

insidescience

Anniversary issue: Autumn 2010

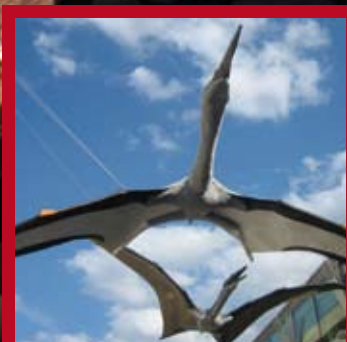
Anniversary
special edition

The Royal Society is celebrating its 350th year: we bring you highlights of the programme including forthcoming events and activities



350th anniversary celebrated
in Royal style

Prince William calls on his generation to
"engage with science more fully"



CELEBRATE
350 YEARS



THE ROYAL SOCIETY



HRH Prince William signs the Royal Society's Charter Book, in the presence of the Fellowship

During this remarkable year for the Society, our 350th, we have mounted a major programme to inspire minds, young and old alike, with the excitement of scientific discovery. This issue of *Inside Science* reflects on the wide ranging anniversary programme, concluding a commemorative series of editions of the magazine launched on Anniversary Day 2009.

The centrepiece of the year was, undoubtedly, the convocation of the whole Fellowship, an event held only once every 50 years. This took place at the Royal Festival Hall in the presence of our Patron Her Majesty The Queen and our Royal Fellows, and the Society conferred Royal Fellowship on Prince William.

The whole event marked the opening of our Sumer Science Exhibition and *See Further: the Festival of Science + Arts*, in cooperation with Southbank Centre. This was the first time the Society has organised such an important festival to celebrate science. It attracted crowds of over 70,000 people, including school parties and families, to Southbank to engage with cutting-edge science and take part in the many activities about science.

There have been so many remarkable events and activities to mark the Society's anniversary over the past 12 months: the opening of the Kavli Royal Society International Centre which provides the Society with a residential centre to extend its scientific programme, the success of our fundraising campaign which achieved its target of £100m at the beginning of the year, the publication of a book edited by Bill Bryson on the Royal Society, the issue of a series of stamps celebrating past Fellows and the decision by the BBC to designate 2010 as their Year of Science.

Two major new programmes of exhibitions and events, *Local Heroes* and *Capital Science*, have engaged the support and enthusiasm of institutions small and large throughout the United Kingdom: the first time the Society has held major activities around Britain.

We have also celebrated our anniversary on the international stage. In January, we were delighted to host one of the world's largest scientific gatherings – the InterAcademy Panel, bringing together the national scientific academies of nearly 100 countries, who held their general assembly and a major conference on biodiversity at the Society.

Our series of discussion meetings on cutting-edge science has proved enormously popular backed up by anniversary editions of learned journals *Philosophical Transactions A* and *Philosophical Transactions B*. We have mounted a series of very popular lectures and discussions at Carlton House Terrace which has also seen the establishment of a new Centre for History of Science based around our unique archive and collections. It opened with an exhibition of the history of the Society in June.

I would like to thank all those who have contributed to an enormously successful year for the Society, particularly the staff who have worked so hard, the Fellows who continue to support the Society in so many ways and our many friends and supporters in the scientific community and beyond. I am personally most grateful.

This is my last year at the Royal Society after more than 13 years in the role and during a period of enormous change and expansion for the Society. I have thoroughly enjoyed the challenge and I wish my successor Dr Julie Maxton and the Society continued success in the future.

A handwritten signature in black ink that reads "Stephen Cox".

Stephen Cox, Executive Director

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350 years of boundless curiosity

Martin Rees, President of the Royal Society, addressed the convocation of the Fellowship at the Royal Festival Hall in June



Martin Rees, President of the Royal Society, addresses the convocation of the Fellowship in June 2010

At the Society's earliest meetings, Christopher Wren, Robert Hooke, Robert Boyle, Samuel Pepys and other 'ingenious and curious gentlemen' (as they described themselves) viewed all kinds of experiments, sometimes rather gruesome ones – blood transfusions and the like. They peered through newly-invented telescopes and microscopes; they heard travellers' tales, and dissected weird animals. They were, in Francis Bacon's phrase, 'merchants of light' – seeking knowledge for its own sake. Their curiosity seemed boundless.

350 years later, human horizons have hugely expanded; no new continents remain to be discovered. Our Earth no longer offers an open frontier, but seems constricted and crowded – a 'pale blue dot' in the immense cosmos.

