



**Redlands Astronomical Society**

Saturn and Horse Head Nebula Images from NASA



ABN: 54 544 328 524

P.O. Box 2048, Wellington Point, Qld, 4160.

# COSMOS

## News Letter – April 2009

### *Celebrating 2009 International Year of Astronomy*

**R.A.S. Web Site:** Check it out at [www.ras.org.au](http://www.ras.org.au)

#### **RAS Mission Statement**

The Society exists for the enjoyment and promotion of Astronomy by its members. We have links to the Astronomical Fraternity including other Societies, Academic Institutions and major Australian Observatories.



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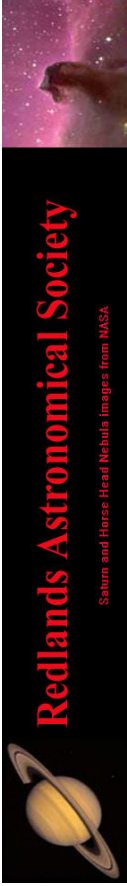


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## Presidents Report, by Chris Tacke

Easter is now upon us. Yeh – holidays. But the rain just keeps coming. Hopefully things will clear for those cool and comfortable autumn days. I hope everyone has seen the info about our RAS Astro Camp at Glen Garry, Look for the camp newsletter at the next meeting. The camp will be held on 22/23 May. There are plenty of day time activities at this site and hopefully dark and clear night skies.

Comet Lulin fades away now around magnitude 10 and the shuttle program gets back on track. Stay tuned for the next shuttle Atlantis mission to the Hubble telescope set for early May.

I had another first for me in late March (visual observation of space debris. I used the [www.heavens-above.com](http://www.heavens-above.com) website point out bright passing satellites. The one highlighted was in fact an old rocket body which passed overhead at magnitude 3.5. There is so much stuff floating around up there.

Stuart (a fan of the Hubble) has been sending me interesting updates of recent Hubble discoveries etc. This is a great resource so I've added the Hubble News Center RSS feed to our website news feeds. Click on the link and it will return the 10 latest Hubble news items.

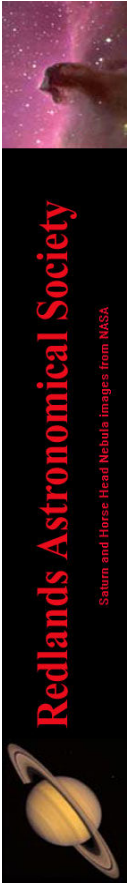
Bob has been undertaking some home projects for mounting his DOB for tracking. Sounds like a good show and tell as he progresses. Bob, how is the project traveling?

We have some exciting news from one of our traveling members – Brendan has returned home and taken the first formal steps towards formal institutionalization – Engagement that is. Congratulations Brendan from everyone at RAS.

[www.ras.org.au](http://www.ras.org.au) - The RAS website is almost fully functional. The latest update has a number of web links added back in. If you have something you would like added to the site. Drop me an email or give me a call. Outstanding items are:

- Members Image Gallery
- Membership resources – library, telescope hire, etc
- FAQ/Article contribution from the membership

If you would like to contribute to administration of the site, then I can arrange an account and provide some direction on how to.



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## NOTICES:

- Requested Viewing Nights
  - Cross Roads Capalaba - May 7<sup>th</sup> (Thursday)
  - Lota Cub Scouts @ Ormiston - June 1<sup>st</sup> (Monday)
- RAS Astro-Camp is coming – Book it in - May 22/23 Glengarry

Website: [www.ras.org.au](http://www.ras.org.au)

## Membership: Good

## Last General Meeting – February

- Astro Biology – Stuart
- Constellations 101 – Chris
- NASA Update (Pod Cast)

## Show and Tell:

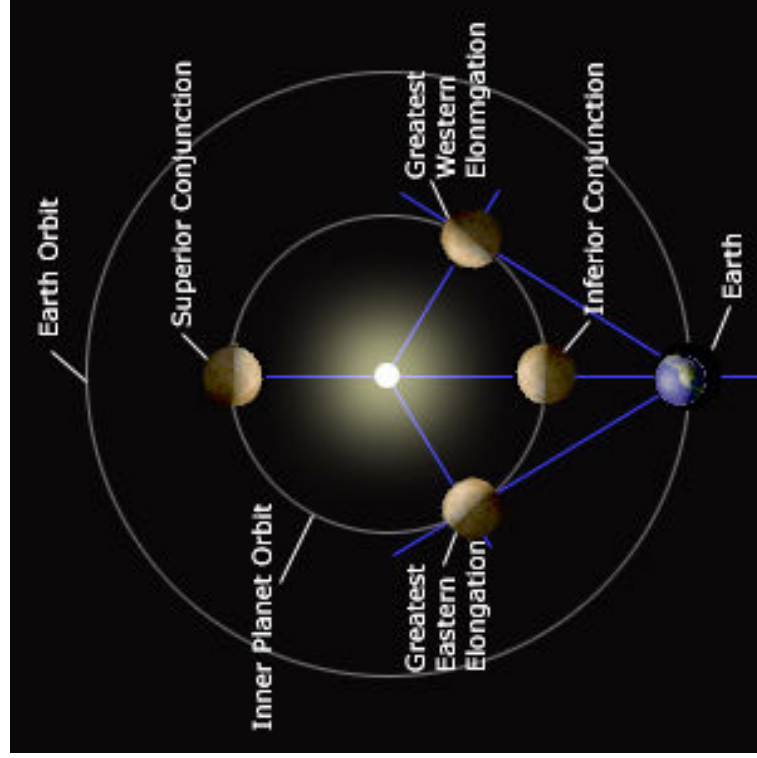
- ?

