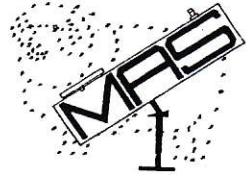


MACARTHUR ASTRONOMICAL SOCIETY Inc.

Journal



PRIME FOCUS

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President's Report

It's that time of year again when we attend to the formal requirements of our Annual General Meeting. Afterwards our guest speaker will be Dr Ragbir Bhathal from the University of Western Sydney. Also if time permits we might hear from Peter Druery about the latest goings on in the Astronomical world.

Next month Bob Bee will be our guest speaker and his subject of choice will be that immensely controversial subject titled "Cosmology."

Last Month

The format of the discussion groups seemed to work well and I've received many favourable comments suggesting we should hold them again. Maybe we could schedule this for a few months time. Peter kept us informed

with the news as part of his regular segment. My thanks go to all who made last months meeting such a success.

Observing-wise it's been a complete waste of time as the weather has been atrocious to say the least. How long can this situation last? The upcoming Airfield nights hold the promise of clear dark skies and as winter approaches I'm hopeful of more conducive conditions.

The open night held at the Observatory went very well with a huge crowd of eager stargazers keen to view the heavens. Our thanks to all members who made the night one of the really big ones.

I will sign off here as according to requirements I have a responsibility to prepare an AGM report to the membership, so good luck and

lets be hopeful of some clear skies!

Noel Sharpe
President

President's AGM Report

Our society is founded strongly on the contributions made by our members. The efforts made have been simply outstanding to say the least. Additionally, there are members who have been working actively behind the scenes who have imparted encouragement, support and words of wisdom. This can only mean that our society is in sound hands not only now but well into the future.

In reviewing the Society's activities over the last 12 months it is evident that it has been one of our most productive years. Not only have we been active in the

public education area but we have many new members who are eagerly armed with telescopes ready to tackle the night sky.

The various telescope retailers must be very happy with MAS as quite a few members have significantly upgraded to bigger and better scopes, some at considerable expense. What this means is our core membership is increasing and this ensures long term relationships with the Society. It also creates friendships and allows us to progress our overall astronomical knowledge and telescope usage.

Speakers at our General Meetings.

The year in review reflects what a great contribution our own members can bring. Enthusiastically they convey to us a wide range of astronomical subjects and interests. My appreciation and acknowledgements go to the following members.

Dr Ragbir Bhathal, new directions for SETI
Dick Everett, Filters, Camera Tracker, Collimation
Phillip Kidd, Early Astronomers
Ned Pastor, 6" refractor telescope
John Rombi, Slides of the night sky, constellation objects
Ian Cook, Quiz night, Double Stars and locating constellations

John Casey, Cosmology discussion group
Peter Druery, latest discoveries, research items and news.

Our external speakers as follows.

Dr Fred Watson, Anglo-Australian Observatory, May public night
Peter Williams, Variable star research
Don Whiteman, President of NSW Astronomical Society on collimation of telescopes
Dr Russell Cannon, Astronomer Anglo-Australian Observatory, on update of the 2df project

At this point it would be very remiss of me not to publicly thank **Daniel Ross** for the effort he makes in having the coffee, tea and biscuits available for us every month. Thank you on behalf of all the coffee lovers. It's a great way to close the night and have a chat. Well done!

Public Education

We have held 8 Observatory Public nights. Some of these have been very well attended. In April last year over 400 people gazed into the night sky, in May 150. The recent open night held on March 23rd saw about 250 members of the public arrive.

Election night and a football final, combined with some really bad weather, accounted for the nights when crowd

numbers were down. Sometimes it's hard to predict and at times our resources can be stretched. My appreciation goes to all members who contribute to these nights.

Public Education in astronomy can take many forms. One such example was the when strange orange lights invaded Campbelltown. The resulting media coverage given to the capture of one of those objects by a certain MAS member added some very valuable input into the debate.

Other Educational Events

Briar Road Public School, Airds.
 Koshigaya Japanese exchange students.
 William Carey Christian school, Liverpool.
 International House Belanglo Forest.
 Macquarie Public School.
 Liverpool Probus Club.

Our appreciations go to all of our members who have contributed to these nights, just fantastic.

Other Matters

We also had extensive planning go into our field nights at the Airfield. My records show that at least 10 such occasions were made available to us. However, the weather has been a major draw back for us.

Our first away mission was at International House in the

Belanglo Forest. However, the weather was a misery, but it was a great chance to relax and have some fun. We now hold our expectations high for our return in June.

In Conclusion

My tenure as President has been a most rewarding and enjoyable one. This would not be possible without your support and encouragement. In particular the outgoing committee has striven to create a strong sense of teamwork and this has certainly taken some responsibilities from me and lightened the load so to speak.

I would like to make mention of the many members who have made belonging to MAS very worthwhile. In wishing to publicly acknowledge them I hope I have not forgotten anyone for their contributions and if so I do apologise.

Lloyd Wright: Library, field and open nights.

Chris Barnett: news from the Internet.

