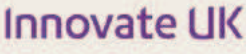
Science and innovation in the UK



Science and Innovation in the UK

This document sets out the functions and objectives of a sub-set of non-Government and government partner organisations working in science and innovation in the UK, complementing the UK Government's Science and Innovation Strategy. It provides a reference for prospective partners and funders overseas, as well as the growing network of overseas posts that have research and innovation in their remit.

The organisations accounted for here are:

1. **The British Council**
   The UK's international organisation for educational opportunities and cultural relations.
2. **Innovate UK**
   The UK's innovation agency, stimulating and supporting business-led innovation and helping companies take concepts through to commercialisation.
3. **Met Office**
   The UK's National Meteorological Service, delivering and facilitating science to support vital services, crucial to protecting lives and critical national infrastructure, in key areas such as weather warnings, climate change, international development, security, and transport.
4. **Research Councils UK (RCUK)**
   The body which aims to make it simpler for Research Council sponsored researchers to collaborate with their preferred research partners around the world, by supporting enabling activities and reducing barriers.
5. **The UK Higher Education International Unit (IU)**
   Represents all UK higher education institutions internationally.
6. **The UK's National Academies**
   The Academy of Medical Sciences, the British Academy (social sciences and humanities), the Royal Academy of Engineering and the Royal Society are autonomous, self-governing organisations that elect Fellows based on their distinction in research across the full disciplinary spectrum.

This document also includes some of the UK's leading health charities:

7. **Arthritis Research UK**
   The leading UK funder of research into the cause, treatment and cure of arthritis.
8. **British Heart Foundation**
   The nation's heart charity and the largest independent funder of cardiovascular research in the UK.
9. **Cancer Research UK**
   A charity who funds scientists, doctors and nurses to help beat cancer sooner, whilst also providing cancer information to the public.

The accompanying dedicated information sheets summarise the roles of these leading UK organisations engaged in promoting research and innovation cooperation alongside government in the UK and internationally.

The role and activities of the leading UK research and funding organisations

The UK has a world leading position in research and recent evidence[1] indicates that this position is maintained and growing, even in the face of competition from new research powers such as China and Brazil. Indeed, the impact of UK research is increased by partnership with other leading research nations.

The UK also has many innovative businesses, from early stage start-ups to large multinational companies, looking to increase their competitiveness through developing international collaboration and market opportunities. Recognising this, UK organisations work through a number of routes to develop influential and productive partnerships in fundamental (discovery) research and in specific discipline and sector areas, supporting academic and industry collaboration.

1. International Comparative Performance of the UK Research Base 2013. A report prepared by Elsevier for the UK's Department of Business, Innovation and Skills (BIS)

Excellence in UK research is represented by a group of highly prestigious academies covering a range of disciplines from natural and medical sciences to social sciences and humanities to engineering. The UK's National Academies are autonomous, self-governing bodies that link with these organisations, and have networks around the world through sister organisations, Fellowships and grant schemes. These can be drawn on to give policy relevant advice and can provide a voice for research in the international arena. Academic research is supported by delivery partners including seven discipline-oriented Research Councils coming together in the RCUK partnership. Turning research outputs and early stage ideas into commercial opportunities is the role of Innovate UK, supporting innovation oriented research, knowledge transfer and the access to skills and equipment for the benefit of UK business.

Health research is strongly supported by the charity sector in the UK, raising money and funding extensive grants, fellowships, feasibility studies, institutes and research projects in the UK and internationally. Cancer Research UK is the world's largest charitable funder of basic and applied research into Cancer. The British Heart Foundation is the UK's number one heart charity investing around £100m annually into research, scientific centres and projects. Arthritis Research UK invests in research through grants into the cause, treatments and cure of arthritis.

There are specialist UK organisations with an international remit, such as the British Council, the UK's international organisation for educational opportunities and cultural relations, and the UK Higher Education International Unit, the sector body that represents all UK higher education institutions internationally. In addition to their role in the development of human capital, UK higher education institutions undertake the majority of publicly-funded research in the UK, often working within international research networks and attracting the best research and academic talent from around the world.

These UK organisations recognise that excellence in disciplines must be maintained and developed to provide the underpinning quality of fundamental research which has contributed to the UK's success. There is strength in this diversity, but also challenges to ensuring that opportunities are taken to work across disciplines, particularly in the face of global research questions that require multi and interdisciplinary approaches. The UK must build on its research and business strengths to deliver impact and future economic growth.

These agencies and organisations have at their disposal a range of mechanisms to ensure that current and future generations of UK researchers and businesses are well placed to partner with counterparts in the UK and overseas. They will continue to support the development of these partnerships to bring benefit to the UK and partner country economies and societies.

