

**Meeting of the Chairs of National Committees – Summary of  
Proceedings**  
**2010 Meeting of National Committee Chairs**  
**22 September, 2010**

**Welcome - Professor Suzanne Cory PresAA, President, Australian Academy of Science**

Professor Cory welcomed the delegates to the 2010 Meeting of National Committee Chairs. Professor Cory acknowledged that, as this was the first meeting of National Committee Chairs during her Presidency, she was anticipating learning more about the activities of the National Committees.

Professor Cory recognised that the National Committees cover a broad range of disciplines, and contain a wealth of experience and knowledge. The National Committees are a valuable resource for the Academy, and can provide input to the Academy's contribution to national scientific strategy and policy.

Professor Cory also noted that the Academy and the disciplines need to look to the future, identifying new scientific frontiers and required infrastructure, and acknowledging that research is increasingly cross-disciplinary; and the need to foster, inspire and nurture the next generation of researchers.

**Professor Peter Hall FAA – Secretary Physical Sciences**

Professor Hall reiterated Professor Cory's comments regarding the valued role of the National Committees. He also informed the meeting that to assist the National Committees in their role, the Academy committed an additional \$50,000 in the 2009-10 financial year. The additional funds have been made available to enable National Committees to undertake more extensive activities. The committees that were able to take advantage of the initiative in 2010 were the National Committees for Antarctic Research, Astronomy, Data In Science, Geography, Mathematical Sciences, Medicine, Physics, Radio Science and Space Science.

**General Introduction**

All delegates were called upon to briefly introduce themselves. Those present were:

Professor Suzanne Cory PresAA, President  
Professor Peter Hall FAA, Secretary Physical Sciences  
Professor Graham Farquhar FAA, Secretary Biological Sciences  
Professor Bob Vincent FAA – Chair, [NC Antarctic Research](#)  
Professor Elaine Sadler FAA – Chair, [NC Astronomy](#)  
Professor Ian Dawes FAA - Chair, [NC Biomedical Sciences](#)  
Professor Steven Crain – Chair, [NC Brain & Mind](#)  
Professor Curt Wentrup FAA - Chair, [NC Chemistry](#)  
Professor Ray Withers FAA – Acting Chair, [NC Crystallography](#)  
Professor Jane Hunter – Deputy Chair, [NC Data In Science](#)  
Professor Brian Kennett FAA - Chair, [NC Earth Sciences](#)  
Dr Roger Gifford – Chair, [NC Earth Systems Sciences](#)  
Professor Nigel Tapper – Chair, [NC Geography](#)  
Dr John Zillman FAA – [ICSU Committee](#)  
Professor Gus Lehrer FAA – Member, [NC Mathematical Science](#)  
Professor Jim Denier – Chair, [NC Mechanical Sciences](#)  
Professor Bronwyn Kingwell - Chair, [NC Medicine](#)  
Professor Jennie Brand-Miller – Chair, [NC Nutrition](#)  
Professor Hans Bachor – Member, [NC Physics](#)  
Professor Allan Chivas FAA - Chair, [NC Quaternary Research](#)  
Professor Malcolm Walter FAA –Member, [NC Space Science](#)  
Dr Mark Ridgway – Member, NC Spectroscopy  
Professor John White FAA - Chair, [Replacement Research Reactor Task Force](#)  
Dr Sue Meek, Chief Executive  
Ms Jeanette Mill, National Relations Officer

Dr Fiona Leves, Science Policy  
Ms Connie Berridge, National Committees Officer

### **National Committees for Science**

All representatives of National Committees provided an update on current activities of their Committee and areas of concern within their discipline.

#### NC Antarctic Research – Professor Bob Vincent FAA

Antarctic research covers oceanography, the cryosphere, geology, atmospheric and space research. It is expected that the way funding is allocated for Antarctic research will change from the 2011-12 Antarctic season due to changes in the priorities and implementation of the Antarctic Science Advisory Committee's new Strategic Plan. The NC Antarctic Research held public lectures to attract people to Antarctic research in Adelaide (two lectures) and rural NSW (one lecture). The 2012 Science at the Shine Dome (SATS) Symposium will focus broadly on science connected with the Antarctic, and will also commemorate the Shackleton expedition.

