in September 2024.

This installation features glass plates representing stars missing from John Flamsteed's British Star Catalogue; it was inspired by the discoveries of Caroline Herschel. Together with an audio performance, titled '8 Comets', featuring music and excerpts from Herschel's journals, and pop-up banners about comets, the installation provided a multidisciplinary framework for conversations with visitors.

Pupils from eight island schools also visited, making models of comets and trying their hands at cyanotype printing. More than 400 people in all visited the installation in Kirkwall Town Hall and feedback from the schoolchildren was positive, with 60% showing interest in exploring the subject.

Part of the RAS grant funding allowed improvements to the structure of the installation that make it – especially the glass plates – easier to store, assemble and transport; this opens up the possibility of displaying it at other science festivals and dark sky sites.

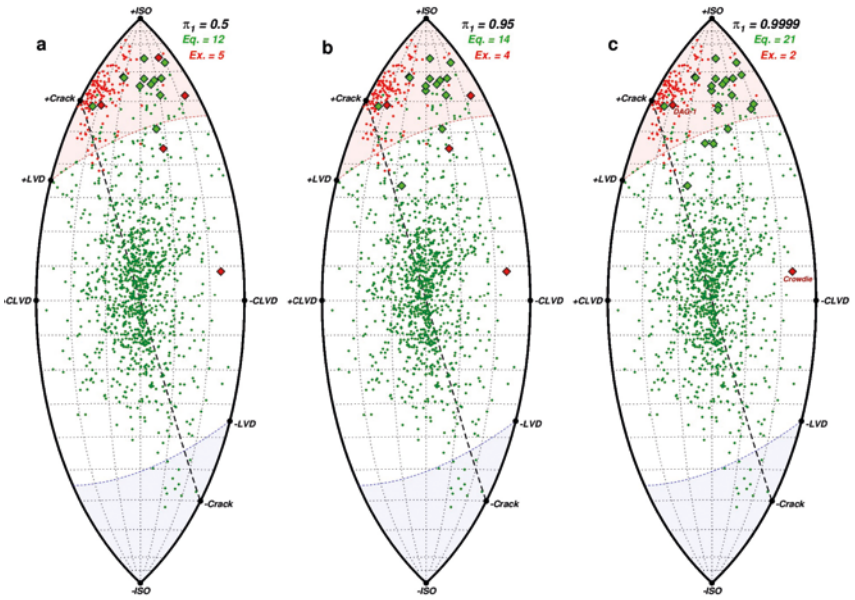
increase in the number of successful press releases this year, compared to previous years. Of these, 14 did particularly well, but our releases were regularly covered by the biggest media organisations globally. The rollout of video explainers has also been a great success. Popular topics included astronomical events such as comets and meteor showers, the true colours of Uranus and Neptune, pulsars and dark matter, Webb's weird galaxy, Venus (and an exo-Venus) and – from NAM – using optics to spot deepfake images.

Social media continues to play a part in promoting RAS research and activities. The Society has accounts on X (54400 followers), Facebook (19400), Instagram (12600), LinkedIn (17600), BlueSky (4200), Threads (4900) and Mastodon (4900). The RAS YouTube channel now has more than 15000 subscribers.

The Supermassive podcast has become the leading astronomy podcast in the UK. As of the end of 2024, 2.25 million people had listened, placing it in the top 1% of podcasts of any kind in the UK, and approaching the top 2% globally. 34% of listeners live in the US, 30% in the UK, 8% in Australia and 7% in Canada. Typically 20000 people listen to each episode within 30 days of release.

Filming a Dark Sky Sanctuary

An RAS grant made it possible for a writer and a filmmaker to capture the spectacular – but remote – dark skies of the Hebridean island of Rum, as part of a project to showcase the journey towards Dark Sky Sanctuary status for this island community. Luke Waterson and Davey Poremba travelled to Rum to film from remote locations as well as interviewing key figures involved in the now-successful bid for Dark Sky Sanctuary status. They edited the footage into a provisional final cut for the film they are provisionally calling 'Rum's Dazzling Dark Skies' and plan to show the film in schools in central Scotland and in the new Rum visitor centre.



RAS press releases helped to communicate the news of real-time monitoring of potential underground nuclear tests

RAS 200

RAS200: Earth and Sky, the decade-long outreach project established to mark the bicentenary of the Society, published its final report at the National Astronomy Meeting in 2024. Sharing our sciences with wider sectors of society has had a lasting impact. Seeking further partnerships is now part of the RAS Strategy for 2024-2029.

A press release highlighting the true colours of Uranus and Neptune – based on a research paper in *Monthly Notices of the RAS* – managed to garner a great deal of attention, (not to mention causing the last-minute hasty re-colouring of an over-blue Neptune in a feature in *A&G* magazine on its day of going to press!). tinyurl.com/tm5zzn2b

Friends of the RAS

The group of supporters of the RAS reached a membership of 257 in 2204. Friends enjoyed a series of exclusive lectures at Burlington House from the following speakers:

Prof Ian Robson Confessions of an astronomer;

Prof Nick Achilleos Exploring giant planet magnetospheres;

Prof Erminia Calabrese New frontiers in cosmology with Cosmic Microwave Background surveys (with a focus on the UK programmes);

Peter Grimley The European Southern Observatory – over 60 years at the cutting edge of observational astronomy;

Sally Russell Capturing the Moment – an illustrated personal journey through four decades of practical amateur astronomy;

Anna McLeod Massive stars and where to find them;

Prof Chris Clarkson Einstein's aftermath: dark energy, black holes and the Big Bang.

SHARING OUR SCIENCES WITH WIDER SECTORS OF SOCIETY HAS HAD A LASTING IMPACT

Working with Courtyard Societies

The spectacular aurora seen across wide areas of the UK in May provided a topical theme for the Courtyard Late event in June. RAS president Mike Lockwood spoke on the great auroral display of May 2024, discussed the origins of the aurora and what made May's events so unusual. Visitors had the chance to visit the Library and see original historical reports of solar observations, including the Carrington event of 1859 and John Herschel's sunspot observations.

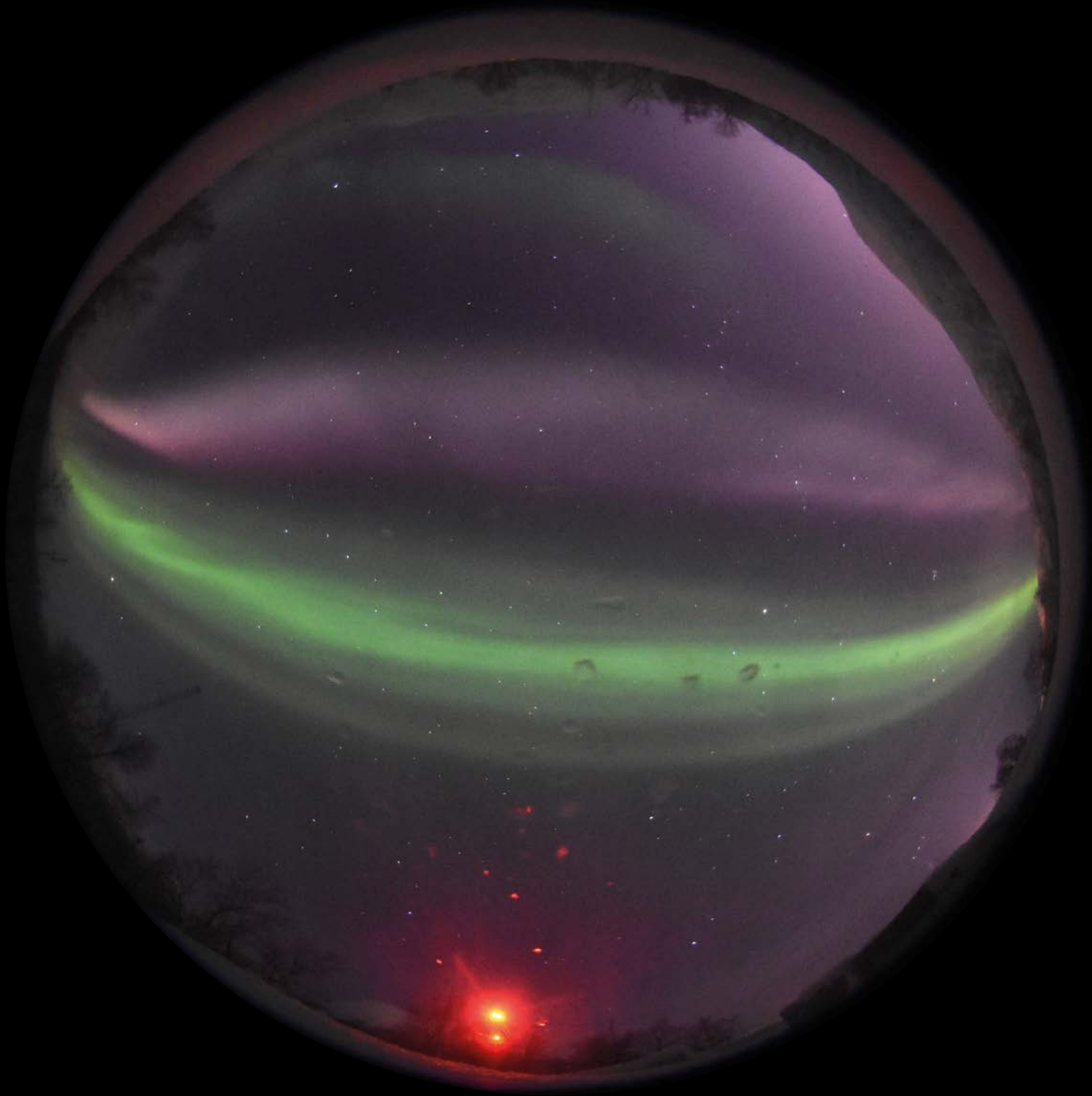
Along with other Courtyard Societies, the RAS was part of Open House 2024, and opened to the public on Saturday 16 September, hosting two children's activity sessions, and 12 tours attended by 377 people, our highest attendance since 2018. Spectrum Drama actors playing the roles of Caroline Herschel and her nephew John Herschel were complemented by special library displays and tours led by RAS staff and Open House volunteers.

Perfect partners

The RAS supported International Observe the Moon Night in 2024, providing a livestream of the event organised by the University of Reading on 14 September 2024. At this annual event led by NASA, there were talks about lunar science and culture and a live observing link to Cyprus. 150 people attended in person; 1100 took part online through the partnership with the RAS.