Non-Government UK institutions support the following activities

a) Early career and initial links

- accessing talent and research excellence in other parts of the world;
- enhancing the experience of researchers by enabling them to engage with partners overseas; especially early career so as to lay the foundation for career-long collaborations;
- building the capacity of researchers through training and mobility programmes in fundamental and thematic research.

b) Collaborative calls, pilots and preparation

- increasing the impact of research, as collaboration with international partners brings significant gains in citation impact and access to downstream opportunities;
- widening the scope of research by linking researchers with different skills and expertise;
- leveraging other investments in research;
- enabling participation in large-scale research that requires international collaboration to share the cost of and provide access to expensive facilities and manage large volumes of data;
- gaining access to unique data, as some phenomena are unique to a single location and many research questions span multiple sites.

c) Supporting scientific culture and research environments

- helping UK businesses to internationalise through supporting the development of partnerships and collaborations to access knowledge and complementary strengths;
- addressing global issues; there are many major research challenges, such as climate change, sustainable energy, health and security, which require international solutions;
- supporting development goals by using UK expertise to support development-focussed research, or to build research capacity in developing economies;
- building stronger relationships between the UK and countries overseas through shared research and economic interests and goals which offer a neutral platform for engagement and promote a deeper understanding of other countries and cultures;
- promoting a regulatory environment which facilitates the performance and commercialisation of research; and
- promoting the UK as a research and innovation destination by facilitating understanding of the UK's research and innovation landscape and the quality of research, institutions, facilities and people which make the UK an attractive international partner for researchers and industry.

Making best use of this network is essential if the UK is to maintain its position as a leading nation in a fast moving research landscape. *Figure 1* illustrates some of the activities of these leading UK organisations.

The Newton Fund

Building science and innovation capacity in collaborating countries

The £375m Newton Fund warrants special mention as an example of where many UK non-Government organisations are working together to promote economic development and welfare in 15 partner countries through science and innovation collaborations.

The British Council, Innovate UK, the Research Councils UK, the UK's National Academies as well as the Met Office are delivery partners for the Fund. The Fund comprises of £75 million for five years (2014 – 2019).

The Fund covers three broad categories of activity:

- people: improving science and innovation expertise (known as 'capacity building') through student and researcher fellowships, mobility schemes and joint centres;
- research: research collaborations on development topics;
- translation: creating collaborative solutions to development challenges and strengthening innovation systems.

The 15 partner countries are: Brazil, Chile, China, Colombia, Egypt, India, Indonesia, Kazakhstan, Malaysia, Mexico, Philippines, South Africa, Thailand, Turkey and Vietnam.

