



# ASTRONOMICAL SOCIETY OF AUSTRALIA

*Incorporated in the ACT*

*ABN 37 660 297 848*

## PRESIDENT'S REPORT

UNIVERSITY OF WESTERN AUSTRALIA, 9 JULY 2008

### 1. Highlights

#### *Significant achievements and recognition of ASA members*

This past year has been an exceptional one for members of the Society receiving major recognition and awards for their research and contributions to astronomy. Recipients of awards and accolades were:

- Prof David Blair – Western Australian Scientist of the Year in 2007, for his leadership and achievements in gravitational wave research.
- Dr Dick Manchester – recipient of a CSIRO Life Achievement Award for his many outstanding contributions in the field of pulsar research over the last 40 years.
- Prof Brian Schmidt – joint winner of the 2007 Gruber Prize in Cosmology for leading one of the two teams that discovered the expansion of the universe is accelerating; the following ASA members also shared this prize through being members of one of the two teams: Brian Boyle, Warrick Couch, Chris Lidman, and Jason Spyromilio.
- Prof Brian Schmidt – elected a Fellow of both the Australian Academy of Science and the American Academy of Sciences.
- Prof Joss Bland-Hawthorn and Prof Karl Glazebrook – joint winners of The Maria and Eric Muhlmann Award of the Astronomical Society of the Pacific for their development of the “nod-and-shuffle” technique.
- Dr Ilana Feain – recipient of a L'Oréal Australia For Women in Science Fellowship in recognition of the excellence of her research achievements as an early-career scientist.

I would like to warmly congratulate all the above members for these outstanding achievements, all of which continue to ensure that Australian astronomy maintains its very high visibility as one of the premier sciences in this country.

#### *Advancement of the NCRIS Astronomy program and establishment of Astronomy Australia Limited(AAL)*

One of the highlights noted in last year's President's report was the award of \$45M of National Collaborative Research Infrastructure Strategy (NCRIS) money to Australian optical and radio astronomy to fund the highest priority infrastructure items identified in the 2006-2015 Australian Astronomy Decadal Plan. The last 12 months have been a crucial time for getting this funding program operational and initiating the projects that it funds. An important and integral part of this has been the establishment of Astronomy Australia Limited (AAL), a public company limited by guarantee, whose immediate role is to manage the NCRIS funded projects, but in the longer term will act as a national 'peak body' for Australian astronomy. AAL has now been in existence for 15 months, and all but one of the astronomy institutions in Australia are members. AAL had its first annual general meeting straight after ASA2007, at which its Board of Directors was elected. The directors are: Dr Martin Cole (Chair), Professors Michael Barber, Warrick Couch, Elaine Sadler, Brian Schmidt, and Lister Staveley-Smith, and Mr David Warren. AAL has established its office at Swinburne University, which is run by its Chief Operating Officer, Mr Mark McAuley. Over the last year it has entered into contracts with the AAO, ANU, UNSW and CSIRO for the AAT refurbishment/new instrument/Australian Gemini Office operations, Australian Giant Magellan Telescope (GMT) Project Office, PILOT design study, and ASKAP projects, respectively, all of which are well underway. In addition, AAL has just signed the GMT Founders' Agreement and paid for ~5 % Australian participation in the first year of the GMT Detailed Design Phase (hence closely matching ANU's participation in this stage of the project). As we heard at this meeting on Monday, the next challenge will be to decide on the allocation of the \$4-6M of NCRIS 'strategic options' funding, upon which AAL will be advised by an international expert committee (ANSOC) this coming September.

It should also be noted that Australian radio astronomy is also benefiting from the Geospatial NCRIS capability, which is funding a geodetic VLBI array of 3 x 12m antennae that will be available for approximately 50% of the time for astronomical and other applications. The managing body, AuScope, has signed the contract for the first antenna, which is to be constructed later this year and sited in Hobart. The second and third antennae will be sited in Yarragadee (WA) and Katherine (NT), with operation of the array to commence in early 2010.

### *Mt Stromlo Observatory reconstruction*

The final phase of the reconstruction of Mt Stromlo Observatory, after the bush fires of January 2003, was marked by the opening of the newly refurbished Commonwealth Solar Building by Senator Nick Michin in July 2007. This iconic building has always been 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 by the 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. Notably, it has already won two building awards: the 2008 Best Heritage Renewal – Quality of Work and the Best Commercial Building Awards of the ACT Master Builders' Association.