[moon.nasa.cov/observe]

Our Organisation



In a bumper year for aurora, the RAS President spoke about space weather at the June Lates public event to celebrate our 150 years at Burlington House

[Ramfjordmoen Research Station]

Our strategy

We will continue our current valuable activities:

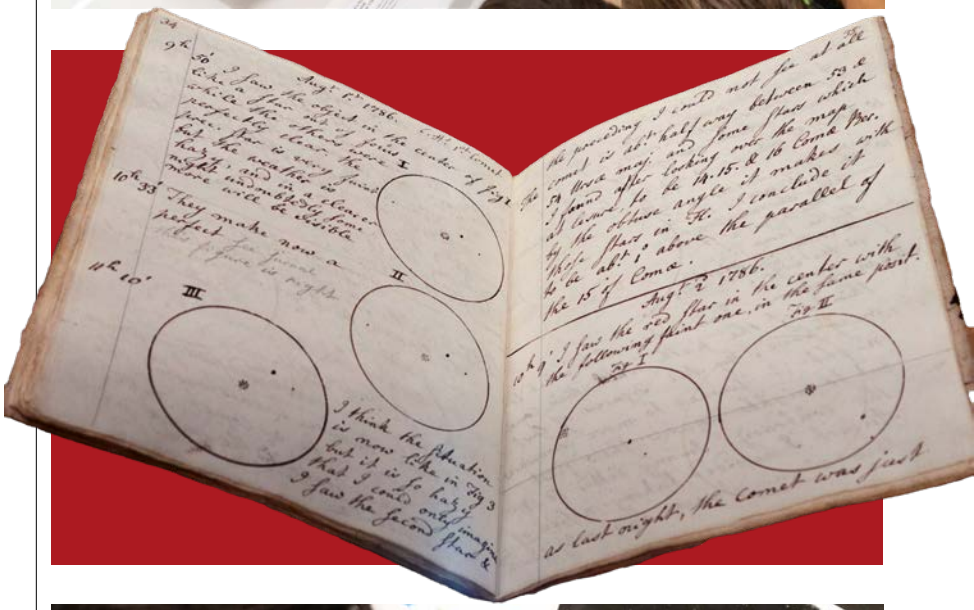
- Providing a **learned and professional membership Society**;
- Holding regular **scientific meetings**;
- **Publishing**, in journals and more widely;
- Giving **policy advice** to government
- Awarding **grants and medals**;
- Providing **education and outreach activities**;
- Curating **our heritage**.

In addition we will develop these five priority areas:

- Meeting the needs of **our members** and improving how we communicate with them;
- Providing **inspirational** programmes in astronomy and geophysics **education and outreach**;
- Achieving **maximum impact from the library**, archive and object collections;
- Publishing **high quality research**, accessible to all;
- Exploring and nurturing **partnerships for collaboration and influence**.

Our objectives for 2024 centred on the RAS Strategy 2024-29.
We published the Strategy and our Roadmap to Delivery, setting out targets in line with improvements in the five priority areas: membership, education and outreach, library and heritage, publishing and collaboration and influence.

Membership: We have agreed the terms of a 999-year lease on our headquarters in Burlington House, and are developing plans to use the building for public events. We have worked to streamline



The RAS archive came to life as a series of workshops and outreach initiatives in Slough organised in partnership with Slough Museum, brought astronomy to a new generation. Caroline Herschel's notebook returned to Slough after some 200 years. (RAS/M. Wrigley)

our organisation's IT systems to support our members. We completed the analysis of the Survey of the Research Interests and Demographics of the UK Astronomy and Geophysics Communities, finding continued growth in the size of the research community. We have upgraded our Newsletter to Fellows. We have improved support for the Committee on Diversity in Astronomy and Geophysics, and shared their work to our members through *A&G*. We held one of our Specialist Discussion Meetings at the Royal Observatory Edinburgh and made plans to hold at least one of our Specialist Discussion and A&G Highlights Meetings at other venues in the coming years. We initiated a Governance Review.

Education and outreach: We have developed new outreach activites in partnership with Slough Museum and the University of Reading, among others, in order to increase their impact, reach and focus. We have prioritised events targeted at under-served communities, whether for socio-economic, geographic or access reasons.

Library and heritage: We have continued to explore digitisation of Caroline Herschel's notebooks, to increase accessibility for research and public interest. We have displayed material including those notebooks, to support meetings, lectures and events in Burlington House, as well as in Slough, supporting outreach workshops for families. We also worked with Orkney Science Festival to display the RAS Bicentennial Quilt in Kirkwall, to the public and to primary school children.

Publishing: We have been promoting our Open Access journals at meetings and highlighting the archive content that is now freely available. We compiled and promoted a booklet to highlight our role in geophysics publishing.

The April 2025 RAS meetings were held in Dublin, with one Specialist Discussion Meeting focusing on the role historical observatories such as Dunsink can play in outreach. (RAS/SPL)

Our objectives

Collaboration and influence: We have made contact with organisations with which we have common goals, in outreach and influence, such as CaSE, the Campaign for Science and Engineering. We have taken part in events with fellow Societies around the Burlington House courtyard and have set up shared administration structures. We strengthened our links with members of the UK parliament and encouraged our Fellows to work with prospective MPs ahead of the General Election.

For 2025, we will continue our work in line with the Strategy and our priority areas of membership, education and outreach, library and heritage, publishing and collaboration and influence.

In particular:

- We will complete our Governance Review and bring our proposed amendments to the Charter and Bye-laws to the AGM;
- We will hold at least one Specialist Discussion meeting (both A and G) and Highlights meeting away from London. In 2025 it will be in Dublin;
- We will enhance functionality on our member's database to allow Fellows to find and contact Fellows with

similar interests, whilst remaining compliant with GDPR legislation;
- We will work towards upgrading our website;
- We will prepare a plan to celebrate the Bicentenary of *MNRAS* in 2027.

Events since the year end

In January, the Royal Astronomical Society held a one-day conference on Light Pollution and its Impacts at our offices in Burlington House, London. There were multiple sessions from invited speakers, with representation from organisations including the All-Party Parliamentary Group for Dark Skies, Buglife, CPRE, Dark Skies Cumbria, Dark Sky UK and Dark Sky International. Topics covered included policy and regulation, the environment and biodiversity, and human health. The meeting explored approaches to tackling light pollution, looking at the current regulatory landscape in the UK, opportunities for improvement, local interventions, and best practices here and from elsewhere in the world.

> WE EXPLORED TACKLING LIGHT POLLUTION, LOOKING AT THE CURRENT REGULATORY LANDSCAPE IN THE UK

In February we announced the award of the 2025 Caroline Herschel Medal to Prof. Isobel Hook of the University of Lancaster (centre left), in recognition of her outstanding work on the faint and distant universe. She is pictured at the award ceremony with the President of the RAS, Prof. Mike Lockwood (right) and four past presidents, from left Prof. John Zarnecki, Prof. Emma Bunce, Prof. Kathy Whaler and Prof. Mike Edmunds (RAS/ Lynda Laird)

In February we announced the award of the 2025 Caroline Herschel Medal to Prof Isobel Hook of the University of Lancaster, in recognition of her outstanding work on the faint and distant universe. Prof Hook received her medal at a ceremony in London in March.

We were pleased to find out that the Association for Science and Discovery Centres have funded another series of our successful outreach workshops taking the works of the Herschels back to their home town of Slough for 2025.

We consulted members about our Governance Review through a dedicated website, gaining insight into Fellows' priorities to inform the Trustees' decision-making.

Structure and Governance

The promising plumes of Enceladus and Io featured in a Specialist Discussion Meeting in December

The Royal Astronomical Society was founded in 1820 and is incorporated by Royal Charter and managed according to byelaws that were revised at the Annual General Meeting in 2015. The objectives, charters and byelaws are detailed on the Society's website ras.ac.uk.

The control of the Society rests with the General Meeting of Fellows. Subject to that, direction and management are the responsibility of the Council (as the Trustees of the charity). The Council consists of a President, a Treasurer and three Secretaries together with four Vice-Presidents and 12 Councillors. In addition, the President-Elect attends Council for one year prior to taking up the post.

Trustee recruitment and appointment

Annually, the full membership of the Society is asked to nominate themselves or other members of the Society to available positions on Council.
A nomination must be supported by two other members of the Society. Council approves the ballot list and this together with a narrative on each candidate is sent to the full membership for their consideration prior to casting their votes. We moved to fully electronic voting and an online AGM in 2020 in line with Covid-19 restrictions; we will continue with solely online voting in future. Members of the Council are elected by ballot at the AGM, for the following normal and maximum terms of office, as set out in the byelaws. In summary:

- President, two years
- Vice-Presidents, two years
- Treasurer and Secretaries, five years
- Councillors, three years.

Trustee induction and training

New members of Council attend a Trustee induction programme before their first Council meeting. All members of Council are asked to complete a conflict-of-interest declaration and to sign a Trustee declaration form. Trustees have the opportunity to attend training, where appropriate; for example, on Governance, and Heritage Architecture

Regulations and procedures of the Society:

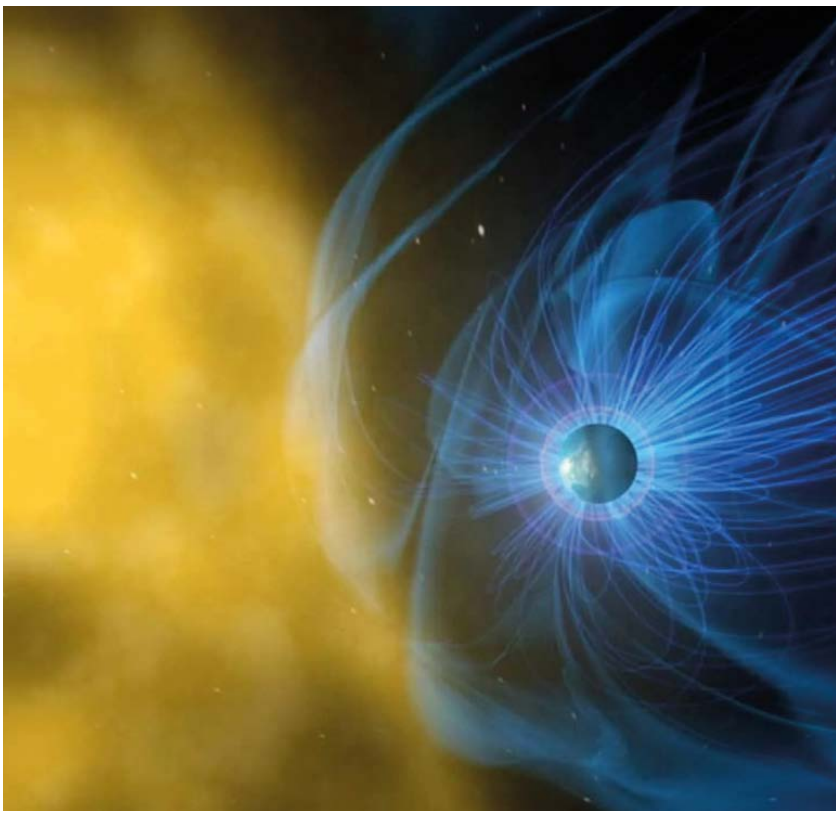
- Society governance
- Trustee recruitment and appointment
- Trustee induction and training
- Organisational structure
- Risk management

Fundraising

The Society is not currently fundraising actively, but if it does so in future it will comply with best practice as outlined by the Charity Commission, and also in compliance with GDPR. The Society offers information and guidance about leaving a legacy to the RAS on the website.

