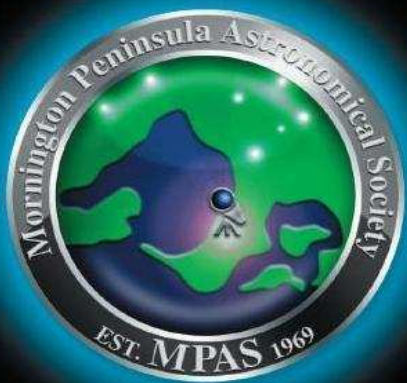


Cover image - The Briars gets a new sign.



SCORPIUS

THE JOURNAL OF THE
MORNINGTON PENINSULA ASTRONOMICAL SOCIETY INC.

Volume XXIII, No 6 (November/December)

The Mornington Peninsula Astronomical Society (formerly the Astronomical Society of Frankston) was founded in 1969 with the aim of fostering the study and understanding of Astronomy by amateurs and promoting the hobby of amateurs Astronomy to the general community at all levels.

The Society holds a focused general meeting each month for the exchange of ideas and information. Regular public and private observing nights are arranged to observe currently available celestial objects and phenomena. In addition, the society encourages the service of its members for education presentations and observing nights for schools and community groups. Reg No: A268 ABN: 34569548751 ISSN: 1445-7032



SCORPIUS The journal of the Mornington Peninsula Astronomical Society

Newsletter Disclaimer

The Scorpius Newsletter is published online, once every two months for its membership, by the Mornington Peninsula Astronomical Society, for Educational Purposes Only. As a newsletter, this publication presents news spanning a spectrum of activities, reports, and publications in order to keep society members abreast of a variety of events and views pertaining to astronomy. While prudent, reasonable effort has been utilized to verify factual statements made by authors, inclusion in this newsletter does not constitute or imply official MPAS endorsement. All materials (except previously published material, where credited) are subject to copyright protection © 2014, Mornington Peninsula Astronomical Society

SOCIETY NEWS

By Greg Walton

September public night - Thanks to everyone who helped out at the Public Viewing Night last night. Last night was our best night for quite awhile. Clear skies, lots of scopes and plenty of public visitors. Trevor gave the evening talk on planets – big and small. I got a lot of feedback Trevor on the excellent quality of the talk. Two ladies even insisted on paying again because they said \$8 was just too cheap. Well done Trevor. When I left there were still plenty of members at their scopes but I'm afraid I must be getting old because I can't take it much past mid-night. Thanks to all. Cheers Peter Lowe (President)

September Society Meeting - seen 27 members in attendance Peter Lowe (President) chaired the meeting. Graham Hardy from the ASV & Editor of 'CRUX' talked on the Celebrating 60 years of QUESTAR, the finest small telescope ever made, the talk include the pros and cons of the Maksutov system as well as the history of the Questar organisation, he also demonstrated his own Questar. Greg Walton did sky for the month and play some time lapse videos from his trip to out back Queensland. Then members chat over coffee.

September members BBQ - seen about 20 member. Thankyou Peter Lowe (President) for buying in all the food. Thanks Guys for help with the cooking and thanks Girls for setting up the food and the cleaning up after wards.

October public night - Hi everyone, The public night at The Briars last Friday was a resounding success, with at least 106 people attending (plus members of course). This almost doubled the number who'd actually booked beforehand. There were many families and it probably reflects the fact that it's school holidays still and possibly because there's a lunar eclipse coming up this Wednesday evening and it was mentioned in last week's Green Guide in the Age. Weather was surprisingly mild and there was no cloud cover at all throughout the evening. Trevor Hand gave a talk about his favourite moons, before everyone went outside to the telescopes. It was standing room only inside since we were taken by surprise at the needed number of seats to be set up beforehand, and so spacing of seats wasn't optimal for the number in attendance. Thanks to all members who attended and helped out. The door was looked after by Pia and Chris & Peter Skilton and out in the field were Simon Hamm, Peter Lowe, Kevin Rossitter, Jamie Pole, Dave Stock, Jerry Walters, Paul Albers, Dave Rolf, Bob Heale, Greg Walton, Fiona Murray & her kids, John & Marj Cleverdon. Regards, Peter Skilton (secretary)

October Society Meeting - seen 26 members in attendance Peter Lowe (President) chaired the meeting. Ian Sullivan talked on PRAGUE AROUND 1600 & ASTRONOMY. Greg Walton did sky for the month and play time lapse videos. Then members chat over coffee.

October members BBQ - seen about 20 member, we had a quick look at the planets, sky 70% cloudy. Thankyou Peter Lowe (President) for buying in all the food. Thanks Guys for help with the cooking and thanks Girls for setting up the food and the cleaning up after wards.

Under the Society regulations the Annual General Meeting elections are to be held in November.

If you feel you would like to get involved in the society business or have a particular skill you think would be useful to the society as a whole please give some thought to becoming a Office Bearer or committee member.

The Annual General Meeting will be held on Wednesday, 19th of November 2014. In this edition of Scorpius there is a 'Committee Election Form' that can be used for the submission of nominations for the next committee. This can be posted to MPAS. PO Box 596, Frankston 3199. Alternatively nominations can also be submitted electronically to welcome@mpas.asn.au by stating which position on the committee you would like to nominate for.



Mornington Peninsula Astronomical Society Inc. ANNUAL GENERAL MEETING ELECTIONS

Nominee: _____
Proposer: _____
Seconder: _____

} Must be current financial members

Position: **Office Bearers:** ☐ President ☐ Vice President ☐ Treasurer ☐ Secretary
(tick 1 or more) **Ordinaries:** ☐ Ordinary Committee Member (5 of these)

Acceptance Signature of Nominee: _____

Submit 1 day prior to the Annual General Meeting.

Post to M.P.A.S., PO Box 596, Frankston, VIC. 3199.

* Note : (1) That one person cannot nominate for multiple Office Bearer positions. (2) The committee is responsible for the development and operation of the society according to the MPAS Constitution. To support this, all committee members are expected to take responsibility for some aspect of society business.

New Members

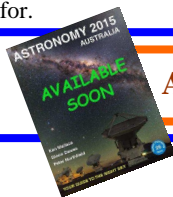
Welcome

Arabind Ajay Aghosh

Balakrishnan R

Arun Kesavachandran

Deepak Thorat



Astronomy 2015-year books now can be ordered.@ \$25 for members.

PUBLIC NIGHT THANK-YOU

Recent public viewing nights and school viewing nights have continue to be very well received by the attendees. It is no coincidence that this is due to the efforts put in by the members that help out at these events. To everyone that has helped out over the past months, a very big thank-you goes to you all.

Your efforts are very much appreciated, and are being very well received.

A word from the Scorpius editing team.

Members please write a story about your astronomy experiences and add some pictures.

Send them to:

Brett Bajada

Peter Lowe

Greg Walton

gwmpas@gmail.com

2014 SUBSCRIPTIONS DUE

The ticking over of the New Year also means that society fees are now due to be paid. The society has worked hard to ensure that 2014 fees are still the same as last years prices.

So to assist the society in maintaining the facilities and service we provide, we appreciate your prompt payment for the 2014-year ahead.

As a reminder, the following structure of the fees are:

SOCIETY FEES

Subscriptions can be paid in a number of ways:

- Direct Cash payments to a committee member
- Send a cheque or mail order to the society mail box MPAS. P O Box 596, Frankston 3199
- Make a direct electronic payment into the society working bank account.

The account details are BSB 033-272 Account 162207. Remember to add your name and details to the transfer so we can identify the payment in the bank records.

If you have any concerns please talk to a committee member.

- \$50 – Full Member
- \$45 – Pensioner Member
- \$65 – Family Membership
- \$60 – Family Pensioner Membership

Under the new government regulations, a list of financial member is required for insurance purposes, so please make certain your membership renewals are on time.

| CALENDAR | | November / 2014 | | | | |
|----------|----------------------------|-----------------------|--|---------------------------|--|--|
| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
| 30 | | | | | | 1 |
| 2 | 3 Mars 0.2deg NE of M28 | 4 Melbourne Cup | 5 Uranus 1.3deg S of the Moon | 6 Mars 0.8deg S of M22 | 7 Public Night 8pm Full Moon | 8 |
| 9 | 10 | 11 Remembrance Day | 12 ASV Meeting | 13 | 14 | 15 First Quarter Jupiter below the Moon in morning |
| 16 | 17 | 18 | 19 Annual General Meeting 8pm | 20 | 21 | 22 New Moon Members Night BBQ 6pm |
| 23 | 24 | 25 | 26 Committee Meeting 8pm Mars left of Moon | 27 | 28 | 29 Last Quarter |

Monthly Events & High Lights. Watch out for Auroras**Public nights** 7th, 8pm start - **Society Meeting** at 8pm on 19th @ the Peninsula School**Members Night BBQ** 6pm at the Briars 22nd**Evening** - Mars 0.2deg NE of M28 on 3rd - Uranus 1.3deg S of the Moon on 5th - Mars 0.8deg S of M22 on 6th**Morning** - Jupiter below the Moon in morning on 15th