### *150<sup>th</sup> Anniversary of Sydney Observatory*

Sydney Observatory reached a major milestone this year, celebrating on the 7 June 150 years since observations began. Since its closure as a research observatory in 1982, the Observatory has found a new lease of life as an important part of the Powerhouse Museum. The 150<sup>th</sup> anniversary was marked with a day of celebratory activities on the Observatory grounds that were very well attended by the public. The ASA also had a strong presence at the event. During the celebrations, a book on Harley Wood, who was the Government Astronomer at the Sydney Observatory for more than 30 years and also the first President of the ASA, was launched. Entitled "Two people and a place: the family who lived at Sydney Observatory", the book was written by Roslyn Russell, in close cooperation with the Wood family.

### *Theoretical Astrophysics Summer School*

In January 2008, the Society ran the first Theoretical Astrophysics Graduate Summer Schools for Australian postgraduate students. This new initiative is being funded from surplus funds that were returned to the Society from the XXVth International Astronomical Union General Assembly that was held in Sydney in 2003. Its primary goal is to teach Australian postgraduate students a broad range of astrophysics, particularly theoretical astrophysics that they may otherwise not receive during their studies. The first such school was held at the University of Tasmania's Cradle Coast campus in north-west Tasmania, and had the theme of Relativistic Astrophysics and Cosmology. Lectures were given by a number of distinguished scientists from both overseas and within Australia. Coupled with the lectures was a set of practical computational workshops, involving gravitational lens modeling and 3D visualization techniques. A total of 45 students were in attendance. On behalf of the ASA I would like to thank all the lecturers and workshop presenters who freely made available their time and knowledge and traveled (many, long distances) to participate in the summer school – Annalisa Celotti, John Kirk, John Peacock, Zdenka Kuncic, J-P Marquart, Geraint Lewis, Shami Chatterjee, Chris Fluke and Matt Francis. The efforts of the Scientific Organising Committee – Geraint Lewis (Chair), Geoff Bicknell, Melanie Johnston-Hollitt, Zdenka Kuncic, and Rosemary Mardling – as well as the Local Organising Committee (Chaired by Melanie Johnston-Hollitt), in organizing the school and making it a success are also greatly appreciated. Finally, I would like to warmly thank the University of Tasmania for its very generous sponsorship of the Summer School and in providing the venue.

### *Recognition of Roy Allen's 31 years of service to the Society*

The Society has, since its creation, been very fortunate to have had members who have willingly given large amounts of their time and effort to serve on Council and fill key positions such as Secretary and Treasurer, and to do so over a number of years. In this respect, the contribution of Dr Roy Allen is unequalled, with his stepping down from Council at the end of last year marking the end of 31 years of service! Roy was first elected to Council as a Secretary of the ASA in 1977, and served in that capacity for 15 years before handing over to John O'Byrne. He then continued on Council as the Donovan Trust and Macquarie Foundation representative for another 16 years. Notable contributions that Roy made during his time on Council, over and above his normal duties of office included: taking responsibility for the coordination of the Berenice Page Medal and Bok Prize awards (including the design of the medal for the latter), being the main link between the Society and the Macquarie Foundation, administering the student travel and new member applications, and assisting with the redrafting of the ASA's constitution in readiness for its incorporation. Roy has also been a very strong protagonist for PASA over the years. A special presentation will be made to Roy at the ASM Dinner tonight to acknowledge the profound contributions he has made to the Society and the long legacy that he leaves, and I am sure this will also provide an excellent opportunity for members to congratulate Roy personally for his outstanding service.

## **2. ASA Membership**

This last year has seen a significant increase in Society membership. Over this period, the number of financial members has increased from 373 to 467, an increase of 23%. It is particularly gratifying that 52 of the 84 new members are students. On behalf of the Society, I would like to extend a warm welcome to all new members, and encourage them to be active and visible participants within the Society, through attendance at its meetings schools and, if appropriate, its Chapters. I would also like to take this opportunity to thank the Corporate

Members of the ASA: Astronomy Australia Limited, the AAO, the ATNF, the Australian Antarctic Division, the RSAA at 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 the Harley Wood Winter School.