For further information on the Newton Fund:
www.newtonfund.ac.uk @NewtonFund

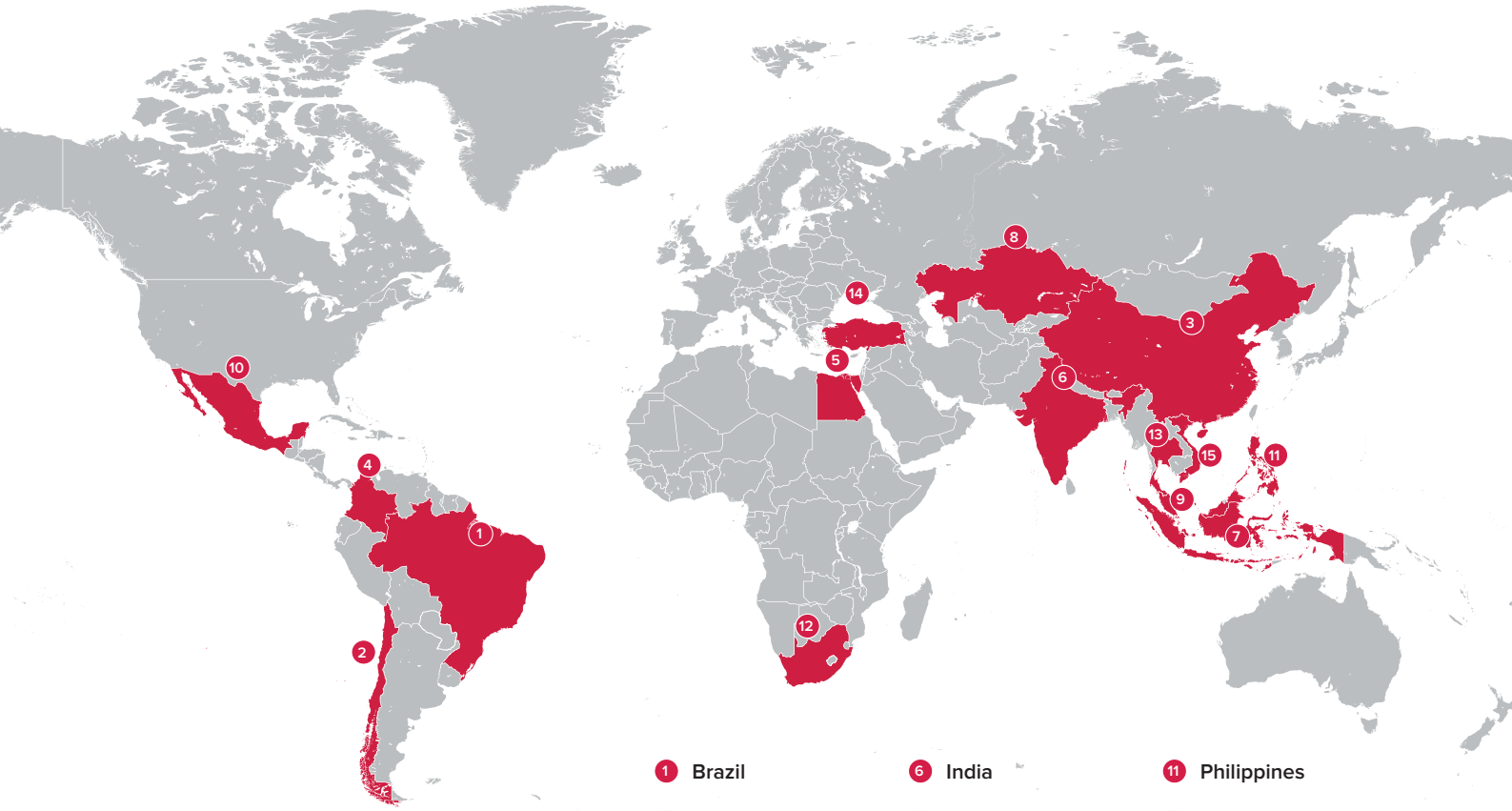


FIGURE 1

a) Early career and initial links

BHF
CRUK
Academies
British Council
ARUK
IU
RCUK

Early career

- Post-Graduate Taught (PGT)
- Post-Graduate Research (PGR)
- Starter grants
- Post-Doctoral Grants

BHF
Academies
British Council
Innovate UK
ARUK
IU
RCUK

Initial links

- Visits,
- Networking,
- Workshops,
- Summer schools,
- Policy seminars
- Mapping

b) Collaborative calls, pilots and preparation

BHF
Academies
British Council
Innovate UK
Met Office
ARUK
IU
RCUK

Collaborative calls; pilots and preparation

- Mapping
- Workshops
- Brainstorming sessions
- Topic selection
- Pilot research calls

Academies
Innovate UK
RCUK

Large Scale Collaborative calls; delivery

- Partnership negotiation
- Joint call delivery
- Evaluation

c) Supporting scientific culture and research environments

CRUK
Innovate UK
Met Office
ARUK
RCUK

Access to research infrastructure

- Data
- Facilities
- Research stations

CRUK
Innovate UK
BHF
RCUK

Joint Centres

- Large collaborative Grants (single/multiple HEIs/business)
- Research and Innovation Bridges
- Virtual centres
- Catapult Centres
- S&I campuses
- EITs

BHF
CRUK
Academies
British Council
ARUK
IU
RCUK

Supporting a scientific culture and environment

- Public engagement
- Direct training of overseas researchers
- STEM schools initiatives
- Policy level discussions

British Council

The British Council is the UK's international organisation for educational opportunities and cultural relations. One of its charitable purposes is to: encourage cultural, scientific, technological and other educational cooperation between the United Kingdom and other countries. The British Council's work, across more than 100 countries globally, is focussed through three core areas: the Arts; English and Exams; and Education and Society. Science activity is delivered mainly as part of the education portfolio, and science themes are also woven into work in English and the Arts. This enables science to be integrated into a wide variety of international activities and presents opportunities for science to be part of international cultural activity and science diplomacy. It brings a focus on the societal, as well as economic impact of research collaboration.

British Council science work supports the international science strategy in the following areas by:

a) Early career and initial links

- promoting and supporting the exchange and mobility of researchers between the UK and the rest of the world, through various researcher-focussed initiatives, including Researcher Links and other activity under the Newton Fund. As the national agency for the European Commission's Erasmus + programme the British Council is also responsible for supporting and promoting the international exchange of students, staff, and young people both within Europe and further afield;
- building capacity, in researchers from the UK and overseas, for international research collaboration; for example through communication and intercultural skills training;
- providing information for internationally mobile researchers, both those who wish to come to the UK, and UK researchers wishing to go abroad. This is delivered mainly through the Department for Business, Innovation and Skills (BIS) and European Commission (EC) funded EuraxessUK website (**www.euraxess.org.uk**), which provides information on the UK research landscape, practical information for researchers on issues such as tax and social security, and a searchable database of international funding opportunities.

b) Collaborative calls, pilots and preparation

- Commissioning and conducting research and analysis of the international science, innovation and HE landscape, both alone and in partnership, and communicating findings to the UK and international stakeholders to support partnership building and the identification of new opportunities. Examples include the 'Shape of Things to Come' series, looking at trends and patterns in international student mobility and research collaboration, as well as country or region-specific analysis;
- Stimulating and supporting international partnerships at the individual, group and institutional levels, in order to build long term sustainable collaborations for mutual benefit, for example, the UK-Israel BIRAX Regenerative Medicine Initiative (**www.britishcouncil.org.il/en/programmes/science/birax**) and the Institutional links strand under the Newton Fund.

c) Supporting a scientific culture and optimal research environments

- convening and facilitating policy dialogues between leading UK and international stakeholders around issues linked to research and innovation; for example through the Global Education Dialogues series;
- supporting inward delegations and outward missions of policymakers and research stakeholders, in order to build a better understanding between the UK and key partner countries and position the UK as a partner of choice for the future;
- promoting UK expertise in the area of STEM (Science, Technology, Engineering and Maths) education, helping UK providers to work internationally, and exchanging best practice with other countries around the world;
- demonstrating the vibrancy and creativity of UK research and innovation, and connecting young people around the world through public engagement in science activity, such as lectures, café scientifique, science festivals, and FameLab International (in partnership with Cheltenham Science Festival and international partners such as CERN).