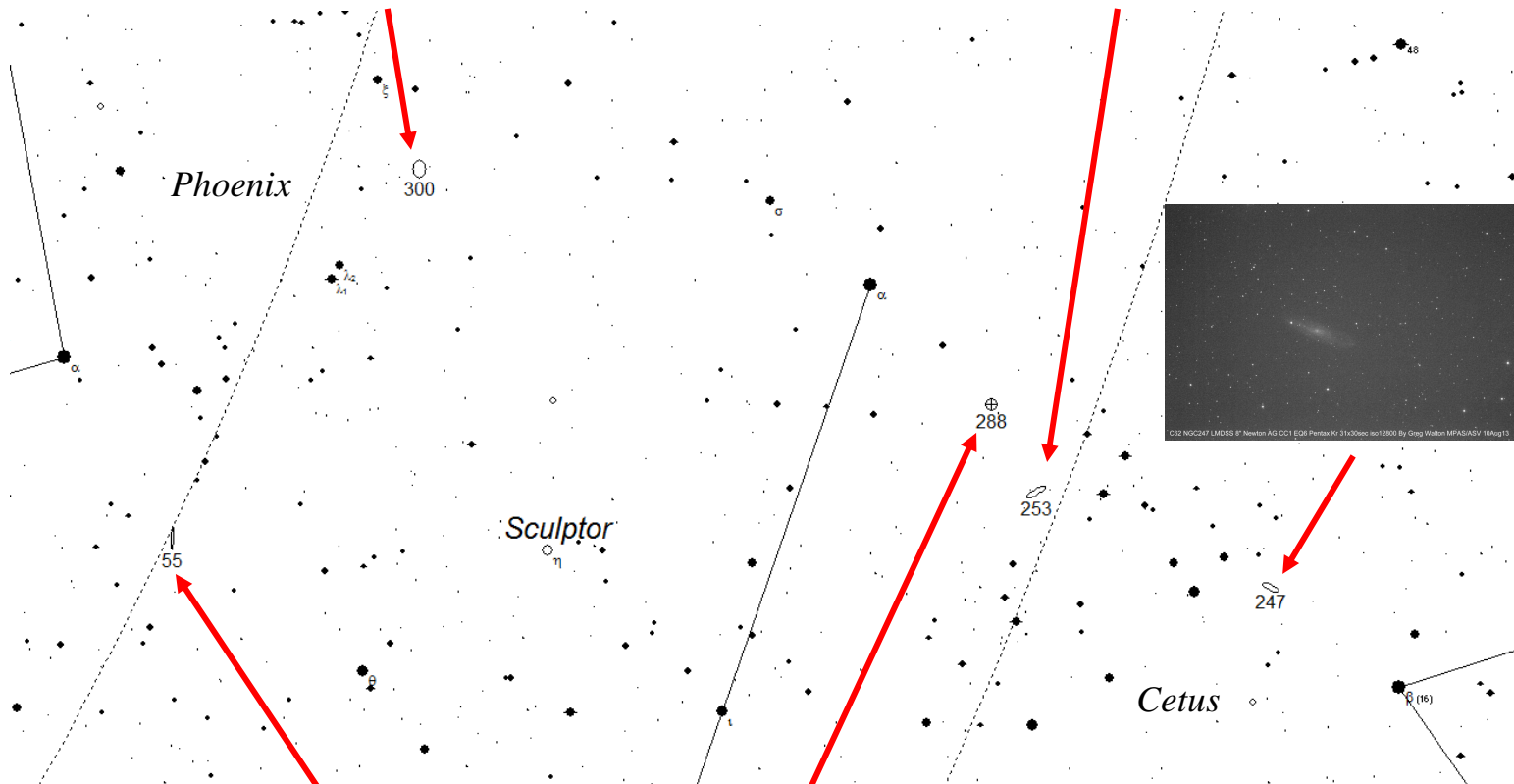
| CALENDAR | | December / 2014 | | | | |
|----------------------------|--------------------------------|--|---------------------|--|------------------------------|----------------------------------|
| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
| | 1 | 2 | 3 | 4 | 5 Public Night 8pm | 6 Full Moon |
| 7 | 8 | 9 | 10 ASV Meeting | 11 | 12 Jupiter left the Moon | 13 Members Night Xmas BBQ 6pm |
| 14 First Quarter | 15 | 16 | 17 | 18 | 19 | 20 Saturn right the Moon |
| 21 | 22 New Moon Solstice | 23 Moon, Venus & Mercury west horizon | 24 | 25 Xmas Day Mars left of Moon | 26 Boxing Day | 27 |
| 28 | 29 Last Quarter | 30 | 31 New years eve | | | |

Monthly Events & High Lights. - Watch out for Auroras - Red Days indicates School Holidays**Public nights** 5th 8pm start - **No Society Meeting in December****Members Night Xmas BBQ** 6pm at the Briars 20th**Evening** - Jupiter left the Moon on 12th - Moon, Venus & Mercury west horizon on 23rd**Evening** - Mars left of Moon on 25th**Dawn** - Saturn right the Moon 20th**Note** this years the Members night BBQ's will be the first Saturday after the Society Meeting.

Also General Meetings will be called Society Meetings under the new regulations.

Produced on Sky map & Starry Night by Greg Walton

Sky for November - We look at Sculptor which is almost over head, between Phoenix & Cetus. It contains 3 bright galaxies which all span 0.5 degrees across and the bright globular cluster NGC288. All these objects can be spotted with a small Dobsonian, but with a larger telescope you can see some structure. NGC288 can be imaged with NGC253 as there only 1.7 degrees apart, making them an ideal object for an ED80 refractor (see bottom right). Also the galaxies NGC247 in Cetus is easy to spot, being only 2 degrees from Beta Cetus.



Lunar eclipse from the Briars, seen 6 members & 12 members of the public in attendances, 8 telescopes were set up, 5 for visual and 3 for astrophotography. We could see clouds to the north, luckily they kept away, only blocking out the moon for a few minutes. I setup my camera to take a photo every 10 seconds with my 8 inch Newtonian on an EQ6 mount, so I could make them into a time lapse video of the whole event. While the Moon was red, it was interesting to see the Moon passing in front of the stars, see bright star on the edge of the Moon just before it disappeared. By Greg Walton



Below - Lunar eclipse photos from Cranbourne by Paula Ritchens



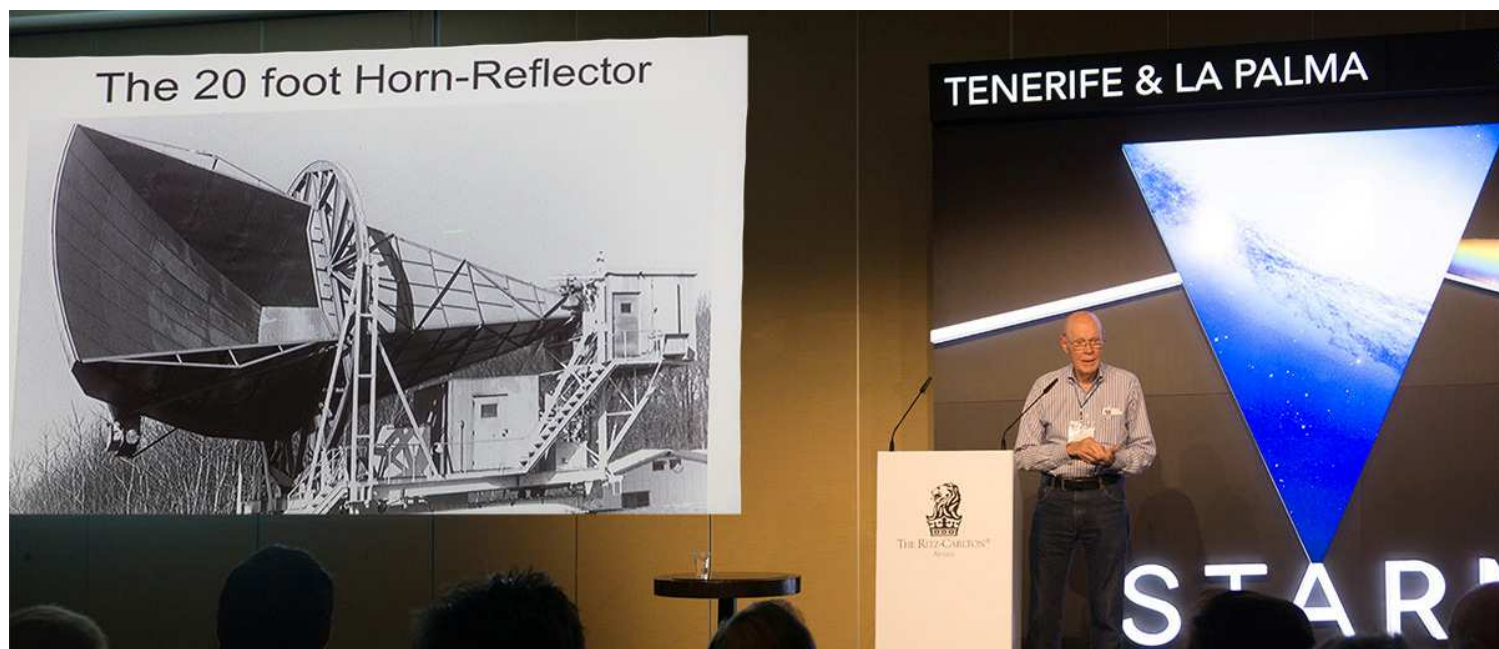
Below - Wednesday's partial lunar eclipse. All photos were taken with a Canon Powershot 'point and shoot' camera though the eyepiece of my 6-inch Newtonian telescope from Dromana. By John Cleverdon



STARMUS festival and observing with 10.4-metre telescope

I had hard time believing my luck in 2011 when the STARMUS astrophotography competition announced that they chose my [“Ocean Sky”](#) timelapse as the winner. Going to the festival, meeting Neil Armstrong and Alexei Leonov and observing for one hour with the largest single-mirror telescope on the planet was certainly the highlight of 2011. It was even harder to believe that my [“Observatories”](#) timelapse got the nod from the judges of the second [STARMUS astrophotography competition](#) in August 2014 and I would be travelling to the Canary Islands at the end of September again! The next few weeks were very exciting with planning the trip to Europe and the Canaries and choosing the observing target for the big telescope. Time went quickly and thoughts about the festival made the 30-hour flight a lot more tolerable than usual.