### 3. **PASA**

PASA is now in its second year of running under the new 'Editorial Board' model. Manuscripts received by CSIRO Publishing (CP) are forwarded to the Editorial Board member with expertise in the subject area, who reviews the paper to ensure it is suitable for being considered for publication in PASA and, if this being the case, recommends to CP a suitable referee. CP then take responsibility for sending the paper to the nominated referee, receiving his/her report, and undertaking any further correspondence if need be, but refer all matters relating to the revision and acceptance of the paper to the assigned Editorial Board member. Editorial Board members are also encouraged to actively promote the journal and solicit submissions (including reviews), and the Board itself meets at least once a year to review how well the journal is doing, to review publication policies, and to consider new initiatives.

It is my view that this new editorial model for PASA is working very well. All Editorial Board members have worked very hard to ensure a rapid turn-around in refereeing papers, and in playing a promotional and advocacy role for the journal. Furthermore, the Editorial Board has had an excellent working relation with CP, with the two working very effectively together both in the processing and publication of papers, as well as dealing with broader policy issues to do with sustaining PASA as a viable journal and what evolution that might require into the future. I would like to thank all the members of the Editorial Board who saw it through its first year: Peter Cottrell, Bryan Gaensler, Lisa Kewley, Sarah Maddison, Lister Staveley-Smith, and particularly John Lattanzio who has done an outstanding job as Editorial Board Chair. At the end of this first year (2007) both Sarah Maddison and my terms on the Editorial Board ended, and it was pleasing to receive so many nominations to fill these vacancies. In what was a difficult choice for Council in having so many excellent candidates, Kate Brooks and Simon Driver were appointed as the new members of the Editorial Board. A great deal of gratitude must also go to Andrew Stammer and Richard Hecker from CP for their high levels of professionalism and continued enthusiasm and support for PASA in all our dealings with them. This was, amongst other things, an important factor in Council deciding to renew its contract with CP for the continued production of PASA at the beginning of this year.

Despite now having this well-working operational framework for PASA, the journal still faces considerable challenges and threats. The two most pressing issues in this regard are the rapidly changing landscape and uncertain future of the publishing world, and the continued low numbers of papers being submitted to PASA (despite a significant improvement in 2007). To align itself with the changing trends in journal access, PASA has now moved to partial 'Open Access', where ASA members have the option of publishing their papers in this mode – that is, once accepted for publication in PASA, their paper is accessible to *all* readers, not just those who subscribe to the journal or work at institutions that do so. Non-members can also publish their papers in PASA as Open Access at a cost of \$1750 per paper. This is very much an experiment at this stage, with it being unclear as to how popular this option will be and what financial impact it will have on the journal (where CP are carrying the risk). The low number of submissions highlights one of the biggest challenges PASA has always had: while the majority of ASA members see it as important that the Society has its own journal and therefore want to see PASA continue, only a minority of members are willing to publish in it. In this respect, I see the Society being at an important cross-road with PASA in a year's time. When the switch to the new 'Editorial Board' model was made, it was done so in an attempt to reverse the decline in submissions and to further raise the impact of the journal, with Editorial Board members playing a key advocacy role in this regard. It was also recognised that two years of operation under this new model would be required to gauge whether it was successful, at which point the future of PASA would be reviewed again. I think it is important that we stay the course and see out these two years, but hard decisions about the future of PASA may be looming.

### 4. **Passing away of prominent Society members**

It is with some sadness that I must report the passing away, during the last year, of Ron Bracewell, Peter and Geoff Fenton, and Paul Wild, all of whom were long-serving and prominent members/Fellows of the Society. Ron Bracewell was an eminent figure in radio astronomy, particularly in the area of signal processing, and began his career working at CSIRO Radiophysics with Pawsey and Bowen. Peter Fenton was an Honorary Fellow and former President of the Society (1985-86), and he and his brother Geoff were founding fathers of Australia's enviable reputation in cosmic ray research with neutron monitors and muon telescopes. Paul Wild was a solar scientist who spent most of his career working at CSIRO, where he held numerous positions that included: Director of the Solar Observatory at Culgoora, Chief of the Division of Radiophysics, and Chairman of CSIRO. He also served as President of the Radio Astronomy Commission, President of the IAU, and Foreign Secretary of the Australian Academy of Science during his career. He too was an Honorary Fellow of the Society.

### 5. **Harley Wood Lecture for 2008**

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 2008 is Prof John Dickey from the University of Tasmania. John's lecture, entitled "What can VLBI do for you? Radio Astronomy in the Public Interest", was given on Monday 7 July in the Woolnough Lecture Theatre at the University of Western Australia. This excellent and fascinating account of the VLBI technique and its growing applications outside astronomy was very much enjoyed by the rather small number of people who attended, with a particular highlight being the many questions asked by the audience as the lecture proceeded.