Organisational structure

The RAS Council normally meets six times during the year and its function is to direct, on behalf of the Society, all the affairs and business of the Society. Council appoints standing committees (Publications Management, Editorial [for each journal], Outreach and Education, Finance, Remuneration, International, Membership, Library, Astronomical Heritage, Diversity in Astronomy and Geophysics) and *ad hoc* committees (e.g. Awards) to forward its objectives. It appoints the Editors-in-Chief and editors of the Society's research journals, *Monthly Notices of the Royal Astronomical Society*, *Geophysical Journal International*, and *RAS Techniques and Instruments*, who provide their services, as does the Treasurer, for an honorarium. The Society has formal associations with a number of organisations having shared interests, and



Energetic particle injection: its causes and effects was discussed at the RAS in November 2024 (NASA)

has less-formal arrangements with several other bodies. These include:

- The British Geophysical Association, jointly sponsored by the RAS and the Geological Society of London to represent solid-Earth geophysicists whose interests fall within the remits of both parent societies
- The Paneth Meteorite Fund that the Society administers under the direction of the Paneth Fund Trustees
- The Society is the UK national member organisation of the International Astronomical Union and the European Astronomical Society and is represented on the UK Panel of the International Union of Radio Science
- The Society is represented on a number of organisations including the Science Council, the Parliamentary and Scientific Committee and the Campaign for Science and Engineering

The Society recognises the appeal of astronomy and geophysics to the general public by offering annual membership to Friends of the RAS for a small fee. Friends' benefits include a series of Friends-only lectures, as well as priority seating for the Society's popular Public Lectures, visits to observatories and science centres, use of the Society's Library, as well as a reduced subscription to the Society's members' magazine *A&G*.

RIGOROUS PEER REVIEW IS USED TO MAINTAIN THE QUALITY OF THE THREE JOURNALS

Risks

The principal risks and uncertainties identified by the Trustees are:

- Maintenance of the quality of, and income from, publications (a significant income stream of >60%) having transitioned to Open Access publishing
- Cost of maintenance and Burlington House Upgrades

The Finance Committee regularly reviews the Society's risk register and the Council annually reviews the major risks to which the Society is exposed and the systems that have been established to manage those risks. In regard to the most significant risks:

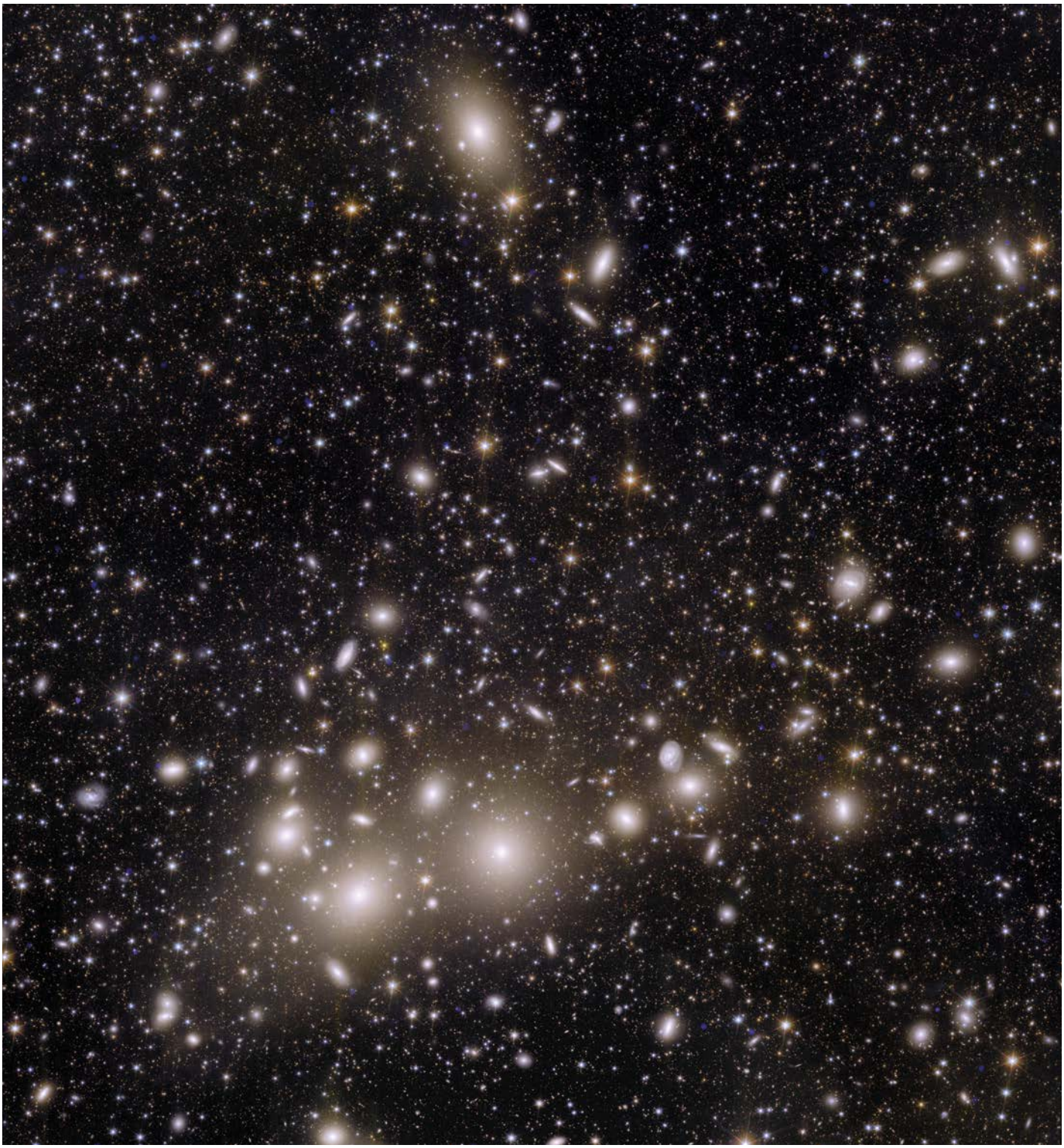
- The Society insists that rigorous peer review is used to maintain the quality of the three journals and thereby the demand by authors and readers for the highly successful publications and, with the publishers, ensures that it adopts a robust business model for production and sales.
- Maintenance of the (listed) premises is ensured by regular repair and refurbishment.

Other key risks identified and their mitigation measures include:

- Maintenance of the size of the membership (by regular review of services and subscriptions and outreach activities to potential new members)

- The implementation of a broad range of statutory regulation, for example GDPR (using expert external assistance where necessary).

The Trustees consider the fluctuations in investment fund values and variability of investment returns to be a risk for the Society. The fund, Newton Growth and Income Fund for Charities, is actively and expertly managed and administered by Newton Investment Management who were reappointed after a competitive tender. Funds are invested in a diverse portfolio comprising mainly equities and bonds. This managed strategy mitigates fluctuations in fund values and seeks opportunities for fund growth and income. The Trustees consider this approach mitigates the subsequent exposure to any investment risk.



A Specialist Discussion Meeting in December considered the low surface brightness universe featuring data coming from the Euclid space mission
[ESA/Euclid/Euclid Consortium/NASA, image processing by J.-C. Cuillandre (CEA Paris-Saclay), G. Anselmi]

Financial Statements

[NASA/JPL-Caltech/SwRI/MSSS Image processing by Emma Wilmaki]

FINANCIAL REVIEW

The Society's total funds increased from £25,823,874 to £26,970,240 during the year, both figures including a large contribution from the Society's heritage assets (rare books, clocks, telescopes and fine art) which totalled £9,470,879 (2023 – £9,470,879). Income decreased to £5,156,988 (2023 – £7,082,695) mainly due to decreased income from publishing and increased income from investments. The Society's expenditure decreased to £4,701,437 (2023 – £5,276,132) which is mainly due to a fall in publication expenditure.

Policy on reserves

The reserves policy aims to maintain adequate financial cover for the main risks to the Society and provide in the normal way for an efficient winding-up if that ever became necessary. Working cash reserves are maintained so the Society does not rely on realisation of investments gains, or capital invested. The total funds amounted to £26,970,240 of which £9,470,879 are held in heritage assets, leaving funds of £17,499,361 (2023 – £16,352,995) to cover the main risks and the operational needs of a going concern.

The requirement for significant reserves falls into two areas:

- The need to have contingency plans in place to maintain publication income now that, from 1 January 2024, the two main journals, Monthly Notices of the Royal Astronomical Society and Geophysical Journal International, are fully Open Access. The first Open Access year remained profitable, but journal submission numbers were lower.
- The need to make provision for substantial increases in the cost of Burlington House accommodation. The purchase of a 999-year lease, alongside four other Courtyard Societies, at a peppercorn rent, was completed on 29 October 2024 from the Department for Levelling Up, Housing & Communities, thereby giving greater certainty to the future of the premises but making the Society liable for the costs of backlog maintenance, environmental improvements and greater accessibility.

The Accommodation fund has been merged with the Burlington House fund to form the Tangible fixed assets fund as a result of the purchase of the 999 year long lease and is represented by the net book value of tangible fixed assets. This fund is detailed in note 17, page 59, along with the other Designated funds.

The Open Access fund is currently maintained at high levels to support any significant changes to the Society's operations and the General Fund is available to provide further financial support if either of these risks materialise. The General Fund is also available, should it ever be needed, to enable an orderly winding up of the Society. At present the free reserves of the Society, defined as unrestricted, undesignated funds, are £7,879,686 (2023 – £7,659,982) and these would allow operation of the Society for at least 20 months if publishing were continued and expenditure incurred during that period and 43 months if publishing were halted. The trustees are satisfied that the current level of reserves is appropriate given the risks and uncertainties outlined above.

It has been the policy of the Society to fund grant activity from the Research and Grants fund, which is now included in the balance of designated reserves.

