



Volume 15, Issue 6

June 2010

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**President's Report:**

**John Rombi**

**Presidents Report**

A very warm welcome to a very cold June edition of "Prime Focus"

**Last month** our patron Dr Ragbir Bhatl presented a talk on "Aboriginal Astronomy"

It was a very informative and entertaining insight in to understanding the beliefs of Australia's indigenous people.

**2010 Speakers.** We have a "who's who" list of speakers for the rest of the year, please make sure of the dates and tell your friends!!

**magnitude II** has been released, and what can I say but.....WOW, a truly professional production with great content provided by you, the members. Also a BIG THANK YOU to Chris Malikoff for his expertise in putting this production together.

**A.A.O. Coonabarabran**

MAS is visiting the 3.9 metre Telescope facility in August. Prof Fred Watson will be our guide of the facility, with a tour "behind" the scenes.

Bookings have now closed.

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**MAS Committee**

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Trevor Rhodes

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**MAS Dates 2010**

<u>June 2010</u>		11/9/10	The Forest
05/6/10	Stargard	20/9/10	General Meeting
12/6/10	The Forest		
21/6/10	General Meeting	<u>October 2010</u>	
<u>July 2010</u>		02/10/10	Stargard
10/7/10	The Forest	09/10/10	The Forest
17/7/10	Stargard	18/10/10	General Meeting
19/7/10	General Meeting	30/10/10	Stargard
<u>August 2010</u>		<u>November 2010</u>	
07/8/10	The Forest	06/11/10	The Forest
14/8/10	Stargard	15/11/10	General Meeting
16/8/10	General Meeting	<u>December 2010</u>	
<u>September 2010</u>		04/12/10	The Forest
04/9/10	Stargard	11/12/10	Stargard



## President's Report:

John Rombi

Please contact Tony Law (our Treasurer) to place your deposit ASAP.

### Art Gallery, Campbelltown.

We now have an agreement with the art gallery to hold our exhibition in the week of October 3<sup>rd</sup> – 10<sup>th</sup>. Campbelltown Council (through the Mayor Aaron Rule and General Manager Paul Tosi) have agreed to pick up the bill for this event. I would like thank them for this very generous contribution.

On Saturday October 9<sup>th</sup> from 7pm, we will have Dr David Malin as our keynote speaker; this will be open to the public and will be held in the main 185 seat auditorium. Our exhibition will be open Monday to Friday from 10.00am to 4.00pm. Saturday 10.00am to 8pm.

We need volunteers to man our telescope display for these times.

We will also need telescopes to place in our display, please consider this very important part of the event.

As always "many hands make light work". We have lone access to the "Green Room". This area has all the facilities need for this week long event; toilets, showers, kitchen, TV etc. everything needed to make it as comfortable as possible.

Without volunteers, this event WILL NOT succeed.

As always check our website for ANY information concerning MAS activities.

### Observing Nights

The weather has at last cooperated with us, with both Stargard and The Forest showing clean, clear skies.

I was unable to attend Stargard, but The Forest had over 12 members attending with great skies, but very cold temperatures, down to -3°C we had ice from 9.30pm until sunrise the next day.

It took most of Sunday to dry out the equipment!!

At least all the dew heaters worked beautifully and kept all the optics dry.

### Saturday June 19<sup>th</sup>

Is our "Public Night" at Dudley Chesham Oval, The Oaks.

This oval is at the front of Stargard. We need to set-up from 4.00pm for a 5.30pm start.

We will stay at D.C O. after the 9pm finish, continuing private observing for members.

**This month** we are privileged to have Prof Geraint Lewis as our speaker.

His presentation will be on "**The Birth, Life and Death of Galaxies**"

This is Geraint's third visit to MAS and we are very grateful that he could be with us this month.

He will shortly leave Australia for 6 month's to continue his research in Europe

For more information, please visit our website and look under "Speakers Presentations"

Until next month,

Clear Skies, John Rombi.

## Secretary's Column:

Roger Powell

As I mentioned last month, the committee has decided to review the Society's constitution, the formal document that governs how the Society can operate. This is already under way, with Trevor Rhodes chairing the review and we are seeking any comments that members may have about this important MAS document, the existing version of which is publicly available for viewing on the website. The review is expected to tidy up any loose ends in the document that may have become apparent after more than a decade of use and clarify some of the procedures that are used to run the Society.