Dick Everett: Mentor, speaker, telescope gadgets.

Bob Bee: Prime Focus editor, Heavens Above newspaper series.

Peter Druery: Observatory, Latest news, guest speaker roles.

John Koster: Open nights and keeper of the books.

Ian Cook: Education, writer of Prime Focus articles 'What IC this month.'

Daniel Ross: Education, Tea and Coffee, proud owner of a really big telescope.

Attila Kaldy: astro-photographer, open nights and encouragement, thanks Attila.

Ragbir Bhathal: for making the impossible possible, The Rotary Observatory.

John Casey: all things cosmological.

Phil and Samantha Kidd: Open and Public nights.

Ursula Braatz: Holiday insights for Prime Focus

I reserve my final acknowledgement to John Rombi who has been my Vice President over the last 12 months. John's companionship and support is greatly appreciated. At times he has had to fill my shoes at the last minute, or been there to take hurried phone calls which often entail off loading a bunch of tasks. With my new found family and work responsibilities I could not function for the society without an able bodied VP. Thanks John.

So in signing off please enjoy your stargazing and astronomical activities, take care, and thankyou to everyone for your support.

Kind Regards

Noel Sharpe ■

Vice President's A.G.M. Report

Well another fiscal year has passed for our Society; we the members have had a varied year of trials and tribulations.

Observatory Nights

A group of between 8 to 10 members made themselves available once a month for the public education nights at the Campbelltown Rotary Observatory. Unfortunately, for the majority of the year the nights were compromised by the weather. The enthusiastic astronomers treated the people that still attended to personalised service; this helped raise the profile of astronomy in the Macarthur area. Thankyou to all the members that contributed their time and knowledge to these nights.

Public Night - March 23rd

Ragbir Bhathal and Peter Druery were in charge of the 16" observatory scope, while Lloyd Wright, Daniel Ross, Phil and Samantha Kidd, Attila Kaldy, Bob Bee, Dick Everett and myself manned our own scopes. About 250 very keen members of the public, of all ages, inundated us. We also had a small group of overseas visitors that were fascinated by our "upside down constellations".

The night was to finish at 10.00pm, but at 10.45pm quite a number of us were still in earnest conversation with our guests.

Whenever I had a moment to myself (and that didn't happen very often) I saw at least 15 people on the end of each line leading to the scopes. The greatest surprise of all was that **MOST OF THE NIGHT WAS CLEAR.**

The Oaks

These nights too, were affected by the weather for the first six months of the year. The redeeming factor was that the group of members that did attend were treated to evenings of challenging and fun conversations well into the early hours of the morning, huddled around a fire trying to stay warm. On the odd occasion when the stars poked through the clouds, the astronomy starved stargazers made good use of the time.

M.A.S. 100 Marathon

We held our first marathon on the 16th September; there were 8 members that took up the challenge. But by the time the sun peeked over the eastern horizon, only four members had survived the night, Dick Everett, Daniel Ross, Lloyd Wright and yours truly. I hope that more members take up the challenge this year (July) and that it becomes an integral part of our Society.

The M.A.S. Marathon consists of 82 Messier and 18 N.G.C and I.C objects of varying types and sizes. I hope to be able to help as many of our members both long standing and new to be able to increase

the challenges in their observing schedule.

Messier 100 List

The Messier list of 100 objects is another challenge that was taken up by several members. The sighting of these objects is spread over the entire year as the constellations come into a favourable observing position, and it allows the participants to gain an understanding of what is available and when.

Acknowledgements

Firstly, I would like to thank all members of the committee for the time and effort that they have committed to the successful running of our Society. Without your hard work I'm sure that the members would not enjoy such a vibrant club like ours. To all the friends that have helped me with numerous bits and pieces over the year, a **BIG THANKYOU TO YOU.**

To the general membership, please make your thoughts and ideas known in whatever arena our club allows (Prime Focus, General Meetings, Observatory Nights, Oaks Nights and of course you could always consider a Committee position.) Remember, your input and new ideas are very important. I know that the next year will be bigger and better than ever.

John Rombi

Super Massive Black Holes

The second type of black hole to be discovered was the Super Massive Black Holes (SMBH.) Containing more than a million or billion solar masses, they are the largest objects known in the Universe. Only found at the centre of galaxies so far, there is still mystery as to how or when they formed, but every galaxy examined has a black hole at its centre.

Did galaxy matter coalesce gravitationally and trickle gradually to the centre to form the black hole or did some massive objects like neutron stars or a cluster of stellar black holes merge? Alternatively did the Big Bang create 'seed black holes', and form the first generation of very massive stars around them? The fact that it is common for the mass of a SMBH to be 0.2% of the mass in a galaxy suggests that the black hole may have come first and in some way governs the size of the galaxy.

Observations from the Chandra X-Ray Observatory in the X-ray spectrum enable us to measure the density (mass) and size of some black holes. When matter is pulled over the event horizon of a black hole it is heated to millions of degrees and produces X-rays. These X-rays create a radiation pressure pushing outwards on the matter. If a known mass of