In all of these areas the British Council works closely with a variety of partners, including the Science and Innovation Network, the Foreign and Commonwealth Office (FCO), BIS, UK Trade and Investment (UKTI), RCUK, national academies, and International Unit, as well as a wide variety of national partners in the countries where it operates.

For further information on the British Council:
general.enquiries@britishcouncil.org

Innovate UK

Innovate UK

Innovate UK is the UK's innovation agency. It works with people, companies and partner organisations to find and drive the science and technology innovations that will grow the UK economy – delivering productivity, new jobs and exports and keeping the UK globally competitive in the race for future prosperity.

Since it was established by the UK Government in 2007, Innovate UK has invested more than £1.5bn in innovation projects, with business and partner contributions making up a further £1.5bn. It has directly supported over 5,000 businesses and worked with virtually every university in the UK. It has been estimated that Innovate UK's support for business innovation so far will contribute an additional £7bn to the economy and over 35,000 new jobs.

Innovate UK works strategically to determine which science and technology developments will drive future economic growth. It talks to business, meeting UK innovators with great ideas in the fields on which it is focused. It funds research and development on the strongest opportunities, and it connects innovators with the right partners they need to succeed – helping them to launch, build and grow successful businesses and in turn drive economic growth.

Innovate UK funds innovation projects in different ways depending on an organisation's situation and needs – from issuing competitions on specific themes seeking collaborative proposals from businesses and academia, to offering proof of concept grants or innovation vouchers to individual SMEs.

It provides non-financial support for innovative businesses in many ways - through the Enterprise Europe Network which helps companies seek global opportunities; through the Knowledge Transfer Network; by connecting companies to other resources such as the Business Growth Service and through the new Catapults – physical centres where the best scientists and engineers work together to accelerate the journey of concepts towards commercialisation.

Innovate UK's plan for the future has five key elements.

1. Accelerating UK economic growth – nurturing small, high-growth companies, helping them to become high-growth mid-sized companies with strong productivity and export success.
2. Building on innovation excellence throughout the UK, investing locally in areas of strength.
3. Developing Catapults within a national innovation network, to provide access to cutting edge technologies, encourage inward investment and enable technical advances in existing businesses.
4. Working with the research community and across government to turn scientific excellence into economic impact, and improve efficiency.
5. Evolving its funding models exploring ways to help public funding go further.

European and International Strategy

Innovate UK's European and international strategy builds on its priorities and the support it provides for UK focused activity, and helps businesses access funding and build partnerships with organisations outside of the UK, to take advantage of global opportunities. There are several strands of its international work:

- Maximising business benefit from the Horizon 2020 programme by providing support to increase UK participation.
- Developing strategic innovation partnerships with priority countries such as India, China, Brazil and the USA and working with other innovation hotspots, often on specific technology themes, where there is potential for UK business benefit.
- Supporting the development and delivery of the Newton Fund which aims to develop science and innovation partnerships between the UK and a number of emerging economies.

Innovate UK is a key part of the infrastructure that makes the UK a fertile environment for innovative companies seeking to bring new ideas and technologies to market.

For further information on Innovate UK:
support@innovateuk.gov.uk

Met Office

The Met Office is the UK's National Meteorological Service and is responsible for ensuring the timely provision of accurate weather forecasts and severe weather warnings crucial to protecting lives, livelihoods and critical national infrastructure. The Met Office also provides other vital services, scientific evidence and advice in key areas such as defence, climate change, international development, security, and transport.

A world leading science organisation in its field, the Met Office carries out a broad range of research which underpins its weather and climate services and is recognised as the No. 1 National Meteorological Service for research in the world.

Realising the benefits of global science partnerships

Increasingly the scale of resource needed to develop and maintain world-leading weather and climate models and deliver accurate and reliable predictions is becoming the domain of only a few major centres around the world. The Met Office is one of those centres and acts as a facilitator and integrator of an increasingly broad range of science and technology.

Its Science Partnership programme has a pivotal role in cementing links across international research and service organisations. The science required to address the grand challenges of weather and climate prediction cannot be encompassed in a single organisation; therefore the Met Office forms partnerships with world-leading research groups and outstanding individual researchers across the range of science disciplines.

Met Office capability in weather and climate science, embodied in the Unified Model (UM), underpins atmospheric and climate research in the UK and an increasing number of international centres, drawing on an ever-widening base of science disciplines. The increasing reach of the UM means that Met Office will work in collaboration with key partners to improve its access and usability to facilitate greater use by academia and students for investigative research.