And the Royal Society is a vastly different institution. But its essence actually hasn't changed. Today's Fellows – and all the young scientists we support – have the same motivations as their forebears. They probe nature and nature's laws for their intrinsic value. And their engagement with society and with public affairs is still strong – though today's focus is not just on London, nor even on our one nation, but often on issues that affect the entire world.

Science is indeed a global culture. But it is more than that. A former President, George Porter, averred that 'there are two kinds of science: applied and not yet applied'. He was echoing Francis Bacon's sentiment in different words. And of course the applications stemming from the insights of Newton, Faraday, Maxwell, Rutherford and others on the distinguished roll-call of our Fellowship have transformed lives worldwide to an extent that our 17th century founders couldn't have conceived.

Indeed innovations happen with staggering speed. Many things we take for granted would have seemed magic even 50 years ago. The world wide web is only 20 years old – and

we're proud to have its inventor, Tim Berners-Lee, as a Fellow. Computers double their power every two years. Spin-offs from genetics could soon be as pervasive as those from the microchip have already been.

We don't know what will be the 21st century counterparts of the electron, quantum theory, the double helix and the computer, nor where the great innovators of the future will get their formative training and inspiration. But one thing seems clear: this country's standing depends on sustaining our edge as discoverers and innovators, on ensuring that some of the key creative ideas of the coming decades germinate, and – even more – are exploited, here in the UK.

As well as supporting individual excellence, the Royal Society advances research by its publications, printed and electronic, and by its high-quality discussion meetings on topical scientific themes. But its reach extends beyond the professional community – into science education and public engagement.

Public debate and political decisions should be based on the best assessment of the science. And it's the Society's responsibility, as an independent body, to provide such input to governments and, via the media, to the public.

More and more of the challenges confronting us need to be tackled at an international level. To stem the risk of environmental degradation, to adopt clean energy and sustainable agriculture and to prevent pandemics, it is essential to develop appropriate technology, and to apply it optimally in all parts of the world. The Royal Society should be at the forefront of these campaigns. Our Fellowship spans the Commonwealth; our distinguished Foreign Members hail from all over the world. We join forces with all the world's academies, through the InterAcademy Panel and other collaborations, to promote these goals. The new Kavli Royal Society International Centre at Chicheley Hall will allow a timely step change in our activities in these increasingly important areas.

Let me quote Bill Bryson, another good friend of the Society: "If we have an Earth worth living on a hundred years from now, the Royal Society will be one of the organisations that our grandchildren will wish to thank." The Society matters, to the wider world and its future. Let us build on our achievements and be worthy of our past.

You can read the full convocation address at: royalsociety.org/350th-anniversary-convocation-celebrated

350
celebrate

350 celebrate



HRH Prince William talks to Royal Society University Research Fellows following the convocation of the Fellowship

350th anniversary celebrated in Royal style

Prince William calls on his generation to “engage with science more fully”

Her Majesty The Queen, Patron of the Royal Society, Their Royal Highnesses The Duke of Edinburgh and The Princess Royal joined around 700 Fellows of the Society and over 1,000 guests at the 350th anniversary convocation on 23rd June, the first gathering of so many Fellows in one place for 50 years.

Held at the Royal Festival Hall in London, the Society conferred an honorary Fellowship on Prince William.

He said: “To be standing here as the Royal Society’s most junior Fellow, on the 350th anniversary of the founding of this,

Helping the Society record the reactions of the crowds that flocked to Festival events were our communications volunteers, who spoke to scientists and Festival-goers to find out why they were inspired to get involved.

“If you knew you were going to discover something it wouldn’t be called science”

One of the Microsoft researchers on the ‘Embracing Uncertainty’ stand explained his work developing software to create the next generation of machine intelligence. “I was very interested in science from a very early age and I think the thing that’s fascinating for me is that you’re on the edge of knowledge – it’s incredibly fascinating to be able to discover something – it’s an amazing feeling.

[The cool part of] being a scientist is really all about being very uncertain about the future and you never know what’s going to happen tomorrow. If you knew you were going to discover something it wouldn’t be called science.”

“We set fire to coffee granules”

Presenters, researchers and producers from the BBC programme *Bang Goes the Theory* were at the Festival and explained the concept of a coffee powered car.

the World’s most illustrious scientific body is, quite simply, the most extraordinary honour for me. I have to say that, if I look at the names of some of the great Fellows – Boyle, Newton, Banks, Darwin and our current President, Lord Rees – I realise the incredible history of this Society.

It is not just a great honour, it is also very exciting, as I am acutely aware of how vital science is to the life of this nation and to the world. My generation will have to engage with science more fully, perhaps, than any that has preceded it.”

