

Bilateral activities

Bilateral activities provide opportunities for Academy officials and government officials to meet with high-level international researchers and research funders, to discuss international science and technology policy and practices, and to promote Australian research and technology. They also help to promote and strengthen long term relationships and increase Australia's presence and influence at the international level.

Meetings between Academy representatives and their international counterparts provide an opportunity to discuss the operation of a particular program and make necessary modifications to ensure a program is meeting its objective.

A portion of the Academy's bilateral activities is funded as part of the Australian Government Department of Innovation, Industry, Science and Research's International Science Linkages – Science Academies Programme. The Academy organised a series of scientific symposia that were conducted in Australia and overseas and focused on current topical global issues. To facilitate a wide dissemination of the information gained from these workshops the publications and presentations have been posted on the Academy's website.

Asia

China

An international workshop, Soil–Plant Interactions and Sustainable Agriculture in Arid Environments, was held in Shihezi, Xinjiang, China from 11 to 18 July. This was an outcome of the China–Australia Symposium on Sustaining Global Ecosystems organised by the Academy, ATSE and the Chinese Academy of Sciences in Beijing in August 2007.

The workshop had strong representation from Australia, with selected delegates from other countries who have relevant arid-zone research links in China, such as Germany, Israel, Japan and Serbia. The chair of the workshop was Professor Yongchao Liang, Key Laboratory of Oasis Eco-agriculture at Shihezi University. The international organising committee was chaired by Professor Hans Lambers from the University of Western Australia, with Professor Andrew Smith FAA from the University of Adelaide as co-chair. Both were delegates in Beijing in 2007. The meeting covered:

- biochemical and microbial processes of nutrient cycling in soil–plant systems;
- water transport mechanisms and water management in arid ecosystems;
- physiological and molecular mechanisms of plant adaptation to stressful environments; and
- nutrient and metal bioavailability in agro-ecosystems.

Selected articles stemming from the workshop will be published in the international journal *Plant and Soil*.

China–Australia symposium on remote sensing technologies and sustainability

The Academy and ATSE, on behalf of the Australian Department of Innovation, Industry, Science and Research organised the China–Australia Symposium on Remote Sensing Technologies and Sustainability in Canberra, on 24 and 25 November.

This symposium is the fifth in a series of high-level annual symposia to be conducted with the Chinese Academy of Sciences (<http://english.cas.ac.cn/>). In addition to bringing together leading scientists from both economies to increase research linkages, strategic partnerships formed through participation in these symposia have provided a valuable avenue for the training and exchange of young scientists, and the sharing of expertise and facilities between the two countries.



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Australia–China symposium conveners and guest speakers

Approximately fifty Chinese and Australian invited participants explored collaborative opportunities during plenary discussions and in four breakout workshops in the areas of energy and mineral exploration; land management and agriculture; water resources; and natural disaster and environmental change.

The Chinese delegation was led by Professor Yongxiang Lu, President of the Chinese Academy of Sciences and also Vice-Chairman of the standing committee of the National People's Congress. The Australian conveners were Professor Kurt Lambeck and the Vice-President of ATSE, Mr Peter Laver.

Senator the Hon Kim Carr, Minister for Innovation, Industry, Science and Research, spoke at the opening of the symposium and Professor Penny Sackett, Australia's Chief Scientist, was the dinner speaker on the first evening of the event. The program and abstracts are available from www.science.org.au/events/australiachina/2008.

Chinese Academy of Sciences symposium, Beijing

Professor Kurt Lambeck was invited by the Chinese Academy of Sciences to attend the Academy, Research Institution and National Innovation System symposium in Beijing from 12 to 14 November. Professor Lambeck gave a presentation, *Role of the Australian Academy of Science in development of a national innovation policy*, in which he spoke of the role that academies can play in developing and implementing a national innovation system. The speech is available from www.science.org.au/events/speeches.htm.

