

# NATIONAL COMMITTEES FOR SCIENCE

The Academy's National Committees foster a designated branch or theme of natural sciences in Australia and serve as a link between Australian and overseas scientists in the same field. Following advice from the committees, the Academy appoints delegates to the business meetings of the International Council for Science (ICSU). There are 20 National Committees and three Task Forces, which represent a wide range of the disciplines within the Academy's Fellowship.

Nominations for Committee members are sought by the Academy from committee Chairs and from the relevant corresponding scientific societies. The nominations are then considered by the Academy's Executive Committee, responsible for appointing committee Chairs and members. Guidelines for National Committees are available at: [www.science.org.au/natcoms/guidelines.htm](http://www.science.org.au/natcoms/guidelines.htm)

## Biennial meeting of Chairs of National Committees and Task Forces

The biennial meeting of the Chairs of the National Committees and Task Forces was held at the Shine Dome on 13 April 2006. Discussion focussed on the national and international roles and responsibilities of the National Committees as well as the key issues that should be addressed in the Academy's submission to the Productivity Commission Review of Public Support for Science and Innovation. The Chairs of the Committees for Medicine and Astronomy gave presentations that were followed by breakout discussion groups.

A special meeting, held on 22 March, discussed two contemporary issues — 'Is there life after a postdoctoral fellowship?' and 'Erosion of the disciplines by vocations: the Melbourne solution'.

A summary of the proceedings of the biennial meeting is at: [www.science.org.au/natcomms](http://www.science.org.au/natcomms)

Further information about the National Committees is available at: [www.science.org.au/natcoms](http://www.science.org.au/natcoms)



Getting together: Chairs of the National Committees and Task Forces

## Committee reports

Reports have been received from the following Committees:

### Antarctic Research

**Chair: Professor Robert Vincent**

Australian scientists, including members of the Committee, continue to play prominent roles in the international programs of the Scientific Committee for Antarctic Research (SCAR), with good representation on a wide range of committees. Programs covered include Antarctic climate processes, biodiversity, change and ecosystem response and the geological evolution of Antarctica. During 2006 the Committee proposed several new appointments to various SCAR committees and other relevant international committees.

The XXIX General Assembly and the Second Open Science Conference of SCAR, hosted by the Academy and the Australian Antarctic Division, were held in Hobart from 9–14 July 2006. National Committee members were involved in planning the open science meeting and helped with the assessment and ranking of abstracts. About 840 delegates registered for the science conference, including 75 per cent from overseas and approximately 120 graduate students. The conference was a great success and provided an important opportunity to compare Australian Antarctic science activities and achievements with activities by other countries.

Preparations for the International Polar Year (IPY) in 2007, which celebrates the 50th anniversary of the International Geophysical Year, continue to be a major activity of the Committee. Chair of the Australian IPY Committee is now Professor Amanda Lynch, replacing Professor Bruce Mapstone.

Australia is taking a lead role in the IPY, with eight projects being led by Australian scientists covering a wide range of issues including a census of marine life, the role of Antarctica in climate, human biology and solar-terrestrial impacts on the atmosphere. Australia also is co-leading three other projects and has active involvement in at least 45 others.