The convocation gave the Royal guests and Fellows a chance to see a special preview of the Society’s Summer Science

Exhibition – at the heart of *See Further: The Festival of Science + Arts* which took place across London’s Southbank Centre. Over 48,000 people took the opportunity to meet the minds behind some of the UK’s most exciting scientific advances at the Exhibition and more than 70,000 attended Festival events generally.

Martin Rees with Her Majesty the Queen and HRH the Duke of Edinburgh, examining treasures from the Society’s archives



"The car we've built runs on used coffee granules – we set fire to them under controlled circumstances and give them limited oxygen, we then burn them and take off the flammable gases – and that powers the engine. [The car is CO₂ neutral and] we drove it from London to Manchester and got up to 70 mph and it ran really well. Next, we'd like to try a coffee powered boat and have a trip to France."

"Geek chic really is back"

"Science in song? Initially cynical, I was blown away by the uncanny ability of *They Might Be Giants* to deliver science facts in rhyme. Vocalist and guitarist John Flansburgh opened their lively show by introducing the theme, 'we have a new album called *Here Comes the Science*. That's right parents and kids! It's too early to leave and we've locked all the exit doors. We're going to be playing songs about facts!' Science is often seen as a scary subject, but this band is proving that geek chic really is back, putting the rock into Rockets, the fun into fusion and the solution into evolution."

"Exploding potato firing weapons"

"Taking a step into the BBC One *Bang Goes The Theory* performance in Purcell Room at Queen Elizabeth Hall was a diverse audience. Ages ranged from two to sixty nine and teachers, children and the public packed the auditorium. From exploding potato-firing sniper weapons to death defying feats of underwater swimming, the show was packed with fun and excitement for all the family."

The Royal Society would like to thank the digital communications team: Alison Cooper, Nicola Evans, Elizabeth Haukes, Henry Lau, Rachel Mundy and Gozde Zorlu.

Find out more about Festival events by downloading R.Science, the Society's podcast: royalsociety.org/rscience

Standing tall

The Royal Society and *Nature* co-hosted Tomorrow's Giants, a one day conference which was part of *See Further: The Festival of Science + Arts*. Over 180 young research scientists gathered to discuss the challenges facing them and what is required to ensure continued academic achievement over the next 50 years. There was an opportunity for the scientists to get a response on these issues from an expert Panel of decision makers including the Minister of State for Universities and Science, David Willetts MP (pictured below), Professor Tony Hey, Corporate Vice-President of External Research at Microsoft and Professor Adrian Smith FRS, Director General, Science and Research, Department for Business Innovation and Skills.



Dragons of the air

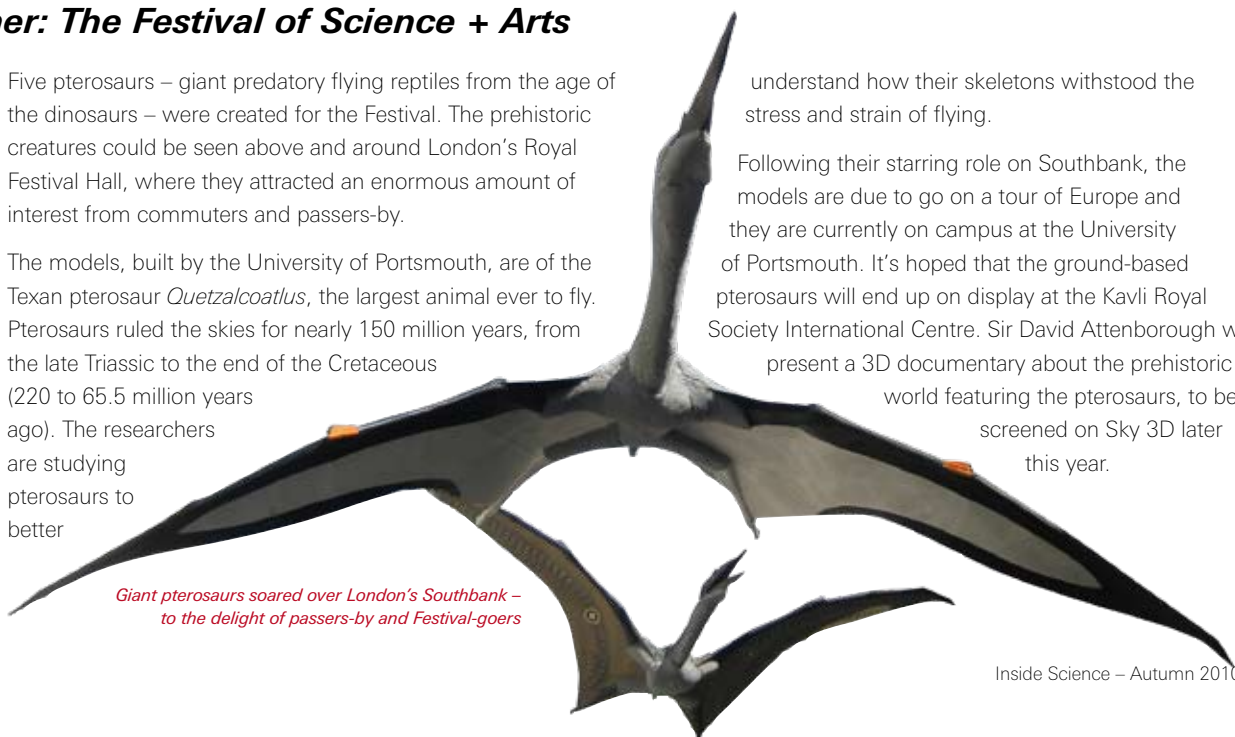
Giant pterosaurs take to the skies above Southbank at *See Further: The Festival of Science + Arts*

