Australian Academy of Science
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The Secretariat
The Soft Power Review
Department of Foreign Affairs and Trade
By email: softpowerreview@dfat.gov.au

Soft Power Review

The Australian Academy of Science (the Academy) welcomes the opportunity to make a submission to the Department of Foreign Affairs and Trade (DFAT) Soft Power Review.

Summary

The big challenges and opportunities for Australia in the 21st century – economic, environmental, scientific, and social – are inherently global in nature and science has a critical role to play in helping Australia and its partners understand and respond to challenges and realise opportunities.

International scientific collaborations are more important than ever – both to find solutions to major global problems and to enhance economic productivity and competitiveness through innovation. By strengthening its regional and global links in science, technology, engineering and mathematics (STEM), Australia can contribute to the development of solutions to global challenges and benefit from global knowledge to solve challenges unique to Australia.

While Australian science has longstanding strong ties with the STEM sectors of Europe and North America, we will need to broaden and deepen our linkages with countries in Asia (such as Indonesia, China, India, Japan, and South Korea, amongst others).

The Academy has long been, and remains, a strong advocate and active practitioner of science-as-soft-power. We have, and will continue to, engage in soft power activities through, inter alia, the extensive global networks of science learned academies.

Via the Australian Academy of Science Australia is a member of the prestigious International Science Council and its International Scientific Unions, which bring together scientists within and across disciplines to coordinate scientific research and address issues of global significance.

Science remains an under-recognised and under-resourced national soft power asset. Science should be leveraged as a soft power asset and play a much broader, deeper, and systematic role in allowing Australia to exercise influence, to build strategic partnerships in view of advancing Australia's prosperity and security.

The 2017 Foreign Policy White Paper, from which the current review arises, defines soft power as "the ability to influence the behaviour and thinking of others through the power of attraction and ideas".

Australia's soft power assets include our educational institutions, our tourism sector, and our culture and lifestyle. Our scientific institutions, our international science networks and our national science capabilities and talents, are an important addition to this list.

The positive nature of the international scientific relations Australia holds offer an entry point to, and can facilitate negotiations on, other issues that may be more difficult to broach and advance.

Key Recommendations

The Academy recommends the Australian Government:

- ***recognise science, scientific institutions, scientific capabilities and expansive international science networks as critical national soft power assets***
- ***commission the Academy to build capacity and the reach of its science-outreach programs, giving priority to early and mid-career scientists from the Asia Pacific and Indian Ocean regions, and***
- ***ensure science has a place at the table in the negotiation of Australia's trade liberalisation and other relevant agreements.***

The Australian Academy of Science

The Australian Academy of Science provides independent, authoritative and influential scientific advice, promotes international scientific engagement, builds public awareness and understanding of science, and champions, celebrates and supports excellence in Australian science.

The Academy is a not-for-profit organisation of individuals elected for their outstanding contributions to science and research. It was founded in 1954 by Australian Fellows of the Royal Society of London with the distinguished physicist Sir Mark Oliphant as founding President. It was granted a Royal Charter establishing the Academy as an independent body with government endorsement.

The Academy's Constitution was modelled on that of the Royal Society of London. It receives government grants towards some of its activities but has no statutory obligation to government.

The Academy strives to support and promote science through a range of programs and activities. In particular, the Academy's commitment to fostering scientific excellence in all it does and its role in providing evidence-based science education to primary and secondary schools across Australia, position the Academy as a national institution and STEM as soft power assets of Australia.

The Academy's international engagement

International engagement has been a key area of focus and activity for the Academy since its establishment more than sixty years ago.

The Academy interacts widely with scientists and officials from other academies of science, research organisations and governments in many countries to increase awareness of Australia's capabilities in science and technology, and to create opportunities to influence and contribute to international research agendas and policy development activities. Our international engagement is guided by our Advisory Committee on International Matters (ACIM), which comprises Fellows of the Academy with extensive international expertise who advise the Academy's President, Foreign Secretary and Executive Committee on international activities.