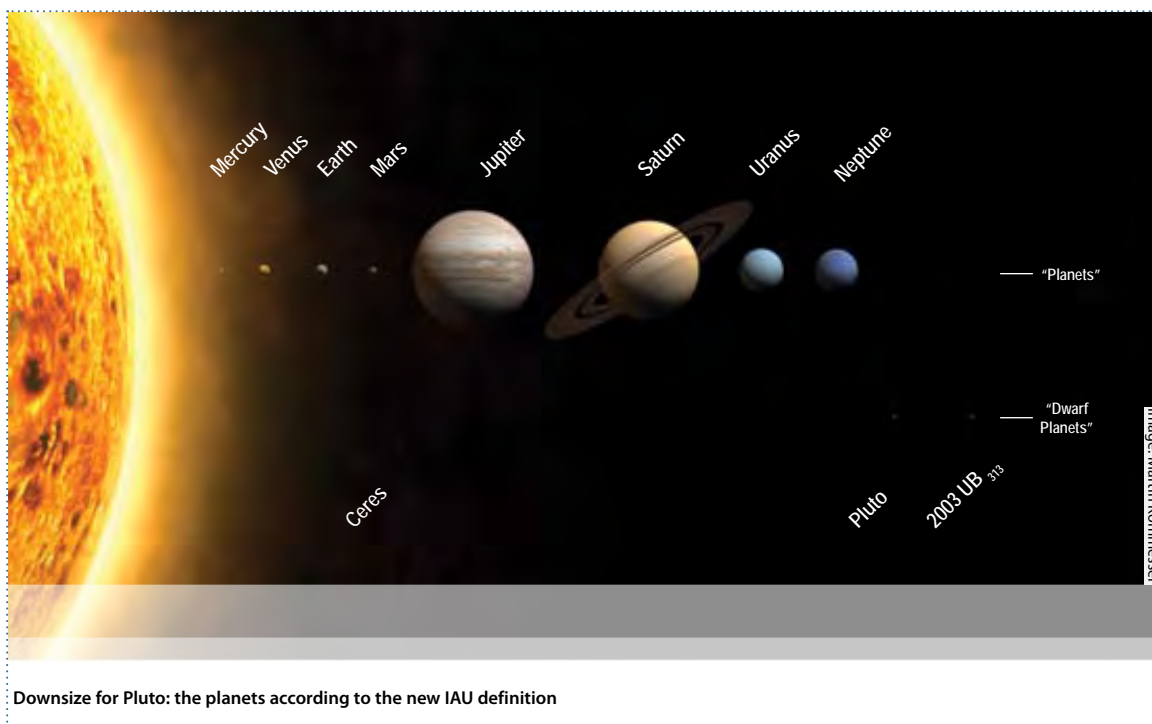
### Astronomy

**Chair: Professor Matthew Colless**

The National Committee for Astronomy focussed on implementing *New Horizons: A Decadal Plan for Australian Astronomy 2006–15*, launched at the end of 2005. The main activity was the development of the *Investment Plan for Radio and Optical Astronomy* as part of the National Collaborative Research Infrastructure Strategy (NCRIS). Professor Brian Boyle, Chair of the Committee until 30 September, served as the NCRIS facilitator for astronomy.



New horizons: National Committee for Astronomy tackles Decadal Plan



Downsize for Pluto: the planets according to the new IAU definition

The Committee supported community involvement in developing the *Investment Plan* and hosted a community-wide 'town hall' meeting on 21 April 2006 to allow forum discussion of an early draft. These efforts were rewarded on 27 November when Minister for Education, Science and Training Julie Bishop announced \$45 million in funding over the next five years.

The triennial General Assembly of the International Astronomical Union (IAU) was held in Prague from 14–25 August 2006. The General Assembly received a great deal of public attention for its controversial new definition of what constitutes a planet. The next IAU General Assembly will be held in Rio de Janeiro in 2009, coinciding with the International Year of Astronomy, for which the Committee will be responsible for coordinating the Australian participation.

The Committee has two working groups: the Australian Square Kilometre Array Consortium (ASKAC) and the Extremely Large Telescope Working Group (ELTWG). The former submitted a proposal to the International Square Kilometre Array (SKA) Steering Committee proposing an Australian site for the SKA. The submission was short-listed on 28 September, along with a South African proposal, as one of the two acceptable sites.

The ELTWG further developed links between Australia and the Giant Magellan Telescope consortium and in April the Australian National University joined the consortium.

Both working groups made progress in developing links with industries associated with SKA and extremely large telescopes. The Australian participation in the next phase of the SKA and the Giant Magellan Telescope will be supported by NCRIS.

## Biomedical Sciences

### Chair: Professor Rob Baxter

The National Committee for Biomedical Science will work more closely with national biomedical societies, including the corresponding societies, in 2007. The Committee will seek their views on biomedical science matters. The Committee held a joint meeting on 7 March with the National Committee for Medicine to discuss matters of common interest and ways the two Committees can work together and utilise each other's resources.

International activities of corresponding societies include the following:

## Physiology

President of the Australian Physiological Society (AuPS) Professor David Adams and Associate Professor Chen Chen of the Prince Henry's Institute of Medical Research were the invited guests at the 80th Anniversary of the Chinese Association for Physiological Sciences Congress held from 4–6 November in Beijing. A preparatory meeting also was held to explore a joint scientific conference of the national physiological societies of Australia, Canada, China, the UK, and the US to be held in Beijing in October 2008.

The University of Sydney's Professor David Cook has been appointed AuPS representative on the Council of the Federation of the Asian and Oceanian Physiological Societies.

## Biochemistry and Molecular Biology

President of the Australian Society for Biology and Molecular Biology Professor Phillip Nagley and Dr Rohan Baker were the Australian representatives at the 19th Ordinary General Assembly of the International Union of Biochemistry and Molecular Biology (IUBMB) in Kyoto in June 2006. At the meeting, Dr Nagley presented a successful bid to the Executive Committee of the Union to hold the 12th IUBMB Conference in Melbourne in September 2010.

Australian researchers hold several key positions in international societies:

- The University of Queensland's Professor Susan Hamilton was elected to the Executive Committee of IUBMB for 2006–09 with responsibility for the Education in Biochemistry and Molecular Biology portfolio
- Professor Nagley was elected to the Nominations Committee of IUBMB for 2006–09. He and Professor Michael Walsh from Canada will be revising and updating the Statutes of IUBMB, with their recommendations to come before the Executive Committee
- Griffith University's Associate Professor Denis Crane has been invited to join the IUBMB Committee on Symposia
- The University of Queensland's Professor John de Jersey is Secretary General of the Federation of Asian and Oceanian Biochemists and Molecular Biologists.

