



# ASTRONOMICAL SOCIETY OF AUSTRALIA

*Incorporated in the ACT*

*ABN 37 660 297 848*

## PRESIDENT'S REPORT

MACQUARIE UNIVERSITY, 4 JULY 2007

### 1. Highlights

#### *NCRIS Astronomy Investment Plan*

On the 27<sup>th</sup> of November 2006, the Minister for Education, Science and Training announced National Collaborative Research Infrastructure Strategy (NCRIS) funding for nine capability areas. One of the funded capabilities was Optical and Radio Astronomy which is to receive \$45M over five years. The funded projects within the Astronomy capability include an AAT upgrade and new instrument, on-going participation in the Gemini partnership, participation in the first year of the GMT Design and Development Phase, a design study for a 2m telescope in Antarctica (PILOT), funding for the Australia Square Kilometre Array Prototype (ASKAP) and for the low frequency array, both to be sited in WA. Some of the funds are also held in a strategic reserve. This represents a substantial injection of funds into the infrastructure available to the community. We all owe a debt of gratitude to Brian Boyle, facilitator for the Astronomy capability and to all those who contributed to the final submission document. The 2007 Federal Budget also saw the allocation of \$51M from DEST to CSIRO as additional funding for the ASKAP project; Australia having been earlier identified with South Africa as a potential host country for the SKA. The astronomy community also received additional funding through another component of the NCRIS program. Approximately \$8M from the "Structure and Evolution of the Australia Continent" program will go to the University of Tasmania and Swinburne University for the construction and operation of three new 12m antennas, which will form the AuScope geodetic VLBI array. Approximately half the time on these antennae will be available for astronomical observations. They will be sited in Tasmania, Western Australia and the Northern Territory.

#### *The formation of Astronomy Australia Ltd*

At the same time a new organization, Astronomy Australia, Ltd., a not-for-profit company limited by guarantee, has been formed to manage the NCRIS funded Astronomy projects. AAL has most institutions with active astronomy programs as members.

#### *The future of the AAO*

Last year Council made a submission, along with a number of universities and other bodies, to the DEST Review of the AAO. In May this year the Minister for Education, Science and Training announced the first steps in the Government's response to the Review Committee's report, which was very favourable to the AAO. The announcement indicated an additional allocation of \$1.8M as a supplement to the AAO's recurrent funding for 2007-08 and also indicated the possibility of further supplementary funding to offset the reduction in UK funding in 2008-09 and 2009-10. The Department was also charged with establishing a working group to advise the minister on long-term governance arrangements for the AAO. The working group will report in early 2008 and as part of the process will assess the performance of AAL with the view to AAL being a potential replacement of the AATB once the current bi-national agreement expires in mid-2010. The Minister further indicated that the Government expects to finalise the arrangements for the longer-term funding and governance of the AAO no later than May 2009.

#### *Mt Stromlo reconstruction*

Today also sees the opening, by Senator the Honourable Nick Minchin, Minister of Finance, of the newly refurbished Commonwealth Solar Building at Mt Stromlo Observatory. Most of you will be familiar with this iconic building which is recognised nationally and internationally as the visual symbol of the Observatory. The building was designed by the Government Architect J S Murdoch, who also designed in the same period other Canberra icons such as Old Parliament House, the Hotel Canberra (now the Hyatt Hotel) and the East and West Block Commonwealth Offices. The building was gutted in the 2003 bushfires but has now been restored to its original 1920s appearance with the reintroduction of the original front verandah, consistent with its listing on the Commonwealth Heritage list. The interior has been completely remodeled. It houses academic offices, offices for RSAA administration staff and a new library which will be focused on accessing digitally held material rather than shelves of dusty volumes. A particular feature is the new large Common Room which replaces the non-heritage pavilions at the rear of the building. With the opening of the new Advanced Instrumentation and Technology Center by Minister Bishop in the latter part of last year, this largely completes the reconstruction of infrastructure facilities on Mt Stromlo after the 2003 bushfires.