Investment policy

Investments are held with BNY Mellon Charities Fund: Newton Growth and Income Fund for Charities, with the aim of generating capital growth and income over the medium to long term, with actively managed assets held in global equities and fixed income

securities. Surplus cash is held in the COIF Charities Deposit Fund with CCLA Investment Management, which provides a high level of capital security, interest, and liquidity. The Fund has an actively managed diversified portfolio of sterling denominated money market deposits and instruments. Income and gains from these investments contribute to fund the Society's charitable activities. Investment performance is monitored by the accountant, treasurer, finance committee and Council.

The trustees, by resolution, adopted a total returns approach to the invested endowment funds in accordance with the requirements of the Charity Commission believing that this approach is in the best interests of the Society. The fund reconciliation is disclosed in note 12. This approach was applied from 1 January 2015 when the value of the endowment funds at that date of £1,652,682 was used as a proxy for the original value of the endowment funds. In adopting this policy, permanent endowment funds will not be permitted to fall below the original value of £1,652,682. The trustees aim to maintain the real value of the permanent endowment as a measure against the movements in the Consumer Prices index (CPI), rather than the Retail Prices Index (RPI) as this highly inflated, out of favour index prevented any transfers to the restricted fund. The CPI was 2.5% for the year (2023 – 7.3%). £281,057 was transferred to the restricted funds during the year, (2023 – nil).

Grant making policy

The RAS has for many years provided small grants to support the community in activities not funded by the research councils. Primarily these have been awarded to help students at the start of their careers, either with funding for summer bursaries enabling them to experience working in a research environment while still an undergraduate, or to enable PhD students to present work at research conferences. The RAS has also supported scientific meetings in the UK, especially those held outside London. These broad categories of support have been discussed many times at Council and serve the purpose of encouraging entrants to the profession and extending the activities of the Society to members and the public outside London.

In addition to these grants to individuals the Society funds a series of fellowships to promote the careers of the highest quality young postdoctoral scientists. These currently include RAS Fellowships (on any subject) and the Norman Lockyer Fellowship (in Solar and Solar Terrestrial Physics). The Norman Lockyer Fellow is funded from an endowment fund set up for that purpose.

A further activity funded by the Society is the award of medals to recognise the highest quality work in various categories. These awards are proposed to Council by a separate awards panel and no awards are made to serving councillors.

The grants, fellowships and awards are funded from several sources including the restricted and endowment funds invested with Newton Investment Management. The income and gains from these investments and interest from the CCLA COIF Charities Deposit Fund, are used to support the grants expenditure in accordance with the bequests.

The grants panel deliberates twice a year and further grants are awarded by the Education and Outreach Committee. It comprises the Treasurer (Chair) and the three secretaries. 208 applications were received for the two deadlines in February and in August. Panel members observe strict rules on conflict of interest, taking no part in decisions on grant applications from their home institutions. In addition, it is usual for panel members to absent themselves from discussions on grant applications from scientists with whom they have had recent close contact, such as research students supervised in the past five years.

FINANCIAL REVIEW (CONTINUED)

Key management personnel

The key management personnel of the charity in charge of directing and controlling, running and operating the charity are the trustees, the Executive Director and the Deputy Executive Director; the latter two are employees. They are assisted by the Accountant, a further five managerial level officers and other staff.

Council ensures that the Society carries out a salary comparison exercise every 3-5 years. The comparability study compares the staff salaries to other similar external positions to reassure the trustees that the levels of remuneration are appropriate. The last comparison exercise was carried out in 2023 and the newly created Remuneration Committee started the process of a full review in January 2024.

The Society does not have a performance related pay scheme. The trustees set up the Remuneration Committee to advise on the appropriate level of salary increase in response to the cost of living increases for all staff and consider any changes to staff roles and responsibilities.

Pension scheme

The Society's defined benefit pension surplus and its accounting treatment is explained in note 20 of these financial statements. This scheme is closed to new members and has two deferred members and nine annuitants. The Society operates a defined contribution group personal pension scheme for current staff.

Legacies and donations

The Society encourages Fellows to include donations to the Society in their wills and receives donations during the year from Fellows and members of the public. During the year the Society received donations of £28,069 (2023 - £2,167) and legacies of £nil (2023- £10,000).

Heritage assets

The Society's collection of rare books, fine art, telescopes and clocks was valued in 2011 at approximately £9.5 million. The Society does not regard these as assets which can be converted to their cash value, except in the most dire circumstances.

The Society continues to periodically receive donated items. All such donations are gratefully received and appreciated by the Society. Where a valuation is available for additions to the collection, this is reflected in the financial statements. A valuation will always be obtained for additions that are financially material to the whole collection

Investment performance

The Newton Growth and Income fund for Charities provided a yield of 2.3% and a total return net of 9.2% in the year. Annual management charges of 0.6% are taken from the capital of the fund. Interest from the COIF Charities Deposit Fund yielded 4.9%. Performance of the fund managers is kept under continual review.

TRUSTEES' RESPONSIBILITIES IN THE PREPARATION OF FINANCIAL STATEMENTS

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

The law applicable to charities in England and Wales requires 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 income and expenditure 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 in Accounting and Reporting by Charities: Statement of Recommended Practice applicable to charities preparing their financial statements in accordance with the Financial Reporting Standard applicable in the UK and Republic of Ireland (FRS 102);
- make judgments and estimates that are reasonable and prudent;

- state whether applicable United Kingdom Accounting Standards have been followed, subject to any material departures disclosed and explained in the financial statements;
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the charity will continue in operation.

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 Act 2011 and the provisions of the Royal Charter and Bye Laws. 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.

The Council of the Society believes that it has carried out these requirements.

AUDITORS

A resolution to appoint Buzzacott Audit LLP for 2025 will be proposed at the Annual General Meeting.
Approved by the Council and signed on its behalf by:

President
Date:

INDEPENDENT AUDITOR'S REPORT TO THE TRUSTEES OF ROYAL ASTRONOMICAL SOCIETY

Opinion

We have audited the financial statements of Royal Astronomical Society (the 'charity') for the year ended 31 December 2024, which comprise the statement of financial activities, the balance sheet, the statement of cash flows, the principal accounting policies and the notes to the financial statements. The financial reporting framework that has been applied in their preparation is applicable law and United Kingdom Accounting Standards, including Financial Reporting Standard 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 31 December 2024 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 Act 2011.

Basis for 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

In auditing the financial statements, we have concluded that the trustees' use of the going concern basis of accounting in the preparation of the financial statements is appropriate.

Based on the work we have performed, we have not identified any material uncertainties relating to events or conditions that, individually or collectively, may cast significant doubt on the charity's ability to continue as a going concern for a period of at least twelve months from when the financial statements are authorised for issue.

Our responsibilities and the responsibilities of the trustees with respect to going concern are described in the relevant sections of this report.

Other information

The other information comprises the information included in the annual report and financial statements 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 we do not express any form of assurance conclusion thereon.

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 this gives rise to a material misstatement in the financial statements themselves. 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

In the light of the knowledge and understanding of the charity and its environment obtained in the course of the audit, we have not identified material misstatements in the trustees' annual report.

We have nothing to report in respect of the following matters in relation to which the Charities (Accounts and Reports) Regulations 2008 requires us to report to you if, in our opinion:

- the information given in the trustees' annual report is inconsistent in any material respect with the financial statements; or

- sufficient 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 trustees' responsibilities statement, 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 liquidate the charity or 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 144 of the Charities Act 2011 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.

Irregularities, including fraud, are instances of non-compliance with laws and regulations. We design procedures in line with our responsibilities, outlined above, to detect material misstatements in respect of irregularities, including fraud. The extent to which our procedures are capable of detecting irregularities, including fraud is detailed below.

Our approach to identifying and assessing the risks of material misstatement in respect of irregularities, including fraud and non-compliance with laws and regulations, was as follows:

- the engagement partner ensured that the engagement team collectively had the appropriate competence, capabilities and skills to identify or recognise non-compliance with applicable laws and regulations;
- we identified the laws and regulations applicable to the charity through discussions with management, and from our knowledge and experience of the sector;
- we focused on specific laws and regulations which we considered may have a direct material effect on the financial statements or the operations of the charity, including the Charities Act 2011, data protection legislation, anti-bribery, employment, pensions and health and safety legislation;
- we assessed the extent of compliance with the laws and regulations identified above through making enquiries of management and inspecting legal correspondence; and
- identified laws and regulations were communicated within the audit team regularly and the team remained alert to instances of non-compliance throughout the audit.

We assessed the susceptibility of the charity's financial statements to material misstatement, including obtaining an understanding of how fraud might occur, by:

- making enquiries of management and those charged with governance as to where they considered there was susceptibility to fraud, their knowledge of actual, suspected and alleged fraud; and
- considering the internal controls in place to mitigate risks of fraud and non-compliance with laws and regulations.

To address the risk of fraud through management bias and override of controls, we:

- performed analytical procedures to identify any unusual or unexpected financial relationships;
- tested journal entries to identify unusual financial transactions;
- tested authorisation controls during substantive testing of expenditure;
- assessed whether judgements and assumptions made were indicative of potential bias; and
- investigated the rationale behind significant or unusual financial transactions.

In response to the risk of irregularities and non-compliance with laws and regulations, we designed procedures which included, but were not limited to:

- agreeing financial statement disclosures to underlying supporting documentation;
- reading the minutes of meetings of those charged with governance;
- enquiring of management and those charged with governance as to actual and potential litigation and claims; and
- reviewing correspondence with HMRC and the charity's legal advisors.

There are inherent limitations in our audit procedures described above. The more removed that laws and regulations are from financial transactions, the less likely it is that we would become aware of non-compliance. Auditing standards also limit the audit procedures required to identify non-compliance with laws and regulations to enquiry of the trustees and other management and the inspection of regulatory and legal correspondence, if any.

Material misstatements that arise due to fraud can be harder to detect than those that arise from error as they may involve deliberate concealment or collusion.

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

Use of our report

This report is made solely to the charity's trustees, as a body, in accordance with the Charities (Accounts and Reports) Regulations 2008 and with regulations made thereunder. Our audit work has been undertaken so that we might state to the charity's 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 the charity's trustees as a body, for our audit work, for this report, or for the opinions we have formed.