The University of Melbourne's Dr Andrew Hill attended the Global Scientific Challenges: Perspectives from Young Scientists conference at Lindau, Germany in April 2007. Dr Hill was successfully nominated by the Academy to participate in this conference, hosted by the International Council for Science.

## Microbiology

Strengthening the relationship between the Australian Society for Microbiology (ASM) and its sister societies the Society for General Microbiology in the UK and the American Society for Microbiology is a priority for the Committee. To this end, the ASM recently proposed the establishment of jointly funded annual postgraduate student travel awards.

## Chemistry

### **Chair: Professor Allan Canty**

The National Committee for Chemistry has strengthened its interaction with the Royal Australian Chemical Institute (RACI) following the successful cooperation in the Institute's Future of Chemistry project. President of RACI Professor Ian Rae will represent Australia at the 44th International Union of Pure and Applied Chemistry (IUPAC) General Assembly in Italy in August 2007. His attendance will further enhance the international interactions of RACI and help develop a stronger awareness of areas in which the Committee and the Institute can cooperate in the future.

The Committee has been active in promoting ideas for symposia at the Academy and has provided advice to the Academy's Council on policy matters and symposia, which are under consideration. It also has facilitated a number of functions of IUPAC, including nominating Australians for office-bearer positions, supporting conference activities in Australia and initiating the IUPAC Company Associates Program in Australia.

## Crystallography

**Chair: Professor Peter Colman**

The National Committee for Crystallography met at the Asian Crystallographic Association meeting in Japan in November 2006. Main business items were the National Collaborative Research Infrastructure Strategy (NCRIS) and forward plans for synchrotron science. The Committee has corresponded with NCRIS expressing concerns at the lack of transparency in the processes immediately preceding the release of their funding recommendations.

We have reviewed the *Synchrotron-Based Science Strategic Plan*, a decadal plan commissioned by the Australian Synchrotron and the Australian Synchrotron Research Program, and agreed on the following endorsement:

*The Committee endorses the plan and the processes it describes for establishing future priorities for beamline construction and development. We agree that the priorities as currently listed will always be subject to refinement as new scientific opportunities and mechanisms to fund them, present themselves. In this respect we see no impediment to user communities interested in beamlines within the grouping 'requiring further scoping' actively pursuing their case to become 'medium-term' opportunities.*

## Replacement Research Reactor Task Force

**Chair: Professor John White**

The chief focus of the Task Force since 1994 has been the replacement research reactor, the Open Pool Australian Light-Water (OPAL) reactor, and the provision of advice to the Academy's Council on its desirability and qualities. In 2006 there were delays in the licensing and construction process, in particular the operation of the 'cold neutron' source and the instruments. Nevertheless the OPAL reactor has now run at full power, 20 megawatts, without the cold source — an important milestone.

Several refrigerators for the cold source have failed and progress there will be reviewed in June 2007 when the 'friendly user' research program begins. The reactor was formally opened by Prime Minister John Howard on 18 March 2007. This followed the shutdown of the previous reactor, the High Flux Australian Reactor, by the Minister for Education, Science and Training Julie Bishop on 30 January.

Individual members of the Task Force have been active in nuclear affairs, including the appointment of Professor John White as the President of the Australian Institute of Nuclear Science and Engineering in 2006. He also serves as the Australian representative on the Organisation for Economic Co-operation and Development Nuclear Physics working group and participated in the Channel 9 television debate on nuclear energy for Australia in July 2006.

Task Force member Professor George Dracoulis served on the panel of the Prime Minister's Uranium Minerals Processing and Nuclear Energy Review (UMPNER) from September–December 2006, which reviewed nuclear energy options for Australia. Academy President Professor Kurt Lambeck was a member of the expert committee that reviewed the UMPNER report.

## Earth Sciences

**Chair: Professor Andrew Gleadow**

The structure and evolution of the Australian continent was one of 16 priority research capabilities identified in the 'National Collaborative Research Infrastructure Strategy (NCRIS) strategic roadmap' released in February 2006. In response, a national steering committee was established, chaired by Dr Mike Etheridge and with the National Committee for Earth Sciences represented by its Chair.

The steering committee met regularly throughout the year and consulted the Earth science community widely, culminating in the allocation of \$46 million for support of the AuScope program over five years from 2007.

AuScope will consist mainly of four integrated programs in geophysical imaging, geochemical analysis, geophysical modelling and the National Geospatial Reference System.

A key component of work plans under AuScope will be a national geoscience transect project as recommended by the *National Strategic Plan for the Geosciences* produced by the Committee in 2003. AuScope will be implemented in close coordination with the Committee.

Another major priority for the Committee during 2007 will be the coordination of national activities for the International Year of Planet Earth (IYPE) in 2008. The IYPE will spread over three years from 2007–09 and provides an outstanding opportunity for promotion of the Earth sciences to the wider Australian community.

