

AUSTRALIAN ACADEMY OF SCIENCE

National Committees for Science: ANNUAL REPORT TO COUNCIL on 2004 activities

NATIONAL COMMITTEE FOR: Radio Science

CHAIR: Dr. Phil Wilkinson

PERIOD COVERED IN THIS REPORT: 1 January - 31 December, 2005

MEETINGS OF THE NATIONAL COMMITTEE

THE NATIONAL COMMITTEE MET ON:

- A National Committee meeting was held 01 February 2005, at Ian Cotter House, Canberra
- A meeting of Australian attendees and delegates to the URSI General Assembly was held during the URSI Assembly, in New Delhi (October 2005)
- Periodic meetings of the WARS2006 Organising Committee, a sub-committee of the NCRS were held during 2005.

THE FOLLOWING MEETINGS ARE PROPOSED FOR 2006

(include date and place, if possible):

- National Committee meeting will be held in Leura, NSW 14 February, 2006
- WARS2006 will be held in Leura, NSW 15 – 17 February, 2006.

MEETINGS OF INTERNATIONAL ORGANISATIONS AFFILIATED WITH ICSU

IN 2005 THERE WAS A GENERAL ASSEMBLY OF (include date and place):

- URSI General Assembly, New Delhi, October 23 – 29 2005
- IAGA 10th Scientific Assembly, Toulouse, France, 18 - 29 July, 2005

IN 2006 THERE WILL BE A GENERAL ASSEMBLY OF (include date and place):

- 36th COSPAR Scientific Assembly Beijing, China, July 16 – 23, 2006
- IAU XXVlth General Assembly, Prague, Czech Republic, 14-25 August, 2006

The next GENERAL ASSEMBLY/CONGRESS will be held in 2005

URSI General Assembly, Chicago, USA, September 2008

AUSTRALIAN OFFICE HOLDERS IN ICSU AND AFFILIATED BODIES
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I RECOMMEND TO COUNCIL THE FOLLOWING VOTING AUSTRALIAN DELEGATION: (include title, name, address, telephone, email and fax number)

(The delegation also represents Australian interests in URSI between General Assembly years.)

National Delegate to URSI:

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URSI Commission C delegate

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URSI Commission D delegate

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URSI Commission K delegate

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AUSTRALIANS WHO HELD OFFICE IN 2005 WERE:

Person	International Body	Position	Term
Michael Burton	IAU Working Group for Antarctic Astronomy	chair	2003-06
Mark Calabretta	IAU FITS working group	Member	2003-06
W. N. Christiansen	URSI	Honorary President	Life
David Cole	Study Group 3, Radiocommunication Sector, ITU	Chair	
David Cole	Australian Radiocommunication Study Group 3,	Member	
Peter Dyson	PSMOS Steering Committee, SCOSTEP	Member	
Peter Dyson	URSI-COSPAR Working Group on the International Reference Ionosphere	Member	2005-08
Ron Ekers	IAU	President,	2003-06
Ron Ekers	URSI Global VLBI working group	Member	
Ron Ekers	IAU working group on "large scale facilities"	member	2000-06
Brian Fraser	Scientific Discipline Representative SCOSTEP		
Brian Fraser	IUGG / IAGA	Australian Delegate	2003
Brian Fraser	Working Group on Solar-Terrestrial and Astrophysical Research SCAR	Member	
Anne Green	IAU Division X.	executive committee	2003
Dave Jauncey	URSI Global VLBI Working Group	Member	
Dave Jauncey	IACG Working Group on Space VLBI	Member	
Dave Jauncey	SOC for IAU JD 18	Chair	
Don Melrose	IAU commission 10 (Solar activity)	Vice-President	2000-06
Don Melrose	IAU Division II (Solar)	Vice-President	2003-06
Don Melrose	IUPAP Commission 16 (Plasma Physics)	member	2002-05
Ray Norris	IAU working group on astronomical data	Chair	2003-06
Ray Norris	IAU Commission 5	Vice-president	2003-06
Ray Norris	CODATA:	IAU representative	2003-06
Ray Norris	IAA SETI post-detection committee	Chair	
Wayne Orchiston	IAU Working Group on Historic Radio Astronomy	Chair	2003 - 06
John Reynolds	IAU WG on reference Frames	Member	
Elaine Sadler	IAU commission 28 (Galaxies)	President	2003-06
Michelle Storey	IAU Working Group on Publishing	Chair	2003-06
Michelle Storey	IAU Comm. 50, Protection of Existing and Potential Observatory Sites Organising Committee	Vice-Chair	2003-06
Tasso Tzioumis	ITU Radiocommunication Study Group 7 (Sciences Services).	Member	2003-06
Tasso Tzioumis	URSI representative on IUCAF	Voting delegate of URSI	2002-05
Garth Patterson	International Space Environment Services (ISES)	Member	
Bruce Ward	URSI-COSPAR Working Group on the	Member	2005-2008

	International Reference Ionosphere		
Carol Wilson	Australian Radiocommunication Study Group 3,	Chair	
Phil Wilkinson	URSI Board	Vice President	2005-2008
Phil Wilkinson	URSI Commission G Working Group 1, Ionosonde Network Advisory Group	Secretary	2005-2008
Phil Wilkinson	URSI-COSPAR Working Group on the International Reference Ionosphere	Member	2005-2005
Phil Wilkinson	URSI Commission G Working Group 4, Ionospheric Research to support radio systems	Member	2005-2008
Phil Wilkinson	URSI Standing Committee on Publications	Member	2005-2008
Phil Wilkinson	URSI representative on FAGS (Federation of Astronomical and Geophysical Data Analysis Services)	Member	2005-2006

THE FOLLOWING NOMINATIONS WILL BE MADE IN 2006:

No nominations will be made in 2005.