Five pterosaurs – giant predatory flying reptiles from the age of the dinosaurs – were created for the Festival. The prehistoric creatures could be seen above and around London's Royal Festival Hall, where they attracted an enormous amount of interest from commuters and passers-by.

The models, built by the University of Portsmouth, are of the Texan pterosaur *Quetzalcoatlus*, the largest animal ever to fly. Pterosaurs ruled the skies for nearly 150 million years, from the late Triassic to the end of the Cretaceous (220 to 65.5 million years ago). The researchers are studying pterosaurs to better

understand how their skeletons withstood the stress and strain of flying.

Following their starring role on Southbank, the models are due to go on a tour of Europe and they are currently on campus at the University of Portsmouth. It's hoped that the ground-based pterosaurs will end up on display at the Kavli Royal Society International Centre. Sir David Attenborough will present a 3D documentary about the prehistoric world featuring the pterosaurs, to be screened on Sky 3D later this year.



Giant pterosaurs soared over London's Southbank – to the delight of passers-by and Festival-goers



Capital Science partnered the Society with London's museums, galleries and institutions to explore the impact of science

From baking botanists to astounding astronomers

Across the UK, the endeavours of Fellows inspires almost 1,000 events to celebrate their achievements

From local activities for all the family to international events drawing partners from all over the world, during its anniversary year, the Society has been raising the profile of science throughout the UK and beyond.

Fellows of the Royal Society, historical and contemporary, have carried out their pioneering work in every part of the UK as the **Local Heroes** programme revealed. Julie Hodgkinson, Anniversary Programme Coordinator, explains: "The idea of celebrating the nation's scientific heroes to illustrate the place of Britain and the Royal Society at the heart of science was first suggested at a meeting of the Society's anniversary programme board in early 2008. Since then, the programme has stretched to every corner of the UK taking in hundreds of scientists and disciplines, from Caithness and the local baker with an unrivalled botanical knowledge, to the girl trawling the beaches of Lyme Regis for fossils and the extraordinary hot houses of scientific intellect in Guernsey, Orkney and the Lakes. Heroes have also been celebrated in many major cities: Belfast, Cardiff, Edinburgh, London, Newcastle, Bristol, Manchester, Glasgow, Leeds and Birmingham."

There have been close to 1,000 events and over 150 participating institutions and the programme has been enhanced by the involvement of many contemporary Fellows, who have given their expertise, opened events and taken part.

Julie says: "Events have been as diverse as the singing scientists and local hero idols in Manchester, a garden party with an immunology theme in rural Gloucestershire, art workshops with James Watt's copying machine in inner city Glasgow, science and magic shows in Bristol, a chocolate celebration in London, debates to get the whole of

Tyne and Wear talking on contemporary scientific issues and of course exhibitions, family days and lectures across the country.

This is the first time that the Royal Society has had a public presence beyond London that reflects the spread of the Fellowship."

Robin Holgate of the Museum of Science and Industry (MOSI) in Manchester (featured in our Summer issue) reflects on what involvement in Local Heroes has meant to the museum: "The Royal Society is exactly the accessible, open-minded and supportive organisation involved with both cutting-edge science and public engagement with science that we'd like to work with."