The NC Antarctic Research has international links to the ICSU Scientific Committee on Antarctic Research (SCAR). SCAR promotes all aspects of research in the Antarctic. It has recently published reports on the impacts of climate change in polar regions and on data management and accessibility. At the SCAR 2010 Delegates Meeting, Australians gave three quarters of the plenary talks.

#### NC Astronomy – Professor Elaine Sadler FAA

The NC Astronomy produced the document [\*New Horizons: A Decadal Plan for Australian Astronomy\*](#) in 2005.

The National Committee focuses on strategic issues within its discipline. Astronomy Australia Limited (AAL), formed as a recommendation of the 2005 strategic plan, undertakes implementation activities. AAL is a not-for-profit company.

The release of the decadal plan led to NCRIS funding of approximately \$200 million for infrastructure. Additionally, Astronomy & Space Science became a super science. The plan has also helped with the Square Kilometre Array (SKA) bid. The USA community also produces regular national plans for the discipline. These are 5 years out of sync with Australia.

A Mid Term Review of the decadal plan is currently being undertaken by a seven person committee (4 NC members and 3 Early/Mid Career Researchers). The review is focused on large national and international infrastructure. Professor Sadler complimented Jeanette Mill for her work facilitating meetings etc.

Operational funding for international projects is required. There is a concern that it is possible that Australian astronomy risks losing the benefits gained by investment in infrastructure due to the reduced ability to fund the operation of the infrastructure. Professor Sadler suggested that the Academy should highlight the need to support operational costs to government.

#### NC Biomedical Sciences – Professor Ian Dawes FAA

The National Committee for Biomedical Sciences covers a broad range of biomedical disciplines. Membership of the committee is drawn from Chairs of various Australian Biomedical Societies (Australian Society for Biochemistry and Molecular Biology, Australian and New Zealand Society for Cell and Developmental Biology, Australian Physiological Society, Australian Society for Immunology, Australian Society for Biophysics, Australian Neuroscience Society, Australasian Society of Clinical and Experimental Pharmacologists and Toxicologists, Australian Society for Microbiology). The Committee is linked to seven International Unions. This broad range of disciplines makes it difficult to achieve a consensus view on planning in biomedical science. However, the committee has identified some areas where it feels that it can be effective:

- Career paths for young scientists
- Outreach programs particularly in Asia/Pacific region
- Improving interaction and collaboration between the various societies
- Awareness raising of science as a career path with high school students

#### NC Brain and Mind – Professor Stephen Crain

There is a broad range of interests in this committee. The current focus is on neuroscience and brain imaging systems. The Committee also puts emphasis on outreach and education programmes e.g. advising what is and isn't possible with brain imaging systems.

#### NC Chemistry – Professor Curt Wentrup FAA

During 2010, the NC Chemistry made submissions to the Australian Curriculum Assessment and Reporting Authority (ACARA) on the draft K-10 science curriculum and to the Academy for inclusion in a submission to the Department of Innovation, Industry, Science and Research (DIISR) Research Workforce Strategy inquiry.

Upcoming committee activities are being influenced by:

- 2011 - International Year of Chemistry (IYC)
- 2011 - 100<sup>th</sup> Anniversary of Marie Curie receiving the Nobel Prize
- 90<sup>th</sup> Anniversary of the International Union of Pure and Applied Chemistry (IUPAC)

The Committee will work closely with the Royal Australian Chemical Institute (RACI) during planning and activities for the IYC. Funding has been obtained by RACI for a travelling exhibition aimed at the public, particularly young people. A lecture tour has also been funded.

The committee is also very concerned about the impacts that the Excellence in Research for Australia initiative (ERA) will have on chemistry.

