

# SCORPIUS

THE JOURNAL OF THE  
MORNINGTON PENINSULA ASTRONOMICAL SOCIETY INC.

Volume XXII, No 2 (March /April)

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 amateur 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 services of its members for educational presentations and observing nights for schools and community groups.



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**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 © 2013, Mornington Peninsula Astronomical Society

## March / 2013

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
31 Easter Sunday					1 <b>Public Night 8pm</b>	2 Saturn close to Moon
3	4	5 <b>Last Quarter</b>	6	7	8	9 Messier Party ASV LMDSS
10	11 Labour Day	12 <b>New Moon</b>	13 ASV Meeting	14	15	16 Astronomy class
17 St Patrick's Day Eco House open	18	19	20 Society Meeting 8pm <b>First Quarter</b>	21	22	23 Members Night Solar Day
24	25	26	27 <b>Full Moon</b> Committee meeting 8pm	28 Spica & Moon 1 degree apart	29 Good Friday	30 Easter Saturday

**Monthly Events & High Lights. Red Days** indicates School Holidays- **Watch out for Auroras**Public nights 1st, 8pm start - **AC Astronomy class** on 16<sup>th</sup> March @ the Briars 1:00 pm by Peter LoweSociety Meeting at 8pm on 20<sup>th</sup> @ the Peninsula School - Members Night BBQ 6pm at the Briars 23rd**Solar Day** 1pm at the Briars 23rd - **Evening** - Saturn close to Moon 2nd, Spica & Moon 1 degree apart 28th 8pm east  
Messier Party hosted by the ASV @ LMDSS Heathcote Gate open 2pm 9th Lions club will run a BBQ

## April / 2013

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1 Easter Monday	2	3 <b>Last Quarter</b>	4	5 <b>Public Night 8pm</b>	6 Astronomy class 1pm
7 Day light savings ends	8	9	10 ASV Meeting <b>New Moon</b>	11	12	13
14	15	16	17 Society Meeting 8pm	18 <b>First Quarter</b>	19	20 Members Night BBQ 6pm
21	22	23	24 Committee meeting 8pm	25 ANZAC Day	26 <b>Full Moon</b> Moon will occult Alpha-Librae 9pm	27
28 Saturn at opposition	29	30 Vesta M35 0.3deg apart				

**Monthly Events & High Lights.** Public night 5th, 8pm start - **Watch out for Auroras.**Society Meeting at 8pm on 17<sup>th</sup> @ the Peninsula School - Members Night BBQ 6pm at the Briars 20th**AC Astronomy class** on 6<sup>th</sup> March @ the Briars 1:00 pm by Peter Lowe**Evening** - 26th Moon will occult the double star Alpha-Librae at 8pm.**Evening** - 28th Saturn at opposition, 30th 7pm north Vesta & M35 0.3deg apart.**VASTROC** hosted by the Astronomical Society of Victoria @ Easter Check ASV Web site

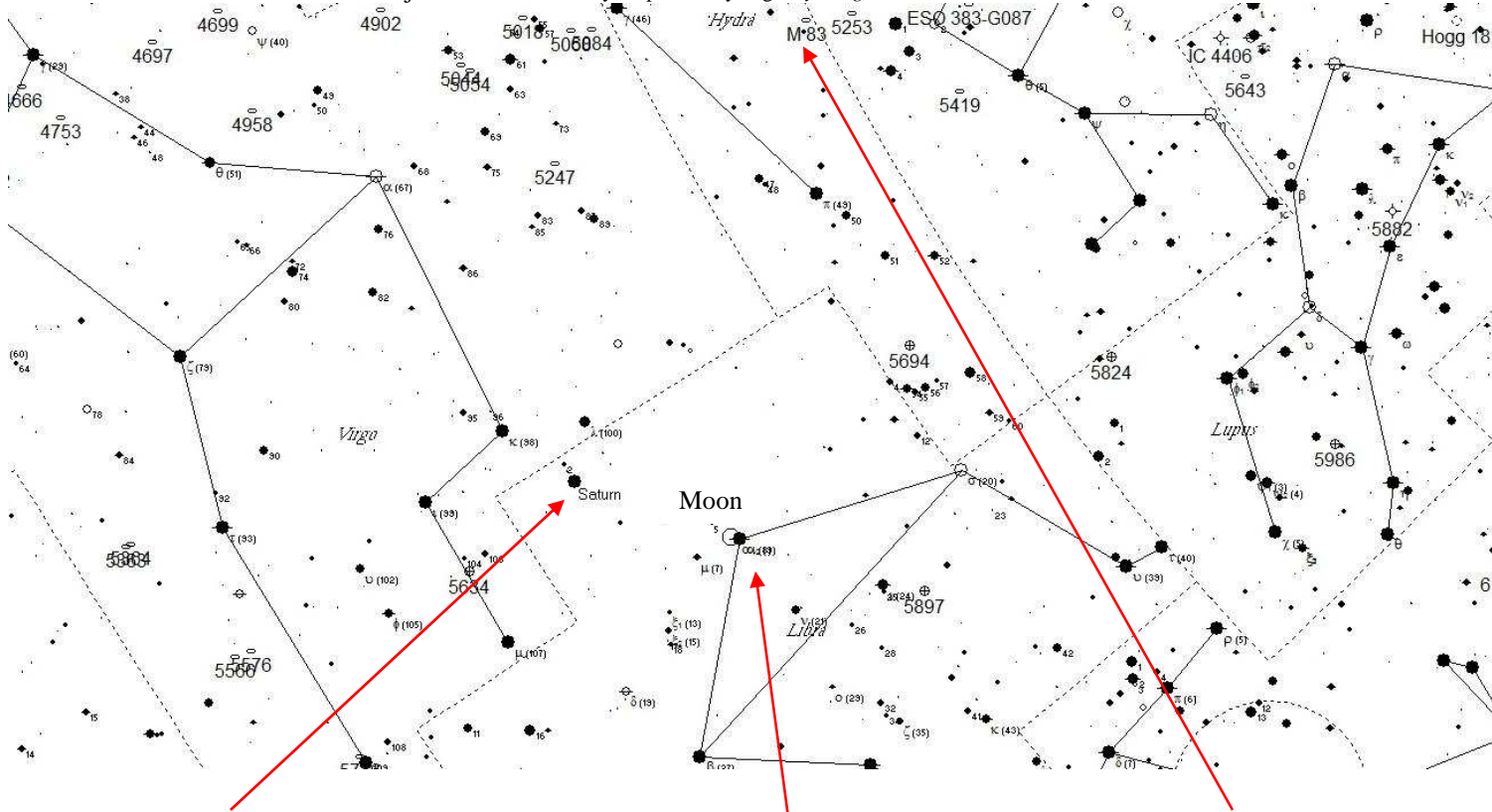
**Note** this years the Members night BBQ's will be the first Saturday after the Society Meeting.  
Also General Meetings will be called Society Meetings under the new regulation.