Capital Science partnered the Society with leading London organisations, museums and galleries to develop activities that explore the impact of science within the wider cultural landscape. Joanne Madders, Anniversary Programme Officer, explains: "The programme has provided us with a channel for collaborating on projects and organising activities which appeal to audiences whose interests may be cultural and social but not exclusively scientific in nature. We've had a lot of positive feedback about the programme from colleagues working in the partner organisations. Many have told us that they want to continue to collaborate on projects, which explore the links between science and wider societal issues beyond 2010. I think that many colleagues in these organisations have appreciated the recognition that inclusion in the 350th anniversary celebrations has given to their efforts to promote science within the cultural and educational sectors."

Illustration of a jellyfish by Local Hero Frederick Stratton Russell FRS



Science beyond borders

Outside the UK, anniversary celebrations have helped build relationships with international partners

An aim of our anniversary year was to increase the profile of the Society as a global leader in current and future scientific issues. This has been achieved by a number of international initiatives.



The Society organised a trilateral Frontiers of Science meeting in Beijing in November 2009

Frontiers of Science marked the international start of the Society's 350th anniversary in Beijing

The Society organised a UK-China-Netherlands Frontiers of Science meeting in November 2009. This was followed by a special Chinese alumni event to mark 350 years of the Royal Society.

Speaking at the event, Professor Yongguan Zhu, Royal Society China alumnus and winner of China's National Young Scientist Award, said: "I very much appreciate the opportunity of visiting the UK through the Royal Society Fellowship programme. This was a pivotal step in my career. And I believe that other Chinese alumni have benefitted equally from their fellowships.

The Royal Society Fellowship has left a deep impression in my life, and I have been gradually rising on the international stage after the Fellowship, with extensive networks around the globe."



The world's science academies gathered for one of the biggest international events of the year

In January, the Society opened its doors to the world's science academies as it hosted the triennial conference and General Assembly of the InterAcademy Panel (IAP). IAP represents 104 of the world's merit-based science academies, from Albania to Zimbabwe; its newest recruit being the Lebanon Academy of Science.

The Presidents, Foreign Secretaries and other representatives of over 60 international science academies met at the Society for the conference, the largest international meeting in the Society's recent history, and the most prominent international event in the 350th anniversary calendar.

At its General Assembly meeting, IAP determined how this truly global network of academies intends to draw on the world's finest scientific minds to ensure that those making decisions internationally do so with the benefit of exemplary scientific advice.

The African Academies Programme helped secure a positive scientific future for Ethiopia

In April, Society representatives travelled to Addis Ababa to witness the launch of the first Ethiopian Academy of Sciences (EAS) – a significant milestone in a country for which science can make such a difference to the daily lives of so many people.

Celebrating its 350th anniversary as the world's longest-standing academy, the Society is in a strong position to mentor the world's newest academy and assist it in becoming a potential force for social progress in Ethiopia.

Professor Demissie Habte, the academy's President said: "Growing political interest in science in Ethiopia has helped get the academy off the ground, there is a much better appreciation in the government for the role science can play in development."

Our new residential centre outside London will strengthen both UK and international science

Building for the future



The Kavli Royal Society International Centre opened for business in June 2010 – following an extensive refurbishment of Chicheley Hall

The opening of the Kavli Royal Society International Centre in June represents a firm foundation to build on work to raise the profile of science following the Society's 350th anniversary year.

The Royal Society programme at the Kavli Royal Society International Centre forms an extension of our work carried out in London, allowing the Society to have residential meetings in an intensive and creative environment. It is available for use by the Fellowship and the Society's research appointees.

The focus of the Centre is on strengthening both UK and international science, which is increasingly important as issues around sustainability, climate change and energy require international thinking and cooperation in the quest to find global solutions.

The major component of the Royal Society funded events held at the Kavli Royal Society International Centre in 2010/11 will be the scientific programme, which will comprise of Royal Society Theo Murphy international scientific meetings, satellite meetings (which will follow discussion meetings

at the Society's London premises), Research Fellows International Scientific Seminars and training activities. National and international science policy activities, science education activities and training events will comprise the remainder.

Fundraising for the Centre has so far raised nearly £12.5m, which covers the entire cost of the purchase of the historic grade one building and half of the cost of its refurbishment.

Martin Rees, President of the Royal Society explains: "The Centre will gather some of the world's greatest scientific minds as well as outstanding young scientists. We hope to stimulate the sort of intense thinking and activity that gives rise to major breakthroughs and offers a forum for discussion of science's social and political impact."