#### NC Crystallography – Professor Ray Withers FAA

The committee's main areas of focus for the next few years are:

- Conducting a symposium to celebrate achievement of the Braggs (Australia's first Nobel Prize winners, with Sir William Lawrence Bragg being the youngest ever Prize winner)
- Supporting the International Union of Crystallography in its attempt to have 2013 named the International Year of Crystallography
- Celebration of the Centenary of the Braggs' Nobel Prize in 2015
- Production of a Postage stamp in 2012 and a note/coin in 2015
- Continued interaction with the Australian Synchrotron

#### NC Data in Science – Professor Jane Hunter

The Committee aims to promote forward-thinking data management policies and protocols that encourage open access, international standards and interoperability. The Committee held meetings in December 2009 and March 2010 and has made submissions to DIISR on the Data Storage Discussion paper and to the ICSU Committee on Data for Science and Technology (CODATA) on harmonizing standards across International Science Bodies (ISO, W3C, OGC). Australia is quite well established with regard to national data management infrastructure largely due to NCRIS and the EIF Super Science initiatives.

The Committee formally links to CODATA. Committee members have a strong involvement in the biennial CODATA conference. The next is due to be held in South Africa in late October. Current issues for the Committee with regard to CODATA are the possibility of Australia hosting the ICSU International Program Office and the potential for hosting the 2012 annual meeting, although no local chairs or host organizations have been identified.

Current activities and areas of interest for this committee are:

- Developing a “state-of-play” report for Australian data management practices. National Committees were asked to provide recommendations for individuals within their discipline who have an interest in data management. The Australian National Data Service (ANDS) has conducted interviews with these people and it is hoped that a report will be released in October/November.
- Career paths for ECRs is an issue - it is recognised that there is a shortage of expertise in scientific data management in Australia.

#### NC Earth Sciences – Professor Brian Kennett FAA

The NC Earth Sciences produced the document [National strategic plan for the geosciences](#) in 2003. The committee undertook an unfunded review of this plan which was finalised in 2010. None of the current members had participated in the development of the original plan. The committee found that the plan appears to have been influential, with evidence that the strategic plan document has been used and many of the recommendations have been met. It is intended that the strategic plan will be redeveloped in 2013.

The committee has international links with the International Union of Geodesy and Geophysics (IUGG) and the International Union of Geological Science (IUGS). The IUGG 2011 General Assembly will be held in Melbourne and IUGS will hold the International Geological Congress and IUGS General Assembly in Brisbane in 2012.

It was noted that the earth sciences have seen a decline in the university sector. This is further exacerbated by strong industry requirements. Both of these factors are contributing to a reduction in the number of people taking up research, despite good infrastructure support and resources within earth sciences.

#### NC Earth System Science – Dr Roger Gifford

The Earth System Science decadal plan is coming to fruition after almost four years of preparation. Earth systems science considers the boundaries of the Earth’s processes, i.e. between atmosphere, hydrosphere, biosphere, etc, and the interactions that take place at those boundaries.

For the purposes of the plan, the committee developed a framework for Earth system science. The main foci are:

- Global environmental changes of which climate change is only one
- Emerging interactions spreading consequences
- Earth systems cycles, including the biosphere
- Humans are treated as integral to the biosphere, not external to it
- The Anthropocene – human impacts are gaining in magnitude of geological significance

The committee has adopted an interdisciplinary approach and intends to engage with the social sciences and humanities. It recommends that the learned academies work together to coordinate their activities in this area.

The plan has nine recommendations, with one being to conduct an Earth System Outlook Conference. The inaugural Earth System Outlook Conference will be held at the Shine Dome in December, 2010. The conference has attracted sponsorship to support free registration for 40 PhD students. The Decadal Plan will be launched during the conference.

Other activities of the committee included:

- Briefing Professor Penny Sackett before she attended at the ICSU Earth System Visioning process meeting
- Preparation of a letter outlining the committee’s views on the inadequacies of the ERA process
- Contributing to the development of the strategic plan for Earth Observation from Space
- Contributing to a Climate Change Questions and Answers publication by the Academy.