# Sky for the months March/April we look East to Libra & Hydra

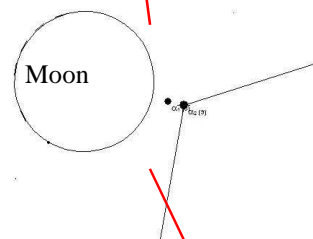
In Libra the Moon will occult Alpha-Librae at about 9pm April 26th which is a bright double star. Saturn is at its closest point to the earth.

In Hydra you will find M83 one of the brightest face on spiral galaxies in the sky.

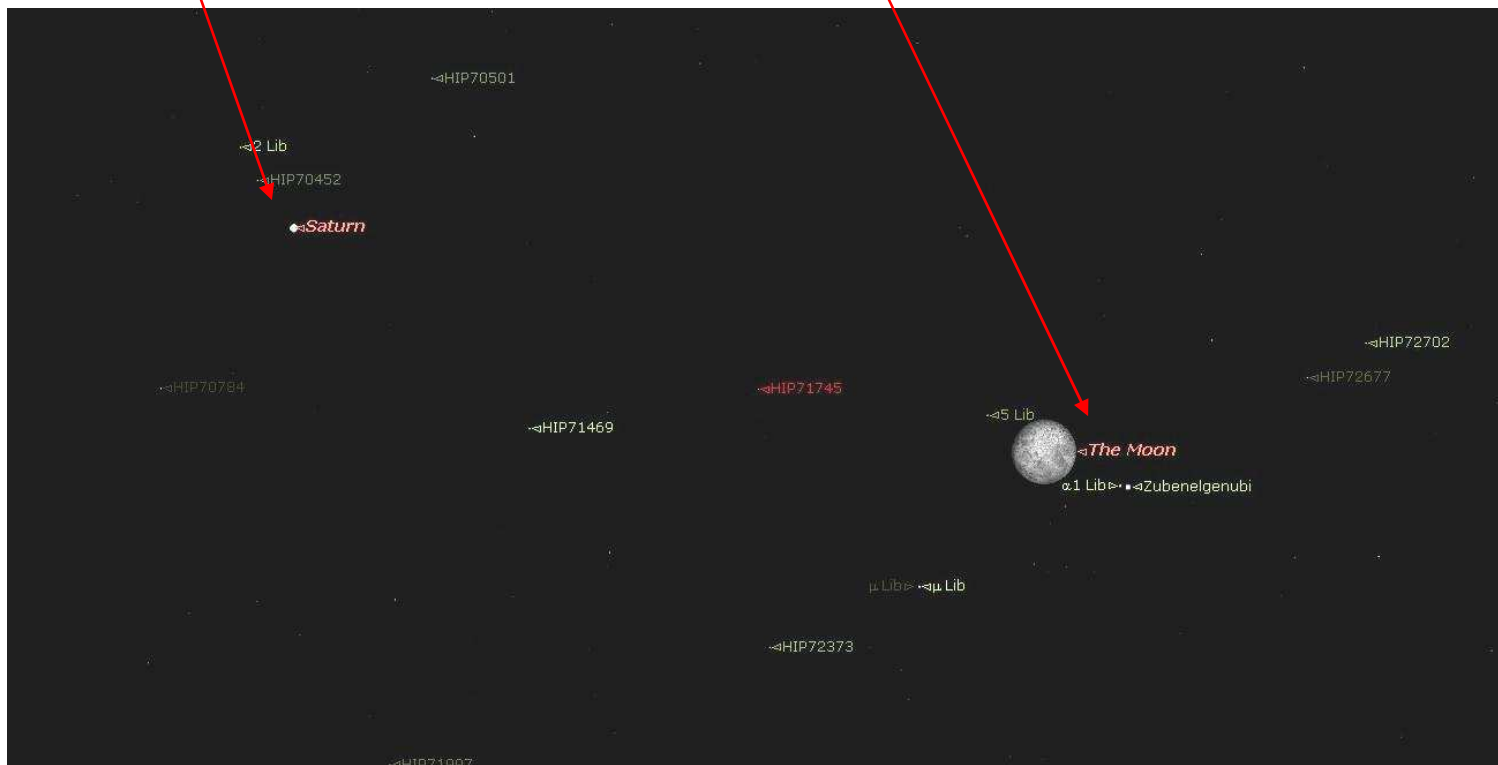
Now is the best time to view these objects. Produced on Sky Map & Starry Night by Greg Walton



Saturn 7200mm FL Pentax Kr Video with 3 X convertor Best



M83 LMDSS 8"Newton AG EQ6 Pentax K-x 71x30sec iso12800 By Greg Walton MPAS/ASV 6mar11 edit



# SOCIETY NEWS

By Greg Walton

Cover Image 1st January public with Trevor Hand giving the talk.