Australia is currently preparing a bid, chaired by Committee member Professor Ray Cas, to host the General Assembly of the International Union of Geodesy and Geophysics (IUGG) in Melbourne in 2011. Toward this end, the Bureau of the IUGG met in Melbourne in October and the bid will be presented to the IUGG General Assembly in Perugia, Italy in July 2007.

Planning also continues for the 34th International Geological Congress in Brisbane in 2012. President of the Congress is Geoscience Australia's Dr Neil Williams and Secretary-General is Committee member Dr Ian Lambert, also from Geoscience Australia.

A highlight for the geoscience community in Australia during 2006 was hosting the 16th International Goldschmidt Conference in Melbourne from 27 August–1 September. Committee Chair Professor Andrew Gleadow was a member of the Organising Committee, which met frequently through the year. Goldschmidt is the premier international conference on geochemistry and is sponsored by the Geochemical Society and the European Association of Geochemistry. This was the first time the annual Goldschmidt Conference has been held in Australia. Attendance levels were excellent with over 1300 international and Australian delegates.

## Earth System Science

**Chair: Dr Roger Gifford**

The National Committee for Earth System Science contributed to the Academy's submissions to the:

- Prime Minister's Science, Engineering and Innovation Council's (PMSEIC) working group on Australia's Science and Technology Priorities for Global Engagement
- PMSEIC working group on Data for Science
- Productivity Commission Review of Public Support for Science and Innovation

The Committee also prepared a draft statement for the Academy to use for publicity during the announcement of the 'Fourth climate change assessment report' from Working Group 1 of the Intergovernmental Panel of Climate Change, in early February 2007.

The Committee sponsored a workshop on The Science of Seasonal Climate Prediction held at the Shine Dome from 2–3 August 2006. The workshop concluded that inter-annual climate variability associated with the El Niño–Southern Oscillation (ENSO) provides a firm scientific basis for seasonal climate prediction. Despite shortcomings, statistical systems of forecasting in Australia currently provide more accurate seasonal predictions of basic climate variables than dynamic models. However, it is expected that dynamic models will cope with future climate change more robustly than statistical models.

The quality of ENSO simulations continues to improve so there is some optimism that more robust indications of the impacts of climate change on seasonal forecasts should be possible in the future. To continue to optimise the value of seasonal forecasts to users, joint research activities will be necessary on the interfaces between climate systems and user-application systems. The proceedings of the workshop are available at:

[www.science.org.au/events/seasonal/index.htm](http://www.science.org.au/events/seasonal/index.htm)

A joint Australia-Japan workshop on global climate was held at the Australian National University from 20–21 November. The workshop was co-convened by Committee Chair Dr Roger Gifford and Professor Akimasa Sumi under the bilateral science agreement. Four speakers from each country addressed modelling of the global climate system, the ocean, atmospheric aerosols and the introduction of terrestrial ecological processes into climate models.

Potential opportunities for future collaboration were also identified and discussed. The meeting was sponsored by the Department of Education, Science and Training and the Japanese Ministry of Education, Culture, Sports, Science and Technology.

## Terrestrial Carbon Cycle Research Task Force

**Chair: Professor Andy Pitman**

An 11-member Terrestrial Carbon Cycle Research Task Force was established in 2006, holding its inaugural meeting on 28 September. The Task Force is supported by the Australian Greenhouse Office and Chaired by the Australian Research Council Research Network for Earth System Science's Professor Andy Pitman. The objective of the Task Force is to provide input on terrestrial carbon cycle research to the Committee's strategic planning and to update, prioritise and advise on a framework for implementation of the Australian Greenhouse Office's *Blueprint for Terrestrial Carbon Cycle Research*.

## Geography

**Chair: Professor Lesley Head**

The National Committee for Geography was involved in organising the International Geographical Union Regional Congress (IGU) held in Brisbane from 3–7 July. Committee member Professor Nigel Tapper chaired the program committee for the conference and others were involved in organising sessions. The conference, hosted by the Institute of Australian Geographers and the New Zealand Geographical Society, was a resounding success, with almost 1000 delegates from Australia and the surrounding region. This success stemmed from the active engagement of members of the host societies — the IGU, the South-East Asian Geography Association, Australian Collaborative Research Centres and related government agencies.

The Committee held its meeting during the conference and has commenced streamlining the Committee membership to more closely reflect Academy guidelines. This process will continue in 2007 as the terms of existing members are completed.

The Committee was active in increasing its role as a peak body for geography in Australia. Activities included cross-memberships with other geographical institutions, contributing articles to the newsletter of the Institute of Australian Geographers and nominating Committee members to relevant research and advisory roles. The Committee also was represented in the delegation that met the Minister for Education, Science and Training Julie Bishop in December to discuss issues relating to geography curricula in Australian schools.



Mapping the way ahead: members of the National Committee for Geography

## History and Philosophy of Science

### Chair: Professor Rod Home

The National Museum of Australia student essay prizes in the history of Australian science and Australian environmental history, each worth \$2,500, were successfully launched. The inaugural prize for the history of Australian science was shared between two entries and a third entry received an honourable mention. One of the winning entries was published in the December 2006 issue of *Historical Records of Australian Science* and it is anticipated the other winning entry and also the one awarded an honourable mention will appear in this journal during 2007.