Buzzacott Audit LLP

Statutory Auditor
130 Wood Street
London
EC2V 6DL
Buzzacott Audit LLP is eligible to act as an auditor in terms of section 1212 of the Companies Act 2006

STATEMENT OF FINANCIAL ACTIVITIES YEAR TO 31 DECEMBER 2024

	Notes	Unrestricted funds £	Restricted funds £	Endowment funds £	2024 Total funds £	2023 Total funds £
Income						
Donations and legacies	1	**26,249**	**570**	**1,250**	**28,069**	12,167
Other trading activities		**14,373**	—	—	**14,373**	13,181
Investment income	2	**359,483**	**20,084**	**125,945**	**505,512**	429,590
Charitable activities	3	**4,609,034**	—	—	**4,609,034**	6,627,757
Total income		**5,009,139**	**20,654**	**127,195**	**5,156,988**	7,082,695
Expenditure						
Raising funds		**11,639**	—	—	**11,639**	19,615
Charitable activities	5	**4,627,022**	**62,776**	—	**4,689,798**	5,256,517
Total expenditure		**4,638,661**	**62,776**	—	**4,701,437**	5,276,132
Net income (expenditure) before investment gains		**370,478**	**(42,122)**	**127,195**	**455,551**	1,806,563
Net gains on investments	12	**476,662**	**29,454**	**184,699**	**690,815**	540,230
Net income (expenditure) for the year		**847,140**	**(12,668)**	**311,894**	**1,146,366**	2,346,793
Transfer between funds	12	—	**281,057**	**(281,057)**	—	—
Net movement in funds		**847,140**	**268,389**	**30,837**	**1,146,366**	2,346,793
Reconciliation of funds:						
Total funds brought forward at 1 January 2024		**22,607,102**	**1,036,122**	**2,180,650**	**25,823,874**	23,477,081
Total funds carried forward at 31 December 2024		**23,454,242**	**1,304,511**	**2,211,487**	**26,970,240**	25,823,874

All gains and losses for the year are recognised in the above statement. All activities are classed as continuing. The notes on pages 49 to 63 form part of these financial statements.

STATEMENT OF FINANCIAL ACTIVITIES YEAR TO 31 DECEMBER 2023

	Notes	Unrestricted funds £	Restricted funds £	Endowment funds £	2023 Total funds £
Income					
Donations and legacies	1	11,176	991	—	12,167
Other trading activities		13,181	—	—	13,181
Investment income	2	299,888	17,905	111,797	429,590
Charitable activities	3	6,627,757	—	—	6,627,757
Total income		6,952,002	18,896	111,797	7,082,695
Expenditure					
Raising funds		19,615	—	—	19,615
Charitable activities	5	5,192,332	64,185	—	5,256,517
Total expenditure		5,211,947	64,185	—	5,276,132
Net income (expenditure) before investment gains		1,740,055	(45,289)	111,797	1,806,563
Net gains on investments	12	372,759	23,119	144,352	540,230
Net income (expenditure) for the year and net movement in funds		2,112,814	(22,170)	256,149	2,346,793
Reconciliation of funds:					
Total funds brought forward at 1 January 2023		20,494,288	1,058,292	1,924,501	23,477,081
Total funds carried forward at 31 December 2023		22,607,102	1,036,122	2,180,650	25,823,874

All gains and losses for the year are recognised in the above statement. All activities are classed as continuing. The notes on pages 49 to 63 form part of these financial statements.

BALANCE SHEET 31 DECEMBER 2024

	Notes	2024 £	2024 £	2023 £	2023 £
Fixed assets					
Tangible assets					
. Heritage assets	11	**9,470,879**		9,470,879	
. Other assets	11	**3,979,183**		482,016	
Investments	12	**10,386,828**		9,696,013	
			23,836,890		19,648,908
Current assets					
Debtors	13	**566,625**		1,052,260	
Cash at bank and in hand		**7,327,655**		7,415,452	
		7,894,280		8,467,712	
Creditors: amounts falling due within one year	14	**(2,319,071)**		(2,228,747)	
Net current assets			**5,575,209**		6,238,965
Total assets less current liabilities			**29,412,099**		25,887,873
Creditors: amounts falling due after one year	14		**(2,441,859)**		(63,999)
Total net assets			**26,970,240**		25,823,874
The funds of the charity					
Endowment funds	15		**2,211,487**		2,180,650
Restricted income funds	16		**1,304,511**		1,036,122
Unrestricted income funds					
. Designated funds	17	**15,574,556**		14,870,434	
. General funds		**7,879,686**		7,736,668	
			23,454,242		22,607,102
			26,970,240		25,823,874

The financial statements were approved by Council on 9 May 2025 and signed on its behalf by

Professor M Lockwood
President

The notes on pages 49 to 63 form part of these financial statements.

STATEMENT OF CASH FLOWS YEAR TO 31 DECEMBER 2024

	Notes	2024 £	2023 £
Cash flow from operating activities			
Net cash provided by operating activities	A	**423,617**	2,169,313
Cash inflow from investing activities			
Dividends and interest from investments		**505,512**	429,590
Purchase of tangible fixed assets		**(1,016,926)**	(37,060)
Net cash provided by investing activities		**(511,414)**	392,530
Change in cash and cash equivalents in the year		**(87,797)**	2,561,843
Cash and cash equivalents at 1 January 2024	B	**7,415,452**	4,853,609
Cash and cash equivalents at 31 December 2024	B	**7,327,655**	7,415,452

NOTES TO THE STATEMENT OF CASH FLOWS FOR THE YEAR TO 31 DECEMBER 2024

A Reconciliation of net movement in funds to net cash flow from operating activities

	2024 £	2023 £
Net movement in funds (as per the statement of financial activities)	**1,146,366**	2,346,793
Adjustments for:		
Depreciation charge	**144,759**	125,211
Net gains on investments	**(690,815)**	(540,230)
Dividends and interest from investments	**(505,512)**	(429,590)
Decrease in debtors	**485,635**	89,232
(Decrease) increase in creditors	**(156,816)**	577,897
Net cash used in operating activities	**423,617**	2,169,313

B Analysis of cash and cash equivalents

	2024 £	2023 £
Total cash and cash equivalents: Cash at bank and in hand	**7,327,655**	7,415,452

C Reconciliation of net funds (debt)

	1 January 2024 £	Cash flows £	31 December 2024 £
Cash and cash equivalents	7,415,452	(87,797)	**7,327,655**
Loan	—	(2,625,000)	**(2,625,000)**
Net funds	7,415,452	(2,712,797)	**4,702,655**

PRINCIPAL ACCOUNTING POLICIES

The principal accounting policies adopted, judgements and key sources of estimation uncertainty in the preparation of the financial statements are laid out below.

Basis of preparation

These financial statements have been prepared for the year to 31 December 2024.

The financial statements have been prepared under the historical cost convention with items recognised at cost or transaction value unless otherwise stated in the relevant accounting policies below or the notes to these financial statements.

The financial statements have been prepared in accordance with Accounting and Reporting by Charities: Statement of Recommended Practice applicable to charities preparing their financial statements in accordance with the Financial Reporting Standard applicable in the UK and Republic of Ireland (Charities SORP) the Financial Reporting Standard applicable in the UK and Republic of Ireland (FRS 102) and the Charities Act 2011.

The charity constitutes a public benefit entity as defined by FRS 102.

The financial statements are presented in sterling and are rounded to the nearest pound.

Critical accounting estimates and areas of judgement

Preparation of the financial statements requires the trustees and management to make significant judgements and estimates.

The items in the financial statements where these judgements and estimates have been made include:

- the liability for multi-year grant commitments;
- the useful economic life of tangible fixed assets; and
- the classification of the loan as a concessionary loan.

Assessment of going concern

The trustees have assessed whether the use of the going concern assumption is appropriate in preparing these financial statements. The trustees have made this assessment in respect of a period of at least one year from the date of approval of these financial statements.

The trustees are fully cognisant of the risks that the Society is carrying such as the uncertainty and risks of increased costs for the accommodation in Burlington House, the possible risk posed by Open Access and a possible impact on the business model that relies on the publishing income and also of a low probability, albeit high impact risk, that the quality and success of the Society's publications will decrease.

Whilst recognising these risks the trustees are content that the Society has strategies in place to manage them and are of the opinion that the Society has adequate free reserves and therefore sufficient resources to meet its liabilities as they fall due. The Reserves Policy in the Trustees' report provides more detail.

The most significant areas of judgement that affect items in the financial statements are mentioned above and detail provided in the section on risks in the Trustees' report.

Income recognition

Income is recognised in the period in which the charity has entitlement to the income, the amount of income can be measured reliably and it is probable that the income will be received.

Income comprises donations, investment income, income from the sale of publications, membership subscriptions, and other related income.

Donations are recognised when the charity has confirmation of both the amount and settlement date. In the event of donations pledged but not received, the amount is accrued for where the receipt is considered probable. In the event that a donation is subject to conditions that require a level of performance before the charity is entitled to the funds, the income is deferred and not recognised until either those conditions are fully met, or the fulfilment of those conditions is wholly within the control of the charity and it is probable that those conditions will be fulfilled in the reporting period.

Legacies are included in the statement of financial activities when the charity is entitled to the legacy, the executors have established that there are sufficient surplus assets in the estate to pay the legacy, and any conditions attached to the legacy are within the control of the charity.

The Society has a contract with Oxford University Press for the publication of journals, which gives a percentage of the surplus made to 31 December each year to the Society. Although payments are received net, income is recognised in the financial statements on a gross basis which reflects that the Society retains the underlying long-term rights. All publication income is accounted for on a receivable basis.

Membership subscriptions are payable in respect of a twelve-month period in advance. The unearned portion of income received relating to the period after 31 December is carried forward as deferred income.

Investment income is recognised once the dividend has been declared and notification has been received of the dividend due.

Interest on funds held on deposit is included when receivable and the amount can be measured reliably by the charity; this is normally upon notification of the interest paid or payable by the bank.

Expenditure recognition

Expenditure is recognised as soon as there is a legal or constructive obligation committing the charity to the expenditure. All expenditure is accounted for on an accruals basis and has been classified under headings that aggregate all costs related to the category.

Expenditure on charitable activities includes all costs associated with furthering the charitable purposes of the charity as described in the Trustees' Report.

Grants payable for the support of research or study in any areas of astronomy and geophysics are recognised in the financial statements as soon as the obligation has been authorised by the Grants Committee, which meets twice-yearly (ca. February and August) to allocate funds, the recipient has a reasonable expectation that they will receive a grant and any condition attaching to the grant is outside the control of the Society.

The costs of raising funds consist of room hire expenditure and RAS diaries bought for resale.

Allocation of support and governance costs

Support costs, including governance costs, represent indirect charitable expenditure. In order to carry out the primary purposes of the charity it is necessary to provide support in the form of personnel development, financial procedures, provision of office services and equipment and a suitable working environment.

Governance costs comprise audit fees, legal advice for trustees and costs associated with constitutional and statutory requirements, e.g. cost of trustee meetings and preparing statutory financial statements as well as costs associated with the strategic management of the Society

Support costs are apportioned based on the proportion of floor area occupied by, or proportion of staff time spent on, the activity.