Xmas Party at the Briars was a great night with about 40 member in attendance Peter Lowe did a great job organizing the food, with Roland manning the BBQ, Paul cooked a couple of Snapper he had caught. James brought along his famous pavlova. Many thanks to Irena, Charlotte & Marjorie for washing up the dishes. Luckily a cool breeze moved in at 5pm after a very hot day making it a much more pleasant time. Most called it a early night due to a cloudy skies.

1st January public night was a sinker with the temperate touch 40 degrees and to add to the problems the power went off 2 hours before Trevor was to give the talk, luckily the power come back on after about a hour, meaning we could run the fans to cool the shed down. About 60 member of the public listened to Trevor's talk and all got the see Jupiter as the sky darkened, then most stayed on to look at many deep sky objects under a clear moon less sky, some staying till mid night. A large array of telescope was on the field.

2nd January public night was perfectly clear with about 20 MPAS members manning the telescopes and 20 plus member of the public. Peter Lowe gave the talk, taking the public from the Sun to the edge of the universe. Many stayed on till well passed midnight.

3rd January public night was partly cloudy with only a small number of the public and MPAS members in attendance.

Telescope Learning day run by Peter Lowe seen only a small group in attendance.

February public night started out cloudy but quickly cleared as the sky darked. Trevor gave the talk to about 35 members of the public before they got to see Jupiter and the usually deep sky objects. More than 12 MPAS members were on hand to man the telescopes.

Astrophotography work shop on 9th February run by Greg Walton seen only a small group in attendance, it covered the basics on getting started and which soft ware to use. The sky was cloudy so no hands on astrophotography was done.

January Society meeting at the Peninsula school seen only a small group of 12 members in attendance. Ian Sullivan talked about his Solar eclipse trip at sea in November. Greg Walton did a brief sky for the month. Peter Lowe talk on the search for life in the universe.

Briars Public Night 1 February 2013



## New Members Welcome

George Wisniewski  
Ron Nelson  
Grant Laing  
Paul Sinclair  
John Cade  
Jane Devenish-Mearns & Family

## 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

## 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.

## 2013 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 2013 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 2013-year ahead.

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

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

## 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.

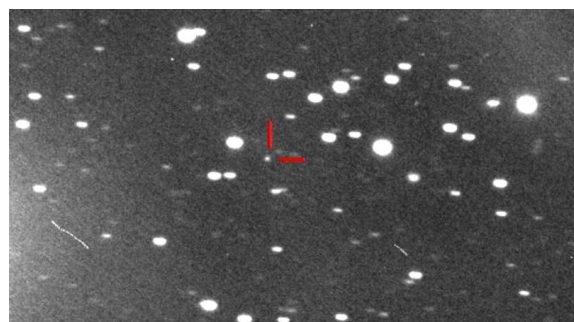
# ASTRO NEWS

By Peter Lowe

## Sir Patrick Moore dies aged 89

Good Evening. Many professional astronomers and scientists have turned their hand to popularizing science through books, radio and television. Carl Sagan, Fred Hoyle, Brian Cox and Steve Hawkins all come to mind but the real stand out personality known around the world and the current Guinness Book of Records holder of the longest serving TV presenter was the non-professional astronomer Sir Patrick Moore (the term amateur does not seem appropriate). He never failed in his quest to communicate his amazement and joy in learning about the Earth and its place in the universe right up to his death recently at the age of 89.

While we're lost a number of iconic astronomical personalities during the past year, in the public minds eye Patrick Moore must stand next to Neil Armstrong as a mentor and inspirational character. He leaves a legacy of books, programs and no doubt future scientists and engineers all inspired by his efforts.



## Comet ISON is on the Way to Graze the Sun.

Last year, Russian astronomers Vitaly Nevsky and Artyom Novichonok discovered a new gigantic comet [named C2012S1] currently approaching the inner solar system. The ISON comet, which is predicted to become brighter than the full moon, will be visible to the naked eye by late 2013. The astronomers say that given the comet's unique orbit, its origin may be the Oort Cloud, a cluster of frozen rocks and ices surrounding the solar system, extending to almost a light-year from the Sun. The comet is currently outside Jupiter's orbit, gaining speed and becoming brighter by the day. In September 2012, the Russian astronomers spotted what appeared to

be a comet in images taken by a telescope that is part of the worldwide International Scientific Optical Network, or ISON, from which the object draws its name. The ISON comet never plunged into the inner solar system, and its surface darkened because of the impact of galactic particles. Thus far, Comet ISON has only been visible through powerful telescopes. In November 2013, heat from the sun will vaporize ices in the comet's body, creating what could be a spectacular tail that will be visible in Earth's night sky without telescopes or even binoculars from about October 2013 through January 2014.

Predictions on cometary discoveries are notoriously inaccurate and while ISON might become a spectacular September sight it might also turn into a naked eye fizzer. Currently the odds are 30% awesome, 60% fizzer and 10% who knows. The same as the federal election.