The prizes are administered by the National Committee for History and Philosophy of Science on behalf of the Academy with the chair of the Committee or nominee chairing the judging panel. The winner of 2007 prize, on Australian environmental history, will be announced later in the year.

In response to a submission to the Chief Scientist on the location of History and Philosophy of Science within the assessment arrangements for the Research Quality Framework, the discipline has been reclassified and will now be assessed by the humanities and law assessment panel.

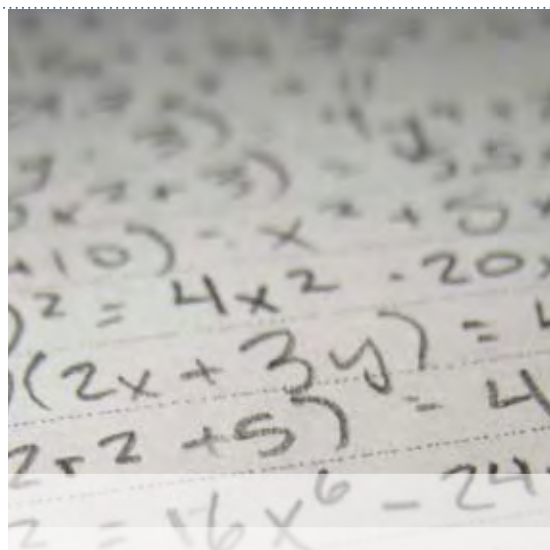
The Committee continued its engagement with Chinese scholars through the Sino-Australian Symposia on History and Philosophy of Science, a three-way collaboration between scholars in Australia, China and Taiwan. Australia will host the next symposium in the series, planned for 2008.

## Mathematical Sciences

### Chair: Professor Hyam Rubinstein

The main Committee activity for 2006 was the National Review of Mathematical Sciences. The review was supported by the Australian Research Council, Australian Mathematical Society (AMS), Australian Mathematical Sciences Institute, Statistical Society of Australia, Australian and New Zealand Industrial and Applied Mathematics and the Australian Society for Operations research.

The working party included three eminent international reviewers: Director of the Institut des Hautes Études Scientifiques Professor Jean-Pierre Bourguignon, Director of Mathematical Sciences at the IBM Thomas J Watson Research Centre Dr Brenda L Dietrich and Deputy Dean of Science at Stanford University Professor Iain Johnstone. Committee Chair Professor Hyam Rubinstein led the working group with Associate Professor Barry Hughes as Executive Director. The other working group members were BHP Billiton's Dr Edwin van Leeuwin, incoming



Reason to smile: Professor Hyam Rubinstein steered the National Review of Mathematical Sciences to a successful conclusion

President of AMS Professor Peter Hall and Executive Officer of AMS Ms Jan Thomas. Outgoing President of AMS Professor Michael Cowling chaired the advisory council for the review. The review received many submissions and conducted interviews around Australia with members of university departments, industry, professional organisations and government research organisations.

The review report was launched at the Academy on 14 December 2006 and a public forum was held on 7 February 2007 to discuss the review findings. The forum received media coverage that included national newspapers and radio. The review report is at:

[www.review.ms.unimelb.edu.au](http://www.review.ms.unimelb.edu.au)

## Mechanical Sciences

### Chair: Dr Francis Rose

A major focus for the Committee continues to be the forthcoming International Congress on Theoretical and Applied Mechanics, ICTAM 2008, to be held in Adelaide from 24–30 August 2008. This will provide a major opportunity to showcase Australian activities and achievements in mechanics and mechanical sciences. Accordingly, the Committee is attempting to establish a directory of Australian workers in the mechanical sciences and a calendar of significant events. More effort will be required in 2007 to bring this to fruition and provide coordination and national leadership in the field.

The Committee provided input to several national policy reviews during 2006, notably the Productivity Commission Review of Public Support for Science and Innovation. Committee member Associate Professor Jim Denier as well as Professor Ernie Tuck represented Australia at the International Union for Theoretical and Applied Mechanics General Assembly, which was held on Rhode Island, US from 11–14 August. The meeting provided an opportunity to develop the technical program for ICTAM 2008 and discuss several issues that are of current international interest, such as providing support for mechanics in developing countries.

## Medicine

### Chair: Professor Bob Williamson

The Committee worked closely with the Academy to ensure that the 2006 Federal Budget continued to increase funding for Australian medical research. The Committee congratulates the Academy's Council and the officers for their efforts, which contributed to ensuring the Government increased medical research funding through the National Health and Medical Research Council (NHMRC). The Committee also helped the Academy to respond to the Productivity Commission Review of Public Support for Science and Innovation, once again resulting in a positive report.