Taxation

The Society is a registered charity and no liability to taxation arises on the results of its activities as applied for charitable purposes, with the exception of investment income, which is taxed at source.

Operating leases

Rentals under operating leases are charged to the statement of financial activities on a straight-line basis over the term of the lease.

Pension costs

The Society operates two pension schemes for employees and former employees. The assets of the schemes are held separately from those of the Society.

The Society operates a defined benefit pension scheme for former employees, who joined its service before 1 January 2002, providing benefits based upon final pensionable earnings. Royal London manages the pension scheme, with the investments now 100% held by Royal London.

The latest actuarial valuation at 31 December 2021 shows a pension surplus which is not recognised on the balance sheet as an asset because it is not available to the Society by way of reduced future contributions.

Actuarial gains and losses arising from new valuations and from updating valuations to the balance sheet date are recognised in the statement of financial activities as other recognised gains and losses.

The Society has established a second pension scheme (a defined contribution scheme) for employees who began service with the Society after 1 January 2002. The amount charged in the statement of financial activities in respect of the defined contribution pension scheme is the contributions payable in the year.

Heritage assets

Heritage assets are included in the financial statements at a historic valuation which is being treated as deemed cost. There are two main classes of heritage assets that the Society possesses, which are:

- Rare Books and Manuscripts
- Fine Art and Collectibles – Historic books, portraits, busts, instruments and antique furniture.

The Society's rare book and manuscript collection is reported in the balance sheet at a valuation by Christies in 1996, with a number of items re-valued by B Quaritch Limited in 2011. The valuation basis was High Auction Estimate.

The Society's fine art and collectibles are reported in the balance sheet at a valuation by Bonhams in 1992, including index linking, with a number of items revalued by Bonhams in 2011.

The Society continues to periodically receive donated items. All such donations are gratefully received and appreciated by the Society. The Society would only obtain a valuation of the donation, if it was deemed to materially affect the overall value of the heritage asset portfolio.

Depreciation is not charged on heritage assets due to immateriality based on their extremely long useful lives and high residual values.

Other tangible fixed assets

The Society capitalises tangible fixed assets with a cost greater than £250 and an estimated useful life over one year.

Tangible fixed assets are depreciated on cost on a straight-line basis from the date of acquisition over their expected useful lives as follows:

- Long leasehold property ..... 50 years
- Leasehold Improvements ..... 20 years
- Telephone, security system and computer equipment..... 4 years
- Plant and machinery ..... 10 years

Investments

Listed investments are a form of basic financial instrument and are initially recognised at their transaction value and subsequently measured at their fair value as at the balance sheet date using the closing quoted market price.

Realised gains (or losses) on investment assets are calculated as the difference between disposal proceeds and their opening carrying value or their purchase value where the investment is acquired subsequent to the first day of the financial year. Unrealised gains and losses are calculated as the difference between the fair value at the year end and their carrying value at that date. Realised and unrealised investment gains (or losses) are combined in the statement of financial activities and are credited (or debited) in the year in which they arise.

Debtors

Debtors are recognised at their settlement amount, less any provision for non-recoverability. Prepayments are valued at the amount prepaid.

Cash at bank and in hand

Cash at bank and in hand represents such accounts and instruments that are available on demand or have a maturity of less than three months from the date of acquisition.

Creditors and provisions

Creditors and provisions are recognised when there is an obligation at the balance sheet date as a result of a past event, it is probable that a transfer of economic benefit will be required in settlement, and the amount of the settlement can be estimated reliably. Creditors and provisions are recognised at the amount the charity anticipates it will pay to settle the debt. Concessionary loans are recognised at the amount received with the carrying amount adjusted in subsequent years to reflect repayments and any accrued interest.

Fund structure

Endowment funds comprise assets which normally must be held as capital. The income arising therefrom is used to support specific activities determined in accordance with the wishes of the donor.

Restricted funds comprise monies raised for, or their use restricted to, a specific purpose, or contributions subject to donor imposed conditions.

Designated funds represent monies set aside out of unrestricted funds and designated by the trustees for a specific purpose.

Unrestricted funds represent those monies which are freely available for application towards achieving any charitable purpose that falls within the Society's charitable objects.

1. Donations and legacies

	Unrestricted funds £	Restricted funds £	Endowment funds £	2024 Total funds £
Donations	**26,249**	**570**	**1,250**	**28,069**
2024 Total funds	**26,249**	**570**	**1,250**	**28,069**

	Unrestricted funds £	Restricted funds £	Endowment funds £	2023 Total funds £
Donations	1,176	991	—	2,167
Legacies	10,000	—	—	10,000
2023 Total funds	11,176	991	—	12,167

2. Investment income

	Unrestricted funds £	Restricted funds £	Endowment funds £	2024 Total funds £
Income from listed investments	**153,334**	**9,482**	**59,461**	**222,277**
Bank interest	**206,149**	**10,602**	**66,484**	**283,235**
2024 Total funds	**359,483**	**20,084**	**125,945**	**505,512**

	Unrestricted funds £	Restricted funds £	Endowment funds £	2023 Total funds £
Income from listed investments	155,914	9,670	60,379	225,963
Bank interest	143,974	8,235	51,418	203,627
2023 Total funds	299,888	17,905	111,797	429,590

3. Income from charitable activities

	Unrestricted funds	
	2024 £	2023 £
Publications (note 4)	**4,173,081**	6,209,917
Membership	**373,171**	370,606
Scientific meetings	**33,871**	30,225
Public policy	**2,555**	731
Library	**2,606**	3,492
Educational	**11,750**	210
Other	**12,000**	12,576
Total funds	**4,609,034**	6,627,757

4. Publications

	2024 £	2023 £
Income (see note)		
Monthly notices of the Royal Astronomical Society	**3,424,155**	4,758,987
Geophysical Journal International	**603,347**	1,278,672
Astronomy & Geophysics	**77,422**	106,360
Royal Astronomical Society Techniques & Instruments	**63,702**	60,032
Other	**4,455**	5,866
	4,173,081	6,209,917
Expenditure		
Monthly notices of the Royal Astronomical Society	**2,294,268**	2,735,624
Geophysical Journal International	**439,399**	686,333
Astronomy & Geophysics	**205,188**	187,045
Royal Astronomical Society Techniques & Instruments	**64,871**	56,020
Other	**7,502**	5,982
	3,011,228	3,671,004

Publications income in 2023 included a sum the Society received for renewal of the publishing agreement with Oxford University Press.

5. Expenditure on charitable activities

Expenditure on charitable activities is analysed as follows:

	Direct costs £	Support costs £	2024 £	Direct costs £	Support costs £	2023 £
Publications (note 4)	**2,499,505**	**511,723**	**3,011,228**	3,196,294	474,710	3,671,004
Scientific meetings	**46,250**	**252,225**	**298,475**	96,917	229,999	326,916
Membership	**7,445**	**58,179**	**65,624**	10,377	54,618	64,995
Educational	**378,328**	**110,619**	**488,947**	343,340	93,225	436,565
RAS 200	**2,149**	**350**	**2,499**	18,602	3,000	21,602
Library	**127,349**	**501,370**	**628,719**	104,699	445,004	549,703
Public policy	**88,727**	**105,579**	**194,306**	94,379	91,353	185,732
	3,149,753	**1,540,045**	**4,689,798**	3,864,608	1,391,909	5,256,517

Grants, fellowships and awards in support of research are principally included under Educational and RAS 200 above to reflect the responsibilities for the management and administration of grants. 113 grants, fellowships and awards, totalling £ 257,975 (2023 – £252,511) were awarded to institutions and 38 grants, medals and awards totalling £32,723 (2023 – £20,683) were made to individuals. Expenditure supporting an RAS Research Fellowship totalled £35,733 (2023 - £35,365). The 2024 Norman Lockyer Fellowship totalled £57,000. Adjustments to other grants resulted in credits to expenditure totalling £15,458 (2023 – £21,768).

Total grant making support costs were £40,000 (2023 - £36,000).

A full list of all grantees and analysis can be found on the Society's website.

All expenditure on charitable activities is unrestricted except for £62,776 (which is entirely included within the educational category) which is restricted (2023 – £64,185).

6. Support costs

Support costs analysed by function are as follows:

	2024 £	2023 £
Executive	**145,648**	144,233
Finance	**125,465**	100,298
Facilities	**135,256**	112,288
Membership	**49,130**	47,534
IT	**186,967**	154,975
Policy, development and press	**149,586**	118,719
Burlington House	**207,980**	173,584
Other	**353,788**	379,035
Governance (note 7)	**186,225**	161,243
	1,540,045	1,391,909

Staff time (based on a review of staff time apportionment) and floor area, are used as bases of apportioning support costs over charitable activities.

7. Governance costs

	2024 £	2023 £
Auditor's remuneration	**30,840**	25,510
Trustees' and Committee costs	**38,649**	41,235
AGM expenses	**5,692**	4,330
Staff time and other expenses	**111,044**	90,168
	186,225	161,243

8. Net income (expenditure) for the year

This is stated after charging:

	2024 £	2023 £
Depreciation	**144,759**	125,211
Auditor's remuneration:		
. Charity audit	**21,500**	19,600
. Pension scheme audit	**—**	5,160
. Other services	**9,340**	750
Operating lease rentals		
. Office equipment	**9,229**	10,830

9. Staff costs and remuneration of key management personnel

	2024 £	2023 £
Wages and salaries	**1,150,735**	1,035,906
Social security costs	**116,969**	110,409
Pension costs (see note 20)		
. Stakeholder pension scheme	**91,319**	86,248
. Death in service contributions	**9,853**	8,469
	1,368,876	1,241,032

During the year one employee earned between £90,000 and £100,000 (2023 -one employee) one employee of the Society earned between £80,000 and £90,000 (2023 – no employee), one employee earned between £70,000 and £80,000 (2023 – one employee) and no employee earned between £60,000 and £70,000 (2023 – one employee). Employer contributions to the stakeholder pension scheme for employees earning over £60,000 were £26,757 (2023 – £24,080).

The average number of employees was 25 (Administration 8, Outreach 2, Editorial 10, Library 2, House 1, Press & Policy 2) (2023 – 23).

The key management personnel of the charity in charge of directing and controlling, running and operating the charity on a day to day basis comprise the trustees and the Executive and Deputy Executive Directors. The total remuneration (including taxable benefits and employer's pension and national insurance contributions) of the key management personnel for the year was £224,272 (2023 - £222,491).

10. Transactions with trustees

The trustees receive reimbursement for travel expenses incurred in attending meetings. The amount reimbursed during the year for 17 trustees was £23,942 (2023 – £23,891).