The Met Office Academic Partnership is a cluster of research excellence that brings together the Met Office and institutions who are among the leading UK Universities in weather and climate science. through a formal collaboration to advance the science and skill of weather and climate prediction. This collaboration represents a unique partnership between academia and a national meteorological service. Through these partnerships the Met Office seeks to draw together world-class expertise around a focused programme of joint research to tackle key challenges in weather and climate science and prediction, and to maximise the return on the UK's investment in research and development in its leading institutions, in order to provide society with the best possible advice. The partnership also engages with undergraduate and graduate students by offering 'industrial' scholarships, targeted opportunities to engage in our summer vacation programme, and sponsoring jointly supervised PhDs.

The Joint Weather and Climate Research Programme (JWCRP) between Natural Environment Research Council (NERC) and the Met Office aims to align the investments in national capability and research infrastructure between both organisations – enabling greater international collaboration by the UK. The UK's research aircraft, owned by NERC, is jointly operated. NERC has a shared partition of the Met Office supercomputer and increasingly NERC and the Met Office co-invest in major areas of science such as building the next generation Earth System Model.

The Met Office, as a delivery body for the Newton Fund

The Weather and Climate Science for Service Partnership Programme comprises projects which aim to develop strong, sustainable partnerships between UK and local research organisations, harnessing scientific expertise to build the basis for strengthening the resilience of vulnerable communities to weather and climate variability, and prepare for a changing climate.

The Weather and Climate Science for Service Partnership has already established significant programmes with China and South Africa. Potential future opportunities exist to partner in developing our scientific understanding of weather and climate and its role in climate services, such as those presented by new agendas in Disaster Risk Reduction and Sustainable Development.

International Strategy

Met Office international strategy builds on its priorities and aims for the UK by maintaining a strong and resilient National Met Service to help build a more resilient, prosperous and secure world, helping deliver UK government international objectives in these areas. Key strands include:

- Optimise partnerships and collaborations to deliver a world leading weather and climate modelling system. Developing mutually dependent multi-lateral alliances across key elements of the end-to-end capability.
- Increasing the reach and accessibility of models, data and content (through both policy and technology). Driving innovation and efficiency through public and private sector partnerships, adopting and demonstrating best practice to the wider weather and climate service community.
- Maximising benefit from Horizon 2020 and Copernicus. Both the EU Horizon 2020 and Copernicus programmes provide opportunities for the Met Office to work with and enable international partners to engage in research beyond the core remit, in areas that complement weather, climate and marine programmes.

One of Met Office's key aims is to translate science into social and economic benefit – across the globe – helping businesses improve productivity and stimulating new markets. It work with our partners to support regional growth in key industries for example those powering the economy – oil and gas, nuclear and renewables – and those keeping it moving – for example road, rail and aviation.

For further information on Met Office:

metoffice.gov.uk, metoffice.gov.uk/newton and enquiries@metoffice.gov.uk

Research Councils UK

RCUK aims to make it simpler for Research Council sponsored researchers to collaborate with their preferred research partners around the world, by supporting enabling activities and reducing barriers. RCUK works flexibly to negotiate and administer funding mechanisms to fit the variety of interactions necessary to build partnerships, from first contact to large collaborative programmes. Creative approaches are taken, developing mechanisms according to the type of activity and the needs of the partners involved. These operate at a number of levels ranging from initial research links to large scale international research collaborations.

a) Early career and initial links

- Early career; RCUK are the largest block grant funders of postgraduate training and provide support for over 15,000 PhD students at any one time in a wide range of disciplines and themes. These include training grants developed in partnership with industry in areas of perceived skills need.
- Initial links; dedicated funding may be provided to stimulate initial links with partners overseas. These may be individual awards available to existing grant holders, workshop and networking calls to provide bottom up or targeted opportunities to network research communities or funding applied for as part of a larger grant proposal.

b) Collaborative calls

- Collaborative calls: pilots and preparation; Preparing the ground for collaborative calls requires careful understanding of the research landscape on both sides. More in depth mapping and workshop activities with clear aims and outcomes will inform the development of calls and help to network the communities and understand demand. Again this is an area where RCUK works with others according to interest and expertise.
- Collaborative calls: negotiation, delivery and evaluation; Research Councils have a major responsibility to fund substantial research programmes, including in international collaboration. As such they are uniquely placed to negotiate and deliver these programmes via well-established and efficient procedures, using dedicated electronic systems. In some cases e.g. when working in Europe, additional funding from outside of the Research Councils may be available to support the strategic preparation of collaborative activities.

c) Supporting scientific culture and research environment

- Joint centres; With more than 70% of funding going to 35 institutions in the UK, there are some very substantially funded groups and institutions. These are building scale and ambition, including through innovation orientated activity and efforts are underway to support partnering of these substantial investments with counterparts overseas.
- Infrastructure development and access; Research Councils are responsible for commissioning and maintaining national and international research facilities, and for ensuring access for researchers to the best infrastructure. Sharing and bartering of infrastructure globally is a core part of the research funding landscape.
- Embedding international; Researchers can apply for a substantial amount of funding through normal grant and fellowship streams to support mobility, gaining access to environments, facilities and laboratories worldwide. This is particularly common with traditional research nations, in particular in the US and Europe, and increasingly agreements are being brokered with trusted partners to allow collaborations to develop bottom up via simple streamlined and robust peer review processes.