## Selecting The First Martians via "Big Brother Mars".

Mars One, a Netherlands-based non-profit company hopes to deliver the first humans to the Red Planet by 2023 and estimates that it will cost about \$6 billion to put the first four astronauts on Mars. While this may seem like a daunting sum for a non-governmental entity, the company is confident it can raise the needed funds by selling corporate sponsorships. "Gone are the days when bravery and the number of hours flying a supersonic jet were the top criteria. Now, we are more concerned with how well each astronaut works and lives with the others, in the long journey from Earth to Mars and for a lifetime of challenges ahead," Norbert Kraft, Mars One's chief medical director and a former NASA researcher, said in a statement. ""

The first colonists will land on the Red Planet in April 2023. New members will arrive every two years after that. To cover the mission costs, about \$6 billion, Mars One says it will launch a reality show, a sort of interplanetary show a la "Big Brother", and raise the needed funds by selling corporate sponsorships. While candidates for the Mars mission are undergoing the selection process, the whole planet will be observing it on their TVs, Mars One will launch a communications satellite and a supply mission to Mars in 2016, then send a large rover to the Red Planet in 2018 to find the most suitable site for the new Mars colony. After 2020 all necessary settlement components - habitat units, life-support equipment and another rover will be on site.

Mars One has issued a list of basic requirements for those willing to become Mars colony pioneers. The most important criteria are to be at least 18 years old, intelligent, in good mental and physical health and to be dedicated to the project. Given that none of the Red planet pioneers will ever return to the Earth and they are being selected on a Big Brother style show makes you wonder how intelligent they need to be !!



## Ancient Water-rich Meteorite Linked to Martian Crust

Nature has for billions of years exchanged material between the planets in the form of meteorites essentially giving Earth bound scientists free samples for study. Researchers at the University of New Mexico's Institute of Meteoritics have made a once in a lifetime discovery.

The team led by Carl Agee, director and curator, University of New Mexico's Institute of Meteoritics in Albuquerque, have identified a new class of Martian meteorite that fell to Earth and likely originated from the Martian crust and surface environment.

The meteorite, Northwest Africa (NWA) 7034, nicknamed "Black Beauty," is nearly 320 grams in weight and was found in the Saharan Desert in 2011. Now after more than a year of intensive study they have determined that the meteorite formed 2.1 billion years ago, the early era of the most recent geologic epoch on Mars called the Amazonian.

The meteorite contains an order of magnitude more water (10x's) than any other discovered Martian meteorite, is a nearly perfect match for surface rocks and outcrops that NASA's missions have studied by remote sensing.

"This unique Martian meteorite tells us what volcanism was like 2 billion years ago, but it also gives us a glimpse of ancient surface and environmental conditions on Mars that no other meteorite has offered." Agee explained.

Researchers studying the carbon in the meteorite found organic carbon (macromolecular) similar to that seen in other Martian meteorites.

Analysis of the oxygen isotopes, oxygen atoms with different numbers of neutrons, shows that NWA 7034 is not like any other meteorites or planetary samples. The chemistry is consistent with surface rocks that have interacted with the Martian atmosphere, an idea that had been hypothesized by earlier studies. The abundance of water, some 6,000 parts per million, suggests that the meteorite interacted with Martian surface- or ground-water 2.1 billion years ago."

The meteorite will undoubtedly provide additional clues about Mars' warm, wet past and its present cold, dry state as researchers at UNM and others continue to examine the rare rock.

## Expanding the International Space Station

NASA has awarded a \$17.8 million contract to Bigelow Aerospace to provide a new addition to the International Space Station. The Bigelow Expandable Activity Module will demonstrate the benefits of this type of space habitat technology for future exploration and commercial space endeavors. The expandable modules are essentially inflatable units that can greatly increase the working volume of the station.

"This partnership agreement for the use of expandable habitats represents a step forward in cutting-edge technology that can allow humans to thrive in space safely and affordably, and heralds important progress in U.S. commercial space innovation." NASA Deputy Administrator Lori Garver said.

## NASA Telescopes See Weather Patterns in Brown Dwarf

Simultaneous observations by NASA's Spitzer and Hubble space telescopes of a brown dwarf star have unexpectedly revealed offset layers of material similar to the wind driven, giant planet cloud patterns shown in the artists impression at left. Probing the stormy atmosphere of the brown dwarf they have created the most detailed "weather map" yet for this class of cool, star-like orbs.

Brown dwarfs form out of condensing gas, as stars do, but lack the mass to fuse hydrogen atoms and produce energy. Instead, these objects, which some call failed stars, are more similar to gas planets with their complex, varied atmospheres. The new research is a stepping-stone toward a better understanding not only of brown dwarfs, but also of the atmospheres of large planets beyond our solar system.

Using Hubble and Spitzer simultaneously allowed observations at varying wavelength including the infrared. They found that its light varied in time, brightening and dimming about every 90 minutes as the body rotated. More surprising, the team also found the timing of this change in brightness depended on whether they looked using different wavelengths of infrared light. These variations are the result of different layers or patches of material swirling around the brown dwarf in windy storms as large as Earth itself. Spitzer and Hubble see different atmospheric layers because certain infrared wavelengths are blocked by vapors of water and methane high up, while other infrared wavelengths emerge from much deeper layers. Unlike the water clouds of Earth or the ammonia clouds of Jupiter, clouds on brown dwarfs are composed of hot grains of sand, liquid drops of iron, and other exotic compounds, so the large atmospheric disturbances found by Spitzer and Hubble gives a new meaning to the concept of extreme weather. Although brown dwarfs are cool relative to other stars, this particular object is about 600 to 700 degrees Celsius.

Researchers plan to look at the atmospheres of dozens of additional nearby brown dwarfs using Spitzer and Hubble.



This artist's impression illustrates the atmosphere of a brown dwarf called 2MASSJ22282889-431026

## Engineer Petitions White House for Real-Life Starship Enterprise

Article from SPACE.com

An engineer is petitioning the White House to study the possibility of building a real-life starship Enterprise like the fictional vessel in television's "Star Trek."