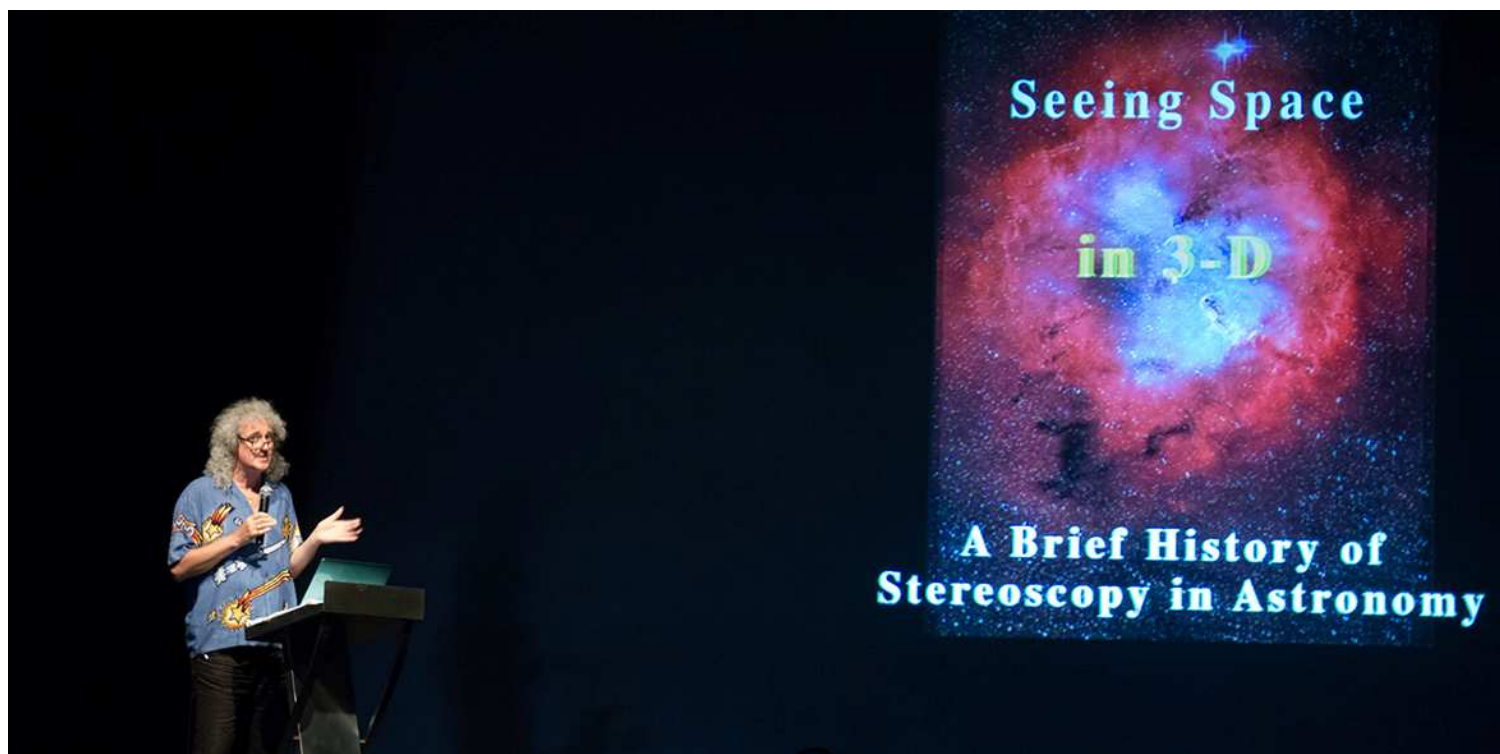
The presenters at STARMUS festival were just great and below are some highlights of the festival.



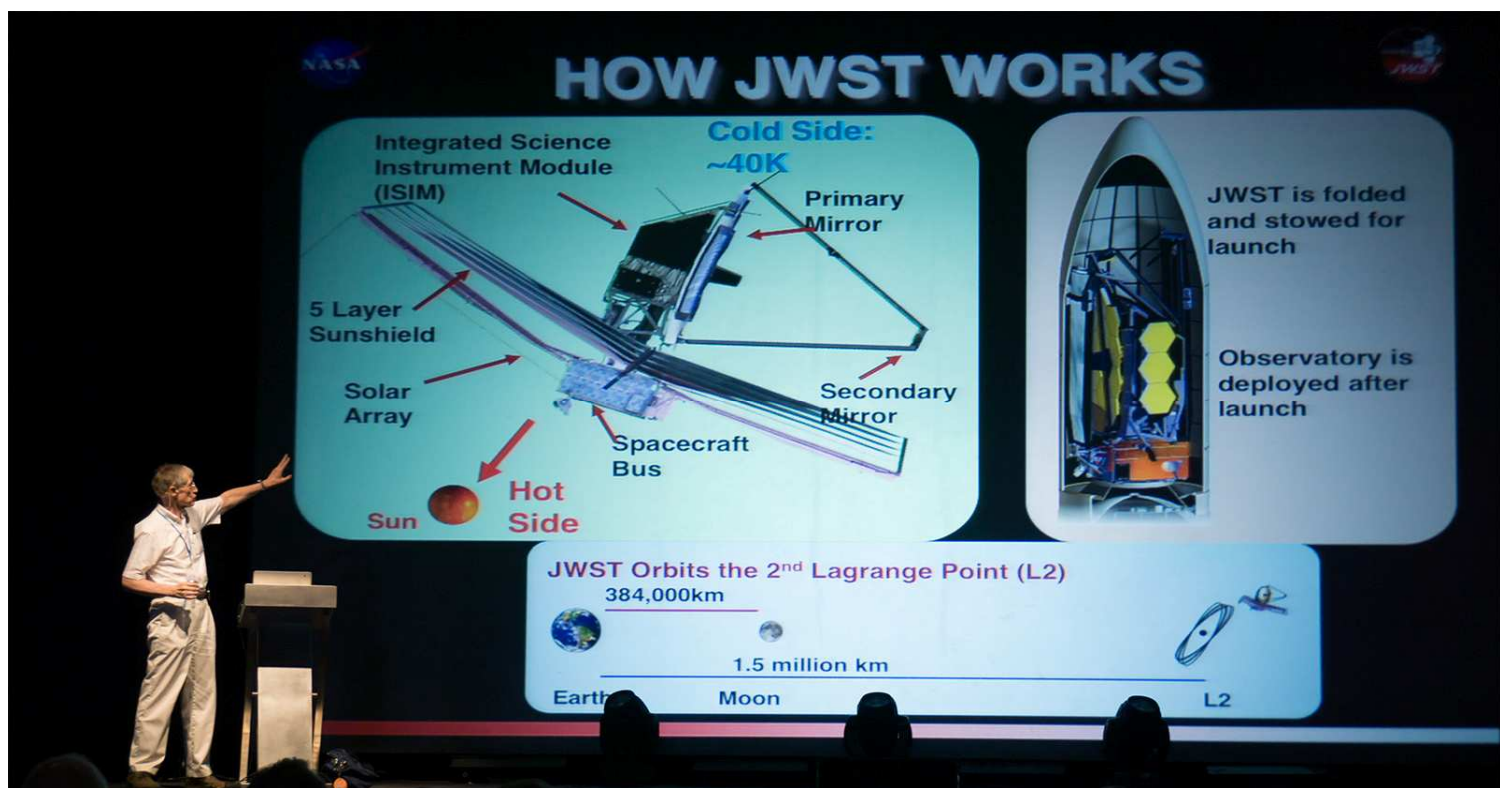
Co-discoverer of the Cosmic Microwave Background Radiation **Robert Wilson** (Nobel Laureate) shared the history of the discovery.



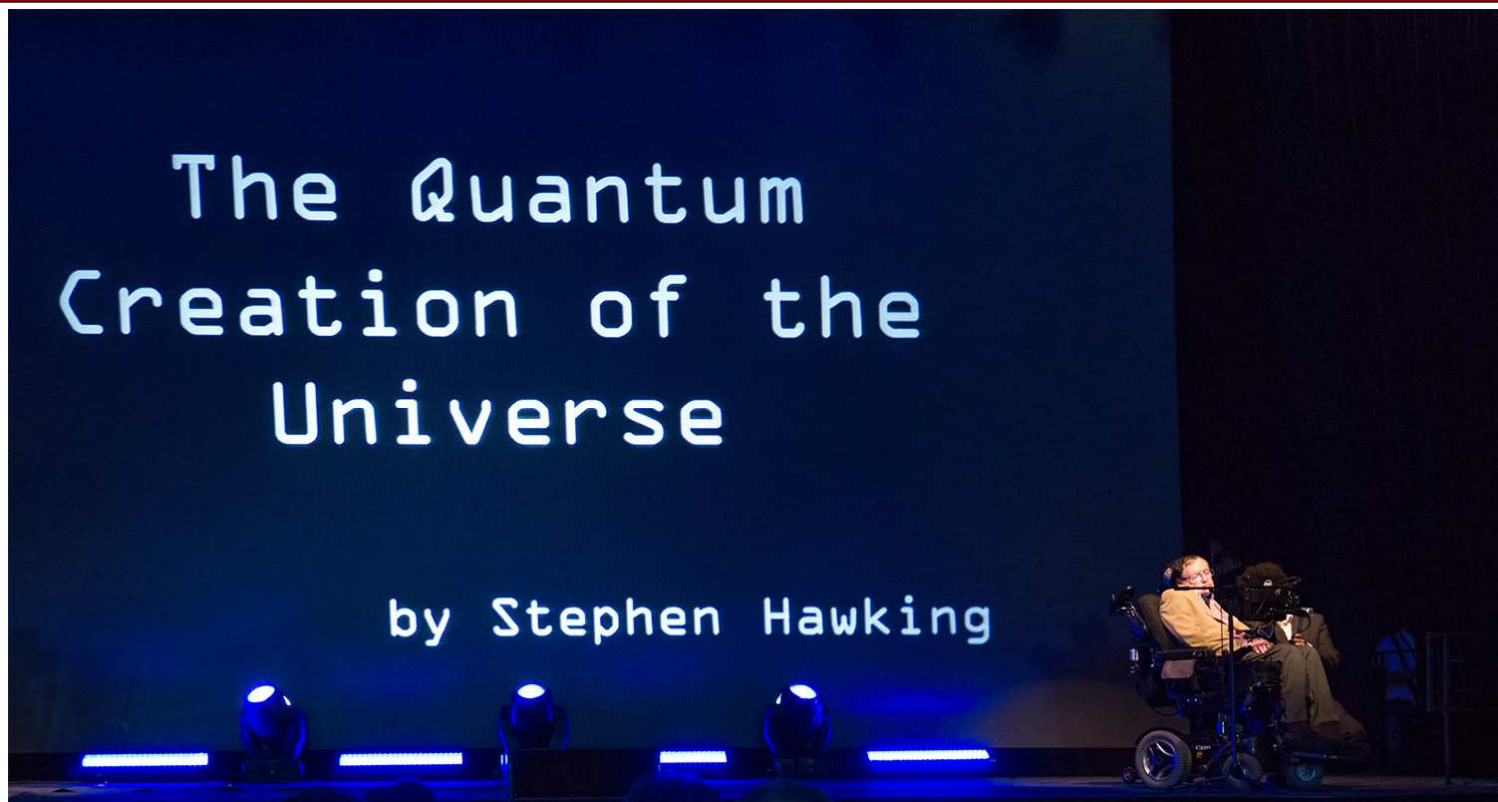
Evolutionary biologist **Richard Dawkins** laid out his predictions on how the alien life might develop and what it could look like.