Research Policy

- Teams in Research Councils and RCUK overseas posts commission studies and work with stakeholders to map strengths and capability to understand how to focus future interest or to help build capacity. This is often done in partnership with others e.g. SIN and the National Academies.
- RCUK provides expert advice to national and international stakeholders on research funding policy.
- RCUK contributes to knowledge exchange through European and global working groups developing best practice in a range of topics. These includes issues such as open access to data and publications, gender and diversity, research integrity, evaluation and monitoring, peer review and research for international development.
- RCUK provides an interface and first point of contact for partners overseas, including UK overseas posts, looking to connect at the level of funding organisations. This active engagement includes participating in science and research focussed dialogues and delegations.
- RCUK brokers agreements at a funding organisation level and actively contributes to the development of high level bilateral science and technology agreements, to effectively promote the UK and ensure that the UK research base, society and economy benefits from these relationships.

Through this wide range of activity UK ambitions for engagement in science and research, including with emerging and developing nations, is supported.

For further information on RCUK:

international@rcuk.ac.uk

UK HE International Unit

The UK Higher Education International Unit (IU) represents all UK higher education institutions internationally. It is charged with initiating and delivering projects and activities to support and develop the breadth and depth of the UK HE sector's international activities, including science and innovation. Working closely with Governmental and non-Governmental partners in the UK and overseas, the IU works to gather information on present and future opportunities for UK higher education; supports bilateral and multilateral policy dialogues; and negotiates high-level agreements on behalf of the sector. The IU also administers large scale scholarship programmes, like Science Without Borders UK and the UK-Indonesia DIKTI programme, which further the UK's science and innovation objectives through strengthening bilateral relationships and educating the researchers of tomorrow.

Given this unique mission, the UK HE International Unit is well-placed to support the UK Government's Science and Innovation Strategy in the following areas by:

a) Early Career and Initial Links

- Acting as the link between UK universities and Government bodies (BIS, FCO, SIN, UKTI) in the formulation of international science and innovation policy priorities which benefit and reflect the diverse strengths of the UK higher education sector;
- Acting as the first point of contact for partners overseas, including the UK Government and British Council offices, looking to connect with the UK higher education sector;
- Communicating high value opportunities to the higher education sector through the IU's unique channel to high-level representatives from all UK higher education institutions.

b) Collaborative calls, pilots and preparation

- Participating in outward and inward delegations, convening workshops and seminars designed to promote research collaboration through information-sharing and networking opportunities;
- Negotiating and administering high-profile programmes which include opportunities for collaborative research and innovation, capacity building and researcher mobility;
- Building the capacity of the UK higher education sector to collaborate internationally through an active research programme, expert community of practice networks and targeted events.

c) Supporting scientific culture and research environment

- Co-negotiating high-level bilateral agreements which include science and innovation between Governments and/or between higher education sectors;
- Promoting the UK's research and innovation excellence internationally and through engagement with policy-makers in priority countries and at the level of the European Union.

For further information on the UK HE International Unit:
info@international.ac.uk

The National Academies

The UK's National Academies - the Academy of Medical Sciences, the British Academy (social sciences and humanities), the Royal Academy of Engineering and the Royal Society (natural sciences) - are autonomous, self-governing organisations that elect Fellows based on their distinction in research across the full disciplinary spectrum. They offer a unique combination of expertise, excellence and independence through their respective fellowships, funding schemes, bilateral relations, membership of global and regional networks of academies and other international organisations. These enable the academies to contribute authoritatively to the UK Government's international research and innovation priorities.

The academies' access to researchers and – indirectly – to policymakers throughout the world helps:

1. ensure that UK research and researchers are supported in collaborating with the very best in the world;
2. support and promote the advancement of research internationally;
3. promote the benefits of research to society worldwide and its value in providing objective evidence;
4. offer impartial advice that can be used by the most influential decision-makers to develop public policy.

The UK academies work closely together when there are shared objectives and complementary interests and expertise. They also engage with other UK and international partners on a similar basis including research funders, academies and research institutions overseas, and a range of government departments, posts and agencies.

The Academies support:

a) Early career and initial links

- enhancing the mobility of researchers through their respective fellowship and international exchange schemes and other mechanisms e.g. Frontiers programmes, Newton International Fellowships; as Competent Bodies for Tier 1 Exceptional Talent visa route in the UK.

b) Collaborative calls, pilots and preparation, and major collaborative calls

- gathering information on research and innovation developments elsewhere and horizon scanning for new and emerging areas using their networks;
- conducting studies and facilitating dialogues on international policy issues of importance to the UK – for example, the international social, ethical and policy issues surrounding new technologies or research areas to assist other UK stakeholders to frame and moderate their international engagement;
- convening workshops and seminars of world-leading experts and/or emerging talent from around the world with international partners to stimulate new ideas/perspectives, address scientific challenges, seed collaboration and help other stakeholders in the UK research and innovation system to capitalise on opportunities for longer term collaboration.

c) Supporting a scientific culture and optimal research environments

- engaging multilaterally e.g. with the UN, European Union and other international bodies, to raise research and policy issues of concern to the UK, and help to ensure an open global environment for collaboration and exchange;
- supporting development-focussed research, or to build research and innovation capacity in and on emerging and developing economies using UK expertise;
- celebrating and showcasing UK excellence and leadership in research and innovation through their respective Fellowships and international partnership schemes;
- promoting the role of science in international relations ("science diplomacy") to further national interests and excellence in global science.