Our commitment to scientific international engagement, which should be recognised as a soft-power asset, is reflected in several of our current and future areas of activity. These include:

- as Australia's representative on the International Science Council (ISC) and many of the International Scientific Unions (ISU), (see Attachment 1)

- the numerous international exchange and research programs the Academy has run over several decades (many on behalf of the Australian Government; see Attachment 2)

- the broad range of bilateral and multilateral relationships between the Academy and scientific bodies in other countries (see Attachment 3).

Enhancing Australia's international science engagement is also one of the key pillars of the Academy's current (2017-2022) International Engagement Strategic Plan, the key objectives of which resonate strongly with the thrust of the current Soft Power Review.

These objectives include: to contribute Australian expertise and leadership in regional and global science networks; to facilitate Australia's access to global science and technology; and to promote strategic partnerships between Australian and overseas researchers.

In pursuing these objectives, the Academy focuses on enhancing our: expertise and leadership in South East Asia; expertise and leadership in global scientific networks; access to international networks; and the promotion of strategic international research partnerships.

Science as a Soft Power Asset

Since the beginning of the 21st century global investment in research and development (R&D) has almost doubled.

With this increased investment, the importance of international engagement has also grown as scientific research is a truly global enterprise. Innovation in the next decades will be driven by collaboration across institutional and national boundaries. This is because research

is conducted most efficiently when ideas, data, facilities, equipment, talent and risks are shared.

Australia has established strong and longstanding scientific collaborative ties to scientific powers in North America and Europe, and it is important that these collaborations continue.

However, Asian countries such as China, India, Japan, Singapore, South Korea and others will increasingly reap the dividends of their growing investment in STEM. Measures to ensure that Australian researchers, institutions and businesses can access and benefit from international science and innovation endeavours will provide enormous opportunities and benefits for Australia. Equally, Australia will benefit from measures to ensure the Australian scientific endeavour remains of the highest quality and attractive to foreign nations.

Science is therefore a critical soft power asset for Australia, and the importance of our active engagement and influence in global science networks continues to grow.

The Australian government has recognised the importance of the scientific collaborations with China and India by establishing the Australia-China Science and Research Fund (ACSRF) and the Australia-India Science and Research Fund (AISRF). These funds support strategic science, technology and innovation collaboration of mutual benefits to Australia and China and to Australia and India.

In addition, Australia has some 30-international science and technology agreements and memoranda of understanding that specify science research fields, or which relate to specific areas of science.

One way for Australia to strengthen its standing as an influential player in international organisations is to continue building strategic global and regional scientific collaborations. Australia is already a member and an active participant in networks and organisations such as ASEAN and APEC, the World Meteorological Organisation, the World Health Organisation. Australia needs to continue to be part of these networks, including scientific networks.

Importantly, Australia, through the Australian Academy of Science, is a member of the International Science Council (ISC) and the ISC international scientific unions (ISU). The scope and activities of the ISC and its ISU include involvement in global science policy through the provision of high level advice to UN bodies on the Sustainable Development Goals, facilitating global fora on topics such as disaster risk and urban health.

The ISC and ISU are also heavily involved in initiatives that support scientific capacity building in developing countries. Australians are highly involved in ISU scientific projects, technical reports, recommendations as well as initiatives, in particular those related to teaching and which target developing countries. In general, Australian science and scientists are highly regarded and as a result, Australians are overrepresented at leadership and executive levels across the ISU's, especially relative to the formal monetary support which Australia contributes to these organisations.

Australia's reputation has allowed us to consistently attract ISU events such as conferences and congresses into the country. This includes several large ISU general assemblies, each attracting several thousand delegates, the majority of whom are international visitors. These events are beneficial especially for students and early career researchers, presenting

opportunities for international exposure. These opportunities foster the development of Australian science and can play a role in attracting and retaining talent.

For the economy, the influx of large numbers of international visitors injects millions of dollars into the local and state economies.

Australian science has also benefitted significantly from ISU initiatives that support scientists' mobility, students and early career researchers, which is achieved primarily through the ISUs' provisioning of fellowships, travel grants and awards. These programs have enabled Australian scientists and students to conduct research and attend major international conferences all over the world. Conversely, these programs have also supported scientists and students, including those from developing countries, to conduct research and participate in events held in Australia.