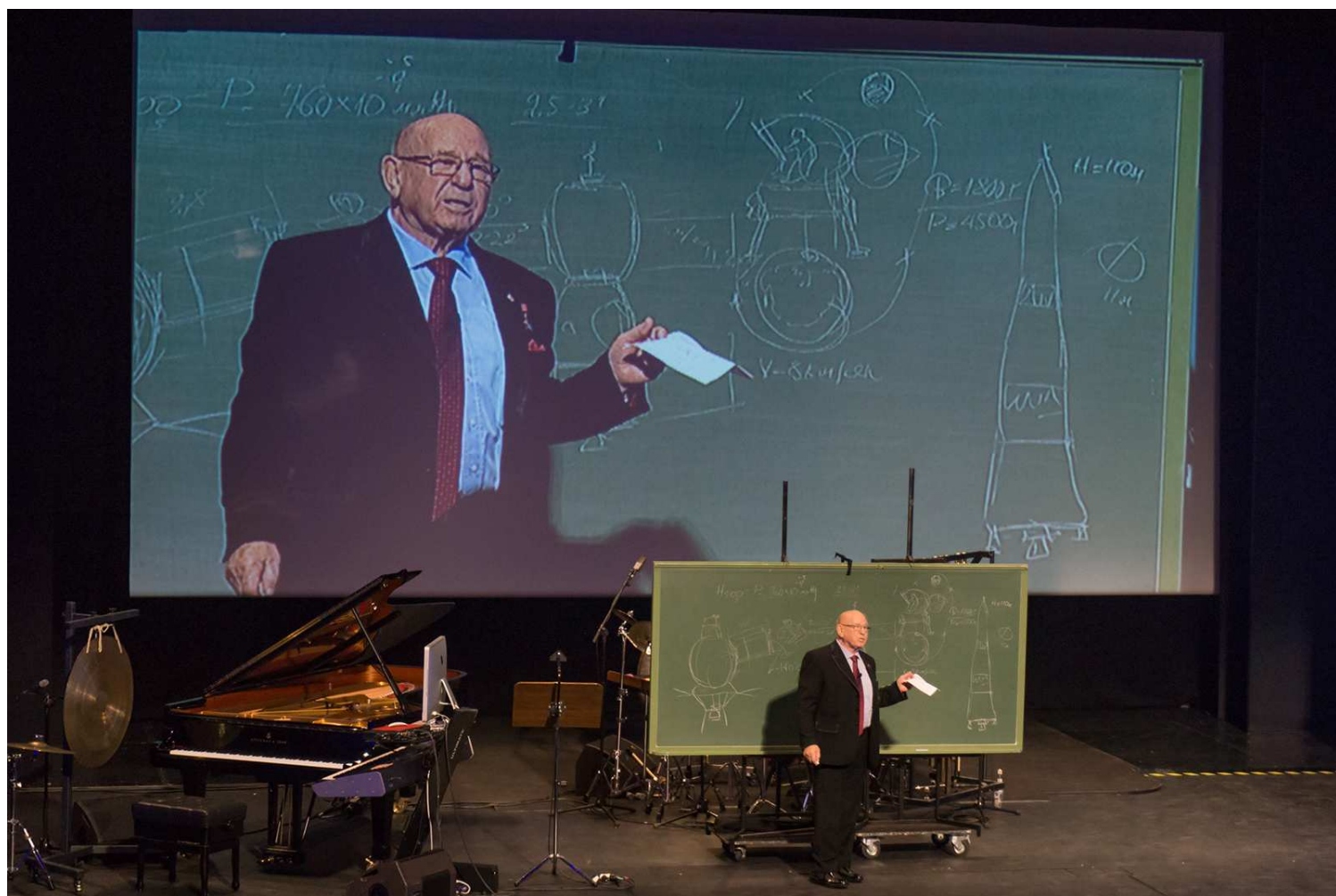
Rock guitarist and PhD in astrophysics **Brian May** presented wonderful and accurate 3-D pictures of asteroids, moons, planets and comets as well as estimates how some nebulae would look in 3-D



James Webb Space Telescope Senior Project Scientist **John Mather** (Nobel Prize Laureate) presented a great talk on James Webb Space Telescope plans and current progress



*It was a great privilege to see and listen to the synthesised voice of **Stephen Hawking** who talked about the Big Band and quantum creation of the Universe. The talk was pre-recorded in advance at the average speed of one word a minute and then he controlled the playback of the presentation by blinking his eye.*

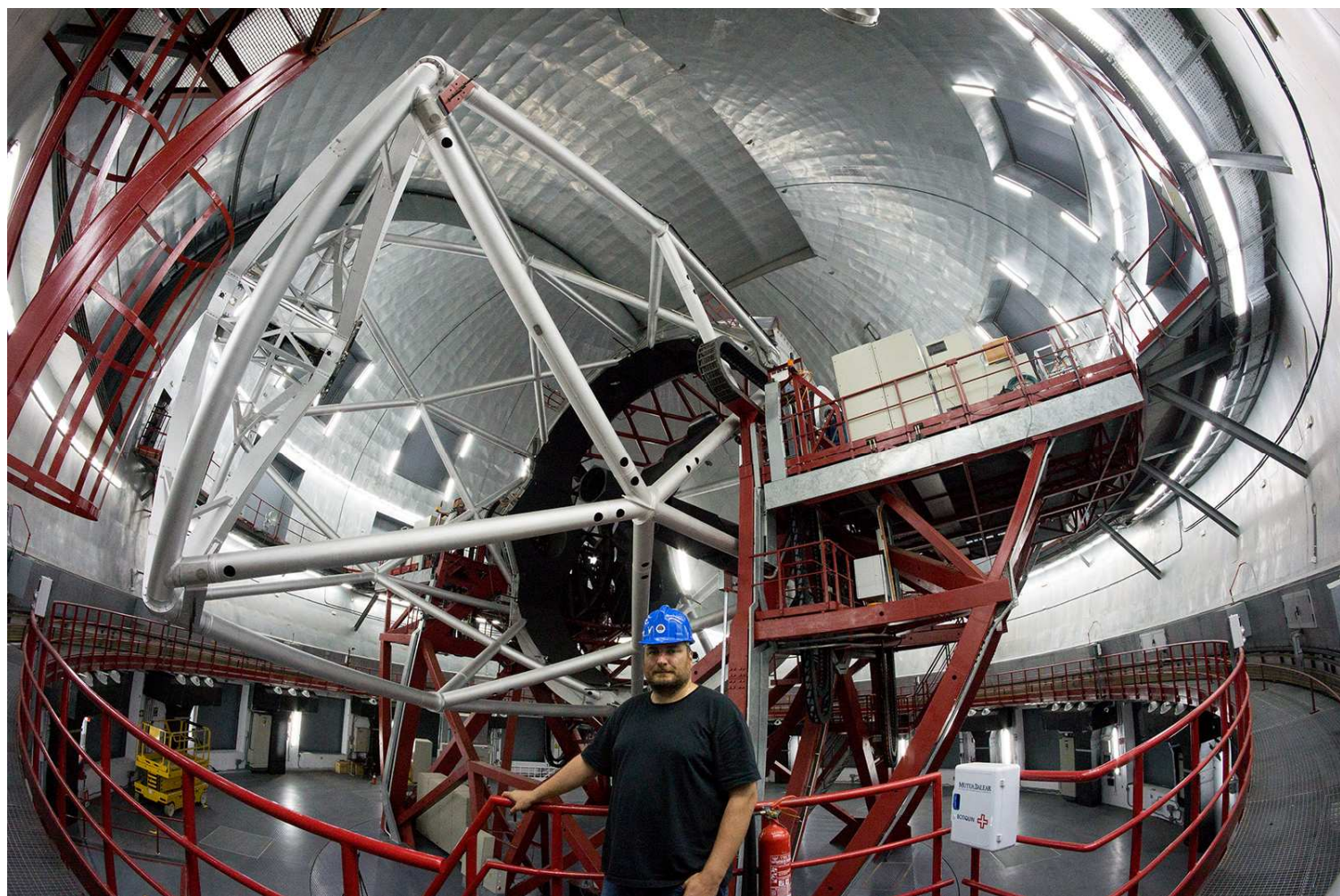


*Cosmonaut and the first man to walk in Space **Alexei Leonov** shared some of the details of the Soviet Lunar Landing programme for the first time in the world.*

STARMUS festival was held on Tenerife Island, which hosts an observatory with mostly solar instruments just under the peak of Teide volcano. It was wonderful to show the telescopes to our children and even see the images of the Sun in real time.