### *Theoretical Astrophysics Summer School*

As members may be aware, when the accounts for the XXVth IAU General Assembly in Sydney were finalized, a surplus of approximately \$70,000 was returned to the ASA. A Working Group was established to consult with community and to advise Council on possible uses of these funds. The Working Group's top ranking proposal was to use the funds to conduct a graduate school for teaching postgraduate students a broad range of astrophysics, particularly theoretical astrophysics, that they may otherwise not receive during their studies. I'm pleased to announce that the first of what is intended to be an annual series of Theoretical Astrophysics Graduate Summer Schools will be held in January 2008 at the University of Tasmania's Cradle Coast campus in north west Tasmania. Approximately \$20,000 of the IAU surplus money will be used to help finance the school, which will have a theme of Relativistic Astrophysics and Cosmology. Speakers who have agreed to participate include John Peacock (Univ of Edinburgh), John Kirk (Max-Planck-Institut für Kernphysik, Heidelberg) and Zdenka Kuncic (USyd). The lectures will be coupled with computational exercises, with Geraint Lewis (USyd) presenting a course on gravitational lensing and Chris Fluke (Swinburne) discussing visualization techniques. Arrangements regarding additional speakers, detailed topics, etc, are well in-hand and a formal announcement will be issued soon. The Council is appreciative of the efforts of all those involved in making this summer school a reality, particularly Rosemary Mardling, Geraint Lewis and Melanie Johnston-Hollitt.

## **2. Astronomical Society of Australia Membership**

The Society currently has 373 financial members (i.e. those either paid up or owing only 2007 dues) with an additional 13 approved at the recent Council meeting. Those of you with very good memories will recognise this as an apparent decrease in membership since last year. In fact this has resulted from the actions of the Treasurer: many 'members' who had not paid subscriptions for three or more years have been contacted and asked about their membership status. Most, largely students who have graduated and moved overseas or left astronomy, indicated they wished to resign from the Society and have consequently been removed from the membership lists. One Fellow, nine regular members and five student members have two years of unpaid dues outstanding and also are in danger of being removed from the membership list. There are 78 active and retired (financial) Fellows of the Society and 84 financial student members, with an additional 10 approved at the Council meeting. On behalf of the Council I would like to extend a warm welcome to the new members.

At its meeting the Council also unanimously supported awarding Honorary Fellow status to Dr Alan Vaughan in recognition of his major contributions to Astronomy and Public Outreach through his long involvement with the Macquarie Foundation for Astronomy.

I should also take this opportunity to thank the Corporate Members of the ASA, the Anglo-Australian Observatory, the Australia Telescope National Facility, the Australian Antarctic Division, the Research School of Astronomy and Astrophysics of the ANU, the Swinburne Centre for Astrophysics and Supercomputing and the University of Sydney's Science Foundation for Physics. The contributions of these Corporate Members are used each year to help fund student travel grants; three overseas student travel grants were approved in the report year.

A ballot of voting members approved the changes to the ASA's constitution required to allow for the new Editorial Board structure for PASA and to simplify Council business practices. Similarly, By-Law changes circulated to all members permitted the addition of Chapters to the ASA's structure and formalised the new arrangements for the Charlene Heisler prize.

## **3. PASA**

With the departure of the previous resident Editor Louise Hartley, the Council agreed with CSIRO Publishing on a different model for PASA. An Editorial Board was created consisting of John Lattanzio as Chair with members Warrick Couch, Sarah Maddison, Lisa Kewley, Lister Staveley-Smith, Bryan Gaensler and Peter Cottrell. Manuscripts received by CSIRO Publishing are forwarded to a member of the Editorial Board who does an initial peer-review, and if appropriate, forwards the manuscript to a referee. The Editorial Board member then handles all correspondence regarding the paper. So far the new model seems to be working well with the number of submissions up considerably from this time last year. By the end of June, 22 papers had been accepted filling about half of the notional 400 pages per year of content, a much improved situation compared to last year. The impact factor remains approximately the same as last year at 1.6. Editorial Board members are also actively encouraged to solicit manuscripts for the journal. The importance of the increased number of papers being submitted cannot be understated. At this point of time last year there was a serious possibility that the journal would cease publication. The threat has receded but continued survival is intimately linked to the submission of papers and I urge you to consider PASA for your publications.

At its recent meeting Council considered two bids for the contract for the continued publication of PASA, as the current contract with CSIRO Publishing ends at the end of the year. One bid came from CSIRO Publishing. It features the introduction of Open Access for ASA-member papers, while allowing non-members the choice of either paying \$1750 per paper for Open Access or no charge but with access limited to subscribers, as is the case at present. Most other arrangements would not change from the present one, in particular the current involvement of a CP Journal Manager/Production Manager with PASA would continue.

The other offer was received from Springer (after initially showing interest Blackwells decided to not to submit a bid). The Springer offer would see Open Access restricted to five articles a year, language editing to be done by the Editorial Board, and Editorial support to come from Europe. The cost to the Society would, however, be substantially cheaper and ASA members would receive 20% discounts on all Springer publications. After considerable discussion the Council decided to continue with CSIRO Publishing for a further three years.