ACTIVITIES OF THE NATIONAL COMMITTEE

1. Completed, or extended activities (including Work Plan outcomes)

• **National Activities**

- **NCRS Website (<http://www.ips.gov.au/IPSHosted/NCRS/>)**

A range of activities flow from maintaining the NCRS Website.

- **(a) NCRS Mailing list**

The NCRS electronic mailing list currently has 685 members, a moderate (11%) increase in size compared to last year. (Failing email addresses are culled as they are detected.)

- **(b) Directory of Australian Radio Science**

The Directory was checked once again this year. There were no significant revisions needed.

- **(c) Directory of radio science related meetings**

A list of meetings of interest to Australian radio scientists is maintained on the NCRS Website. As near as possible, this was kept up to date.

- **Develop contacts with Australian societies with radio science interests**

There was no significant progress in this area.

- **International activities**

- The NCRS was approached and asked to host the next Asia-Pacific Radio Science Conference (AP-RASC) in 2007. The West Australian Government offered to assist in this process and the meeting is currently scheduled for a date (yet to be selected) in August-September 2007, in Perth. Preliminary advertising of the meeting took place during the URSI Assembly, in New Delhi. This is acknowledged by several delegates from other SE Asian countries as an important meeting for our region.
- Over 25 Australian scientists attended the URSI General Assembly in New Delhi. The NCRS encouraged young Australian scientists to apply for the URSI Young Scientist Awards and five applicants (J.D. Anstie, D.A. Mitchell, Nasimuddin, I.V. Shadrivov, K.S. Yau) were successful. Most of those present attended a successful Australian delegates meeting held on the Friday evening at the Ashok Coffee Shop.
- Publications are an important output of URSI and in support of this, Dr P Wilkinson is the Reviews Editor for the Radio Science Bulletin and Prof R Norris is the Commission J (Radio Astronomy) Editor.
- Other international support comes from work within URSI to strengthen the parent body. The NCRS Chair is the Editor in charge of the Radio Science reviews that are published in the Radio Science Bulletin as well as participating in various Working Groups.

2. Anticipated activities

- **WARS2006**

The next WARS Conference will take place at Leura, NSW 15 – 17 February, 2006. Research papers are being reviewed and a number of information papers are anticipated.

- **AP-RASC 2007**

Planning towards holding AP-RASC in Perth will commence at the WARS2006 meeting.

3. Other Australian Radio Science Activities

Commission G

TIGER (Tasman International Geospace Environment Radar) (www.tiger.latrobe.edu.au) is now entering its sixth year of operation as a component of the international SuperDARN (Super Dual Auroral Radar Network). A second radar has now been constructed in Invercargill, New Zealand. This radar, called the Unwin radar after Dr R. S. Unwin a New Zealand scientist who pioneered this form of radar research, is operational and will be commissioned early in 2005.

Newmag observations made on FEDSAT are now being archived in the WDC for Space Science, at IPS. This was the subject of a press release (1 Dec 2005). The data are available on the IPS website (www.ips.gov.au/World_Data_Centre/1/5). In addition, the telemetry data is also held at the WDC.

Commission J

Australia has now formally launched its proposal to locate the international next-generation Square Kilometre Array (SKA) at the Mileura site in Western Australia, and as part of its contribution to the SKA, CSIRO has started development of a new radio-telescope. The extended New Technology Demonstrator (xNTD) project will consist of an array of 20 antennas, each of which will be equipped with a focal-plane array (FPA), and will be located at the proposed SKA core site at Mileura in Western Australia. As well as being a demonstrator and test-bed for SKA technologies, the xNTD will be a powerful internationally-competitive observatory in its own right, with a target completion date of mid-2009. Further information is on <http://www.atnf.csiro.au/projects/ska/xntd.html>

I SUBMIT THE FOLLOWING REPORT TO COUNCIL ON THE ACTIVITIES OF THE NATIONAL COMMITTEE IN calendar year 2005 (200-250 words):
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Over 25 Australian scientists attended the International Union for Radio Science (URSI) General Assembly, in New Delhi, October 2005. The NCRS encouraged young Australian scientists to apply for the URSI Young Scientist Awards and five applicants (Drs. J.D. Anstie, D.A. Mitchell, Nasimuddin, I.V. Shadrivov, K.S. Yau) were successful. There were four Australian session convenors, and 46 Australian scientists were authors for one or more oral and poster presentations representing almost all the disciplines covered by URSI. Dr Phil Wilkinson was elected to one of the four URSI Vice President positions, further evidence of the strong Australian representation within URSI. Most of those present attended a successful Australian delegates meeting held on the Friday evening at the Ashok Coffee Shop.

Australia has been invited, through the NCRS, to host the next Asia-Pacific Radio Science Conference (AP-RASC) in 2007. The West Australian Government offered to assist in this process and the meeting is currently scheduled for spring 2007, in Perth. This is an important regional meeting thought of highly by radio scientists both in South East Asia, and in URSI community, where the meeting has already received wide support. Preliminary advertising for the meeting took place during the URSI Assembly and the first major planning meeting will take place during the WARS Conference, in Leura, NSW, February 2006. The AP-RASC meeting will be an excellent opportunity to show-case Australian radio science to the world. During the meeting, there will be a special focus on the Square Kilometre Array (SKA).

Yours faithfully,

Phil Wilkinson
22 December 2005