Indonesia

The Academy organised on behalf of the Department of Innovation, Industry, Science and Research (DIISR) the Joint Australia–Indonesia Workshop on Human Health, Including Infectious Diseases, which was held at

the Indonesian Ministry for Research and Technology (RISTEK) on 14 and 15 April 2008. The workshop was jointly sponsored by DIISR and RISTEK. The program was organised by the Academy and the Eijkman Institute for Molecular Biology with the assistance of the Australian Embassy in Jakarta and RISTEK. The workshop followed the previous successful Australian–Indonesian joint symposia in science and technology in 2006 and 2007. The joint working group agreed to enhance collaboration between Australian and Indonesian researchers initially in four priority areas, the first of which was human health.

The program for the 2008 workshop was developed to ensure that the some of the research needs and interests of both countries were covered. Topics included emerging infectious diseases and biosecurity, health issues related to asthma and smoking, hepatitis virus, human avian influenza, H5N1 in poultry and vector-borne diseases.

The convener of the Indonesian delegation was Professor Sangkot Marzuki, Director of Eijkman Institute for Molecular Biology in Jakarta, and the convener of the Australian delegation was Professor John S Mackenzie, Premier’s Fellow and Professor of Tropical Infectious Diseases at Curtin University of Technology in Perth.

The workshop aimed to promote access to and participation by Australian researchers in this strategically-focused meeting and to increase strategic alliances between researchers from Australia and Indonesia. Twenty four Australian and Indonesian researchers participated in the meeting. Close to 70 other Indonesian scientists from a number of research organisations also attended. Dr Teguh Rahardjo, Deputy Minister at the State Ministry of Research and Technology, and the Australian Ambassador, His Excellency Bill Farmer, spoke at the opening session of the workshop.

It is expected that a number of joint proposals for collaborations between Australian and Indonesian researchers will develop as an outcome of this meeting.

Japan

The 5th annual meeting of the Science and Technology in Society Forum was held in Kyoto, from 5 to 7 October and was attended by Professor Kurt Lambeck. Over 750 leading scientists, policy makers, business executives and media leaders gathered from 91 countries to discuss science and technology issues of the 21st century. The forum is an important venue for learning about and discussing the latest developments in science and technology, and how they affect human society.

Korea

The Australia–Korea Foundation provided funding to the Academy and ATSE to manage an exchange program for early-career scientists to undertake research for up to three months in Australia and Korea. Two Koreans and five Australian researchers participated in this activity in June. The program provided an opportunity for researchers to access equipment and expertise, exchange data, collaborate in joint publications, and establish long term collaborations between institutions. The visits also provided valuable cultural experiences for all involved which enhanced opportunities to conduct future research with their counterpart colleagues.

Pakistan

The Pakistani High Commissioner, His Excellency Mr Jalil Abbas Jilani, paid a courtesy call to the Academy on 25 July. He met with the Foreign Secretary, Professor Jenny Graves FAA, to discuss possible bilateral activities through the Academy and the Pakistan Academy of Sciences. Australia



Photo: Nancy Pritchard

Jenny Graves with His Excellency Mr Jalil Abbas Jilani, High Commissioner of Pakistan

already supports research and institutional linkages to boost Pakistan's agricultural productivity through the Australian Centre for International Agricultural Research related activities.

Taiwan

On 31 July Professor Jenny Graves met with Ms Alice Cawte, the Representative designate to the Australian Commerce and Industry Office in Taipei. Professor Graves discussed Academy activities with Taiwan, particularly the fruitful collaborations with the National Science Council of Taiwan for the past eighteen years.

The Academia Sinica (the National Academy of Taiwan) extended an invitation to Professor Lambeck to participate in an Academy Presidents' Forum to discuss how national science academies can drive knowledge-based development. The meeting was held in Taipei from 6 to 8 December. At the forum, Professor Lambeck gave a presentation, *How should modern science academies be structured to best drive knowledge-based development?* The speech is available from www.science.org.au/events/speeches.htm.