The benefits returned to Australian science and economy in general, are many times the cost of Australia's annual Subscriptions to these international bodies. In the 10-year period 2007 to 2017, the total cost of subscriptions was AUD$2.93 million which, on conservative estimates, returned AUD$90.97 million in direct benefits to Australia.

Organisations such as the Australian Academy of Science, other Learned Academies in Australia and government research agencies, such as CSIRO and the Australian Centre for International Agricultural Research often undertake activities and perform international functions that serve the strategic international responsibilities of the Australian Government. As the role of science in diplomacy has strengthened in recent years, the importance of government coordination and support of such activities has also grown.

Science institutions and leaders are able to gather information (primarily evidence and in-country perspective) and provide scientific advice to direct development according to best available scientific knowledge and Australia's national interests, including through international forums such as the United Nations and through the delivery of treaty obligations.

For example, Australia is engaged in significant international work on the Sustainable Development Goals (SDGs) at the regional and global levels through universities, publicly funded research agencies, small and large businesses, not-for -profit organisations and some government agencies.

The Academy is actively involved in international collaborative work on the SDGs through its membership of the ISC and the ISUs. The Academy currently has a Fellow on an IAP expert committee considering global scientific advice for policy and strategies for attaining the SDGs. In addition, via Future Earth Australia (the Australian hub of Future Earth - an international sustainability collaboration that promotes and supports international research and development for sustainability solutions for the planet and human societies) the Academy contributes to research agendas and aims to collaborate, and co-design positive, evidence-led outcomes aligned to the SDGs.

The Academy and FEA believes that the most productive and effective implementation of the SDGs requires oversight and drive from a central agency with both domestic and international perspectives and authority. This agency should be supported and advised by a high-level advisory framework drawn from the various stakeholders. The Academy and FEA

would be pleased to participate. Such an approach should ensure that SDG implementation moves beyond the minimal requirement of meeting UN reporting requirements to real action that harnesses Australia's reputation in science and thereby enables Australia to exert soft power via this mechanism.

Four Case Studies

The Academy has an expansive international network and program of activity, a large part of which constitutes science as a soft power.

In this section, we briefly outline four case studies to illustrate the work of the Academy as well as how the Academy supports the work of government in this regard. The Academy is available to elaborate on any of these case studies or to discuss a fuller range of initiatives not discussed in this submission.

1. Soft Power in Antarctica: The Australian Antarctic Territory, the Antarctic Treaty System and the Scientific Committee on Antarctic Research

Antarctica is a unique international area, governed through the Antarctic Treaty System (ATS), the centrepiece of which is the Antarctic Treaty, signed in 1959.

Science lies at the heart of Antarctic diplomacy and decision-making. The significance of science is recognised, for example, by the fact the International Science Council's Scientific Committee on Antarctic Research (SCAR) is the only observer formally recognised in the ATS agreements. In effect, SCAR is the nexus of soft power in an Antarctic context.

Australia has long excelled in the use of this soft power opportunity. Australia was a founding member of SCAR, and has, through the Academy, maintained an active and influential membership.

Australia currently holds the Presidency of SCAR (the first time in the organisation's 60-year history), the Chair of SCAR's main advisory committee to the ATS and will host the 2020 SCAR Open Science Conference – a 1000+ participant scientific meeting accompanied by meetings of various countries' officials and logisticians alongside it.

To safeguard its interests, Australia requires a comprehensive influence across a broad range of international fora. Soft power, through its participation in SCAR, remains a key strategic asset to Australia.

2. International capacity building by the Academy

The Academy is committed to science globally and in the region and contributes expertise by building and maintaining networking opportunities with national Academies of science, Chief Scientists and senior science representatives across the globe.

It explores opportunities for collaboration, assists in capacity building of early and mid-career scientists from the region, particularly those from developing nations, while strengthening Australia's scientific linkages and collaboration through the South East Asian region.

We do this in several ways. For example, in 2016 the Academy played an active role in supporting the capacity building for the Indonesian Academy of Science, and the Young Academy of Sciences in Indonesia.