Remuneration of £2,613 was paid to one trustee during 2024 (2023 – £11,510 to two trustees). By agreement with the Charity Commissioners (dated 14 June 2004, case No. 299189, Sealing No. 344/04) the Treasurer is paid an Honorarium. This is formally approved each year by Council.

Grants Made to Councillors

The following grants were made to Councillors during the year as part of the RAS grant awarding process. The recipients had no influence or part in the decisions on the award of these grants. For the most part the grant holders were not the main personal beneficiaries as the support was directly received by their students or meeting attendees. Excluding Councillors from the grants round completely is not seen as a satisfactory policy. It would strongly dissuade members from standing for election as Councillors and would be at variance with the accepted practice in Research Councils where members of grants panels are not excluded from applying. The process of grant review and award fully complies with the Nolan Principles and closely follows Government Research Council practice. The grants were:

- Sir Norman Lockyer Memorial Trust as disclosed in note 22 (which shares the same board of trustees as the Society).
- F A Paneth Meteorite Collection as disclosed in note 22. Dr Arvind Parmar, Treasurer, is a trustee
- A £1,000 P Tomkins Thesis Prize and a £2,000 P Tomkins Foundation Instrumentation Grant were awarded during the year. Patricia Tomkins is a trustee.
- The Society awarded funding of £4,000 to the British Geophysical Association (BGA). BGA Committee members Prof James Hammond and Prof Andrew Curtis are trustees.
- A £1,200 Summer Undergraduate Research Bursary was awarded to the University of Southampton. The supervisor was Dr Matthew Middleton, trustee

11. Tangible fixed assets

a) Heritage assets

	Rare books and manuscripts £	Fine art and collectibles £	**Total £**
At 1 January 2024 and 31 December 2024	4,951,500	4,519,379	**9,470,879**

Fine art and collectible additions of £30,000 were recorded in 2020. There were no other additions in the last five years.

The rare book collection is preserved by storing in an air-conditioned, temperature-controlled environment; the fine art and collectibles are also continually preserved in order to maintain their values.

Certain heritage assets are on public display at exhibitions. The Society's Librarian controls access to those heritage assets which are kept at Burlington House.

b) Other assets

	Long Leasehold property £	Plant and machinery £	Telephone, security & computer equipment £	Past Presidents' Portraits £	**Total £**
Cost					
At 1 January 2024	1,888,479	38,875	366,947	9,994	**2,304,295**
Additions	3,537,806	—	103,572	548	**3,641,926**
Disposals	—	—	(86,828)	—	**(86,828)**
At 31 December 2024	**5,426,285**	**38,875**	**383,691**	**10,542**	**5,859,393**
Depreciation					
At 1 January 2024	1,483,149	24,950	314,180	—	**1,822,279**
Charge for the year	107,759	3,888	33,112	—	**144,759**
Disposals	—	—	(86,828)	—	**(86,828)**
At 31 December 2024	**1,590,908**	**28,838**	**260,464**	—	**1,880,210**
Net book values					
At 31 December 2024	**3,835,377**	**10,037**	**123,227**	**10,542**	**3,979,183**
At 31 December 2023	405,330	13,925	52,767	9,994	482,016

12. Investments

	2024 Total funds £	2023 Total funds £
Market value at 1 January 2024	**9,696,013**	9,155,783
Net unrealised investment gains	**690,815**	540,230
Market value at 31 December 2024	**10,386,828**	9,696,013
Historical cost as at 31 December 2024	**4,917,081**	4,917,081

Investments comprise BNY Mellon: Newton Growth and Income Fund for Charities

The permanent endowment fund investments and movements in the unapplied total return are set out below.

	Trust for investment £	Unapplied total return £	Total endow-ment £
At 1 January 2024	**1,652,682**	**527,968**	**2,180,650**
Add: Total return			
. Investment income & donation	—	**127,195**	**127,195**
. Net gains on listed investments	—	**184,699**	**184,699**
	—	**311,894**	**311,894**
Less: Extraction of Income from total return	—	**(281,057)**	**(281,057)**
At 31 December 2024	**1,652,682**	**558,805**	**2,211,487**

	Trust for investment £	Unapplied total return £	Total endowment £
At 1 January 2023	1,652,682	271,819	1,924,501
Add: Total return			
. Investment income	—	111,797	111,797
. Net gains on listed investments	—	144,352	144,352
	—	256,149	256,149
At 31 December 2023	1,652,682	527,968	2,180,650

When adopting total applied return with effect from 1 January 2015, in the absence of reliable records of the original donations, the trustees considered that the market values of the investments as recorded as at 1 January 2015 were appropriate to be considered as the initial value of the trust for investment. Since that figure sets the baseline below which disposals may not be made, taking a higher value than the actual original donations was considered to be prudent.

The trustees have resolved that they wish to maintain the real value of the permanent endowment using the consumer price index as a measure. £281,057 was transferred to the restricted funds in the year (2023 – £nil).

13. Debtors

	2024 £	2023 £
Trade debtors	**41,195**	5,346
Prepayments and accrued income	**524,505**	1,046,255
Other debtors	**925**	659
	566,625	1,052,260

14. Creditors

a) Amounts falling due within one year

	2024 £	2023 £
Trade creditors	**25,211**	28,486
Loan (see note 14b)	**262,500**	—
Accruals	**116,552**	107,788
Grants payable	**209,648**	168,647
Tax and social security	**246,659**	552,937
Deferred income	**1,349,066**	1,299,417
Other creditors	**109,435**	71,472
	2,319,071	2,228,747

b) Amounts falling due after more than one year

	2024 £	2023 £
Grants payable	**79,359**	63,999
Loan (see note below)	**2,362,500**	—
	2,441,859	63,999

The loan is from the Department for Levelling Up, Housing and Communities, supporting the purchase of the 999 year lease of Burlington House and is repayable over ten years in equal instalments but with early repayment permitted. Interest is payable at 5.8%. The loan is a concessionary loan.

c) Deferred income

	2024 £	2023 £
Balance as at 1 January 2024	**1,299,417**	1,038,917
Released to income	**(1,299,417)**	(1,038,917)
Income received from Fellows in advance	**71,269**	47,428
Publications income received in advance	**1,250,919**	1,250,000
Other income received in advance	**26,878**	1,989
Balance as at 31 December 2024	**1,349,066**	1,299,417

15. Endowment funds

	1 January 2024 £	Income £	Investment gains £	Transfers between funds £	31 December 2024 £
Research and Grants funds:					
. Sir Norman Lockyer fund	**1,686,954**	**97,431**	**142,883**	**(217,182)**	**1,710,086**
. Other funds	**169,176**	**9,771**	**14,329**	**(21,688)**	**171,588**
	1,856,130	**107,202**	**157,212**	**(238,870)**	**1,881,674**
Benevolent fund	**106,183**	**7,383**	**8,994**	**(14,866)**	**107,694**
Library fund	**50,437**	**2,913**	**4,272**	**(6,467)**	**51,155**
Lectures & Awards fund	**167,900**	**9,697**	**14,221**	**(20,854)**	**170,964**
	2,180,650	**127,195**	**184,699**	**(281,057)**	**2,211,487**

	1 January 2023 £	Income £	Investment gains £	Transfers between funds £	31 December 2023 £
Research and Grants funds:					
. Sir Norman Lockyer fund	1,488,797	86,486	111,671	—	1,686,954
. Other funds	149,304	8,673	11,199	—	169,176
	1,638,101	95,159	122,870	—	1,856,130
Benevolent fund	93,711	5,444	7,028	—	106,183
Library fund	44,512	2,586	3,339	—	50,437
Lectures & Awards fund	148,177	8,608	11,115	—	167,900
	1,924,501	111,797	144,352	—	2,180,650

16. Restricted income funds

	1 January 2024 £	Income £	Expenditure £	Investment gains £	Transfers between funds £	31 December 2024 £
Research & Grants fund	**741,144**	**10,045**	**(60,000)**	**14,732**	**238,870**	**944,791**
Benevolent fund	**41,597**	—	**(776)**	—	**14,866**	**55,687**
Library fund	**51,926**	**1,676**	—	**2,458**	**6,467**	**62,527**
Education fund	**144,788**	**8,933**	**(1,000)**	**12,264**	—	**164,985**
Lectures & Awards fund	**56,667**	—	**(1,000)**	—	**20,854**	**76,521**
	1,036,122	**20,654**	**(62,776)**	**29,454**	**281,057**	**1,304,511**

	1 January 2023 £	Income £	Expenditure £	Investment gains £	Transfers between funds £	31 December 2023 £
Research & Grants fund	781,837	8,994	(61,300)	11,613	—	741,144
Benevolent fund	41,815	—	(218)	—	—	41,597
Library fund	48,517	1,488	—	1,921	—	51,926
Education fund	127,789	8,414	(1,000)	9,585	—	144,788
Lectures & Awards fund	58,334	—	(1,667)	—	—	56,667
	1,058,292	18,896	(64,185)	23,119	—	1,036,122

16. Restricted income funds (continued)

The Restricted Funds are consolidated into five groups to serve the Council's priorities and address modern needs: Research & Grants, Benevolent, Library, Education and Lectures & Awards.

A detailed fund summary can be found on the RAS website.