We would welcome any suggestions from members on how to make improvements to the wording of the consti-

tution, because later in the year you may be asked to vote on it. Within a couple of months we hope to be in a position to post a draft proposal for members to review on the website but if you do have any ideas now, we would like to hear about them. Send me an e-mail to [secretary@macastro.org.au](mailto:secretary@macastro.org.au) or a Private Message from the Web Forum.

Over two months ago, the Management Committee resolved to write a letter to local politicians, expressing our concern about the creeping light pollution that is slowly enveloping the Macarthur region. I would like to advise you of how this is progressing. The letters went to the

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## Secretary's Column:

Roger Powell

Mayors of Liverpool, Campbelltown, Camden & Wollondilly; the Federal MPs for Macarthur and Werriwa; the NSW MPs for Macquarie Fields, Campbelltown, Camden & Wollondilly; and the NSW Leader of the Opposition.

Quite obviously, we will not eliminate the march of light pollution across the district. However, it is hoped that we can draw sufficient attention to the issue and to have some small influence on slowing it at the local level, by means of both community education and planning control.

The most positive reaction we have had so far has been from Campbelltown Council, who invited MAS to meet with their Director of Planning last month. It was suggested to him that light pollution be treated as seriously as air and water pollution; and that the night sky be treated as a heritage issue in a similar fashion to heritage constructions.

We are aware of the difficulties in convincing the public about these issues and whilst the Heritage listing of the NSW Night Sky by the NSW National Trust may be a matter for consideration, it will never be a debate winner in the political arena. (This listing was successfully co-sponsored by MAS Patron, Dr. Ragbir Bhathal in 2008 and I can e-mail a copy to anyone interested).

Conservation of energy is a different matter and MAS was led to believe that that Council will consider intro-

ducing light pollution issues into their planning policy for new developments. They will also consider a public awareness campaign, using their website and 'Compass' magazine to highlight the wasted energy of misdirected light. They gave MAS a good hearing and led us to believe they were sympathetic. At this stage, I don't think we could expect any more than that.

Responses have been received from Liverpool and Camden Councils but they don't go quite as far as Campbelltown Council seem to be prepared to go. No acknowledgement has yet been received from Wollondilly Council, nor from the MPs for Macquarie Fields, Campbelltown, Wollondilly, Werriwa and Macarthur.

Members who post their images to the web gallery should take a few moments to review the brief note that has been added at the top of the "MAS Members Photography" page. Members retain the copyright to their publicly posted images but by doing so acknowledge the right of the Society to use the images in our DVD series or elsewhere on the website. MAS is grateful to those members who agree to assist in promoting the Society in this collaborative way. I can most certainly say that personally I am more than happy to have some of my rather modest attempts included in the Society's "m a g a z i n e" DVD and I am sure the majority of other members appreciate the recognition of their efforts in this shared way.

## Doin' it in the dark:

Trevor Rhodes

I've been to The Forest twice since last I wrote a column and have thoroughly enjoyed both visits.

The earlier of the two saw me being quite frustrated by the dew. Tony Law was kind enough to lend me a couple of his heater bands which, while useless in one way, turned out to be the best thing that could have happened. Once they were plugged in I found that the dew was not being kept at bay as I had expected. It didn't seem to be making any difference. Then Chris Malikoff came over with his multimeter and checked my Controller only to find that it wasn't working. This at least gave me some hope for the future, but ended the night as far as my scope was concerned, so I spent the rest of it annoying John Rombi and using his.

Just over 24 hours later at the May meeting Chris turns up having already fixed my controller. I was so looking forward to a night at Stargard, but alas the weather didn't allow that, so I gathered all my patience and waited for The Forest weekend of the 12/13<sup>th</sup> June. Actually, I couldn't wait and turned up on the Friday just so I could test things out. As I had bought another dew heater for the finderscope eyepiece, my controller was full up and I

was actually hoping for a really dewy night. I apologise to all others who were there, but it made me happy when the dew started to fall. I was rather anxious, but needn't have been. Not one iota of moisture on my primary, secondary, either end of my finderscope or my 2" eyepiece. I was overjoyed and got on with the night.

I managed another 14 Dunlop Objects that night as well as looking at all my favourite objects as they became visible. On the Saturday Night we had about 14 people in attendance and John was able to get on with his own viewing without me taking over his scope for a change. I found another Messier Object I had been waiting for and am now on 95 and together with the two nights count of Dunlops, they are now on 67.