Sir Peter Knight FRS has been appointed the first Principal of the Kavli Royal Society International Centre. Sir Peter is a former member of the Royal Society's Council, Chair of the Society's Hooke Committee and member of the Audit Committee.

For richer, for poorer: sickness not health

Evidence suggests that the influence of climate change, globalisation and reduced resources will have a damaging affect on global health – and not just on low-income nations. This was the warning of Sir Magdi Yacoub FRS at *The Sustainable Planet*, a Kavli Royal Society International Centre Theo Murphy meeting held in July.

He explained: "As the global temperature rises, mosquitoes and other vectors carrying diseases like malaria, dengue fever and Chagas (a parasitic disease) will spread. Nations which don't have good healthcare systems will suffer the most, but it will arrive at our own doorsteps too. This is very much a global problem. According to the World Health Organisation, two fifths of the world's population are already at risk from dengue fever – that's 2.5 billion people. The number of people infected has increased at least four-fold over the last three decades. Globalisation and climate change will help it to continue spreading."

Other subjects covered included new sustainable technologies, strategic resource shortages and the economic impacts of climate change.

Find out more about events at the Kavli Royal Society International Centre at: royalsociety.org/Kavli-Programme-of-events

Lone bees find new homes

Students educate and inspire the public on the plight of solitary bees

This year's Summer Science Exhibition at *See Further: the Festival of Science + Arts* was not just for established researchers; also taking part were pupils from four schools holding Royal Society Partnership Grants.

Isabel Duncan, Alice King and Miriam Harbour, students from Stroud High School and Marling School Sixth Form, have been working with the Global Bee Project and the University of Gloucestershire on their research project into the nesting habits of the Red Mason bee (*Osmia rufa*).

They told us what it was like to explain their work to complete strangers: "The aim of our trip [to the Society's Summer Science Exhibition] was to educate visitors about the plight of the solitary bee species worldwide using the research from our project as an example. We found, somewhat expectedly, that most of the people who came to visit our stall were not aware of the existence of solitary bee species.

However, once we had imparted all of our

knowledge, we seemed to get a very positive response. We realise that not everyone appreciates the importance of solitary bee species – of which there are over 200 in Britain alone. Solitary bees – who, as the name suggests, live on their own, are one of three types of bee, the others being honey and bumblebees. They are the best pollinators of all the bees, due to their very furry bodies and better work rate.

We had an interactive section to our stand, giving members of the public the opportunity to build their very own simple bee house. It gave us all a good opportunity to break the ice and they seemed to be a big success, especially with younger children. Over the two days at the exhibition, we made and distributed over 500 bee houses! If they are all put up, we will hopefully have lots of very happy bees making use of them all over London, the rest of the country and locations across the world (including France, Italy and the USA!). We had a fantastic time and would like to thank the Royal Society for the opportunity to represent the school and showcase our project.

Our research is on-going and we will analyse the data this autumn. Our bee houses will continue to house solitary bee species for a number of years, and will provide valuable information to maximise the conservation of these species."

Building a house
fit for a bee



Axe Valley Community College – 'Axe Valley biodiesel'

With the University of Exeter, pupils have used their grant to start a biodiesel conversion plant. They take used chip fat from local businesses and turn it into biodiesel, which they sell.



Sittingbourne Community College – 'Bodyworks'

Pupils have investigated all aspects of how the human body functions when carrying out movement, working with an engineer to construct limbs that perform sporting activities.



Watermill Primary School – 'Energy at work'

Children worked with engineers to build a working water mill. A rainwater-fed tank runs a waterwheel which powers bird scarers for the school vegetable plot. Rainwater is harvested for irrigation.

Zero gravity for Newton

NASA astronauts return a piece of Newton's famous apple tree to the Royal Society

A piece of Newton's apple tree was taken into space by British-born astronaut Piers Sellers on NASA mission STS 132 in May. The section of wood, taken from the original tree that inspired Newton to formulate his theory of gravitation, was released from the Society's archives and entrusted to Piers as part of the Society's 350th anniversary celebrations. An image of Sir Isaac Newton, former President of the Royal Society, accompanied the historic item on its trip into space.

Before the voyage, Piers Sellers said: "We're delighted to take this piece of Sir Isaac Newton's apple tree to orbit. While it's up there, it will be experiencing no gravity, so if it had an apple on it, the apple wouldn't fall. I'm pretty sure that Sir Isaac would have loved to see this, assuming he wasn't space sick, as it would have proved his first law of motion to be correct. After the flight, we will be returning the piece of tree and a flown picture of Sir Isaac Newton back to the Royal Society."