On Sunday, September 28th I flew to the island of LaPalma, where “Roque de los Muchachos” observatory and 10.4m Gran Telescopio Canaria is located.



I could not resist taking a fisheye “selfie” with the 10.4-metre telescope in the background.

The weather at the end of September is not particularly great on top of the mountain due to high humidity and clouds were climbing up a few times during the day threatening to spoil my observing run. But weather gods were merciful and at 3am on Monday (September 29th) morning the sky was clear with great seeing – 0.8 arcseconds or better.

The telescope control room is now full of monitors and I could not find an eyepiece to look through... Although I should not be complaining because the data acquired for my object NGC 521 (a nice spiral galaxy in Cetus), turned out really nice.



GranTeCan Control room

The observing plan on the right was created beforehand with help of the chief astronomer.

The imaging detector contains two panels with a gap in the middle, therefore the individual sub-exposures need to be moved left and right (dithered) in order to compensate for the gap.

Longer exposures were chosen for the outer fainter detail and short exposures to preserve highlights in the galaxy core and prevent the imaging detector from blooming around the brighter stars.

It took just over an hour to acquire the images and I ended up with 635 Megabytes of data and calibration images to take home.

OSIRIS Broad Band Imaging Mode

Target definition for Observing Block: STARMUS_0003

Target Name Observing Priority

Coordinates (J2000): RA DEC

Proper motion (mas/yr) RA DEC

Non Sidereal Target ☐ (Note: RA,DEC required anyway)

Field of View Position Angle (In degrees from North toward East)

Acquisition image

-Filter- Exptime Readout Mode
(s)

☒ Skip

Configure as many templates as needed:

| -Filter- | -Exptime- (s) | -N exp- | -Readout Mode- | -Binning- | -offsets RA- (arcsec) | -offsets DEC- (arcsec) |
|--------------------------------------|----------------------------------|---------------------------------|--------------------------------------|----------------------------------|--|--|
| <input type="text" value="g"/> | <input type="text" value="180"/> | <input type="text" value="5"/> | <input type="text" value="200 kHz"/> | <input type="text" value="2X2"/> | <input type="text" value="0 15 15 0 -15"/> | <input type="text" value="0 0 0 0"/> |
| <input type="text" value="r"/> | <input type="text" value="45"/> | <input type="text" value="5"/> | <input type="text" value="200 kHz"/> | <input type="text" value="2X2"/> | <input type="text" value="0 15 15 0 -15"/> | <input type="text" value="0 0 0 0"/> |
| <input type="text" value="i"/> | <input type="text" value="45"/> | <input type="text" value="5"/> | <input type="text" value="200 kHz"/> | <input type="text" value="2X2"/> | <input type="text" value="0 15 15 0 -15"/> | <input type="text" value="0 0 0 0"/> |
| <input type="text" value="none"/> | <input type="text" value="30"/> | <input type="text" value="10"/> | <input type="text" value="200 kHz"/> | <input type="text" value="2X2"/> | <input type="text" value="0 15 15 0 -15 -15 0"/> | <input type="text" value="0 0 0 0 0 0 0 0 0"/> |
| <input type="text" value="f657/35"/> | <input type="text" value="180"/> | <input type="text" value="3"/> | <input type="text" value="200 kHz"/> | <input type="text" value="2X2"/> | <input type="text" value="0 15 15"/> | <input type="text" value="0 0 0"/> |
| <input type="text" value="g"/> | <input type="text" value="30"/> | <input type="text" value="3"/> | <input type="text" value="200 kHz"/> | <input type="text" value="2X2"/> | <input type="text" value="0 15 15"/> | <input type="text" value="0 0 0"/> |
| <input type="text" value="r"/> | <input type="text" value="7"/> | <input type="text" value="3"/> | <input type="text" value="200 kHz"/> | <input type="text" value="2X2"/> | <input type="text" value="0 15 15"/> | <input type="text" value="0 0 0"/> |
| <input type="text" value="i"/> | <input type="text" value="7"/> | <input type="text" value="3"/> | <input type="text" value="200 kHz"/> | <input type="text" value="2X2"/> | <input type="text" value="0 15 15"/> | <input type="text" value="0 0 0"/> |
| <input type="text" value="none"/> | <input type="text" value="2.5"/> | <input type="text" value="3"/> | <input type="text" value="200 kHz"/> | <input type="text" value="2X2"/> | <input type="text" value="0 15 15"/> | <input type="text" value="0 0 0"/> |



NGC521, 6x180 sec exposures through Sloan_g filter, acquired on September 30th, 2014 with Gran Telescopio Canaria

So far I only managed to process the data taken through the Sloan_g filter (almost analogous to blue filter in RGB system) and it looks very promising. It looks like our Milky Way and with a stretch of imagination one could say that the Sagittarius dwarf galaxy is at the bottom-right and even two neighbouring galaxies like our Magellanic Clouds are present.

It was a great experience once again and will live in my memory forever!

Alex Cherney
(email: alex at terrastro dot com)

This image of Melbourne was taken from the International Space Station in March 2012 by Andre Kuipers.

The Briars
Still looks like one of
the darkest places
around Melbourne

Right - Comet 2012 K1 Panstarrs taken by Alios Dvornik on 14th October 2014



Mapping Members and Viewing Nights for MPAS *by John Cleverdon*

Those of you who are regulars at the Briars will in recent months have noted a couple of large-format maps appear in the 'magazine corner'; one showing the location of MPAS members and the other of MPAS viewing nights. This article will explain how these maps were produced.

My background is in cartography (map-making) and I did a degree in this at RMIT University in the mid-1990's. The first map showing member locations was done back in 2001. It was a basic A4-sized black & white map, produced using CorelDraw graphics software (which we had been taught at uni). The "base map" data was a main road network and coastline taken home from uni. The map had circles for each suburb/town with MPAS members, and these circles were scaled by area based upon the number of members. Over the next several years I produced updated copies of this map every one or two years. However, by early 2014 it was time to look at a different way of producing the map, thanks to a few events that had happened along the way.

At work (I'm a draftsman at a land surveying/civil engineering design/town planning company), I was given the task of starting on a map showing projects such as residential estates that we were involved with. This got me thinking about potential uses for GIS (Geographic Information System) software. The particular software used is MapInfo Professional by Pitney Bowes. More information about MapInfo is at: <http://www.mapinfo.com/product/mapinfo-professional/>. GIS can be thought of as a combination of mapping software and a database. I had been introduced to it at uni and had been using it at work since 2008. While the drafting side of GIS doesn't have all the 'bells and whistles' such as CAD software like AutoCAD or Microstation, the database side of things makes it quite powerful; something I had recognised by the time I finished uni. It means that if you have a database where the data has a geographic aspect, you can turn it into a map, and run queries on the map as in a database.

With a spare licence for this software from work, I installed a copy on my home PC (and have recently bought a licence for myself when a 20% discount was available).

At the same time, most of the Victorian 'Vicmap' digital spatial data had become free for download in the past couple of years. The federal government (Geoscience Australia) data was already free to download (for 1:250,000 scale topographic maps). Attribution details are required to be shown on the maps, under the Creative Commons licence. These details are below, and also indicate where the digital map data is sourced from:

Base Map Data:

Vicmap:

Copyright © The State of Victoria, Department of Environment and Primary Industries 2014
Vicmap Transport, Vicmap Admin & Vicmap Index
<http://www.data.vic.gov.au/>
<http://www.depi.vic.gov.au/vicmap>

Geoscience Australia:

© Commonwealth of Australia (Geoscience Australia) 2014; Source: Geoscience Australia
<http://mapconnect.ga.gov.au/>



The first map produced in this way was in autumn 2014, for the local Presbyterian Church I attend. It showed the location of the church and those in the congregation, along with "base map" data such as roads, railways, coastlines, watercourses/lakes, town/suburb names and urban areas. A full-colour, A1-sized copy was produced as a PDF, then plotted off at work and later laminated and placed in the church hall.

More recent versions of MapInfo Professional can create a layered PDF, as well as it being georeferenced. With a georeferenced PDF, having software such as TerraGo Toolbar installed means that you can get a continuous coordinate readout (following the mouse) inside Acrobat Reader. More information about TerraGo Toolbar is at: <http://www.terragotech.com/products/terrago-toolbar>. With this experience under my belt, it was now time to look at updating the MPAS Members map to the same standard, and doing it the same way. Peter Skilton provided a list of approximate member addresses, and the coordinates of these locations (MGA - for practical purposes the same the WGS used in a GPS) were scaled off the Melway then typed up into an Excel spreadsheet. There was one sheet for individual members and another for family members.

This spreadsheet was then imported into MapInfo, and the member locations geocoded (ie. placed in their correct location based on their coordinates). The 'base map' data was added to create a 'workspace', and for this map other features such as contours were added.

Like the first map, items such as a north point, scale bar, legend, and notes were included. For this map, the Briars site and Peninsula School were also shown.