#### 4. **Awards to Members**

One of the most pleasant duties of this Report is to draw attention to significant awards made to ASA members. This year I note that Dr *Fred Watson* of the AAO won the 2006 Australian Government Eureka Award for Promoting Understanding of Science and Dr *Naomi McClure-Griffiths* of the ATNF was awarded the 2006 Malcolm McIntosh Prize for Physical Scientist of the Year. This was the second time this prestigious award, which is one of the Prime Minister's Prizes for Science, has gone to a Society member, Brian Schmidt having won the inaugural award some years ago. November saw the actual presentation of the Grote Reber Medal to Emeritus Professor *Bernie Mills* awarded for his innovative contributions to the development of radio telescopes and early radio astronomy. Early in 2007 Prof *Rachel Webster* of the University of Melbourne was awarded one of two inaugural Nature awards for mentoring in Australasian science. Rachel's award was for a scientist in mid-career and cited, inter alia, her role in introducing the Women in Physics program at the University of Melbourne. Most recently Dr *Joss Bland-Hawthorn* of the AAO was awarded a Federation Fellowship which he will take up at the University of Sydney. The Council would like to recognise all these prestigious achievements and warmly congratulate the recipients.

On a sadder note the Council notes the deaths on 17 August 2006 of *Doug Cunliffe* and on 26 April 2007 of Prof *Chris Christiansen*. Doug Cunliffe was the first Executive Office of the AAO from its inception until he retired in 1992. Through setting up much of the management systems and ethos of the AAO, he made a lasting contribution to Australian astronomy. He was awarded an Australia Medal in 1990. Chris Christiansen was one of the notable pioneers of Australian radio-astronomy. A function in his memory will be held in the Radiophysics Labs in Marsfield on Thursday afternoon after the conclusion of the ASA meeting.

#### 5. **Ellery Lecturer for 2007**

The ASA recognises outstanding contributions in astronomy or a related field by the award of Robert Ellery Lectureships. Robert Ellery was Director of Melbourne Observatory for much of the second half of the 19th century, and one of the outstanding workers in Australian astronomy in that era. The lectureship is awarded every two years. The 2007 Ellery Lecturer is Prof Mike Bessell of the Research School of Astronomy and Astrophysics, ANU. Mike has made a number of significant contributions to astronomy, particularly in the areas of photometric systems and model stellar atmospheres. He also served as ASA President in 1999 and 2000. The ASA Annual Science Meeting commenced on Monday July 2 with Mike's Ellery Lecture, entitled "The Photometric Revolution – the past and the future".

#### 6. **Harley Wood Lecture for 2007**

The ASA sponsors the annual Harley Wood Public Lecture, which was inaugurated in honour of the first President of the ASA, who was also the Government Astronomer at the Sydney Observatory for more than 30 years. The focus of this award is to enhance the public appeal of astronomy and the aim is to select exciting speakers who will carry on the legacy established by Harley Wood. The Harley Wood Lecturer for 2007 is Prof Matthew Bailes, Director of the Centre for Astrophysics and Supercomputing at Swinburne University of Technology. Matthew's lecture was given on Monday, July 2 at the Mason Theatre on the Macquarie University campus. The title was "Millisecond Pulsars and Einstein's Universe". Approximately 180 people attended and all enjoyed the 3D effects in the presentation.

#### 7. **Charlene Heisler Prize for 2006 and 2007**

The ASA commemorates the contributions of Dr Charlene Heisler, who during her short career was known for her encouragement and guidance of students, by awarding each year a prize to the author of the best PhD thesis in Astronomy or a closely related field, accepted by an Australian university in the previous calendar year. As previously announced, the 2006 Prize was awarded to Dr Michael Ireland for this thesis "Optical Interferometry and Mira Variable Stars". Michael is a graduate of the University of Sydney and is currently a Michelson Postdoctoral Fellow in Planetary Science at Caltech. This was the first award of the Charlene Heisler Prize in its new format. The 2007 Prize, is awarded to Dr Anna Frebel for her thesis "Abundance Analysis of Bright Metal-Poor Stars from the Hamberg/ESO Survey". Anna is a graduate of the Australian National University and is currently W J McDonald Fellow at McDonald Observatory of the University of Texas at Austin. As was the case in 2006, the quality of the theses submitted for this prize is outstanding and the selection of the winner is far from an easy task for the selection panel. In the case of the 2007 award, the selection committee would like to explicitly give an honourable mention to Dr Ilana Klammer for her University of Sydney thesis "Active Galaxies at High Redshift: gas, jets and star formation". A vote of thanks is also owed to the selection committee members for their efforts in reading the theses and associated material; it is no small task.