Anyone wishing to get into this 'Hunting' business, please speak to John or myself as we would be only too happy to get you started. I'd love a bit more competition.



## It Is Amazing Who You Meet on the Moon Pt 5 Craters C.Herschel, J.Herschel and Herschel

David M Jones

*Help your brother's boat across, and your own will reach the shore.* Hindu Proverb

**Herschel** is a lunar impact crater located just to the north of the walled plain Ptolemaeus. To the north is the flooded crater Spörer, and due east lies the disintegrated crater Gylden. To the north-west lies the walled plain Flammarion, along the southern edge of the Sinus Medii. The rim of this crater is generally circular, although the western side is straight. It has a well-defined edge that is not significantly worn, and the inner walls are terraced. On the rough inner floor is a notable central rise. This peak is offset slightly to the west of the crater mid-point.

**C. Herschel** is a small lunar crater that lies on the western part of Mare Imbrium. It is a circular, bowl-shaped formation that has not undergone significant erosion. The interior floor has the same low albedo as the surrounding lunar mare.

**J. Herschel** is a large lunar crater of the type termed a walled plain. It is located in the northern part of the Moon's surface. The south-eastern rim of *J.Herschel* forms part of the edge of the Mare Frigoris. Just to the south is the small crater Horrebow. The rim of this crater has been heavily eroded, to the point where it is frequently described as "considerably disintegrated". The remaining rim survives as a ring of ridges that have been resculpted by subsequent impacts. (Wikipedia, 2010)

The name – **Herschel** – will be familiar to many club members; who will link it immediately to the **Herschel Space Observatory**. Launched in 2009, the observatory is named after Sir William Herschel (1738-1822), as is the lunar crater – **Herschel**.

William's story is a fascinating tale; he was born into a family of ten in Hanover, Germany. At the age of nineteen he moved to England and became a British citizen. Music was central to his early life in Germany and England. He was, first and foremost, an accomplished musician who played cello, harpsichord, oboe and organ. He also composed many musical works, including twenty-four symphonies and numerous concertos. It was music that took William to England in 1761, where he was engaged as the first violin and soloist for the Newcastle Orchestra. Herschel's other interests included mathematics and lenses. His interest in astronomy strengthened after 1773, when he became acquainted with Rev Dr Nevil Maskelyne – who at that time was the Astronomer Royal. Sir Robert Ball – in his book, *Great Astronomers*, described Herschel as one of the greatest astronomers that ever lived. (Ball, 2000)

William Herschel's accomplishments in the field of astronomy famously include the discovery of Uranus in the spring of 1781 (initially named *Georgium Sidus* by Herschel). He is also credited for the discovery of Mimas and Enceladus, the two moons of Saturn – and the two moons of Uranus, Titania and Oberon. He created an extensive catalogue of nebulae and had an ongoing interest in double stars. His work on double stars provided the first real evidence that *Newton's Laws of Gravity* applied outside our solar system. Herschel was the first to use the word – 'asteroid' (*meaning, star-like*). From his study of the movement of stars, he was the first to discover that the solar system is moving through space; and he concluded that the *Milky Way* was disk-shaped. In February of 1800, whilst testing filters for observing the sun, Herschel discovered infrared radiation. During experimentation, he passed sunlight through a prism, whilst holding a thermometer just beyond the red end of the visible spectrum. The thermometer was being used as a control to measure the ambient air temperature of the room. To his surprise, Herschel found his thermometer registering a higher temperature than the visible spectrum. This led to the conclusion there must be an invisible form of light (*radiation*) beyond the visible spectrum. (Wikipedia, 2010)

Throughout his astronomical career William Herschel constructed more than four hundred telescopes, the most famous being a twelve metre monster, reflecting telescope, with 126 cm primary mirror. In 1782, Herschel was invited by King George III to become his private astronomer. He accepted that offer, and was granted a salary of £200 per annum – (approx \$350 in today's terms). Herschel was knighted in 1816. He died August 25<sup>th</sup>, 1822, aged 83.

Lunar crater – **C. Herschel** – is named for Caroline Lucretia Herschel (1750-1848) the sister of Sir William Herschel. Her life is described as a 'Cinderella tale' – the sixth of the family of ten – she had a very traumatic start in life. Caroline suffered childhood illnesses that scarred her for life. At age three, her cheeks were pocked-marked and her left eye was disfigured by smallpox.