The proposal was submitted through the White House's official "We the People" channel, which promises an administration response to any petition that gathers at least 25,000 signatures. Just last month, a [petition to build a Death Star](#) like the spherical spaceship in the movie "Star Wars" garnered that critical mass, and is currently awaiting its official response.

The Enterprise proposal comes from an engineer who goes by the name BTE Dan, who detailed plans for constructing a [life-size, flyable starship Enterprise](#) on his website last year. "We have within our technological reach the ability to build the 1st generation of the USS Enterprise," BTE Dan wrote in [the petition, viewable here](#). As of this writing, the petition had 3,335 signatures, with more than 21,000 to go.

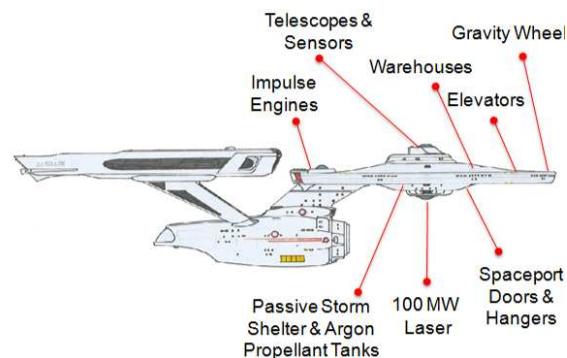
"It ends up that this ship's inspiring form is quite functional," he wrote. "This will be Earth's first gigawatt-class interplanetary spaceship with artificial gravity. The ship can serve as a spaceship, space station, and space port all in one. In total, one thousand crew members & visitors can be on board at once."

Some experts have questioned the feasibility of certain aspects of BTE Dan's plan — for example, no technology for artificial gravity currently exists, and the largest number of people ever accommodated on any space vehicle until now has been 13 (when the shuttle Discovery docked to the International Space Station in April 2010).

However, scientists are pursuing the dream of interstellar spaceflight — travel to other stars — which would require a significant technological leap from current spacecraft, none of which have yet left the solar system. An organization called [100 Year Starship](#), initially kicked off with seed money from NASA and the U.S. Defense Advanced Research Projects Agency (DARPA), aims to establish the technologies needed for interstellar flight within 100 years.

Plus, if the Enterprise could be built, BTE Dan argues that its motivational benefits would match its scientific paybacks. "Few things could collectively inspire people on Earth more than seeing the Enterprise being built in space," he wrote. "And the ship could go on amazing missions, like taking the first humans to Mars while taking along a large load of base-building equipment for constructing the first permanent base there."

For more details about the proposed Enterprise plans, see BTE Dan's site: [BuildTheEnterprise.org](#)



Below Comet Lemmon by Dave Rolf

Picture from Gregs Astrophotography Talk at the Briars



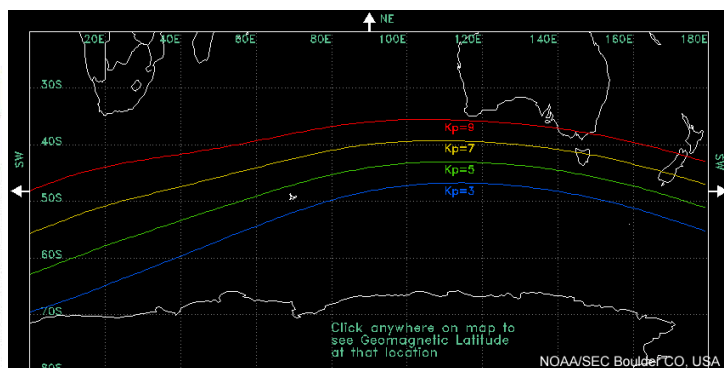
# Aurora (or Bust)

After quite a few attempts to catch aurora's all the prediction sites have a lot of confusing figures and tables. I am going to try and explain a few of the facts I have learned this Solar cycle in 10 step points.

- (1) Auroras only occur during the active sun cycle. We are currently in the active cycle now, it may last a few more months (or a year) and then be dormant for several years.
- (2) The strength of an Aurora is measured in a scale of Kp. The range is from 0 to 9 based on the geomagnetic activity for the previous 3-hour period. What does that mean? Melbourne has a magnetic magnitude of 48.4, therefore an Aurora should only be visible when the Kp is 9 or better when referring to the tables below.

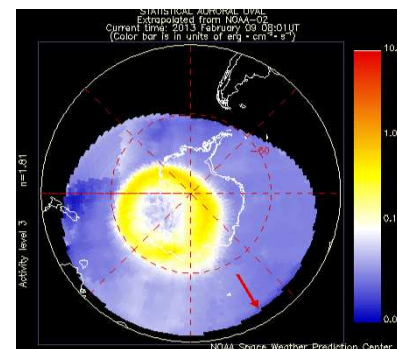
Southern Hemisphere	
City	Magnetic Latitude*
Adelaide	45.9
Buenos Aires, Argentina	23.3
Capetown	41.5
Christchurch	49.9
Comodoro Rivadavia, Argentina	32.1
Concepción, Chile	23.2
Dunedin	53.0
Durban	38.8
East London	41.1
Hobart	53.6
Melbourne	48.4
Perth	43.9
Punta Arenas, Chile	38.6
Sydney	43.5

Comparison of Auroral Boundaries from Kp and Auroral Activity Level at Local Midnight			
Magnetic Latitude	Kp	Magnetic Latitude	NOAA POES Auroral Activity Level
66.5	0	67.5	1
64.5	1	66.5	2
62.4	2	65.6	3
60.4	3	63.9	4
58.3	4	62.5	5
56.3	5	60.7	6
54.2	6	58.6	7
52.2	7	56.7	8
50.1	8	54.6	9
48.1	9	51.0	10
		48.5	10+
		45.0	10++



(3) From our Latitude there is no point heading out to a dark southern viewing location if there is moonlight (or cloud!).