Piers Sellers (far right) and NASA astronauts with the Society's Foreign Secretary, Professor Lorna Casselton FRS

The piece of tree and picture of Newton spent 12 days in space with Sellers, who videoed them floating in the space station, before returning them for inclusion in the Society's exhibition, *The Royal Society: 350 years of science*.

Professor Lorna Casselton, Foreign Secretary of the Royal Society said: "We are very pleased to welcome Piers and the rest of the crew of NASA's Space Shuttle Atlantis to the Royal Society and to have one of our most precious artefacts return. I am sure it would have delighted and astonished Newton to know that something so important to his intellectual journey has made such an extraordinary journey of its own. We hope that it will continue to inspire future generations for centuries to come."



Newton's image in orbit

Seeing further into the Universe

The NASA mission wasn't the Society's only foray into space this year

A new asteroid has been named in the Society's honour as part of the 350th anniversary celebrations. Nulliusinverba, or asteroid number 11059, was discovered on photographs obtained with a wide-field telescope at Palomar Mountain (California, USA) by Eleanor Helin, an astronomer at the Jet Propulsion Laboratory looking for objects that might pose a threat to earth.

The minor planet is a typical member of the main asteroid belt orbiting the sun between Mars and Jupiter. It is roughly 10 kilometres across and though 'discovered' in 1991, was previously identified on photographs in 1987 and 1954.

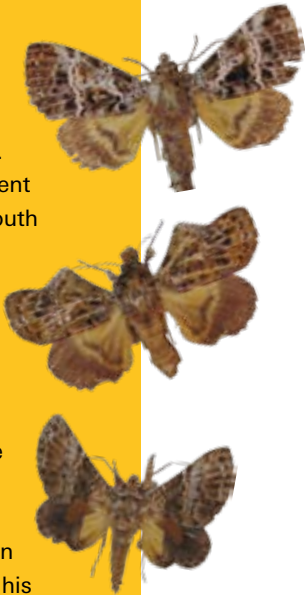
The scientist who discovered the first asteroid, Giuseppe Piazzi, and the man who gave them their name and made the first scientific observations, William Herschel, were both Fellows of the Royal Society. Martin Rees, President of the Royal Society, also has an asteroid named after him, 4587 Rees.



William Herschel FRS, who gave asteroids their name

Spreading our wings

Taking a similar name to the asteroid, a moth has been named after the Society – *Ortopla nulliusinverba*. The species name is based on the Society's motto, Nullius in verba. It reflects the involvement of the Society in the South East Asia Rain Forest Research Committee at the Danum Valley Research Centre. The tradition of research in forestry goes back to the earliest years of the Royal Society through one of its original Fellows, the diarist John Evelyn, who published his treatise on forestry, *Sylva* in 1664. The moth can be found in Borneo.



Mail and mint

The Royal Mint, working with the Royal Mail, celebrated the anniversary of the Society with a handsome Philatelic Medallion Cover. The celebratory medal is joined by the ten Royal Mail commemorative stamps and the Cover is franked SW1Y 5AG (the Royal Society postcode), 25 February 2010. The postmark pays tribute to Sir Isaac Newton, being designed in the shape of an apple and containing his famous words, "If I have seen further it is by standing on the shoulders of giants".

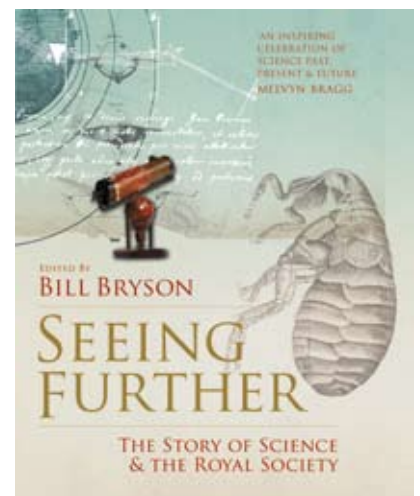


Science – past, present and future

Seeing Further: The Story of Science & the Royal Society, edited by Bill Bryson, was published to coincide with the Society's anniversary celebrations in January and has since sold 25,000 copies worldwide.

The bestselling book includes contributions from Richard Dawkins, Margaret Atwood, Richard Holmes, Martin Rees, Richard Fortey, Steve Jones, James Gleick and Neal Stephenson (among others) and tells the story of science and the Royal Society, from 1660 to the present. On a damp weeknight in November, 350 years ago, a dozen or so men gathered at Gresham College in London. A twenty-eight year old – and not widely famous – Christopher Wren was giving a lecture on astronomy. As his audience listened

to him speak, they decided that it would be a good idea to create a Society to promote the accumulation of useful knowledge. With that, the Royal Society was born.