Once I had shown the draft to Peter Lowe and Peter Skilton for review, an A1-sized full-colour copy was plotted and laminated, to be placed in the observatory building at the Briars.

One thing I had noted when comparing this map and the older maps (especially one based on a member list shortly before I joined in 1990) is the change in the spread of members. No longer is the Society membership mostly in the Mount Martha – Seaford area but has instead expanded to cover the Mornington Peninsula as well as Melbourne's bayside and southeastern suburbs.

A sample from the Member Locations map is below (smaller black circles are for individual members and larger grey circles are for family members):



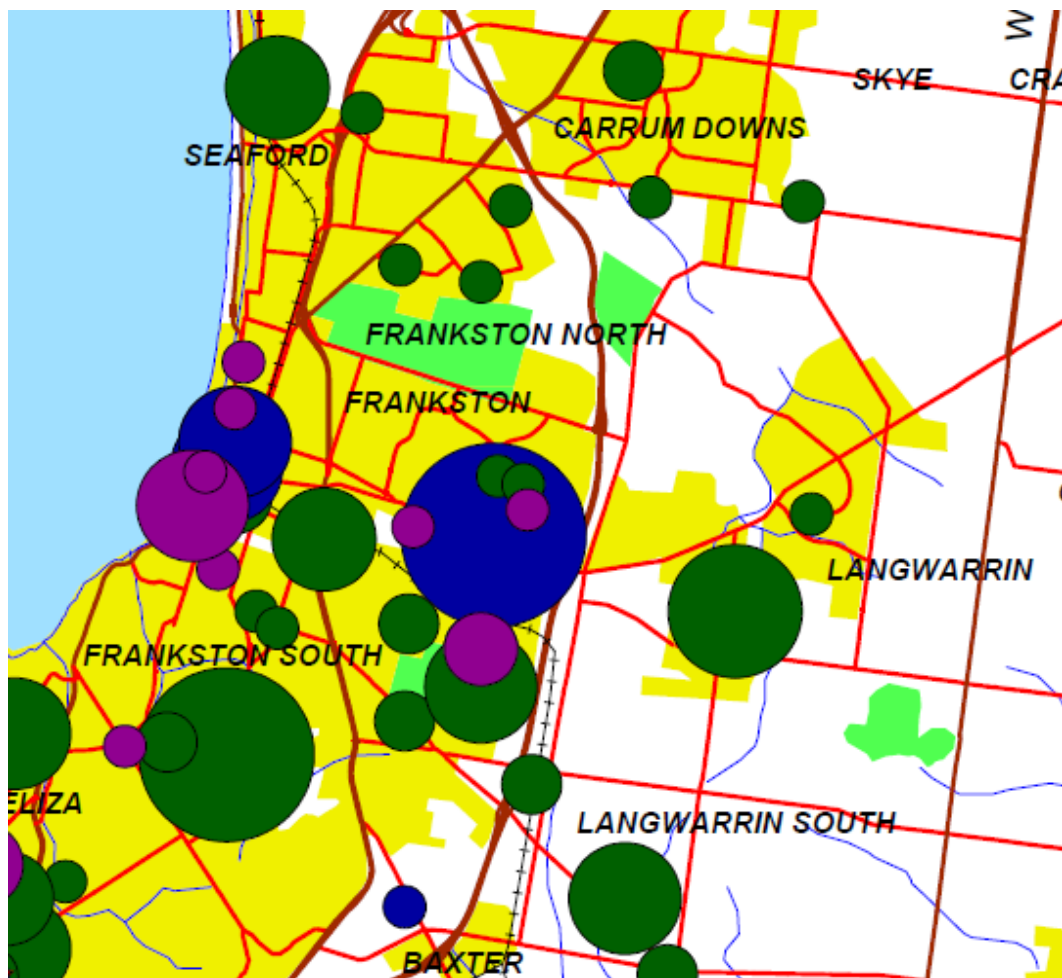
With this map complete, Peter Skilton then suggested a map showing the viewing nights that MPAS had done over the years. On this map, when a school had come to the Briars Education Camp or Camp Manyung (for example), the school and not the camp would be shown on the map. Peter provided a spreadsheet listing viewing nights done back to the 1980's.

From this, I then set up a spreadsheet listing the locations of the viewing nights, their type (public / school / community group & other), the number of viewing nights and their coordinates. Once again, the coordinates were scaled off the Melway.

The spreadsheet was imported into MapInfo and the map set up in a similar way to the member location map. However, the viewing nights map covered a larger area (therefore being at a smaller scale) and so some 'tweaking' was needed.

The first version of this map used telescope symbols (from one of the symbol fonts) to show viewing night locations, colour-coded by type. A larger symbol was used to indicate where at least 4 viewing nights had been held.

After this map was plotted and laminated, Peter Lowe and Peter Skilton provided some suggestions for improving it. Perhaps the main improvements were using circles rather than symbols to show viewing night locations, and removing minor roads for clarity. The circles were scaled by area, based upon the number of viewing nights held at a location. The 'Mk2' edition of this map was then plotted and laminated.



Above right - A sample from the Viewing Nights map is below (dark blue circles are for the public, dark green circles are for schools, and purple circles are for community & other groups):

The Viewing Nights Map can be found on the web at: http://users.cdi.com.au/~johnc/MPAS_ViewingNights_Mk2.pdf
For those interested, an example of what the Vicmap data looks like at a larger scale can be found in a map of the Yarra Junction – Powelltown area produced for a railway group at: http://users.cdi.com.au/~johnc/VicmapData_GladysdaleGilderoy.pdf

It should also be noted that this GIS software can readily create KML files for Google Earth / Google Maps as well. Late last year, I created a variety of basic KML/KMZ files, including a couple that were MPAS-related (one to get to the Briars site and another to get to meetings at the Peninsula School). Go to http://users.cdi.com.au/~johnc/kml_samples.htm and scroll down to 'Astronomy' to see these.

Indeed, doing maps such as these has given me more advanced use of the MapInfo software than what I do at work. In mid-August, I went to a MapInfo Forum in Melbourne with A3 printouts of the MPAS (and other) maps, and was showing them to a couple of the Pitney Bowes (MapInfo software publishers) staff.

Later comments (when emailing PDF's of the Viewing Nights map to a couple of Pitney Bowes employees) were "Wow, that was very impressive! I'm sure that not every astronomy club will have its own personal cartographer to provide such excellent maps for them – They're very lucky to have you!" and "That is great John".

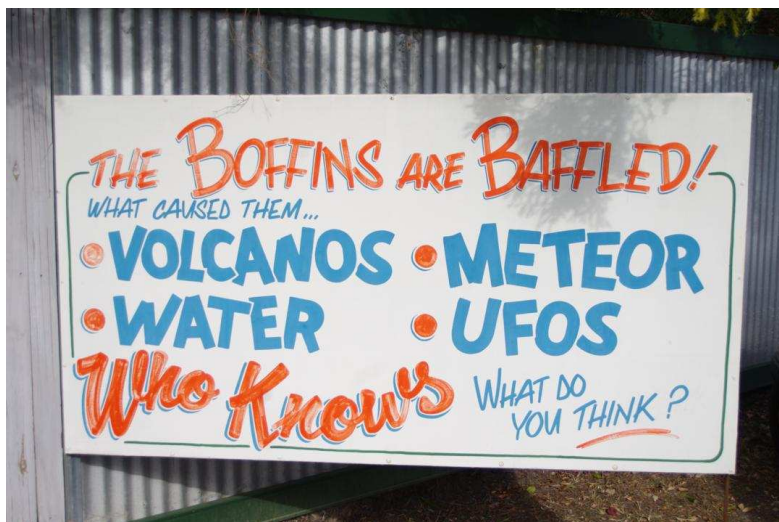
I also took these A3 prints along to a Surveying & Spatial Sciences Institute Summit in Melbourne in late September.

More details on my cartographic/spatial information skills are on the web at: <http://users.cdi.com.au/~johnc/> and on my LinkedIn page at: <http://au.linkedin.com/pub/john-cleverdon/a/a81/2b>.

I'm looking for more chances to produce maps such as the above, or to create more advanced KML files, so please don't hesitate to contact me if you can provide the opportunities, John Cleverdon johnc@cdi.com.au

Mystery Craters, by Greg Walton

Not far out of Bundaberg Pia and I we came across Mystery craters. No one knows how they were formed. They were uncovered, by someone digging in there garden. The formation is a strange mixture of different types of rocks, also not all the craters have been uncovered.



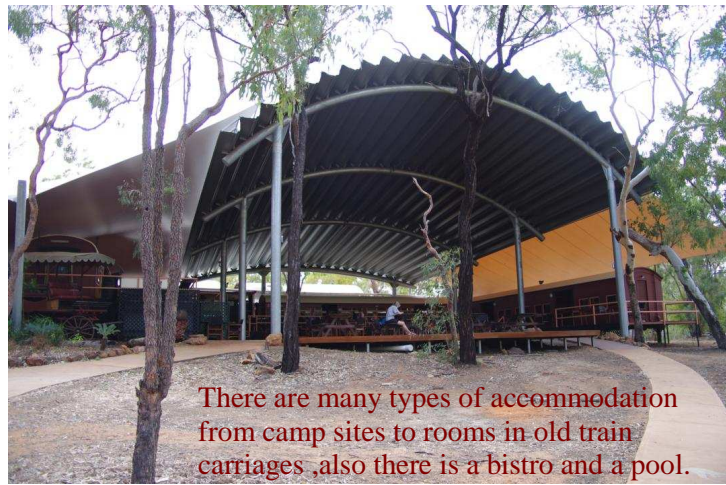
Undara laver tubes, *by Greg Walton*

While in Queensland we visited the Undara laver tubes, we were amazed to find that they were so large, I thought they would be only a couple of metres across, not big enough to fit a 2 story house inside with room to spare. They were formed when laver flowed along a river bed and the outer shell hardened while the molten rock continued to flow through the centre. When the volcano stopped erupting the molten rock drained away, leaving an empty tube. There were no aboriginal paintings inside only bats, also we were told the tubes flooded in 2012. We also walked around a near by inactive volcano where we could look down on the surrounding country side and see the extent of the laver tubes. The Moon & Mars have lava tubes & one day its thought humans may be able to colonize them.