**6. Charlene Heisler Prize for 2008**

Each year, the ASA commemorates the contributions to astronomy of Dr Charlene Heisler – who during her short career became particularly well known for her encouragement and mentoring of students – by awarding 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. This year the prize is awarded to Dr Simon Campbell for his thesis entitled "Structural and Nucleosynthetic Evolution of Metal-poor and Metal-free Low and Intermediate Mass Stars". Simon did his PhD under the supervision of Prof John Lattanzio at Monash University, and is now a post-doctoral fellow at the Academia Sinica Institute of Astronomy and Astrophysics in Taiwan. I would like to extend my congratulations to Simon, who unfortunately cannot be here to accept his prize in person. I also wish to thank the members of the selection committee for their efforts in reading the theses, a not insignificant task.

**7. Bok Prize 2008**

The Bok Prize is awarded annually for outstanding research in astronomy by an Honours student at an Australian university. This year, the Prize is awarded to Christopher Hales from the University of Sydney for his thesis "Cosmic Forensics: A study of the Pulsar Wind Nebula G359.1-23, The Mouse". We very much look forward to hearing Christopher present this work in his talk tomorrow morning. The assessment panel also requested that Catherine Farage from the ANU be highly commended for her thesis "Outflows from T Tauri stars: NIFS observations and hydrodynamic models of the DG Tau microjet". Indeed all nominations received for this year's Bok Prize were considered by the panel to be of a very high standard. Congratulations to Christopher, Catherine and all the other nominees.

**8. Berenice Page Medal 2008**

The Berenice Page Medal is awarded by the Society every two years and recognises excellence in original work in amateur astronomy. This year, it was awarded to Mr John Broughton for his systematic survey for southern declination Near Earth Objects, including numerous occultation timings. The presentation of the medal was made at the National Australian Convention of Amateur Astronomers in Sydney over Easter, with John receiving his medal from Mr Martin George, Director of the Queen Victoria Museum and Art Gallery Planetarium and who is a long standing member of the ASA.

**9. Science Meets Parliament 2008**

Science Meets Parliament (SMP) is an annual event organised by FASTS, where members of its affiliated associations and societies gather at Federal Parliament in Canberra to primarily talk to politicians about their research and broader issues to do with science. This year SmP was held on 18-19 March, and the ASA was represented by Dr Scott Croom (USyd), Ms Mary Mulcahey (ATNF), and Prof Harvey Butcher (RSAA). Topics of particular focus this year that were of considerable relevance to astronomy and on which our representatives engaged a number of politicians in discussion included: large scale research infrastructures and funding mechanisms, the national innovation review, and science education in Australia. Another highlight was Senator Kim Carr devoting 10 minutes of his SmP address at the National Press Club to extolling the virtues of the SKA project.

**10. International Year of Astronomy 2009**

On 20 December 2007 the United Nations General Assembly proclaimed 2009 the International Year of Astronomy (IYA). This initiative, taken by the International Astronomical Union and UNESCO, is timed to celebrate the 400<sup>th</sup> anniversary of the first astronomical use of the telescope by Galileo. Top level planning for IYA is being carried out by an Advisory Group of 25 people, with a smaller sub-committee being responsible for the more detailed organisation and implementation. Over the last few months, this structure has been expanded to allow more interested parties to participate and to connect into regions outside Sydney, Melbourne and Canberra. This has seen the formation of 9-12 working groups that are either task-focused or aligned with stakeholder groups. One such group is the "professional researchers" working group which will liaise with and engage the Australian astronomical community through the ASA, the AIP, and other relevant bodies. Funding provided by the ASA, the AAO, and the ATNF has been used to engage Niall Byrne of Science in Public to help with the planning and promotion of IYA.

A much more detailed report on the planning for IYA will be given in Helen Sim's ASM talk tomorrow

morning. However, I do believe the organisational structures required to make IYA a success in Australia are now in place, the organisation of events and the raising of funding is gaining momentum, and general awareness of IYA amongst key interest groups is becoming widespread through successful 'launch' events in the major cities. IYA will provide one of the best-ever opportunities to raise the profile of astronomy in this country, both with the public and with school students, and I think it is incumbent upon all of us as members of this country's society of professional astronomers to actively participate, not just through attending IYA events, but also in taking the initiative to organise events, give lectures, and promote our science.