For further information on the UK's National Academies:

- The Academy of Medical Sciences
  international@acmedsci.ac.uk

- The British Academy
  overseas@britac.ac.uk

- The Royal Academy of Engineering
  international@raeng.org.uk

- The Royal Society
  international@royalsociety.org

Arthritis Research UK

Arthritis Research UK is the charity dedicated to stopping the devastating impact that arthritis has on people's lives. Everything that it does is focused on taking the pain away and keeping people active. Its remit covers all conditions which affect the joints, bones and muscles, including osteoarthritis, rheumatoid arthritis, back pain and osteoporosis.

Its overarching purpose is to prevent the onset of arthritis, develop a cure for arthritis and to transform the lives of those with arthritis. From 2015 – 2020 the five-year strategic focus of the charity is to improve the quality of life of people with arthritis so that they can say, "I am in control, independent and recognised". To achieve there has been a continued increase in the involvement of people with arthritis in understanding their needs, engaging the research community and working together with other research funders and organisations to increase the impact of arthritis research.

Arthritis Research UK currently offer research funding by a number of different schemes and strategic funding opportunities, including:

- Programme and Project grants
- Clinical Study awards
- Fellowships ranging from PhD to senior researcher level
- Translational awards
- Strategic and collaborative awards

a) Early career and initial links

- It offers a focused number of prestigious PhD scholarships to encourage the best young science graduates to embark on a research career in any discipline relevant to arthritis and related musculoskeletal diseases.
- PhD students are encouraged to undertake collaborative visits to excellent research institutes, preferably abroad, and can apply for further funding for this purpose.
- Foundation fellows (first post-doctoral position fellowships) are also encouraged, and funded, to spend periods abroad in internationally competitive laboratories.

b) Collaborative calls

- It regularly holds workshops to map out the key research questions within specific strategic areas, stimulate collaboration between groups and shape pilot grant schemes. This includes international scientists and funding-partners in these discussions.
- It jointly develops and delivers research calls with partners from the UK and other countries. Its partners are diverse and include government based funders, charitable funders and industry.
- International recruitment is essential within clinical studies to ensure powerful results- this is especially important in areas such as paediatric medicine and rare diseases.

c) Supporting scientific culture and research environment

- It funds infrastructure and equipment through a range of bespoke strategic awards to ensure that the UK maintains an internationally competitive research environment.
- It is part of a collaborative group of international funders in the arthritis and musculoskeletal diseases field. Working together to identify research gaps and increase the impact of ARUK funded-research.
- It creates the knowledge to change lives for people with arthritis: from funding research, to educating healthcare professionals and providing information to people with arthritis and carers. ARUK has a range of public engagement activities to champion the cause and influence change.
- It is involved in sector-wide policy level discussions in the health, science and research arenas.

For further information on Arthritis Research UK:
enquiries@arthritisresearchuk.org

British Heart Foundation

The BHF is a medical research charity supported by public donation. It is the leading funder of university-led cardiovascular research in the UK, with an annual research spend of around £100 million. Approximately a further £25 million is spent on its other charitable objectives, including support and information for the public and patients together with policy and advocacy work.

The BHF's research aims are to:

- Increase investment in world-class research to combat cardiovascular disease.
- Ensure that research funded by the BHF and others translates into better prevention, diagnosis and treatment outcomes.

a) Early career and initial links

- Research funding is provided for projects, larger programmes of research, infrastructure and personal awards at all levels from PhD studentships to professors. Awards must be led by a UK-based principal investigator, but the BHF allows research expenditure internationally if this is scientifically justified.
- BHF personal awards, though based in the UK, are eligible to applicants regardless of nationality. The BHF provides Travel Awards to enable UK researchers to spend a period of training or collaboration abroad, and encourages its career development fellows to spend part of their Fellowship in a collaborating laboratory, which can be overseas.

b) Collaborative calls

- The BHF recently reviewed its research strategy and identified increased international collaboration as a priority, based on bilateral or multilateral funding with international partners. The first example of this has been a bilateral agreement with the UK-Israel BIRAX Regenerative Medicine Initiative. The BHF will continue to encourage formation of further international partnerships, either funder-led or investigator-led.
- The BHF additionally provides core funding for 6 major Centres of multidisciplinary cardiovascular research excellence (Universities of Cambridge, Edinburgh, Glasgow, Oxford; King's College London; Imperial College London) and for 3 networked centres of Cardiovascular Regenerative Medicine across the UK, linked to the RCUK Regenerative Medicine Platform.
- As a lead member of the European Heart Network, the BHF supports EHN's campaigning work to promote cardiovascular health and prevent cardiovascular disease, by influencing governmental policy and informing personal choice.

c) Supporting scientific culture and research environment

- BHF's policy and advocacy teams work to influence the UK governments to deliver an optimum environment for research in terms of funding, regulation, governance and culture.
- In collaboration with other individual UK medical research charities and the Association of Medical Research Charities, the BHF contributes to activities at the European level to ensure that the regulatory environment remains conducive to world-leading medical research. It is a member of the European Data in Health Research Alliance; it advocates for the continued regulated use of animals for research where necessary; and it supports measures to ensure that human pluripotent stem cells can be used for research purposes.
- The BHF is a strong supporter of open access publication and was a founding funding partner for Europe PubMed Central.