The Committee helped draft the Academy's response to the debate following the publication of the conclusions of the Lockhart Committee. National Committee Chair Professor Bob Williamson, Academy Secretary for Science Policy Professor Philip Kuchel and Professor Marilyn Renfree gave evidence to the Senate during the debate on the Patterson Bill to implement the recommendations in the Lockhart Report. The Patterson Bill successfully passed the Senate and the House of Representatives and is now law.

The Committee responded to the revision of the *National Statement on Ethical Conduct in Research Involving Human Subjects*, conducted by the Australian Health Ethics Committee of the NHMRC, noting some serious deficiencies in the draft document. There has not yet been any final comment or document from NHMRC on this issue.

Discussions were held on the revised NHMRC code of practice in research ethics — not to be confused with the statement on research involving human subjects. Discussions were also held on whether there are any major ethical, legal or social implications for medical research arising from nanotechnology. In both cases, the Committee felt that the subject matter was adequately dealt with by other groups or agencies.

The Committee met the Director-General of AusAID Dr Bruce Davis and principal medical advisor Dr Jim Tulloch to discuss increasing the commitment from AusAID to international medical research programs in our region.

Professor Williamson represented the Academy and the Committee at the meeting of the InterAcademy Medical Panel in Beijing from 2–6 April 2006. In his report, endorsed by the Academy's Council, Professor Williamson recommended that the Academy should be involved in the Panel's priority area dealing with rheumatic fever, as this is a major health problem for Aboriginal Australians and others in our region.

The Committee thanks Professor Matt Gillespie and Professor Jonathan Stone, who completed their terms on the Committee, for their contributions over the years. It welcomes Professor David Allen and Professor Jonathan Carapetis who joined the Committee in January.

## Nutrition

### **Chair: Professor Jennie Brand-Miller**

During the year discussions focussed again on the best way for the Committee to serve the science of nutrition in Australia. Early in 2006, the Academy organised a workshop for all National Committee Chairs to increase understanding of how the committees can foster their respective disciplines. One recurring theme was protecting the integrity of the science.

Towards this end, the Committee has fostered a dialogue with the Nutrition Society of Australia in their efforts to see a system of accreditation for nutritionists, similar to that operating in the UK. The process is now nearing completion under the watchful eye of Associate Professor Neil Mann at RMIT University in Melbourne and we hope to accredit our first nutritionists by the end of 2007.

The Committee also supported the need for population-based nutrition monitoring in Australia. The National Children's Nutrition and Physical Activity Survey was officially announced in late 2005 with \$3 million in funding from the Australian Government and the Australian Food and Grocery Council. Committee Chair Professor Jennie Brand-Miller was appointed by Federal Health Minister Tony Abbott to serve on the Technical Reference Group for the survey. Pilot work was completed in 2006 and the survey of 4000 children began in early 2007.

The Committee is also working toward the formation of a leadership program for young nutritionists in Australia and New Zealand. Over the past six to 12 months, Committee member Associate Professor Maria Makrides has liaised with President of the International Union of Nutritional Science Professor Ricardo Uauy, who is keen to see the leadership program come to fruition during his presidency, as Australia is the only continent without such a program. The Committee is drawing inspiration from the well-established European program and will also seek input from the food industry.

Professor Brand-Miller attended the International Diabetes Federation (IDF) meeting in Cape Town in early December, presenting two invited presentations that drew heavily on the Australian experience of optimising diets for people with diabetes. Many other Australian nutritionists and health professionals were also invited speakers, including Professor Paul Zimmet from the International Diabetes Institute in Melbourne and Professor Peter Clifton from CSIRO Human Nutrition in Adelaide. Senator Guy Barnett from Tasmania took advantage of the occasion to launch his new book on national efforts to reduce obesity in Australia.

President of the IDF for 2006–09 is Professor Martin Silink, a paediatric endocrinologist from the Children's Hospital at Westmead in Sydney. It is clear that Australia punches well above its weight per capita in nutrition and diabetes!

## Physics

### **Chair: Professor Gerard Milburn**

The National Committee for Physics continued to pursue the future of the National Institute for Theoretical Physics. Theoretical physicists held a meeting on 3 December to discuss the rejuvenation of the Institute and a Planning Committee was established to engage the community in debating the role and function of the Institute. The joint Chairs of the Planning Committee, Professor Murray Batchelor from the Australian National University and Professor Tony Williams from the University of Adelaide, will submit a report to the National Committee on the future plans for the Institute — an important issue for the Committee in 2007.

## Plant and Animal Sciences

### Chair: Dr TJ Higgins

The report from the Sino-Australian Workshop on Management of Grassland-Livestock Systems and Combating Land Degradation in Northern China was completed and presented to AusAID. A follow-up from the Department of Agriculture, Fisheries and Forestry resulted in a joint Australia-China project on stocking rates for the China Grasslands in Inner Mongolia. The workshop report is at:

[www.science.org.au/events/grasslands/index.htm](http://www.science.org.au/events/grasslands/index.htm)

Following a visit by Dr Karin Metzloff from the European Plant Science Organisation in October 2005, further discussions were held with Dr Neil Hamilton from the Forum for European-Australian Science and Technology cooperation. Several potential areas for collaboration with the European Union's Framework Program 7 were identified.