### NC Geography – Professor Nigel Tapper

Geography is a diverse discipline ranging from human geography, through physical geography, to Geographical Information Systems (GIS)/remote sensing. In the last year this committee has enhanced its international links through organisation and member participation in the ATSE/Australian Academy of Science Urban Climate and Climate Change Workshop held in Melbourne in 2009. This was followed up with the Chinese Academy, the Academy and ATSE by participation in Australian Science Week at the Australian Pavilion in Shanghai. The Committee is also involved in:

- The National Curriculum - Geography has been reinstated as a core discipline and members of the NC Geography have been closely associated with this process.
- The Australian Learning and Teaching Council – drafting the skills and learning outcomes (*Geography Standards*) with geography being one of the first Australian curriculum areas examined.
- Book writing – “Schooling for Sustainable Development: A Focus on Australia, New Zealand and the Oceania Region”.
- Development of a successful ICSU-funded project, through the International Geographic Union (IGU) - “Strengthening the bonds between scientific literacy and human understanding: Local area networks to help build cross-border solutions for disaster management.” Program activities will be undertaken in Melbourne in late October.
- Planning a National Committee meeting and think tank in November to develop a new strategic plan, including effective engagement with ECRs and the IGU.

### NC Mathematical Sciences – Professor Gus Lehrer

The NC Mathematical Sciences produced the document [\*Mathematics and Statistics: Critical Skills for Australia's Future\*](#) in 2006.

This committee covers pure mathematics, statistical science, applied mathematics (including industry) and related areas.

Its international link is to the International Mathematical Union (IMU). The committee hopes to upgrade Australia's membership from 3 to 4 (the level is a measure of the research activity and quality of research).

Australia's current position internationally is quite good:

- There are approximately 30 Australians who are considered high flyers, however they are not residing in Australia
- There is an Australian representative on the IMU Council
- In 2006 Australia received its first Fields Medal (Tao)

However, the future of mathematics in Australia is of concern. There have been 11 reports on the state of Australian maths since 2005, all reports unanimous in asserting that Australia is in crisis as mathematics is an enabling discipline. There are fewer students and the quality of those students is decreasing; performance of school students has declined; and there is a crisis in primary, secondary and higher education, with 40% of senior maths teachers not having a 3 year degree qualification in mathematics.

A review of mathematical sciences was conducted in the UK, identifying problem areas. New initiatives were introduced to address mathematics teacher shortages and other problems. Mathematics degree enrolments in the UK saw an 80% increase between 2002 and 2008.

It was recognised as important to use the term “quantitative science” as this cuts across all discipline areas. There is an overwhelming need for adequate quantitative training. It was suggested that ATSE may be interested in being involved.

**ACTION:** Write a report on the importance of quantitative sciences in Australia, to be supported by all National Committees, listing clear initiatives. Suzanne Cory will raise this at EXCOM.

#### NC Mechanical Sciences – Professor Jim Denier

This committee was created by the amalgamation of two committees (Theoretical and Applied Mathematics and Theory of Machines and Mechanisms). The current interests of the committee are:

- ECR support;
- Engagement with the Academy for both mechanical sciences and ECR issues.

This committee is exploring how its scope can be expanded to cover the broad area of engineering science. Committee members are currently working on a proposal to put to the Academy regarding this concept.

#### NC Medicine – Professor Bronwyn Kingwell

The National Committee for Medicine has five main areas of interest:

1. New funding from the NH&MRC which is being directed by the new COAG health plan, encouraging closer relationships between hospitals, research institutions and universities;
2. Operational costs for medical research institutes;
3. Grant policy, more efficiency in administration, greater research productivity;
4. Career structures and building capacity, with a focus on indigenous health;
5. Conduct and ethics in research.

#### NC Nutrition – Professor Jennie Brand-Miller

The National Committee for Nutrition undertakes activities such as:

- Raising the profile of contentious issues and working toward consensus on such issues, e.g. iodine deficiency, salt in the diet, agriculture and health/nutritional quality of food;
- Mid-career researcher workshops, particularly aimed at raising grant funding success.