As part of this work, in 2016 the Academy, with the support of DFAT, hosted an Indonesia-Australia Science Collaboration Forum and the Australia-Indonesia Science Symposium (and would welcome the opportunity to do so again). These soft-power events provided an opportunity for Australian and Indonesian organisations to discuss ways to enhance scientific cooperation and exchange and strengthen people-to-people links between the two countries. The symposium built on existing partnerships between Australian and Indonesian scientists, universities and public research institutions.

Dr Sarah Hamylton, from the University of Wollongong was one of the Australian scientists who participated in the symposium that had the themes of health, marine sciences and agriculture and was able to create links with Indonesian scientists at this event. She has since been awarded a grant through the government's Regional Collaboration Programme to develop institutional capacity for regional monitoring of coastal climate change impacts through remote sensing technologies.

With this grant, Dr Hamylton hosted a workshop on the Central Great Barrier Reef for Masters and PhD students from Indonesia's Hasanuddin University. These students are now incorporating skills they learnt during the workshop into their projects in the Spermonde Archipelago (Indonesia), with ongoing guidance from Dr Hamylton, who plans to visit their field site next year.

In mid-2017, the Academy visited the academies of science in Vietnam, Malaysia and Indonesia, to establish links with Vietnam and continue to strengthen links with Indonesia and Malaysia. The Academy hosted a return visit by the Vietnam Academy of Science and Technology, which included discussion of potential areas of collaboration between scientists from the two countries.

In 2018, the Academy invited one young scientist each from Vietnam, Malaysia, Fiji, and Indonesia to attend '*Science at the Shine Dome'*, the Academy's annual signature event which included a scientific symposium on the theme of disaster risk management. A program of site visits to the Australian National University (ANU) and Geoscience Australia was also organised, which also helped with capacity building of young scientists in the region. The four participating scientists expressed a desire to create stronger links with Geoscience Australia.

In 2019, the Academy will again invite, and fund, a small group of scientists from the region, to the *Science at the Shine Dome* event that will include a scientific symposium on renewable energy. It will also coordinate a program of site visits for the international visitors to highlight Australia's expertise in energy security.

These activities provide young scientists with the opportunity to establish new contacts and networks with their peers, gain knowledge and exchange ideas in their area of expertise, and enables the Academy to strengthen its links with counterpart academies and organisations in the region who nominate their young scientists. They represent important soft power assets for Australia, particularly as it seeks to work with and influence decisions made by neighbouring countries.

3. New research network initiative between Australia and Germany

With Australia's position in the Indo-Pacific and Germany's key role in Europe and the European Union, both countries are well placed to contribute to a combined strategic approach in an ever-changing global landscape.

The Australia-Germany Advisory Group was established in 2014 by the Australian and Germany governments to build even closer ties between the two countries across trade and investment, strategic dialogue, science and education, diversity and integration, and culture and sport.

The year 2016 marked the 40th anniversary of the bilateral Science and Technology Cooperation Agreement between Australia and Germany and the bilateral research collaboration continues to grow. In November 2018, the Australian Ambassador to Germany will launch the inaugural Australia-Germany University Research Network at the Australian Embassy in Berlin.

The network will bring together students and academics who have had the opportunity to study and teach in each countries' respective institutions. The network will highlight the pioneering research undertaken between both countries, to better share knowledge and expertise, and to identify ways of expanding areas of bilateral collaboration.

The Academy fully supports this important initiative and will be represented at the launch in Berlin by Professor Hans Bachor FAA, a Fellow of the Academy.

4. Australia - China collaboration on health research

The Australian government has recognised the importance of bilateral research collaborations with China and in 2011 established the Australia-China Science and Research Fund that supports strategic science, technology and innovation collaboration between the two countries. So far, the fund has provided $A 19 million between 2011 - 2018 for joint research centres, thematic symposia and the Young Scientist Exchange Programme.

The Academy, together with the Academy of Technology and Engineering organise the annual Australia-China Symposia series. Below is an example of collaborations that have resulted from this series.

Scientists from the ANU and the Institute of Biophysics at the Chinese Academy of Sciences, have been collaborating on immunology and proteonomics research.