Other Committee activities include:

- A submission to the Australian Government Department of Education, Science and Training on educational needs for the future
- Nominating Macquarie University's Professor Mark Westoby as a linking member on the Australian Community Climate and Earth System Simulator
- Supporting and signing the Memorandum of Cooperation with the International Commission on Zoological Nomenclature
- Completion of a draft policy statement on gene technology and genetically modified plants
- Seeking support for a future biological map of Australia from relevant National Committees

## Quaternary Research

### Chair: Professor John Chappell

Members of the National Committee for Quaternary Research have been involved with the organisation of the XXVII International Union for Quaternary Research (INQUA) Congress, to be held in Cairns, 28 July–3 August 2007. Committee Chair Professor John Chappell is Chair of the local Organising Committee for the congress.

## Radio Science

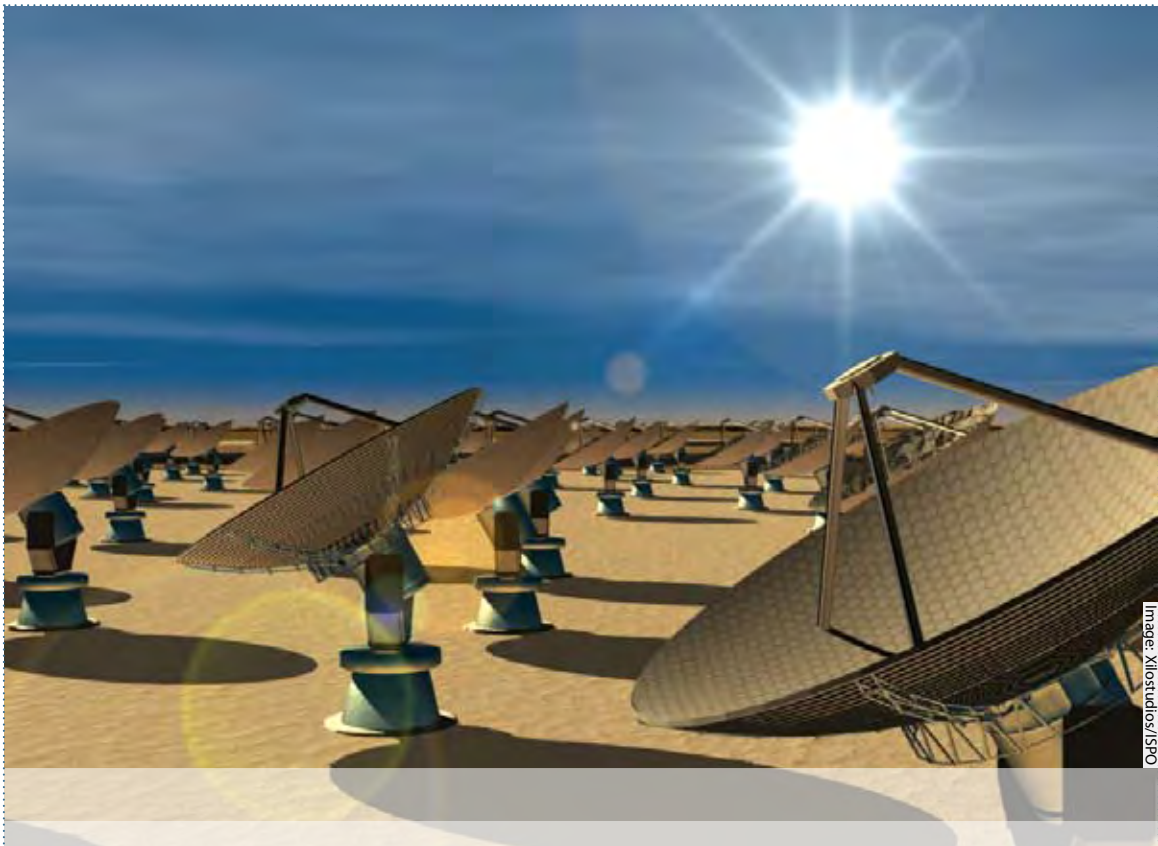
### Chair: Dr Ray Norris

Radio science in Australia continues to be strong in most areas. The Square Kilometre Array (SKA) continues to capture the interest of scientists and engineers from a number of different fields. Australia has now been shortlisted as one of the two possible sites for the SKA, the other being South Africa. The Australian SKA prototype, xNTD, is now fully funded and expected to deliver cutting-edge science by 2011. The technical challenges across many fields have made this a focus for Australian radio science. Other radio science achievements include Australia's participation in the Atomic Clock Ensemble in Space project.