**11. Education and Public Outreach Committee (EPOC)**

Stephen Hughes formally took over from Nick Lomb as the chair of EPOC at last year's ASM held at Macquarie University. Since then, EPOC has met twice, both meetings being at the AAO in Epping (on 19 Oct 2007 and 29 Feb 2008). Subjects reported on and discussed at these meetings were IYA, and the "Scientist in Schools" project initiated by the Federal Government Chief Scientist. The Chair of EPOC has asked various people to write short illustrated articles on astronomy that could be made available to schools to assist in inspiring students to study science. The first of these articles is by David Malin on photography at the AAT. EPOC fact sheets on meteors and buying a telescope are also in production and, in view of the laser pointer legislation introduced in NSW on 1st July this year, another fact sheet on the responsible use of laser pointers for astronomy is planned.

**12. ASA Council for 2008-2009**

The current Council has had a busy year, both in dealing with normal business, but in also dealing with a lot of extraordinary issues that have arisen between meetings. In addition, Council has spent considerable time reviewing and discussing what the Society's primary mission and goals are and, in this context, what its future directions should be. I would like to thank all members of the current Council for their efforts and contributions in this regard, and to acknowledge in particular Rosemary Mardling and Annie Hughes (ASA student representative) who retire/step down this year. In my first year as President, I am indebted to my executive team of Gary Da Costa (Immediate Past President), Marc Duldig (Secretary), John O'Byrne (Secretary), Lister Staveley-Smith (Vice President) and Diana Londish (Treasurer) for their collective knowledge and wisdom in helping me deal with the responsibilities of office, and for all their assistance in making things happen. I am also very grateful to John Lattanzio for so ably dealing with the numerous PASA/Editorial Board issues that have arisen in the last year, and to Tanya Hill for doing such an excellent job in her first year as the ASA Prizes and Awards Coordinator.

Following the procedures laid out in our Constitution, the current Council nominated new members for the incoming Council and then solicited the membership for further nominations. One additional nomination was received and so a ballot of the membership was held, the result of which will be announced at the end of this meeting. After the counting of votes, I am pleased to announce the new member of Council is Dr Kate Brooks. Congratulations! It also gives me great pleasure to announce that the new student representative is Max Spolaor from Swinburne University.

The Council Members for the following 12 months will therefore be:

Prof Warrick Couch	President
Prof Lister Staveley-Smith	Vice-President
Prof Gary Da Costa	Immediate Past President
Dr John O'Byrne	Secretary
Dr Marc Duldig	Secretary
Dr Diana Londish	Treasurer
Dr Kate Brooks	Councillor
Dr Simon Ellingsen	Councillor
Dr Stephen Hughes	Councillor
Dr Geraint Lewis	Councillor
Dr Stuart Ryder	Councillor
Mr Max Spolaor	Student Representative
Prof John Lattanzio	Chair, PASA Editorial Board
Dr Tanya Hill	Prizes and Awards Coordinator

**13. ASA ASM/AGM 2009**

At its meeting in February 2008, Council decided to accept the offer from the University of Melbourne to host the Annual Scientific Meeting and Annual General Meeting in 2009. This was seen as a highly appropriate choice, given the rapid growth in astronomy in the Melbourne region over the last few years, and the advantages the big city location would offer in terms of exploiting IYA opportunities. Dr Stuart Wyithe will lead the organisation of this meeting and the associated Harley Wood Winter School.

Finally, it remains for me to thank the LOC and the SOC for their excellent organisation of this Meeting. In particular, LOC members: Andre Fletcher (Chair), Joseph Coletti, Mervyn Lynch, Toby Potter, Elena Semidelova, Lister Staveley-

Smith, Steve Tingay, Timo Vaalsta, Andrew Williams, and Marjan Zadnik. SOC members: Lister Staveley-Smith (co-Chair), David Blair (co-Chair), Roger Clay, Warrick Couch, Michael Drinkwater, Ilana Feain, Duncan Galloway, Geraint Lewis, David McLelland, Andrew Melatos, Quentin Parker, Penny Sackett, Elaine Sadler, Steve Tingay, Marjan Zadnik. We have still a day and a half to run, but it has been a particularly successful meeting so far and I expect the Conference Dinner and remaining talks to be equally enjoyable and interesting. The Council is also greatly indebted to Andre Fletcher for also chairing the LOC and SOC for this year's Harley Wood Winter School at the University of Notre Dame in Fremantle, and thanks him and the members of these committees for making it such a success.

Warrick Couch  
July 9, 2008