**8. Bok Prize 2007**

The Bok Prize is awarded annually for excellence in an undergraduate student report or essay. It is customarily awarded to the best Honours Thesis, as judged by the ASA. This year the Prize is awarded to Katie Dodds-Eden from the Australian National University, for her thesis entitled “TeVes Theory and observational tests”. As for the Heisler Prize, selecting the winner from among the excellent reports submitted this year was a difficult and challenging task, and we are grateful to the two assessors who took valuable time away from their work to carry out that task. As in previous years, the standard of the theses submitted for this prize is remarkably high with entries coming from a broad cross-section of institutions.

In the past the entry for the Bok Prize required only ‘a research report or substantial essay on an astronomical topic’ and both third and fourth year undergraduates were eligible. This led to the difficulty of trying to judge the merit of 3<sup>rd</sup> year essay contributions against 4<sup>th</sup> honours research projects. Consequently, the ASA Council has decided to circumvent this difficulty by changing the appropriate By-Law so that from next year, it is explicitly the case that only honours research theses will be considered for the Bok Prize.

**9. Australian National Institute of Theoretical Astrophysics (ANITA)**

As a Chapter of the ASA, membership of ANITA is open to anyone with an interest in Theoretical Astrophysics. Geraint Lewis of USyd is the current ANITA Convenor. During the report year the activities of ANITA focussed primarily on the planning for the theoretical astrophysics summer school to be held in early 2008. The possibility of establishing a theory-linkage program with international partners in either Europe or North America is being explored. Consideration is also being given to holding “teaching workshops” to bring together lecturers of astrophysical courses to discuss course content, approaches, resources, etc. The first of these is likely to be on the topic of gravitational lensing and held some time in semester 1 2008. The ASA and ANITA are also contributing partial financial support to the Dark2007 meeting to be held in Sydney in September. The meeting will focus on dark matter and dark energy. The ASA and ANITA also contributed partial financial support to the Fifth Stromlo Symposium which was held at Mt Stromlo in December 2006. The title of the Symposium was “Disks, Winds and Jets: from Planets to Quasars”.

**10. Education and Public Outreach Chapter (EPOC)**

The Education and Outreach Chapter of the ASA is open to any members interested and involved in education and public outreach at any level, whether university, secondary, primary or public. At its February meeting EPOC provided the first opportunity for wide discussion concerning Australian participation in the International Year of Astronomy in 2009. EPOC will remain involved as the ideas and programs for IYA2009 evolve.

An Education session is scheduled for lunch time on Thursday July 5 and all are welcome to attend. Subject to endorsement at that meeting, Stephen Hughes from QUT will take over as EPOC Chair. The Council would like to express its thanks to Nick Lomb, who has ably chaired EPOC for a number of years.

**11. International Year of Astronomy 2009**

The International Astronomical Union has declared that 2009 will be recognised as the International Year of Astronomy. It will be a world-wide, year-long celebration involving activities in more than 30 countries aimed at raising the profile of Astronomy with the public, and particularly with school students. Within Australia, since the Academy of Science is the adhering body to the IAU, overall responsibility for IYA2009 falls with the National Committee for Astronomy, but involvement is open to all who are interested. In particular, the ASA, primarily through EPOC and its members, will be actively involved. The NCA and EPOC jointly organised a meeting in February to discuss goals, ideas, organization and funding. Aside from EPOC and ASA Council members, others attending the meeting included Ron Ekers (immediate past-president of the IAU), Cathy Foley (AIP President and previously organiser of the International Year of Physics) and Mary-Anne Waldren (Director of ASF, which runs Australian Science Week). The meeting was very productive with lots of exciting ideas generated. It is clear that the IYA2009 is an unparalleled opportunity for the entire Australian astronomical community to advertise its achievements and contributions. The IAU’s recommended national structure for IYA2009 activities has a National Single Point of Contact (SPoC) co-ordinating national efforts and a National Node. The meeting agreed that Helen Sim would be the most suitable SPoC and that the AAO and ATNF, as national observatories, should jointly act as the national node. The AAO and ATNF will contribute funding for some of Helen’s time and some of Fred Watson’s and Rob Hollow’s time to assist Helen. The ASA Council has agreed to provide \$7,500 of seed funding this year. An IYA2009 Advisory Group, as Working Group of the NCA, has been created. The Advisory Group has 24 members covering a broad cross-section of the community, and is convened by Helen Sim. The group met in June and discussed, inter alia, lessons to be learned from the Einstein International Year of Physics (2005), IYA2009 strategy and funding, and methods to maximise publicity. The Advisory Group is willing to listen to ideas from anyone in the community, so please feel free to engage them.