Other areas of concern for the Committee are:

- Science teaching at the Universities;
- Cost of teaching – there is often not enough money coming into teaching, causing research funding to be used to support teaching. This is an increasing issue for higher cost vocational courses.

#### NC Physics – Professor Hans Bachor

The membership of this committee is quite diverse as Physics has 10-12 different sub-disciplines. The main activity for this committee is the progression of a decadal plan, which has received ARC funding. This is now expected to move forward with Professor David Jamieson agreeing to take on the role of Chief Investigator. The Committee also became directly involved in the writing of the National Curriculum.

There is a big overlap between this Committee and the Australian Institute of Physics, in both personnel and ideas. Some areas of concern for the committee are:

- Impact on the future of the discipline due to the lack of good teachers;
- Relevance and visibility to ECRs and MCRs.

#### NC Plant and Animal Sciences

The National Committee for Plant and Animal Sciences was not represented at this meeting. Professor Farquhar commented that the committee was interested in issues such as population growth and the impacts of improving standards of living, such as increasing

demand for meat and fish. The committee recognised that while there was demand in these fields it was difficult to attract researchers.

#### NC Quaternary Research – Professor Allan Chivas FAA

This discipline is interested in research on the last 2.6 million years of the Earth's history - the period of ice ages and human evolution. This committee includes Earth scientists, biologists, modellers, climate change experts and anthropologists. It is complementary to other National Committees.

The international union for this committee is the International Union of Quaternary Research (INQUA), which holds conferences every 4 years. Professor Chivas is the current President of INQUA. The 2007 INQUA Congress was held in Cairns.

This committee has been in hiatus for the past few years and is now in the process of revitalising itself. There have been a number of meetings that have included ECR and MCR views to put forward ideas and names for the committee. The long-term goal is to develop a strategic plan for the discipline.

#### NC Space Science – Professor Malcolm Walter FAA

The [Decadal Plan for Australian Space Science – Building a National Presence in Space](#) was due to be launched the Monday following this meeting (27 September, 2010) in Brisbane.

The committee has spent the past 5 years in an intense process attempting to engage with the entire space science community. One good outcome of this process is increased cohesiveness of the space science community. The annual Australian Space Science Conference, of which the committee is a co-sponsor, is also an outcome of this process.

Australia is almost the only western country without a space agency. It is also the only country in the top 50 GDP countries without a space agency. Australia could benchmark its space programme against Canada, which has had a national program for the past 15 years.

The Decadal Plan includes suggestions for organisational structures and potential projects. Professor Walter commented that he felt one of the biggest achievements of the plan, so far, was the development of a sense of community. It was also noted that the committee had difficulty engaging with those involved in Earth observation e.g. the Global Navigation Satellite System (GNSS). Accordingly, a second separate, complimentary plan has been developed ([An Australian Strategic Plan for Earth Observations from Space](#)).

#### Replacement Reactor Taskforce – Professor John White FAA

The Replacement Reactor Taskforce is a taskforce of the NC Spectroscopy. It was originally setup to monitor the progress of the replacement nuclear reactor by the Australian Nuclear Science and Technology Organisation (ANSTO). As the reactor is now in place the taskforce focuses on providing advice to Council on nuclear and radiation issues with a particular focus on the reactor and ANSTO. In 2009 the taskforce invited [Dr Adi Paterson](#), Chief Executive Officer, ANSTO, to attend a meeting of the Task Force. An opportunity was also provided for Dr Paterson to give a public lecture and attend a dinner hosted by Professor White.

Currently, a major issue under consideration is the impact of low level radiation on human health. A 2005 US National Academy of Science report indicated that there is no level of radiation which is not harmful, however, the French Academy of Science (Académie des Sciences) has an opposing view.

#### General Discussion

At regular intervals throughout the National Committee reports, and over lunch, discussions were held to clarify and further explore issues raised.