See Video at <https://vimeo.com/105416508>



There are many types of accommodation from camp sites to rooms in old train carriages, also there is a bistro and a pool.

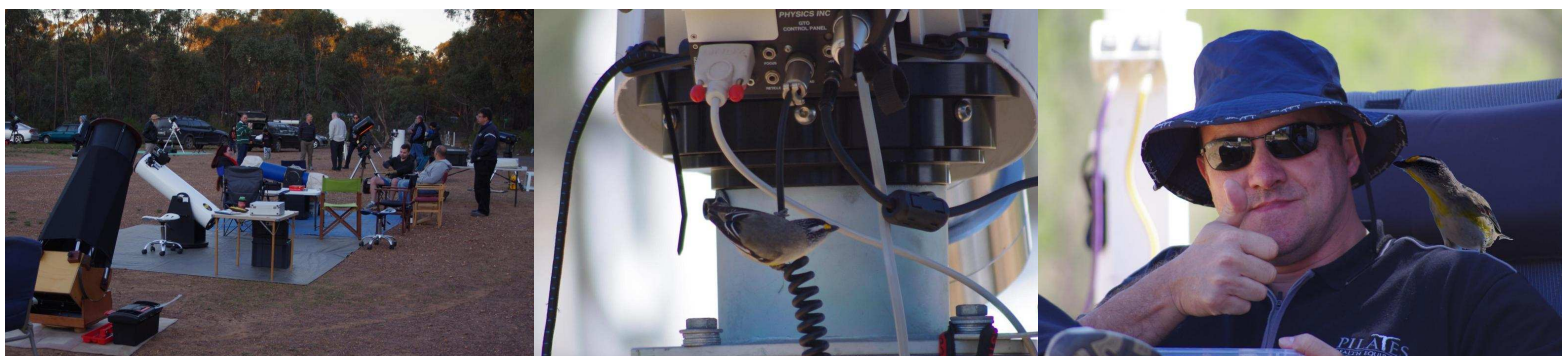


MPAS at the Galactic centre star party, by Greg Walton

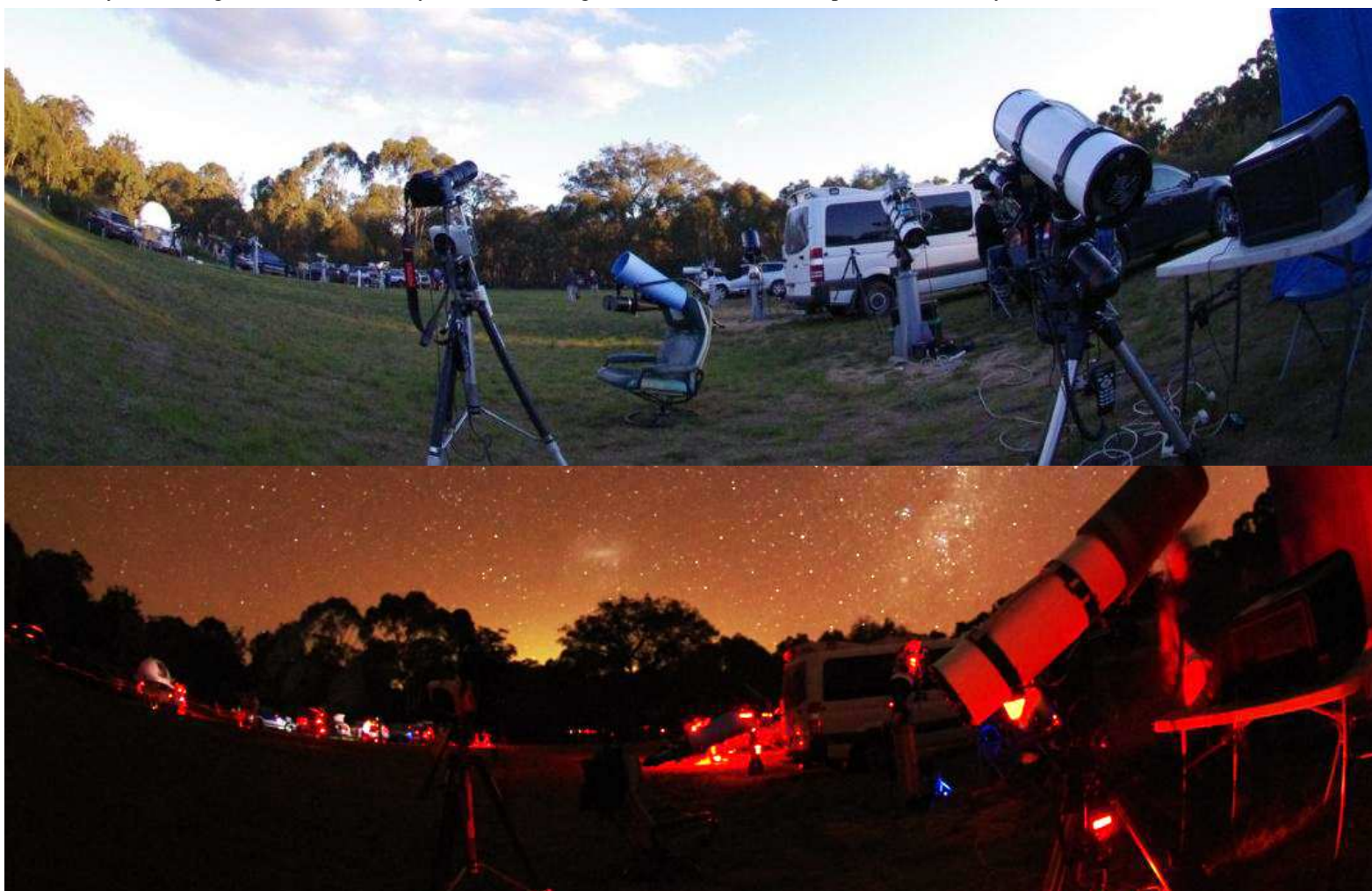
The ASV Galactic Centre Star Party, which is held at Heathcote LMDSS in September each year. The skies were clear all weekend, only a small number of MPAS member arrived on the Saturday, along with about 200 ASV members and visitor, it was most likely the smell of ham burgers cooking by the Heathcote Lions Club that brought them in. Gaven setup an array of impressive solar telescopes, we watch prominence's changing shape in really time. There was a large array of telescopes on both the observing and photographic fields, I counted about 40 scopes of all shape and sizes, from ASV's 25inch Dobsonian to small refractors also there was many scopes that seen first light.

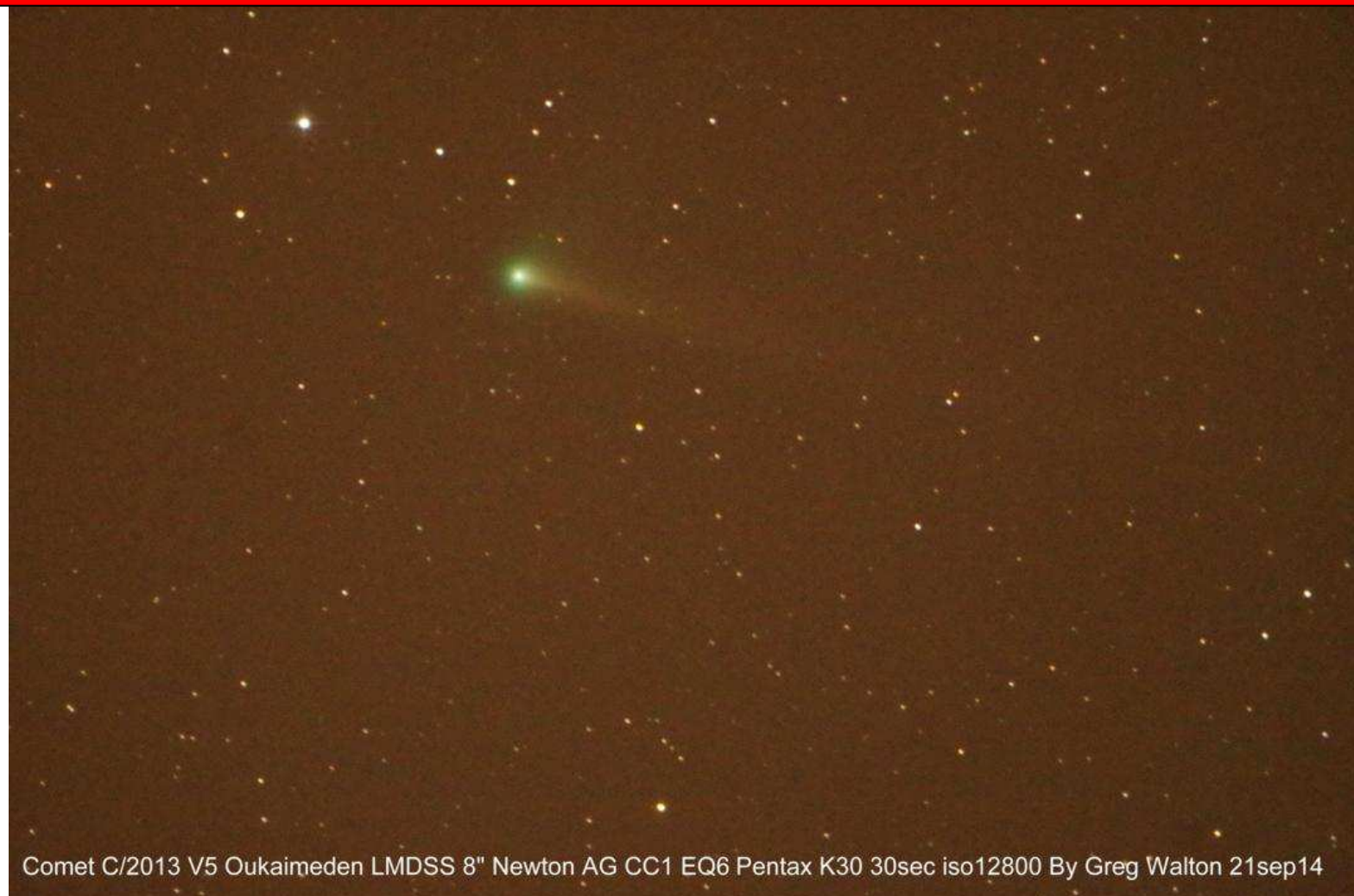


Perry entertained the visitors and newer member with his sky tour on the photographic field, while most others aligned there telescope and set there cameras rolling. Moving around the field at night was a bit of a challenge, trying on the walk into any telescopes or cameras.