For further information on the British Heart Foundation:
www.bhf.org.uk and research@bhf.org.uk

Cancer Research UK (CRUK)

CRUK is the world's largest charitable funder of cancer research, supporting over 4,000 scientists, doctors and nurses across the UK. With a research spend of £351 million in 2013/14, CRUK funds research across all cancer types and research stages.

CRUK has built a rich and diverse network for cancer research, provides grant funding, supports students and early-career researchers, and has extensive capabilities in drug discovery and development. Its track record ranges from funding the basic research that led to two Nobel Prizes, to supporting seven new drugs brought to market.

To build on these strengths, CRUK is substantially increasing its research in priority areas. Setting an ambitious agenda, CRUK will pioneer new approaches and bring new disciplines to bear on cancer. Strategic priorities include cancers for which survival rates remain low (lung, oesophageal, pancreatic and brain cancers), achieving earlier diagnosis, cancer prevention, immunotherapy and precision medicine, as well as supporting greater international collaboration.

CRUK builds relationships with health and research partners in the UK, in Europe and internationally to exchange ideas, pool resources and ensure alignment of policy calls across the medical research community. It is actively seeking further opportunities for international cooperation and collaboration to support its vision to bring forward the day when all cancers are cured.

a) Early career and initial links

- CRUK provides grant funding for research projects and programmes to academic researchers based at UK institutions. This funding also supports students and early career researchers, and CRUK provides a variety of fellowships to support research career development. CRUK is also experimenting with innovative grant funding schemes, including partnering with industry, international funders, and funding international teams supporting collaboration with UK researchers.
- CRUK informs and influences UK and European Union policy to ensure that researchers in the UK have the necessary skills, funding, infrastructure and regulation to complete world class research and provide better treatments for patients. It contributes to policy discussions to ensure sustained investment in medical research and safeguard researchers' access to patient data.

b) Collaborative calls

- CRUK funds 5 institutes and 15 centres, as well as Experimental Cancer Medicine Centres, Drug Discovery Units and Clinical Trials Units throughout the UK.
- It is a founding partner in the Francis Crick Institute, Europe's largest biomedical research institute. This network provides a unique collaborative environment and integrated pipeline across the spectrum of basic, translational and clinical research.
- Launching in 2015, the CRUK Grand Challenge will award £20 million to an international consortium to address one of the largest questions in cancer research. This flagship programme will provide opportunities for international teams to work together on the chosen topic and to access the CRUK network and infrastructure.
- CRUK supports international collaborations such as the International Cancer Genome Consortium and International Rare Cancers Initiative, providing access to the CRUK network while funding the UK researchers participating in these programmes, and is a member of several international research consortia.

c) Supporting scientific culture and research environment

- CRUK is guided by the principle that research should benefit patients quickly, and it provides extensive infrastructure for translational and clinical research.
- The CRUK Centre for Drug Development forms innovative partnerships with the pharmaceutical and biotechnology industry internationally to accelerate development of novel therapies, and has taken more than 120 drugs into early phase clinical studies. The Centre has full capabilities across pre-clinical and early-phase drug development, and provides access to the CRUK network and UK clinical infrastructure.
- The commercialisation arm of CRUK, Cancer Research Technology (CRT), develops and commercialises the discoveries made in the CRUK network. CRT works with the pharmaceutical, biotechnology and other industries internationally to seek the best opportunities for CRUK research to benefit patients, with more than 200 projects currently in development.

For further information on CRUK Strategic Partnerships Team:
strategicpartnerships@cancer.org.uk

Summary of Organisation Contacts

1. **British Council**
   general.enquiries@britishcouncil.org

2. **UK HE International Unit (IU)**
   info@international.ac.uk

3. **Innovate UK**
   support@innovateuk.org.uk

4. **Research Councils UK**
   international@rcuk.ac.uk

5. **Met Office**
   enquiries@metoffice.gov.uk

6. **The National Academies**
   - The Academy of Medical Sciences
     international@acmedsci.ac.uk
   - The British Academy
     overseas@britac.ac.uk
   - The Royal Academy of Engineering
     international@raeng.org.uk
   - The Royal Society
     international@royalsociety.org

7. **Arthritis Research UK**
   enquiries@arthritisresearchuk.org

8. **British Heart Foundation**
   research@bhf.org.uk

9. **Cancer Research UK (CRUK)**
   strategicpartnerships@cancer.org.uk

Version 2. Published August 2015