**12. ASA Council for 2006-2007**

I would like to record my thanks to all members of the current Council for their efforts and involvement in the

past year, particularly to Immediate Past-President Anne Green and Council member David Blair, who retire this year. Similarly I'd like to express my appreciation on behalf of the Council to retiring student representative Alina Kiessling for her contributions over the past two years. The two Secretaries, John O'Byrne and Marc Duldig, also deserve special thanks for their efforts in cheerfully and efficiently overseeing the business of the Society. I would also like to express appreciation to Treasurer Diana Londish for her considerable work in optimising the bank accounts of the Society and of the Foundation for the Advancement of Astronomy to achieve both savings in bank fees and increased returns. John Lattanzio also deserves our appreciation for his excellent leadership of the PASA Editorial Board.

Following the procedures laid out in our Constitution, the current Council nominated new members for the incoming Council and then asked the membership for further nominations. Three additional nominations were received and so a ballot of the membership became necessary. The candidates for Council are Geoff Bicknell (ANU), Simon Ellingsen (UTas), Duncan Forbes (Swinburne), Stephen Hughes (QUT), Geraint Lewis (USyd), Rosemary Mardling (Monash), Stuart Ryder (AAO) and Graham White (James Cook). Five are to be elected to Council. It was not possible to include the outcome of the ballot in this written report, but I thank all of the candidates for their interest in helping to govern the ASA.

The end of this meeting brings the end of my term as ASA President. Sincere thanks to all of you who have contributed to making my term an enjoyable one. Warrick Couch will take up the President's role for the next two years and Lister Staveley-Smith will be the incoming Vice-President. Annie Hughes from Swinburne University has agreed to be the new student representative on the ASA Council. Diana Londish will remain Treasurer and John Lattanzio PASA Editorial Board Chair. Marc Duldig and John O'Byrne will continue their secretarial roles for another year (21<sup>st</sup> for Marc and 15<sup>th</sup> for John). Marc is also now Treasurer of the Australian Institute of Physics and has indicated he will look for opportunities to strengthen co-operation between the two organizations. Thank you all for your willingness to take on these roles.

After the declaration of the ballot for ordinary council members, the Council for the following 12 months will be:

Warrick Couch	President
Lister Staveley-Smith	Vice President
Gary Da Costa	Immediate Past President
John O'Byrne	Secretary
Marc Duldig	Secretary
Diana Londish	Treasurer
Simon Ellingsen	Councillor
Stephen Hughes	Councillor
Geraint Lewis	Councillor
Rosemary Mardling	Councillor
Stuart Ryder	Councillor
Annie Hughes	Student Representative
John Lattanzio	Chair, Editorial Advisory Board
Roy Allen	Donovan Trust and Macquarie Foundation Representative

### 13. **ASA ASM/AGM 2008**

Following discussions at the recent Council Meeting, the Annual Science Meeting and Annual General Meeting of the ASA for 2008 will be held in Perth, once again in July, with the hosts being the University of Western Australia.

Although it is well into the future, the Council has received initial indications from the University of Melbourne that it would be prepared to host the 2009 ASM.

Finally, it remains for me to thank the LOC and the SOC for their excellent organisation of this Meeting. In particular, LOC members Alan Vaughan (Chair), Roy Allen, Catherine Braiding, Paul Dobbie, Lesa Moore, Quentin Parker and Mark Wardle have all made substantial contributions to ensure everything has run smoothly. Similarly, the SOC, Quentin Parker (Chair), Brad Carter, Warrick Couch, Naomi McClure-Griffiths, Stuart Ryder, Lister Staveley-Smith and Alan Vaughan have put together an exciting scientific program that illustrates the diversity of astronomical research carried out by our community. We still have four more sessions, but it has been a particularly successful meeting so far and I expect the Conference Dinner tonight and the remaining talks to be equally enjoyable and interesting. The Council would also like to thank Andrew Smith (LOC Chair) and Korinne McDonnell (SOC Chair) and their respective committees for organising a very successful Harley Wood Winter School in the Hunter Valley.

Prof Gary S. Da Costa  
July 4, 2007