Steve gave the event the thumbs up and made a new friendship with a small bird, which was mesmerized with his shiny telescope. I made a time lapse video of the event, which you can watch at Galactic Centre Star Party 2014 <https://vimeo.com/107872066> Everyone had a great time, I like to say thanks to the organizers and to all who helped out on the day.





Comet C/2013 V5 Oukaimeden LMDSS 8" Newton AG CC1 EQ6 Pentax K30 30sec iso12800 By Greg Walton 21sep14

Above - Comet C/2013 V5 Oukaimeden taken on 21 September 2014 from LMDSS Heathcote by Greg Walton

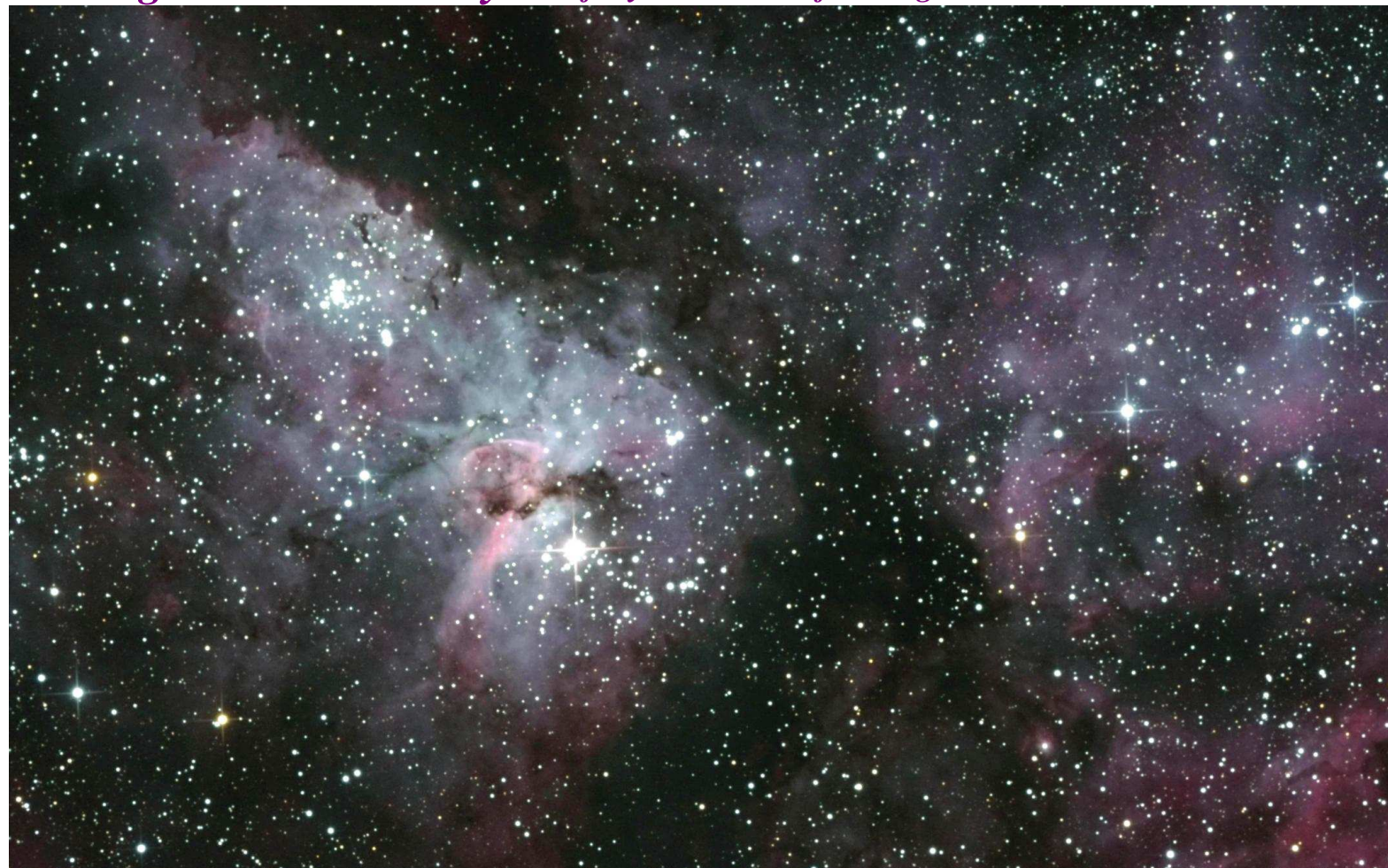
Below - Antares, M4, M80 taken on 21 September 2014 from LMDSS Heathcote with a 135mm lens by Greg Walton



Antares LMDSS 135mm f5.6 Lens Polaris Pentax K30 60x30sec iso12800 By Greg Walton MPAS/ASV 21Sep14

Greg Walton's Gallery - 2 of my more colourful images

CC1 = coma correct type 1
EQ6 = Equatorial mount



NGC3372 FKWAS 12" Newton CC1 EQ6 Pentax K-x 21x30sec iso12800 By Greg Walton MPAS/ASV 4apr11 Edit



NGC6559 LMDSS 8" Newton AG CC1 EQ6 Pentax Kr 46x30sec iso25600 By Greg Walton MPAS/ASV 8Jul13

OFFICE BEARERS OF THE MORNINGTON PENINSULA ASTRONOMICAL SOCIETY



Peter Lowe



Dave Rolfe



Peter Skilton



Jamie Pole



Trevor Hand



Paula Ritchens



Clemens Unger


Greg Walton - Please send your articles & photos to gwpmpas@gmail.com

President: Peter Lowe
Vice President: David Rolfe,
Committee: Trevor Hand, Fiona Murray, Greg Walton,
Paula Ritchens, Clemens Unger.
Phone Contact: Peter Skilton - 0419 253 252

Secretary: Peter Skilton
Treasurer: Jamie Pole
Web Master: Steven Mohr
Scorpius Editor: Greg Walton
Library: Fiona Murray

SOCIETY MEETINGS

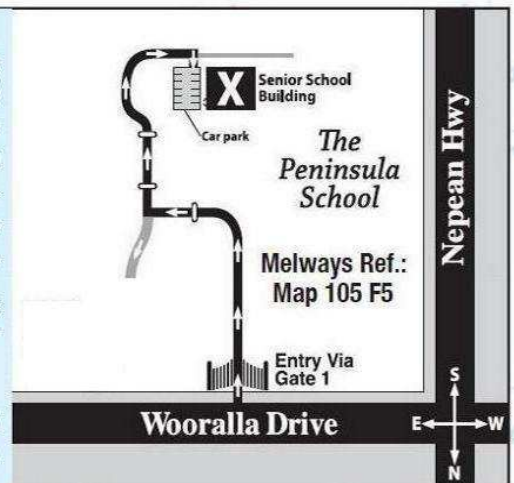
Meeting Venue: The Peninsula School,
Wooralla Drive, Mt. Eliza, (Melways ref. 105/F5)
in the Senior School at 8pm,
on the 3rd Wednesday of each month
(except December).
Entry is via the main gate, off Wooralla Drive.
(see map).

For additional details:

Internet: <http://www.mpas.asn.au>
email: welcome@mpas.asn.au

Phone: 0419 253 252

Mail: P.O. Box 596, Frankston 3199, Victoria, Australia.



LIBRARY

The Society also has books and videos for loan from it's library, made available on most members nights at The Briars site, contact Fiona Murray.

E-SCORPIUS NEWSGROUP

M.P.A.S. main line of communication is the online newsgroup called E-Scorpius. Here you will be kept up to date with the latest M.P.A.S. news and event information as well as being able to join in discussions and ask questions with other members.

To join, go to: <http://groups.com/group/e-scorpius> and sign up to Yahoo groups - You require to sign up to Yahoo groups to join E-Scorpius. Once you have signed up at Yahoo groups, email welcome@mpas.asn.au saying that you want to join E-Scorpius and you will be added to the E-Scorpius list.

VIEWING NIGHTS - MEMBERS ONLY

Any night, at The Briars, Nepean Hwy, Mt. Martha, starting at dusk.
Members visiting The Briars for the first time must contact Greg Walton on either **9776 2074** or **0415 172 503** if they need help in getting to the site. Upon arrival at the site, remember to sign the attendance book in the observatory building.

For additional details:

Internet: <http://www.mpas.asn.au>
email: welcome@mpas.asn.au

Phone: 0419 253 252

Mail: P.O. Box 596, Frankston 3199, Victoria, Australia.