#### *Funding*

While the need for continued and/or increased funding for the disciplines was raised by a number of committees, it was recognised that research funding is unlikely to increase until the

Federal Budget has returned to surplus. However, it was also suggested that one of the benefits of the Global Financial Crisis may be that it is easier to attract talent from overseas.

It was also noted that ARC funding has been static for five years. It was suggested that it could be more beneficial if Australian schemes could be more like UK or USA systems, where there was an agreed contribution to indirect funding costs.

#### *Education, training and career structure*

Approximately one third of the committees represented at this meeting raised education, training or career structure as an area of concern within their discipline.

It was suggested that the current PhD programme could be amended to include more coursework. This change in the programme could support an individual to move into industry rather than the focus of a PhD being on continuing within academia and research.

Appropriate training and career structure for early and mid career researchers was recognised as vital. Issues identified were:

- Management and support of the career expectations of individuals drawn to specialisations where spending has been increased;
- Balancing training against needs, i.e. ensuring that overtraining and thus over expenditure is not occurring in one sector when other sectors do not have enough students/funding;
- Continuing career paths i.e. ensuring that there are viable on-going opportunities available when a particular funding stream ceases.

It was noted that China is investing heavily in research and that there may be opportunities for Australian scientists to interact with Chinese scientists and research institutes.

It was also noted that education is Australia's third highest export earner. However, questions were raised as to how long this would continue and whether there would be a time when Australians were moving to China, rather than the other way around.

Professor Cory noted that many National Committees representatives had raised concerns regarding ECRs and MCRs, but felt it was necessary to clarify whether the different committees meant the same things when raising those concerns.

**ACTION:** Chairs/delegates to consider what the Academy could do regarding ECRs and MCRs that is unique, rather than focusing on activities that should be undertaken at university or society level.

Dr Meek highlighted some Academy initiatives focused on ECRs and MCRs.

- High Flyers Think Tank
- Frontiers of Science
- Nobel Laureate Meetings in Lindau
- Early career researcher newsletter
- International science linkage fellowships

It was noted that some of those who have received Academy early career awards would like to have a forum/youth academy. They are seeking more of a role in strategic decisions. Suggestions of how this could be accomplished were examined:

- Congressional interns - Science Meets Parliament could provide opportunities;
- A scheme could be developed to support PhD students to spend time overseas. Some universities are doing this;
- ECRs could be offered rotating terms on National Committees, however the interns would not be full members of National Committees. Questions were raised in terms of finding suitable people, how the

selection process would work and how the initiative would be funded. It was suggested that the youth academy could draw up lists of candidates for National Committee Chairs to select from. The target group is Academy of Science early career medallists. Medallists must be under the age of 40 at the closing date for nominations for Academy medals.

- Case studies identifying different career paths could be published. The Astronomy decadal plan includes such case studies. It was suggested that the area of Earth System Science could be a case study – currently there are difficulties with a sufficient supply of trained scientists for this emerging field.

#### *Excellence in Research in Australia (ERA) initiative*

A number of committees raised concerns regarding the ERA process and its potential impacts.

The journal ranking system appears to be highly controversial with significant concerns raised regarding the matching of journals to codes, of disciplines not having appropriate codes, or of the journals they regularly publish in not being attached to the codes for their discipline.

Information Scientists have concerns regarding the whole process, since much of their publication is in peer-reviewed conference proceedings and not in journals at all. It was noted that Pure Mathematics had convinced the ARC that bibliometric review was inappropriate for their discipline. It was felt that interdisciplinary research may also be affected negatively, since being forced to link to one particular discipline may reduce the visibility of the benefits of interdisciplinary research.

There were also concerns that the complexities of the ERA process may be misunderstood, resulting in ERA information being misused by government departments or universities, potentially causing unwarranted changes in funding allocations.

A positive aspect of ERA was the improvement of citation indexing.

#### *Women in science*

Concern regarding the potential for women to be disadvantaged for taking career breaks was expressed. It was suggested that ARC reviewer guidelines should instruct reviewers to consider the issue seriously when reviewing funding applications. It was also noted that Professor Margaret Sheil has shown an interest in this area. A question was raised regarding the availability of quantitative information on the effect of being female in science.