(4) The Aurora circle does shift around the pole, space weather will give an indication as to which way the activity is facing. In the chart below it shows an activity level of 3 that is favorable for New Zealand and Australia. As you can see if there was stronger activity there would be more reds. The Map in note 2 is based on the average for Midnight local time.

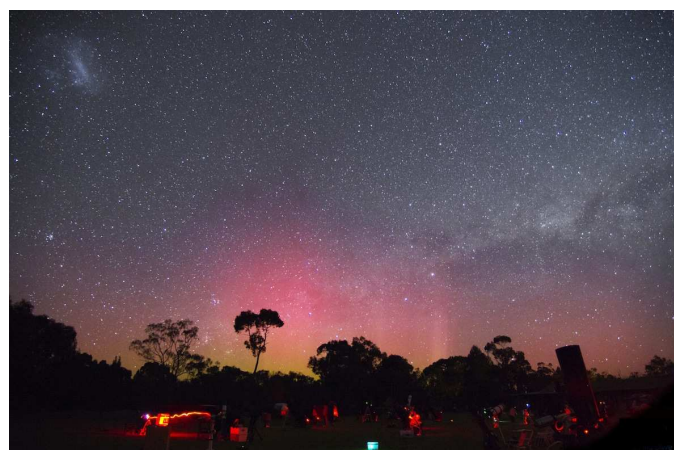


(5) A Nuclear explosion at high altitude will trigger aurora activity (have not tested this myself).



(6) Auroral activity is just the display of a solar event reacting with the earth's atmosphere. Other effects can be interference with radio transmissions and (if strong enough) actually damage electrical cabling, transformers and other electrically conductive assets.

(7) Just because an Aurora is predicted does not mean it will be there when you drive an hour to get to your viewing location. An Aurora can last minutes or hours and vary in intensity rapidly. For best results I have imaged the event and when playing the time-lapse results back the curtain effect is visible and measurable. When imaging an Aurora I shoot 30-second exposures to the South direction, which brings the color and structure to the photo. Naked eye at our latitude tends to be a mono glow on the horizon, unless it is a major huge super-doooper storm that I have not witnessed myself. For example the photo on the right is one of mine from the VicSouth star party. This Aurora was not predicted and is a good example of the vertical banding.



(8) An Aurora in the Northern Hemisphere is called Borealis (or northern Lights), down here we have the Aurora Australis (or Sothern light as we should call them). Both atmospheres typically mirror each other in activity and strength, however during the daylight hours they are overpowered by the sunlight and are not visible. The strength of both southern and northern lights are generally equal, however due to the larger population in the north, the Northern lights seems to be more famous.

(9) The word Aurora is derived from Latin, and means "sunrise".

(10) Aurora is visible from space, which maybe useful to know in the not to distant future – Hurry up Branson.





## Does anyone know how to grind and polish a mirror? Memoirs of a Past Member – Simon Hamm

I joined the Astronomical Society of Frankston back in 1994 when I was 16 years old. I grew up the 'adopted' child of many members who took me under their wing.

I watched Peter Lowe add a yearly layer of bricks to his perpetually unfinished backyard observatory and wondered how many bricks his wife Vivienne pulled down when he wasn't looking. I saw 'The Briars' go from being the topic of a quiet chat between a few members to the society very proudly leasing the land and then wondering what they were going to do now that they had no money. I watched Peter and Roslyn Skilton's children learn to walk and saw the Hubble telescope repaired. I still remember the re-discovery of the Cranbourne Meteorite being used as a doorstop at the Cranbourne Shire Offices.

Back then telescopes were hand built because they were more accurate and a lot cheaper than the telescopes you bought. Even if you bought a telescope many people would still polish the mirrors for better accuracy. I still remember listening rather intently to Steve Malone as he taught the group how to hand grind and polish a mirror. Steve is fondly remembered for the passion he had for grinding and polishing mirrors. After hearing one of Steve Malone's presentations I convinced my parents to buy me a mirror kit with the grinding paste. I regret never starting it but I must have been the only child who asked his parents for 'glass' for a birthday and Christmas present.

Back then 'Starry Night' and other astronomical computer programs were just coming into use. Some of the members loved astronomical computer programs due to being able to see the sky even when it was cloudy. Other members disliked them because you never actually saw the sky, but sat in front of a screen. On more than one night the discussion went around and around until finally everyone agreed to disagree. Some members put forth that maybe the software was to help you as a star finder, but they honestly couldn't see how because they couldn't take their 386 PC outside with them. And by the time you started your computer and had loaded the software the stars had moved anyway.

During my time in the society I was lucky enough to go to space camp twice! In 1994 I went to Australian Space Camp in Sydney and Canberra organized by the Centre for Australian Space Education (CASE) as part of a national group of high school students. In 1995 I went to Hawaii for two weeks as part of a joint camp between Australia and Hawaii. Both are fondly remembered.

It was due to my membership in the Astronomical Society of Frankston that I was allowed to attend both space camps. Given both camps were all expenses paid, attendance was very competitive and sought after. I still feel very fortunate spending two weeks on the volcanoes of Hawaii, the Mauna Kea Observatory and the Hawaiian Space Command Education Centre. I am still very glad that Peter Skilton and Peter Lowe and many other members 'reminded me' to send in an application. If it wasn't for the society and their reminders I would never have known about the space camps and never been able to experience what I did.