The research program has focused on identifying genes and pathways involved in infection and immunity through the mouse genome discovery platform developed at the ANU's Australian Phenomics Facility.

The development of human genome sequencing and analysis moved the science from working with mice to understanding immune disease and then moving on to work with patients and analysis of their genomes.

In 2016, Australian scientists helped to establish the China-Australia Centre for Personalised Immunology in Shanghai, China, with scholars from the ANU spending time at the research facility.

Australian scientists at the joint centre in Shanghai work with clinicians, researchers and bioinformaticians to help people living with an immune disease find the answers to diagnose and treat their condition (i.e lupus).

Expanding Australia's Science-as-Soft-Power Footprint

Many of the scientific challenges the world faces today are global in nature and need to be tackled collaboratively. By strengthening its STEM regional and global links, Australia can contribute to the development of solutions to global challenges, such as climate change, sustainability, health (especially in areas such as emerging diseases), and the security of food and energy.

Australia has the potential to broaden and deepen the role of our scientific sector as a soft power asset.

Australia has an opportunity to build on its high-quality research and strong links with traditional powers, to connect to other established and emerging powers in Asia and elsewhere. We also have a unique opportunity as both a Western and an Asian nation to participate in global science and innovation.

Active and strategic science diplomacy can deliver benefits to Australia such as influence and visibility on international and regional science programs, and geopolitical influence through the provision of science and technology aid to developing countries.

As science is a wide-ranging effort that naturally crosses borders, countries such as the UK, have established science specialist networks at embassies and consulates. The UK Science and Innovation Network (SIN) has approximately 90 officers in over 30 countries to build important partnerships and collaborations in science and innovation.

In comparison, Australia has a strong network of diplomats and trade representatives but its network of science end education counsellors across the globe is poor. Expanding this network would support international science and innovation collaboration, augmenting Australia's diplomatic capacity and ability to project a modern image of Australia to the world.

The Academy strongly recommends the Australian Government establish a Science Advisor function within the Foreign Affairs and Trade portfolio, to mirror well established arrangements in the US State Department and UK Foreign and Commonwealth Office (FCO).

The UK FCO's Chief Scientific Adviser is responsible for providing advice to the Foreign Secretary, Ministers and officials on science, technology and innovation. Their role is to ensure that the FCO's work on key issues undergoes proper scientific challenge, and to strengthen the scientific and engineering capacity within the Foreign Office. The Chief Science Adviser works closely with the cross-government community of Chief Scientific Advisers and to the wider UK and international academic community.

The Senior Science and Technology Adviser at the US Department of State works to enhance the capacity of the Department to respond to the evolving role of science and technology intersecting with US foreign policy interests. The Adviser links Department leadership with the vast US STEM community and, through a series of fellowships, increases the number of technically trained personnel in the Department. The Adviser acts as a connector to the rapidly growing science, technology, and innovation landscape.

New Opportunities

The case studies, reported above, are examples of how the Academy's international activities contribute to Australia's science diplomacy and soft power. However, the Academy is interested, and well-placed, to do more in this area.

In this regard, we would like to propose three substantive projects which the Australian Government could commission the Academy to develop and deliver to broaden and deepen science as an asset in our national soft power agenda.

1. Science in Australia's Free Trade Agreements

The Australian Government needs to enhance the role of science and technology in negotiating Free Trade Agreements (FTAs).

Scientific knowledge and perspective can make a substantial contribution across a broad range of the chapters/themes of such agreements, such as sanitary and phytosanitary (the movement of animals and plants), agricultural trade, intellectual property, the trade in goods and in services, rules of origin, and in the all-important area of dispute settlement (notably the presentation and evaluation of scientific evidence).

It can also extend to having active, independent scientific expertise 'at the table' in the negotiation of new trade agreements (with countries/regions such as Europe, India, Latin America and the United Kingdom), and the periodic review of existing instruments (such as those with China, Japan, New Zealand, Singapore, and the United States of America).

FTA negotiations should also have regard to the potential of unintended consequences, such as unintended limits to mobility of the scientific workforce, or regulations that may limit the free exchange of scientific knowledge and limit scientific collaboration.