It was noted that Sydney University has a fellowship scheme for female researchers who have taken extended maternity leave, to assist them to return effectively to research.

#### **Implementation and future funding of discipline reviews and plans**

It was noted that changes from an annual cycle to a triennial cycle, and changing funding focus, mean that Learned Academies Special Project (LASP) funding is less available to support National Committees to undertake decadal plans. As LASP grants will no longer be a sustainable source of funding, alternative sources were considered. The most obvious alternative source would be other Government departments, particularly those where there is an obvious link to the discipline. It was recognised that this was not an option for all disciplines. DIISR may also be a potential funding source.

It was also suggested that communication with the ARC on the issue of future funding for decadal plans would be beneficial.

**ACTION:** Professor Hall to speak with Professor Margaret Sheil, ARC Chief Executive Officer, regarding ARC support for future decadal plans and to encourage her to highlight the value of decadal plans/discipline reviews in her speech for the launch of the Space Science decadal plan.

Professor Cory stated that she was impressed by the value of the current plans.

It was noted that both the physics and mathematics plans included support from their associated societies as well as ARC funding.

It was recognised that it was challenging to produce a decadal plan with a budget of less than \$100,000.

Other comments regarding decadal plan funding were:

- Funds for the Earth observation from space plan were raised from a variety of sources including the Bureau of Meteorology, DIISR, Department of Climate Change, CSIRO and Geoscience Australia;
- Those affected by skills shortages could help with lobbying for funds;
- Could the office of the Chief Scientist be a source of funds?
- It is difficult to find funding for multidisciplinary fields, even though scientists are increasingly working on multidisciplinary projects;
- If the Academy had a bigger budget it could fund reviews/plans.

It was noted that the enabling disciplines and the multidiscipline areas seem to have different needs, reflecting the purpose of reports, however, they are intertwined e.g. in the area of quality of school education. It was suggested that some disciplines could benefit from at least a strategic review to set out objectives.

#### **International Council for Science (ICSU) – Dr John Zillman FAA**

ICSU is the framework that brings together the international unions for science. Almost all National Committees link to one or more international unions or ICSU Scientific Committees. The Academy has established an ICSU Committee. One of the roles this committee hopes to undertake is to support engagement between the National Committees and their unions.

Australians can attend ICSU general assemblies in various capacities, including as Academy representatives or union representatives. It was recognised that, due to the disparate reasons why Australians may attend general assemblies, it has often been the case that Australians have not been aware of other Australians attending the general assembly until they arrived. This lack of coordination has meant that presenting a united Australian position has been difficult. It was recognised that there is a need for coordination of, and communication between, Australian delegates, prior to general assemblies. The next ICSU General Assembly will be held in Rome in 2011.

ICSU is undertaking a strategic planning process for 2012-2017, which has three major foci:

- International research collaborations
- Science for policy
- Universality of science

Breakout groups addressed a number of questions relating to interactions with the various international unions and associations that the National Committees are linked to.

#### **Group A – Connection and relationship with your Union/Association**

Group Members: Professor Ian Dawes (Chair), Professor Jane Hunter (Rapporteur), Professor Jennie Brand-Miller, Professor Bob Vincent, Professor Gus Lehrer, Professor Brian Kennett.

*1. Does the formal connection to international science through the International Unions play a significant role in the development of your science in Australia?*

International connections were made through international conferences, although not necessarily union general assemblies. Contacts to the developing world are important. Additionally the unions can provide benefits to their membership by providing gravitas and

backing when lobbying on issues. Additionally, unions develop discipline-specific standards, and can assess the impact of electronic publishing.

*2. Is this connection discussed in meetings of your National Committee?*

The members of this group acknowledged that these connections were discussed during committee meetings. There is almost always an agenda item for international union business on any committee meeting agenda.