The Taipei Economic and Cultural Office in Australia and the National Science Council of Taiwan also put together a program of visits for Professor Lambeck which included a meeting with the Deputy Minister of the National Science Council, Dr Wen-Chang Chang, and visits to the National Center for Research on Earthquake Engineering and the Department of Geosciences of the National Taiwan University.

Federation of Asian Scientific Academies and Societies

Professor Jenny Graves attended the 2008 Federation of Asian Scientific Academies and Societies (FASAS: www.interacademies.net/?id=4273) council meeting on 15 October and the 2nd International Conference on Science Education in Asia and the Pacific on 16 October hosted in Ankara by the Turkish Academy of Sciences. Professor Graves gave a presentation on the Academy's primary science program *Primary Connections*. Representatives from seven other academies also presented on science education activities in their respective countries, ranging from pre-school to tertiary level programs.

During these events, FASAS and the Association of Academies of Sciences in Asia took the opportunity to sign a memorandum of understanding to undertake joint activities in areas such as science education and energy.

Americas

Brazil

The Australia–Brazil Workshop on Biotechnology Innovations for Agriculture was held at the Brazilian Agricultural Research Corporation (EMBRAPA: www.embrapa.br/english) in Brasilia, from 5 to 7 May. The workshop was organised by the Academy (on behalf of DIISR) and EMBRAPA with assistance from the Australian Embassy in Brazil. The aim of the workshop was to identify strategic and collaborative opportunities, especially on gene discovery, genomic, proteomic and metabolomic analysis, bioinformatics, protein structure/function and nanobiotechnology, to:

- establish joint R&D and training programs;
- facilitate bilateral exchange of germplasm and products; and
- develop new bioproducts, novel crop varieties and biofuels.

The Australian convener of the workshop was Dr Liz Dennis FAA, CSIRO Fellow at CSIRO Plant Industry. The Brazilian convener was Dr Mauro Carneiro of EMBRAPA Genetic and Biotechnology Resources. A total of 20 Australian and Brazilian researchers presented at the workshop, and an additional 50 Brazilian scientists also attended the meeting.

Dr Silvio Crestana, President of EMBRAPA, the Australian Ambassador to Brazil His Excellency Mr Neil Mules, Minister Hadil da Rocha Vianna, Director of the Department for Scientific and Technological Affairs of the Ministry of External Relations of Brazil, and Dr Jose Oswaldo Siqueira, Director of the National Council for

Scientific and Technological Development, spoke at the plenary session.

Site visits were also organised to EMBRAPA institutes as well as to the University of Sao Paulo agricultural campus in Piracicaba.

The workshop provided a strong basis for good technical cooperation projects with EMBRAPA researchers and an opportunity to establish excellent links with other Australians from the delegation.

East Asia and Pacific Summer Program for US Graduate Students

For the past five years the Academy and the US National Science Foundation have conducted a joint program that enables twenty US graduate students in science and engineering to visit Australia between June and August each year for a period of eight weeks during the American summer, to undertake research in laboratories and to initiate personal relationships with their Australian counterparts.