2. Strengthening international networks for young researchers

The Academy is pleased to be able support small numbers of young scientists from our region to attend its annual *Science at the Shine Dome* events.

The Academy would welcome the opportunity to work with sister academies of science in the region and enlarge the pool of young scientists to attend *Science at the Shine Dome* and organise a program of site visits for them to universities and research organisations. However, this would depend on receiving the necessary financial support from the Australian Government.

These visits would provide the young scientists with the opportunity to establish new contacts and networks with their peers, gain knowledge and exchange ideas in research

areas of their interest and build the capacity of scientific institutions. It would strengthen links between Australia and other countries, highlight Australia's profile as a high-quality provider of education and as a place to conduct high-quality research.

It would also enable the Academy to strengthen its links with counterpart academies and organisations in the region who nominate these young scientists.

All of these activities would broaden and deepen Australia's capacities and outcomes in science-as-soft power.

3. International visits by high-profile Australian scientists

The Academy is currently organising a visit in 2019 by Academy Fellow Professor Jenny Graves AO, FAA, winner of the 2017 Prime Minister's Prize for Science, to Argentina Brazil, Chile, Mexico and Uruguay. The visit is being organised in partnership with the Education and Science Counsellors at the Australian Embassies in Brazil and in Mexico.

Prof Graves, as the Academy's Foreign Secretary (2006-2010) and Secretary for Science Education (2010-2014), is well-aware of the soft power role science can play in supporting Australia's foreign policy objectives. She will undertake this visit on a pro-bono basis.

The visit is expected to establish connections and strengthen links between Australia and Latin American countries, highlight Australia's profile as a competitive and high-quality provider of education and as a place to conduct high-quality research. It will also lay the foundations for ongoing collaborations and partnerships between Australian and Latin American science-research organisations, providing mutual benefits for all countries involved.

The Academy would welcome the opportunity of discussing with the Australian Government how it could provide funding to establish an expanded program of visits by outstanding Australian scientists, as described here, to countries of interest to Australia. Our networks of early, mid and senior career scientists are an important national asset in this regard.

Conclusion

Australia's trade, sports, culture, education, and science sectors, among others, can and must continue to make vital contributions to Australia's diplomacy. In an age where national challenges are also global challenges (and vice versa), science diplomacy is crucial to understanding problems and identifying solutions.

International scientific engagement and networks should be recognised as a soft power to inform decisions and serve as a core instrument of diplomacy, helping to build bridges for Australia's national and global benefit. This submission sets out several opportunities for how this could be achieved.

Science remains an under-recognised and under-resourced national soft power asset. Science can and should be leveraged as a soft power asset and play a much broader, deeper, and systematic role in allowing Australia to exercise influence, to build strategic partnerships in view of advancing Australia's security and prosperity.

To this end, the Australian Government should: prioritise science as a critical national soft power asset; commission the Academy to build capacity in its science-outreach programs, giving priority to early and mid-career scientists from the Asia Pacific and Indian Ocean regions; and, ensure science has a place at the table in the negotiation of Australia's trade liberalisation and other relevant agreements.

Should you wish to discuss any of the issues raised in this submission, or any other matters of broader matters relating to science-as-soft-power, please do not hesitate to contact Ms Nancy Pritchard, Director – International Programs and Awards nancy.pritchard@science.org.au.

Yours sincerely

Professor Elaine Sadler FAA
Foreign Secretary

Attachment One: International Scientific Unions under the umbrella of the International Science Council