Pressing the point

Throughout our anniversary year, the media has picked up on some of the fascinating stories to emerge from the Society, be they from the depths of our unrivalled archives or the reactions of our younger supporters to the scientific research on display at *See Further: the Festival of Science + Arts*.

The publication of the Royal Mail first day cover, of Bill Bryson edited *Seeing Further*, our policy report *The Scientific Century* and the website *Trailblazing*,

have all garnered special attention. Our journeys into space with Newton's apple tree and the Society's discussion meeting on extra-terrestrial life inspired some of the more outlandish headlines of the year. *See Further: the Festival of Science + Arts* reached a diverse array of media outlets from magazines like the BBC's *Lonely Planet*, *Time Out*, the *New Statesman* and *Country Life*, to broadsheets including the *Guardian*, *Times*, *Independent*, *Financial Times* and *Telegraph*. In broadcast the Festival attracted the attention of the BBC's *The One Show*, *The Culture Show*, *Newsnight*, Radio 4 and the BBC World Service.

350
celebrate



Personal perspectives

Anniversary journal issues are completely free to access

The dissemination of scientific research has been a core activity for the Royal Society since it was granted a Royal Charter to publish in 1662. Publishing is still a cornerstone of the Society's work and *Philosophical Transactions* is officially the world's longest-running scientific journal.

Throughout the year, we celebrated our contribution to science publishing with several commemorative issues. Stuart Taylor, Head of Publishing at the Royal Society, said: "We are delighted with how much interest the special issues in the *Philosophical Transactions* have generated. *The Philosophical Transactions B* issue also had two accompanying video podcasts which probably helped the readership of that issue reach over five times that of an average issue."

Philosophical Transactions A

This open access issue, edited by Sir Michael Pepper FREng FRS, contains articles in which scientists from across

the physical science spectrum offer their personal analysis of the current status of their area of research.

Access articles and podcasts at rsta.royalsocietypublishing.org/seefurther

Philosophical Transactions B

Edited by Professor Georgina Mace FRS, this is a collection of personal perspectives by leading scientists on a topical area of life sciences research. The areas highlighted were mentioned by Fellows and university researchers as of high interest for future study, ranging from environmental sustainability through complex process related to gene function and neural processing.

Go to rstb.royalsocietypublishing.org/seefurther

Proceedings A

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New space for history

The Society opens the Centre for History of Science

Over 350 years the Society's activities have helped tell the story of how science has developed. From the outset, the Society was diligent in maintaining records of its activities and in collecting relevant material. As a result, it has some tremendous collections of books, archives, paintings and scientific images which are treasured by scholars worldwide.

In June, the Society completed a major refurbishment of its library and archive, which reopened as part of the Royal Society Centre for History of Science, a development to build on our current excellent service and introduce a range of new and interactive features and facilities.

Dr Peter Collins, Director Centre for History of Science said: "Overall, the Centre will provide a unique environment to bring together leading historians and world-class scientists to generate fresh insights into the history of science. Equally, it will cater for those with a more general interest in the subject."

Rewarding excellence

Nobel Prizes

The Nobel Prize in Physiology or Medicine 2010 was awarded to **Professor Robert Edwards FRS**. The Nobel Prize for Physics 2010 was awarded to **Professor Andrei Geim FRS** (a Royal Society Anniversary Research Professor) and **Dr Konstantin Novoselov**, a Royal Society University Research Fellow.

Sir Michael Atiyah OM HonFREng FRS has been awarded the Grande Médaille 2010 of the French Academy of Sciences for his work in mathematics and his contribution to the strengthening of links between mathematics and physics.

Professor Howard R. Morris FRS

has been awarded the Blaise Pascal Medal in Medicine and Life Sciences by the European Academy of Sciences, in recognition of his outstanding and influential research on the structural characterisation of bioactive molecules.

Professor Ole H. Petersen CBE FRCP FMedSci FRS

has been elected to the German National Academy of Sciences Leopoldina, recognising his many achievements in the field of physiology.

Follow the Centre's blog

Emma Davidson, Information and Promotion Officer at the Centre for History of Science explains:

"We intend to show you all kinds of treasures from our collections, provide some insights into how we do things, and hopefully tell you a few things you didn't already know."

blogs.royalsociety.org/history-of-science