*3. What can the Academy do to help improve your relationship with the Unions/Association?*

Many of the unions have a tendency to focus on face-to-face communication, with little consideration being given to remote communication options. This can be a big disadvantage to Australians involving themselves in international union activities. It was suggested that the Academy could advocate for increased use of web technologies and other forms of remote communication technology.

It was also suggested that the Academy could lobby for better Australian representation on ICSU central committees and that the Academy could reward and better fund interactions with unions.

Group B – Communication with your Union/Association

Group Members: Professor Curt Wentrup (Chair), Professor Stephen Crain (Rapporteur), Professor Bronwyn Kingwell, Professor John White, Dr Mark Ridgway, Professor Allan Chivas, Professor Malcolm Walter

*1. How is your national committee (NC) linked with your corresponding international union(s) and its sub-groups?*

*2. How does your NC optimise your contributions and responses to issues facing your discipline internationally?*

*3. Are there other National Committees with interests in any of those Unions? If so, do you or someone from your Committee meet with them to discuss this common interest?*

*4. Do you have a Committee member with responsibility for communication with each of these Unions? Is the communication effective? Is it two-way?*

The NC for Chemistry and International Union of Pure and Applied Chemistry are well linked.

Medicine is a very wide-ranging discipline and there is no single international union with which to link. The World Health Organization could be an option. There are many Australian organisations with relevance to the NC Medicine, however, the committee is not strongly linked with these bodies.

The NC Brain and Mind is in a similar situation to the NC Medicine in that it is not linked to any particular international union. There are a number of potential unions/associations, however, they focus on very specific areas, and do not meet the broader remit of the NC Brain and Mind.

The NC Spectroscopy has no union. It links with the International Union of Pure and Applied Physics Commission on Optics, but spectroscopy is wider than optics.

There is no national association for space science. The NC Space Science links to the International Association of Geomagnetism and Aeronomy, a commission of the IUGG. The NC Space Science is also linked to the ICSU Committee on Space Research.

The National Committee for Quaternary Research links to the International Union of Quaternary Research (INQUA). The incoming Chair is President of INQUA.

**ACTION:** Check how the Royal Society handles the situation where National Committees do not have international unions to link to.

#### Group C – Delegations to General Assemblies/International Scientific Meetings

Group Members: Professor Elaine Sadler (Chair), Associate Professor Jim Denier (Rapporteur), Dr Roger Gifford, Professor Hans Bachor, Professor Nigel Tapper, Professor Ray Withers

1. *What mechanisms do you have in place for nominating people for*
  - *The executive or the council of the Unions, and*
  - *Other Union committees, commissions etc?*

The mechanisms for nominating individuals for these roles varied between the different committees. It was noted that Australians can also be nominated by other countries.

2. *How do you decide who should be the Australian delegates to the General Assembly of the Unions?*

This decision is usually made after discussions by national committee members. The members of Breakout Group 1 noted that attendance at general assemblies can be considered a junket by some.

3. *How do you ensure that delegates meet to discuss issues before, during and after the General Assembly*

The NC Crystallography ensures that delegates confer at national conferences prior to general assemblies.

4. *What mechanisms do you have in place for General Assembly delegates, and members of the Council and Committees of the Union to report to your National Committee?*

Delegation reports are requested by the Academy. They are then provided to National Committees.

#### General Discussion

##### *Hosting General Assemblies*

The issue of the cost, and potential financial risk, to local associations and individuals if they were to be involved in hosting a general assembly was raised. International unions will not underwrite general assemblies, however, they expect to have significant involvement in the running of the event, including imposing conditions that will increase costs such as expecting that support be provided to delegates from disadvantaged countries. However, the hosting organisation is not necessarily entitled to retain any surplus. Surplus funds are often used to support travel grants for ECRs. This potential financial risk can mean that individuals are reluctant to join organising committees due to questions of personal financial liability.

#### Closing

Professor Farquhar asked those attending to consider, with their committees, issue relating to possible incoming legislation on questionable research practices.

Both Professor Hall and Professor Farquhar thanked all who attend and provided input to the 2010 Meeting of National Committee Chairs.