- ISC, International Science Council
- IAU, International Astronomical Union
- IGU, International Geographical Union
- IMU, International Mathematical Union
- ICMI, International Commission on Mathematical Instruction
- INQUA, International Union for Quaternary Research
- IUBMB, International Union of Biochemistry and Molecular Biology
- IUBS, International Union of Biological Sciences
- IUCr, International Union of Crystallography
- IUGG, International Union of Geodesy and Geophysics
- IUGS, International Union of Geological Sciences
- IUHPST, The International Union for History and Philosophy of Science and Technology
- IUIS, International Union of Immunological Societies
- IUMRS, International Union of Materials Research Societies
- IUMS, International Union of Microbiological Societies
- IUNS, International Union of Nutritional Sciences
- IUPAB, International Union for Pure and Applied Biophysics
- IUPAC, International Union of Pure and Applied Chemistry
- IUPAP, International Union of Pure and Applied Physics
- ICO, International Commission for Optics
- IUPHAR, International Union of Basic and Clinical Pharmacology
- IUPS, International Union of Physiological Sciences
- IUTAM, International Union of Theoretical and Applied Mechanics
- IUTOX, International Union of Toxicology
- URSI, Union Radio Scientifique Internationale
- COSPAR, Committee on Space Research
- SCAR, Scientific Committee on Antarctic Research
- SCOR, Scientific Committee on Oceanic Research
- SCOSTEP, Scientific Committee on Solar-Terrestrial Physics
- WCRP, World Climate Research Programme
- CODATA, Committee on Data for Science and Technology
- IFToMM, International Federation for the Promotion of Mechanism and Machine Science

Attachment 2: International Exchange and Research Programs

Between 1980 and 2011 more than 600 scientists from Australia and China participated in scientific exchange programs run jointly by the Academy and the Chinese Academy of Sciences that have led to the establishment of extensive relationships and collaborative activities and projects. Both academies continue to forge strong links through annual bilateral symposia going back to 2004, supported by the Australian government's Australia-China Research Fund.

Since 1979 Academy and the Japan Society for the Promotion of Science (JSPS) have managed a series of exchange programs. Currently, JSPS fully funds on an annual basis, 14 young Australian researchers who take up JSPS Postdoctoral Fellowships in Japan for a period of 12-24 months. These fellowships are worth approximately $ 1 million per year.

Since 2012 the Academy has assisted the Australian Government to administer the Australia–India Strategic Research Fund Early- and Mid- Career Fellowships that provide support for Australian researchers to travel to India and work with leading researchers at major Indian science and technology organisations for a period of between 1 and 3 months. The Fellowships are intended to facilitate long-term science, technology and innovation collaboration.

The Academy currently administers the *Regional Collaborations Programme,* a four year initiative worth $3.2 million, as part of the Government's Global Innovation Strategy under the National Innovation and Science Agenda. The programme supports Australian research organisations and businesses to undertake multi-partner projects and workshops to collaborate with regional and international science, research and innovation partners on solutions to shared regional challenges within the Asia–Pacific region.

Attachment 3: Bilateral and Multilateral Relationships

The Academy is an active member of the Executive Board of the Association of Academies and Societies of Sciences in Asia (AASSA), a grouping of 34 academies in the region, whose principal objective is to achieve a society in Asia and Australasia in which science and technology play a major role in the development of the region. AASSA is a forum for scientists and technologists that discuss and provide advice on issues related to science and technology, research and development, and the application of technology for socio-economic development. Prof Cheryl Praeger AM FAA, fellow of the Academy is currently the Chair of the AASSA Women in Science and Engineering Committee that is currently putting together a publication of outstanding women scientists in the region.

The Academy is also an active member of the InterAcademy Partnership (IAP) that comprises more than 130 national and regional member academies that work together to support the special role of science and its efforts to seek solutions to address the world's most challenging problems. IAP harnesses the expertise of the world's scientific, medical and engineering leaders to advance sound policies, improve public health, promote excellence in science education, and achieve other critical development goals.

Academy Vice President, Dr TJ Higgins FAA, is on the working group of the IAP project entitled: *Harnessing Science, Engineering and Medicine to Address Africa's Challenges*. The project will engage African and non-African leaders in science, engineering and medicine, African governments, bodies such as the United Nations and the African Union, the global donor community, industry, and other stakeholders in activities that demonstrate the value of independent academy science-policy advice, with the ultimate goal of ensuring sustainability of national investment of science and technology.

Academy Council member, Prof Michael Barber FAA, is on the working group of the IAP project *Improving Scientific Input to Global Policymaking: Strategies for Attaining the Sustainable Development Goals* (SDGs). The project will develop a framework for action that strengthens the global science-policy interface and will also facilitate productive collaboration and adoption of best practices among the organisations.