Her small stature -129.55 cm - was caused by typhus at the age of ten. Her father insisted, because of her physical disadvantages, she would never marry and her mother's plans for her were that of maid. (Astronomer, 2008)

It wasn't until her brother, William, invited her to join him in England in 1772 that Caroline eventually escaped a life of domestic drudgery.



## It Is Amazing Who You Meet on the Moon Pt 5 Cra- ters C.Herschel, J.Herschel and Herschel

David M Jones

Her brother's interest in astronomy soon rubbed off on the younger Herschel and she joined him on his nightly observing sessions, assisting him with recording his many observations.

The following are just a sample of the key highlights in her memorable life...**1783** – discovered three nebulae; **1786** – discovers Comet Herschel; **1787** – became paid assistant for her brother by King George III; **1788** - discovers Comet Herschel-Rigollet; **1797** - discovers Comet Bouvard-Herschel; **1799** - The Royal Society publishes her star catalogues; **1822** - Returns to Hanover after William's death; **1828** - The Royal Astronomical Society awards her the Gold Medal; **1832** - King of Denmark honours her discoveries with a medal; **1835** - Royal Astronomical Society awards honorary membership, along with Mary Somerville; **1838** - Royal Irish Academy awards honorary membership; **1846** - King of Prussia awards gold medal for science.

As her father predicted, Caroline remained unmarried, however, in spite of being denied any formal education as a child, she became an outstanding astronomer in her own right. After William married in 1788, the dynamics between brother and sister changed. William's new wife made every effort to remain on friendly terms with Caroline, but it seems Caroline's life was considerably upset. Throughout this time, Caroline continued her observations on her own, and made many of her discoveries. Later, she accepted the couple, and took great delight in her new nephew, John Herschel. (Wikipedia, 2010)

Caroline Herschel died aged 97, on January 9<sup>th</sup> 1848. Asteroid 281 Lucretia was named after her second given name; and lunar crater C. Herschel was likewise named in her honour. Adrienne Rich's 1968 poem, *Planetarium* was written in commemoration of Caroline Herschel's life and astronomical triumphs.

**J. Herschel** – named after Sir John Frederick William Herschel, 1<sup>st</sup> Baronet KH, FRS (1792-1871) – the only son of Sir William and Mary Herschel. John Herschel is portrayed as a mathematician, astronomer, chemist, and experimental photographer – who in some years also carried out important botanical work. John Herschel married Margaret Brodie Stewart (1810-1864) on March 3<sup>rd</sup>, 1829. This prolific couple produced twelve children over a period of twenty-five years. (Wikipedia, 2010)

There is no doubt that Sir John Herschel contributed a great deal to the scientific world, however, his contribution to astronomy was not vast. An article by Soylent (2010), describes John Herschel's own view on his inter-

ests; Herschel stated, '*the bias of my mind is towards chemistry and the phenomena of light, rather than towards astronomy*'. It seems that John Herschel's foray into astronomy was from a sense of duty towards his father. This filial loyalty towards his father drove him to complete work started by Sir William Herschel, who had surveyed the northern skies; thus John resolved to complete a survey of the 'whole heavens' by surveying the southern skies.

John Herschel was knighted in 1831 by King William IV. In 1833, he received recognition of the Royal Society by the reward of one of their medals for his account "*On the Investigation of the Orbits of Revolving Double Stars*."

The award commemorated the completion of his father's discovery of gravitational stellar systems by the invention of a graphical method, whereby the eye could as it were see the two component stars of the binary system revolving under the prescription of the Newtonian law.

Before the end of the year 1833, being then forty years of age, Sir John Herschel had re-examined all his father's double stars and nebulae, and had added many comparable bodies to his own lists; thus accomplishing, under the conditions then prevailing, the full work of a lifetime. (Soylent, 2010)

On his death at Collingwood, his home near Hawkhurst in Kent, he was given a national funeral and buried in Westminster Abbey.

In conclusion, once again, I recommend further reading for those with an interest in all things astronomical. The ubiquitous Herschel clan produced some remarkable results over the years. Today, their namesake – **The Herschel Space Laboratory** - continues to build upon their amazing contributions.

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## Prime Focus Article Submission

Deadline for article submissions for the next edition of Prime Focus is

**Monday 12th July 2010**

All Articles can be submitted via email [editor@macastro.org.au](mailto:editor@macastro.org.au)

Or via snail mail to the MAS Postal address

**PLEASE NOTE THE CHANGE OF EMAIL ADDRESS FOR SUBMISSIONS!!!**