In 1996 towards the end of my time with the Astronomical Society of Frankston digital cameras for telescopes were slowly coming onto the market. These telescope digital camera could be brought for the low price of \$2,000 plus and the picture quality they gave almost made them not worth using! Due to having limited resolution they gave such blurry photographs that most stars looked like squares and you didn't know if you took a photo of fog or a starry night! Because of this most members, including myself, thought that digital astrophotography would be a seven-day wonder and never be cheap enough for amateurs.

In my previous time in the society, members used to track the sky by moving their telescopes by hand. It would be considered tedious now, but back then it was part of the experience. Motorized telescope trackers were expensive. They often had to be specially made for each telescope, brand and mirror size and weren't entirely accurate even after you installed them. This was assuming that your tripod could hold the huge size and weight of the motor and its components.

Now 2012 returning to the (renamed) society after an absence I feel like Alice in Wonderland. I grew up in a do-it-yourself society where telescopes were handmade and astronomical computer programs were considered a seven-day wonder. For the amateur it was too expensive to photograph stars digitally and the photos looked grainy if you did. What's more you were considered a cheat if you used a motor to track any object.

I have now returned to a society that has a completely different outlook. What I once considered 'maybe one day in the future' is now an everyday occurrence. This is not to say that digital photos, computer software, computer generated documentaries and telescope motors are not wonderful, for they will teach a new generation to love astronomy as I have.

Once I needed to imagine the stars. The children of today now have their own digital cameras, a phone can be used as a computer based star finder and many people would rather watch a TV than go outside; because to them the computer generated documentary graphics look better than the real thing. But for all the changes in technology I wonder how much of the old skills have been lost in the transition. With all the changes I still see the family feel of the society still remains and I am sure has never left. I feel just as welcome as an adult than I did as a child.

I hope that the children of today learn just as much as I did and enjoy themselves just as much as I did and I will be very happy if at least one of them knows how to grind and polish a mirror. So I asked the question "Does anyone know how to grind and polish a mirror?"

[Editors Note:

Peter Lowe's backyard observatory, named The Doghouse Observatory was finally completed and houses a Celestron C11 on a pier CG mount. While the telescope was extensively used until 2009 today receives little use because light pollution is too bright]



# Imaging the Messier 100, by Greg Walton

You can actually see 100 Messier objects from Victoria. The Messier objects are a list of 110 objects which looked vaguely like comets in French astronomer Charles Messier's (1730-1817) 3 inch telescope. As he was a comet hunter he was not much interested in deep sky objects and was frustrated by the many nebulae, galaxies and star cluster that looked like comets, so he made a list of these false comets so he would not be confused by them. Little did he know he was putting together a very nice list of deep sky objects. The Astronomical society of Victoria gives a certificate to those who observe all 100 Messier objects from Victoria. I never did get around to viewing all 100 but decided to image them as a back up project, if what I intended to image was not in the sky. It took me 3 years to image all 100 excepted M76 a small planetary nebula which only gets to 2 degrees above the horizon from LMDSS Heathcote. I did image M76 the night before the solar eclipse from Port Douglas 14 November 2012. Another challenging object was M51 which only gets to 5 degrees above the horizon from LMDSS, but by setting up my telescope in the south west corner of the viewing field I was able to image it from LMDSS, see below right. I was surprised to find many of these objects showed a lot of detail when I imaged them, like M65 & M66, M99 & M100 as most of the time these objects visually like a fuzz blob. I then put all my imager together in a single image, the pink icons are the ones not visible from Victoria & M109 only got to 0.5 degrees above the horizon from LMDSS, see below



Messier 100 By Greg Walton

	1	2	3	4	5	6	7	8	9	10
0										
1										
2										
3										 Pink cannot be seen from Victoria M40
4										
5		 Pink cannot be seen from Victoria M52 23h01 10:30pm 8 degrees below at LMDSS								
6										
7										
8	 Pink cannot be seen from Victoria M81	 Pink cannot be seen from Victoria M82								
9							 Pink cannot be seen from Victoria M97			
10	 Pink cannot be seen from LMDSS M101 at LMDSS at 3am 27march 1/2 below horizon	 Pink cannot be seen from LMDSS M102 2 degree below at LMDSS 27march 4am	 Pink cannot be seen from Victoria M103					 Pink cannot be seen from Victoria M108	 Observer 1am 1/2 degree LMDSS M109	

## Parks Radio telescope or the Dish, *by Greg Walton*

On the way back from the eclipse I dropped in on the Parks Radio telescope. Finding the dish is not hard as it stands out in the country side near Parks NSW not far of the Newell Hwy. Driving up to the dish is an awesome site with it dwarfing everything around it. I never seen the dish move in the 3 hours I was there because of the high winds, though a flock of 50 galahs were riding the up currents coming of the dish made an interesting sight. I set up a time lapse camera for a few hours in the day light and imaged clouds pasting the dish, then I order a coffee in the café and talked to the scientist operating the dish. In the education centre there was a lot of interesting displays of the old control panels and many models of the dish and how it worked. I also found one of MPAS member Alex Cherney's images in the display. In the garden out the front was 2 parabolic whisper dishes 2 meter across and about 50 meters apart, if 2 people stand in front of the dishes they can have a quiet conversation.





## MPAS at ASV Xmas Party at LMDSS Heathcote, *by Greg Walton*

Many MPAS member usually going to this Star Party, but due to the bad weather most gave it a miss. As we drove into Heathcote the sky was gray and the roads were wet, but there was a small blue patch of sky to the west that was getting bigger. When we arrived there was about 80 ASV member already their. The lions club was already selling hamburgers and ice creams, also some of the local wineries were selling there star multipliers. Perry Vlahos did the trivia completion, then draw the 3 door prizes and when the star came out he did a sky tour for those who are new to astronomy.