The restricted funds were classified to either Restricted (R), Endowment (E), Designated (D), or General (G) funds as indicated below:

Research & Grants fund

E AG Stillhamer Trust Fund (1937)

D EW Brown Trust Fund (1939)

E Plummer Bequest (1946)

G General

R Victor Nadarov Fund (1950)

E Sir Norman Lockyer Memorial Trust (1990)

R Hosie Bequest (2000)

D Mrs. J.M Jelley-Freeman Bequest (2000)

D CAG Bearpark Trust (2000)

R Patricia Tomkins Fund (2011)

G Special Purposes Fund

E E A Milne Travel Fund (2013)

R R Potter Research Fund (2017)

R Osmaston Fund (2020)

Benevolent fund

E Lee & Jansen Trust Fund (1834/1879)

E Gerald Merton Fund (1986)

G Donald R. Barber Fund (2001)

Library fund

E Turnor Fund and Horrocks Memorial Fund (1853/1876)

E Harry Watson Memorial Fund (1923)

E Warin Bushell Fund (1964)

E Gaythorp Bequest (1969)

E Ian Ridpath Conservation Fund (2006)

R Dewhurst Fund (2013)

Education fund

R Newbigen Fund (1990)

R Michael Penston Memorial Fund (1991)

R Sir William Hunter McCrea Memorial Fund (2000)

R Paul Ruffle Memorial Fund (2014)

D Education Committee

Lectures & Awards fund

E Hannah Jackson-Gwilt Trust Fund (1861/1893)

E George Darwin Lectureship Fund (1926)

E George Darwin Support Fund

D AS Eddington Commemoration Fund (1948)

E Harold Jeffreys Lectureship Fund (1962)

E AT Price Medal Fund (1999)

E Gerald Whitrow Memorial Lecture Fund (2001)

E Fowler Prizes Fund (2004)

17. Designated funds

	1 January 2024 £	New designations £	Utilised/ released £	Transfers £	31 December 2024 £
Tangible fixed assets fund	**3,000,000**	**759,732**	**(144,759)**	**364,210**	**3,979,183**
Burlington House fund	**364,210**	**—**	**—**	**(364,210)**	**—**
Heritage Asset fund	**9,470,879**	**—**	**—**	**—**	**9,470,879**
Building fund	**1,500,248**	**93,964**	**—**	**—**	**1,594,212**
Open Access fund	**385,097**	**—**	**(30,000)**	**—**	**355,097**
Research and grants fund	**150,000**	**175,000**	**(149,815)**	**—**	**175,185**
Total designated funds	**14,870,434**	**1,028,696**	**(324,574)**	**—**	**15,574,556**

17. Designated funds (continued)

	1 January 2023 £	New designations £	Utilised/ released £	Transfers £	31 December 2023 £
Accommodation fund	1,500,000	1,500,000	—	—	3,000,000
Burlington House fund	458,823	—	(94,613)	—	364,210
Heritage Asset fund	9,470,879	—	—	—	9,470,879
Building fund	1,405,635	94,613	—	—	1,500,248
Open Access fund	392,596	—	(7,499)	—	385,097
RAS 200	55,503	—	(55,503)	—	—
Research and grants fund	102,452	47,548	—	—	150,000
Total designated funds	13,385,888	1,642,161	(157,615)	—	14,870,434

(i) Tangible fixed assets fund (previously Accommodation fund)

This fund is now represented by the net book value of the charity's tangible fixed assets including Burlington House and recognises that this amount is not readily available to meet expenditure. Previously this fund represented funds set aside for accommodation at Burlington House or elsewhere.

(ii) Burlington House fund

This fund has now been merged with the Tangible fixed assets fund following the purchase of the lease. In 2006-7, the Society executed a refurbishment project on the interior of the apartments. Expenditure incurred on the project was capitalised and designated as the Burlington House fund.

(iii) Heritage Asset fund

A fund has been established to include the Society's heritage assets to recognise that there is no intention to dispose of these assets and the amount is not readily available to meet expenditure.

(iv) Building fund

The repairs and maintenance of the exterior of the building, its insurance and some security costs were previously carried out by the landlord for all the occupants and a proportion recharged to the Society. The purchase of the lease places the liability for backlog maintenance, environmental regulation compliance and accessibility improvements on the Society. The Finance Committee will recommend how much more to accumulate in this fund and at what rate. The timescale for expenditure is difficult to forecast but in principle could start within five years.

(v) Open Access fund

A fund has been established to provide against the risk of the possible loss of income from publishing due to the adoption of Open Access. The timescale for expenditure is difficult to forecast but could in principle start within five years.

(vi) RAS 200

The original fund balance of £1,000,000 was the total committed grant expenditure for RAS 200. RAS 200 grant expenditure was being charged to this fund from 2015 to 2023.

(vii) Research and grants fund

This represents those funds to be used for research and grants.

18. Analysis of net assets between funds

Fund balances at 31 December 2024 are represented by:

	General funds £	Designated funds £	Restricted funds £	Endowment funds £	2024 Total funds £
Tangible assets					
. Heritage assets	**—**	**9,470,879**	**—**	**—**	**9,470,879**
. Other fixed assets	**—**	**3,979,183**	**—**	**—**	**3,979,183**
Investments	**5,276,618**	**1,594,212**	**1,304,511**	**2,211,487**	**10,386,828**
Current assets					
. Debtors	**566,625**	**—**	**—**	**—**	**566,625**
. Cash at bank and in hand	**4,096,341**	**3,155,282**	**76,032**	**—**	**7,327,655**
Current liabilities	**(1,980,539)**	**(262,500)**	**(76,032)**	**—**	**(2,319,071)**
Non-current liabilities	**(79,359)**	**(2,362,500)**	**—**	**—**	**(2,441,859)**
Total net assets	**7,879,686**	**15,574,556**	**1,304,511**	**2,211,487**	**26,970,240**

	General funds £	Designated funds £	Restricted funds £	Endowment funds £	2023 Total funds £
Tangible assets					
. Heritage assets	—	9,470,879	—	—	9,470,879
. Other fixed assets	76,686	405,330	—	—	482,016
Investments	4,343,369	2,135,872	1,036,122	2,180,650	9,696,013
Current assets					
. Debtors	1,052,260	—	—	—	1,052,260
. Cash at bank and in hand	4,358,452	3,000,000	57,000	—	7,415,452
Current liabilities	(2,094,099)	(77,648)	(57,000)	—	(2,228,747)
Non-current liabilities	—	(63,999)	—	—	(63,999)
Total net assets	7,736,668	14,870,434	1,036,122	2,180,650	25,823,874

19. Leasing commitments

At 31 December 2024, the charity had total future minimum commitments in respect of non-cancellable operating leases as follows:

Office equipment	**2024 £**	2023 £
Amounts payable within one year	**6,183**	6,390
Amounts payable between two and five years	**16,433**	20,188
	22,616	26,578

20. Pension schemes

A qualified actuary carried out a triennial review of the defined benefit scheme as at 1 January 2022; the actuarial valuation showed that the market value of the Scheme's assets was £1,009,000 which represents 124% of the benefits that accrued to members after allowing for expected future increases in earnings. The actuary has calculated that no contributions are payable from 1 January 2016.

20. Pension schemes (continued)

Pension costs comprise £91,319 (2023 – £86,248) in respect of the defined contribution scheme and £9,853 (2023 – £8,469) in respect of Death in Service contributions.

Retirement benefits disclosure under FRS102

The actuarial valuation for FRS 102 purposes, at 31 December 2024, shows a pension surplus of £423,000 (2023 – £473,000) which cannot be recognised as this is not available to the Society by way of reduced future contributions.

The amounts recognised in the balance sheet are as follows:

	2024 £'000	2023 £'000
Present value of funded obligations	**(121)**	(121)
Fair value of scheme assets	**544**	594
Surplus not recognised	**(423)**	(473)
Surplus in scheme at end of the year and available to the Society	**—**	—

Changes in the present value of the defined benefit obligations are as follows:

	2024 £'000	2023 £'000
Opening defined benefit obligation	**121**	259
Interest cost	**6**	9
Re-measurement arising from changes in assumptions and experience	**(6)**	51
Benefits paid	**—**	(198)
Closing defined benefit obligation	**121**	121

Changes in fair value of scheme assets are as follows:

	2024 £'000	2023 £'000
Opening scheme assets	**594**	766
Interest Income	**28**	34
Actual return on plan assets, excluding interest income	**(78)**	(8)
Benefits paid	**—**	(198)
Closing scheme assets	**544**	594

The amounts recognised in other recognised gains and losses are as follows:

	2024 £'000	2023 £'000
Remeasurement of defined benefit obligation	**(6)**	51
Return on plan assets	**78**	8
Effect of surplus restriction	**(72)**	(59)
Total	**—**	—

The actual return on scheme assets was negative £ 50,000 (2023 – positive £26,000).

20. Pension schemes (continued)

Retirement benefits disclosure under FRS102 (continued)

The major categories of scheme assets as a percentage of total scheme assets are as follows:

	Proportion of scheme assets	
	2024 %	2023 %
Equities	**1**	1
Bonds	**1**	1
Cash	**5**	6
Gilts	**93**	92
	100	100

Principal actuarial assumptions at the balance sheet date (expressed as a weighted average):

	2024 %	2023 %
Discount rate at 31 December	**5.6**	4.7
Retail Prices Index	**3.0**	3.0
Consumer Prices Index	**2.5**	2.4
Increases in deferment	**2.5**	2.4
Future pension increases – pension earned before 6 April 1997	**0.0**	0.0
Future pension increases – pension earned on or after 6 April 1997	**3.0**	3.0

The current mortality rate assumptions include sufficient allowance for future improvements in mortality rates. The assumed life expectancy for a pensioner retiring at 65 on the balance sheet date is:

	2024 No.	2023 No.
Retiring now		
Male	**20.9**	19.7
Female	**23.4**	21.9
Retiring in 20 years		
Male	**22.1**	20.9
Female	**24.8**	23.3

Amounts for the current and previous four periods are as follows:

Defined benefit pension scheme:

	2024 £'000	2023 £'000	2022 £'000	2021 £'000	2020 £'000
Defined benefit obligations	**121**	121	259	537	548
Scheme assets	**544**	594	766	1,009	916
Surplus	**423**	473	507	472	368

21. Grants committed

Grants, principally fellowships and travel and research grants to the value of £373,500 have been committed for future payment, subject to certain conditions, specified by the Society, having been met (2023 – £285,250). These grants were not approved or communicated to the recipients until after the year end and therefore have not been accounted for in the year ended 31 December 2024.

22. Connected Charities and related party transactions

Since 2001, the Society has been the administration agent for the trustees of FA Paneth Meteorite Collection, a charity connected to the Royal Astronomical Society. The Paneth trustees decided that its income should support research in Cosmochemistry by graduate and postdoctoral students. The accumulated net expenditure of £51,262 (2023 – £50,908), is included in Other Creditors. Grants awarded in 2024 totalled £10,377 (2023 - £10,800). Total income was £ 11,210 (2023 - £11,399).

The Society also administers the Sir Norman Lockyer Memorial Trust, (charity registration number 900135). By agreement with the Charity Commission the Society includes the following information within these financial statements. Each charity remains a separate legal entity. The Norman Lockyer Fellowship is awarded to enable an outstanding researcher to devote the majority of their time to research on an astronomical topic, including solar system and planetary science. They are named after Sir Norman Lockyer (1836-1920), pioneering solar astronomer and discoverer of helium. The fellowship is available every three years, with applications sought in the years 2019, 2022, 2025 etc. for fellowships starting in the following year. The fellowship is open to those who hold a doctorate from a recognised institution of higher education at the time of taking up the award. Applicants must normally be 30 years of age or younger on 1 October of the year of appointment. The Society funds Fellows between spine points 30 and 36 (inclusive) on the UCU HE Framework single pay spine. During the year The Norman Lockyer Fellowship funded one fellowship. Expenditure for the year amounted to £ 57,000 (2023 - £57,000). The fund balance, including the unspent balance in the restricted fund is £2,383,859 (2023 – £2,200,545).

Transactions involving trustees are also disclosed in note 10.

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