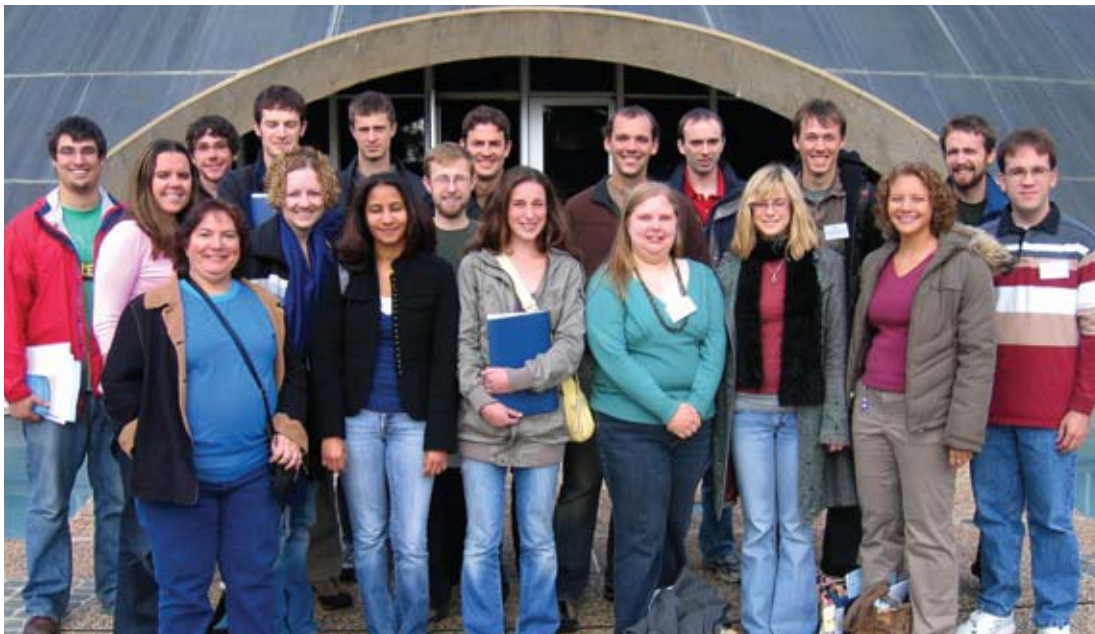


Image: Meaghan O'Brien

Graduate students from the USA participating in the summer program

This activity is funded by the DIISR's International Science Linkages program. The host research institutions such as universities, CSIRO and museums, provide the students with office accommodation, access to laboratory, library and computing facilities, as well as technical assistance and the time and expertise of the host researcher.

For the 2008 program, the Academy organised a series of lectures and site visits to research and cultural institutions as part of an orientation session for the US students in Canberra from 16 to 18 June 2008, after which the students travelled to their host institutions to undertake research projects.

Europe

Australian–European Commission Joint Science and Technology Cooperation Committee (JSTCC) meeting

Dr Sue Meek, the Academy's Chief Executive, was part of the Australian delegation that participated in the Australian–European Commission JSTCC meeting held in Brussels on 29 and 30 September. The Australian delegation was led by Mr Mark Paterson, Secretary of DIISR. Other delegates included the heads of the Australian Research Council and the NHMRC. Discussions focused on current Australian participation in European Commission (EC) programs such as COST Actions and the International Research Staff Exchange Scheme as well as potential future programs between the EC and Australia.

France

French Embassy Cotutelle program

On behalf of the French Embassy the Academy administers the Cotutelle postgraduate fellowships program that operates in Australia and France. Cotutelle PhD students work under the direction and responsibility of a thesis supervisor in two institutions. Each project is established under a reciprocal arrangement. A 'Cotutelle convention' binds the two partner institutions and recognises the validity of the studies undertaken. If successful, a double-badged degree is awarded to the student.

The Cotutelle program, designed to enhance two-way international research collaboration, began in Australia in 1997. The Academy has been administering the program since 2002.

Australia–Italy Award

This award was set up with the proceeds from the sale of the book *What if they Never Existed*, written by Dr Nicola Sasanelli, Science and Technology Counsellor at the Embassy of Italy in Canberra. The award also has the financial support of the Academy and is aimed at recognising excellence in research cooperation between Australia and Italy and to foster further research activity among PhD students and early postdoctoral researchers.

On 5 November at the State Library of South Australia, Professor Bob Vincent FAA, chair of the Academy's South Australian Regional Group announced the successful applicants of this scheme. In Australia, awards went to Dr Luka Pravica from the Department of Physics at the University of Western Australia, who will visit the Institute of Inorganic Methodologies and Plasmas, at the National Research Council in Rome, and Mr Tsung Li from the Department of Engineering at the Australian National University, who will be hosted by Dr Mario Tucci of the Photovoltaic R&D Laboratories at the ENEA Casaccia Research Centre, also in Rome.