There was about 20 telescopes set up on the viewing field and only 1 telescope on the photography field. Because of the dodge weather I thought we would only bring my visual gear. We set up a camera on a tripod with 10mm fish eye lens and set it up to take a image for 30 seconds at iso3200 in continues shoot mode and left it to run all night, so we can make a time lapse movie of the whole night.

Pia and I set up Sky Dancer and the 100m Binocular chair under a clear sky. We first looked at Jupiter, the red stop was clearly visible though it was not red more like light gray. Then we moved to the Onion nebula M42 which looked more impressive than ever under LMDSS dark sky, we also visited the tarantula NGC2070, 47 Tuc NGC104, Grus quartet which is 4 bright galaxies in an area of less than a degree, then on to M46 a open cluster with a planetary nebula in it. Only about 6 people come to look through Sky Dancer. The ASV's 25 inch Obsession had a lengthy line of star gazers waiting they turn.

The clouds moved in around mid night so we decided to pack up for the night, feeling luck that we had seen anything at all. Many stayed on till 2am pot holing around the clouds. Night and day shots below.



# The Members Gallery

Star Wars star fighter with R2D2 riding shot gun at Twisted Iron in Mornington / Tyabb Road, Tyabb, by Greg & Pia



Public Night 11 January 2013

Master Astrophotographer Steve Mohr has done it again and got his superb images in Sky & Space magazine. Steve has developed a unique method of culminating his telescope which involves place the scope on the back seat of a car and then smashing the car, a bit extreme but it works. Well done Steve all those hours of tinkering in the shed are paying off.



#### NGC 3324

Steven Mohr

On the outskirts of the Eta Carinae nebula lies this region of star formation.

**Details:** Taken with an STL-11000 camera through a Planewave CDK 12.5-inch Astrograph on an AP900GTO mount. Exposure time was Ha 7x20 minutes, RGB 3x7 minutes.

#### ◀ NGC 6744

Steven Mohr

Some 30 million light-years away in Pavo lies the galaxy NGC 6744, seen virtually face-on here. Similar to our Milky Way, NGC 6744 is twice the diameter.

**Details:** Taken with an STL-11000 camera through a Planewave CDK 12.5-inch Astrograph on an AP900GTO mount. Exposure times were L: 12 x 900 seconds, RGB: 450 x 7 seconds each.

By Greg Walton MPAS/ASV 15feb2013

Pentax Kr Polaris Tracker 16x15sec iso12800  
Comet Lemmon & NGC 104 at Beechworth 300mm Lens F5.6



Above 4 images of Comet Lemmon taken 2 hours apart with 8 inch AG Newtonian on 11 February 2013 you can see how far it has moved against the starry back ground, each images is 1 degree high and 1.5 degrees wide, By Greg Walton from Chelsea



SOCIETY INFORMATION



Peter Lowe



Brett Bajada



Peter Skilton



Marty Rudd



Trevor Hand



Ian Sullivan



Dave Rolfe



Greg Walton

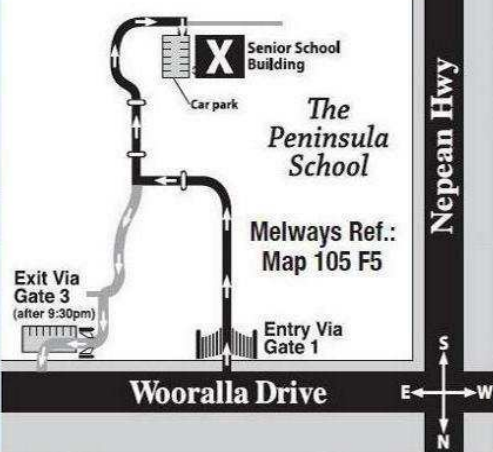
OFFICE BEARERS OF THE MORNINGTON PENINSULA ASTRONOMICAL SOCIETY

**President:** Peter Lowe  
**Vice President:** Brett Bajada  
**Committee:** Ian Sullivan, Trevor Hand, David Rolfe, Tony Coventry, Fiona Murray, Greg Walton.  
**Phone Contact:** Peter Skilton - 0419 253 252

**Secretary:** Peter Skilton  
**Treasurer:** Marty Rudd  
**Public Officer:** Rhonda Sawosz  
**Web Master:** Steven Mohr  
**Scorpius Editor:** Brett Bajada

GENERAL 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 gates or Gate 3, off Wooralla Drive. Exit is via Gate 3 Only after 9:30pm (see map).



**For additional details:**  
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**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.



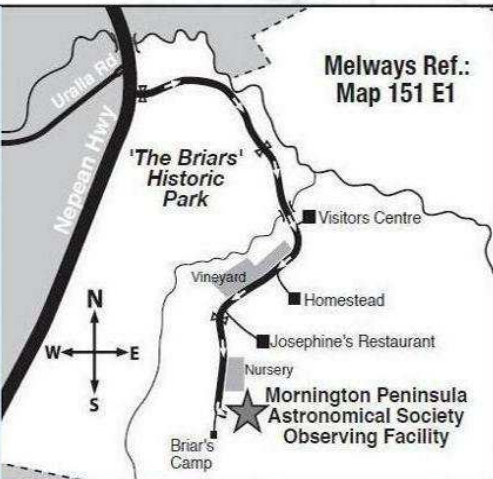
Fiona Murray

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.yahoo.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](mailto: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 9773 0098 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:**  
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