The 2006 Workshop on the Applications of Radio Science took place in Leura, NSW from 15–17 February 2006. It was attended by 80 people including 11 students and feedback was very positive. The format is unusual in featuring only a small number of invited oral papers, with the primary focus being on interactivity and cross fertilisation triggered by the 67 poster papers. The proceedings are at:

[www.ncrs.org.au/wars.htm](http://www.ncrs.org.au/wars.htm)

Through the Committee, Australia was invited to host the next Asia-Pacific Radio Science Conference in 2007. Planning was well under way, with committee structures and a website established, when restructuring of the government department organising and hosting the conference meant it had to be cancelled. The Committee is exploring alternatives.



Making radio waves: a visualisation of the SKA (see previous page)

## Space Science

### Chair: Professor Iver Cairns

The National Committee for Space Science worked on a Space Weather Statement as part of a joint working group of the Academy and the Australian Academy of Technological Sciences and Engineering (ATSE). The Committee and the Activities Committee of ATSE have endorsed the Space Weather Statement.

The report to the Committee on Space Research (COSPAR) on Australian space research for 2004–06 was completed and distributed widely throughout Australia, including government departments relevant to space science. The report can be viewed at:

[www.science.org.au/natcoms/cospar2006.pdf](http://www.science.org.au/natcoms/cospar2006.pdf)

The Committee worked hard to develop the first Australian Decadal Plan for Space Science.

A Steering Committee and multiple working groups were appointed and have made good progress. Extensive efforts to consult widely on the plan have been made and are ongoing, improving the cohesiveness and sense of community of Australian space scientists.

Presentations on the plan were made at relevant Australian meetings:

- Workshop on the Applications of Radio Science in Leura, NSW in February 2006
- Joint Australian Space Development Congress and Australian Space Science Conference in Canberra, July 2006
- Workshop on Forging a National Consensus on Remote Sensing in Canberra, November 2006
- Australian Institute of Physics Congress in Brisbane, December 2006

A proposal to fund the plan's publication and initial implementation was submitted to the Australian Research Council under the Linkage Learned Academies Special Project scheme in September. The Federal Minister for Education, Science and Training Julie Bishop, approved the proposal in late December 2006.

The draft plan is expected to be ready in April 2007. This will be followed by a meeting to revise and approve the plan, a formal launch at the Academy and an implementation workshop later in the year. There are many space anniversaries during 2007 including the 50th anniversary of the launch of Sputnik on 4 October, so it is an ideal time to launch the plan. Progress can be followed at:

[www.physics.usyd.edu.au/~ncss](http://www.physics.usyd.edu.au/~ncss)

The Committee contributed to the Academy's submission to the Prime Minister's Science, Engineering and Innovation Council on 'Australia's science and technology priorities for global engagement'. Committee Chair Professor Iver Cairns attended the COSPAR Scientific Assembly in Beijing from 16–23 July as Australia's voting representative.

The Committee encourages Australian space scientists to take leading roles in international organisations including COSPAR, the International Association of Geomagnetism and Aeronomy, the International Association of Geodesy and Geophysics and the Scientific Committee on Solar-Terrestrial Physics. It also encourages involvement in the numerous international programs organised in 2007 to coincide with the 50th anniversary of the dawn of the space age and the International Geophysical Year. These include the International Heliophysical Year, the International Polar Year, the electronic Geophysical Year and the Climate and Weather of the Sun-Earth System. The International Year of Planet Earth will be in 2008.

## Muses-C Task Force

### Chair: Dr Trevor Ireland

The Muses-C Task Force was formed to liaise with the Japanese Space Agency in the recovery of the Hayabusa sample return capsule. In late 2005, Hayabusa went in to orbit around asteroid 25143 Itokawa, taking many images and carrying out spectroscopic observations before a successful touchdown on the surface to obtain samples. However, on leaving the asteroid surface a malfunction in the power system and thrusters sent the spacecraft spiralling out of control. Eventually, communications and a stable trajectory were resumed but the return window for landing in Australia in 2007 was missed. The Hayabusa spacecraft is now expected to land in 2010 near Woomera in South Australia.

Despite the setbacks Hayabusa has had many successes including the first detailed mapping of an S-class asteroid. The Hayabusa 2 symposium in July 2006 was attended by Task Force Chair Dr Trevor Ireland and was the culmination of much research. Results from the Hayabusa project have been reported in *Science*. Further details are available at: [www.science.org.au/natcoms/hayabusa2006.pdf](http://www.science.org.au/natcoms/hayabusa2006.pdf)

## Spectroscopy

### Chair: Professor Gerard Milburn

The National Committee for Spectroscopy is responsible for selecting and hosting the Geoffrey Frew Lecturer at the Australian Conference on Lasers and Spectroscopy (ACOLS). The Geoffrey Frew Fellowship is awarded on a biennial basis to distinguished overseas scientists to participate in the Australian spectroscopy conferences and to visit scientific centres in Australia. The Chair discussed the future of the Frew Lectureship with the former Chair of the Australian Optical Society (AOS) Dr Murray Hamilton. As part of the discussion between AOS and the organisers of ACOLS, the Society may be able to provide additional support.