In Italy, awards were granted to Dr Marco Martorella from the Department of Information and Engineering at the University of Pisa, who will visit Professor Bevan Bates at the School of Electrical and Electronic Engineering at the University of Adelaide, and Dr Tiziana Stomeo from the National Nanotechnology Laboratory of CNR-INFN in Lecce, who will be hosted by Professor Laurie Faraone of the Centre for Semiconductor Optoelectronics and Microsystems at the University of Western Australia.

The Adam J Berry Memorial Fund for visits to the National Institutes of Health

The Adam J Berry Memorial Fund is managed on behalf of the Berry family by the Academy and the US National Institutes of Health Foundation. It aims to assist one early-career Australian researcher to travel or work in the USA at one of the institutes of the National Institutes of Health each year. In addition to gaining valuable experience for themselves, scientists are expected to make a contribution to the research program of the institute to which they are temporarily attached.

Professor Jonathan Stone FAA chairs a special committee that assesses and recommends suitable candidates for this award. The 2009 recipient is Jacqueline Leung, a PhD student at the Menzies Research Institute of the University of Tasmania. Funding provided will assist Jacqueline to travel to the National Institute of Child Health and Human Development, Nervous System Development and Plasticity Section. She will learn an advanced *in vitro* tissue culture system to further studies on the action of the neuroprotective protein after injuries to the central nervous system.



Jacqueline Leung

Other international activities

Forum for European-Australian Science and Technology Cooperation

The European Union is Australia's largest scientific partner, mainly through bilateral collaboration, but also through multilateral projects. Since 1997 Australians and Europeans have collaborated on more than 300 projects with an approximate value of almost €1.8 billion. The diplomatic missions representing the member states of the European Union and the European Commission in Australia, in association with major Australian S&T organisations, have embarked on a common action to highlight and improve this cooperation. This initiative is known as the Forum for European–Australian Science and Technology (FEAST) cooperation.

FEAST and the French Embassy in Canberra hosted a one-day roundtable at the Academy's Shine Dome, on 12 November, for industrialists, policy-makers and academic researchers to meet and consider options to intensify French–Australian cooperation in low emission energy and water technologies. In addition to raising awareness and networking, a key output was a draft agenda for French–Australian cooperation over affordable low emission energy and water solutions.

Diplomatic missions

The Academy maintains close links with Australian mission overseas and the Science Counsellor based at the Australian Embassy in Brussels, Katharine Campbell, currently Australia's only Science Counsellor based at an Australian Embassy.

In the same way, the Academy maintains fruitful relations with many foreign embassies in Canberra, including the missions from France, Germany, Italy, United Kingdom, China, Japan and Taiwan.

Bilateral science and technology cooperation between Australia and South Africa

Australia and South Africa signed a bilateral science and technology cooperation agreement in October 2006. The first meeting of a Joint Science and Technology Coordination Committee (JSTC) to initiate the agreement was held in Cape Town in February, timed to coincide with one of a series of international fora on the Square Kilometre Array (SKA) telescope project.

The JSTC meeting was organised jointly by the Australian Government Department of Industry, Innovation, Science and Research and South Africa's Department of Science and Technology. Its purpose was to build relationships between the two countries by identifying other possible areas of mutual interest.



Sue Meek (centre front) with members of the ASSAf secretariat

Photo: Patsy Sholtz

The Chief Executive, Dr Sue Meek, was invited to be a member of the Australian delegation and, as a prelude to the JSTC meeting, met with the President of the Academy of Science South Africa (ASSAf), Professor Robin Crewe, and visited the ASSAf secretariat in Johannesburg where she received a detailed briefing on the activities of that academy.

The JSTC identified a number of possible areas of cooperation that will be further developed, including a workshop/visit program proposed jointly by ATSE and the Academy on the theme of low-carbon energy technologies.

Further information
about international
programs is available at:
[www.science.org.au/
internat](http://www.science.org.au/internat)