## Coming up Next Meeting:

- Conspiracy Theories
- Viewing Night highlights
- NASA Update



### Elongations

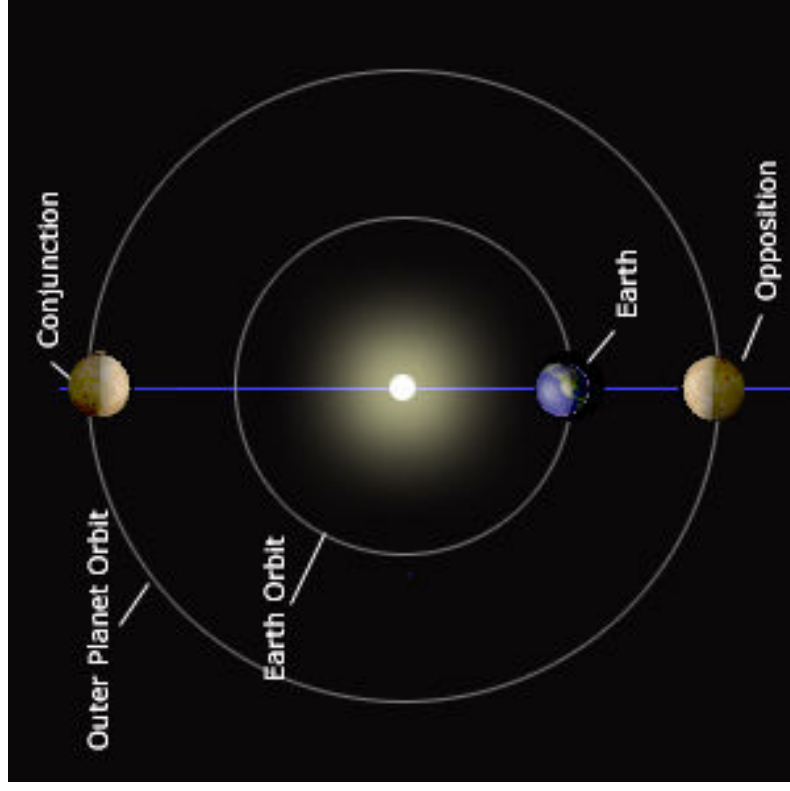


Elongations occur when an inner planet's position, in its orbital path, is at tangent to the view from Earth. Because these inner planets are inside the Earth's orbits their positions as viewed from the Earth are never very far from the position of the Sun.

When a planet is at Elongation, it is furthest from the Sun as viewed from Earth, so its view is best at that point. There are two kinds of Elongations: The Eastern Elongation occurs when the planet is in the evening sky and the Western Elongation Occurs when a planet is in the morning sky.



### Oppositions



For planets outside the Earth's orbit (Mars, Jupiter, Saturn, Uranus, Neptune and Pluto), the months around Oppositions are the best time to view these.

An Opposition occurs when the planet is opposite from the Sun, relative to the Earth.

At Opposition the planet will rise as the Sun sets and will set as the Sun rises providing an entire night of observation. Also at Opposition the planet comes physically closest to the Earth in it's orbit so it appears as large as possible.



## News from [www.spacedaily.com](http://www.spacedaily.com)

### NASA's Shuttle Atlantis Starts Move To Launch Pad

by Staff Writers

Cape Canaveral FL (SPX) Mar 31, 2009  
Space shuttle Atlantis' rollout to Launch Pad 39A at NASA's Kennedy Space Center in Florida has been rescheduled to begin at 4 a.m. EDT on Tuesday, March 31, as preparations for the STS-125 mission move forward. Atlantis is targeted to lift off May 12 to service NASA's Hubble Space Telescope.



NASA Television's live coverage of the

event will begin at 6:30 a.m. Video highlights will air on the NASA TV Video File. Journalists are invited to a photo opportunity of the shuttle's move to the pad and an interview opportunity with Atlantis Flow Director Angie Brewer at 8:30 a.m. Tuesday. Dates and times of this event are subject to change. Updates are available by calling 321-867-2525.

Reporters must arrive at Kennedy's news center by 6:30 a.m. Tuesday for transportation to the viewing area. Media accreditation for this event has closed. Badges can be picked up through Tuesday at the Kennedy Badging Office on State Road 405. The Badging office opens at 6 a.m.

The fully assembled space shuttle, consisting of the orbiter, external fuel tank and twin solid rocket boosters is mounted on a mobile launcher platform and will be delivered to the pad atop a crawler-transporter. The crawler will travel slower than 1 mph during the 3.4-mile journey. The process is expected to take approximately six hours.

During Atlantis' 11-day mission, the crew of seven astronauts will make the final shuttle flight to Hubble. During five spacewalks, they will install two new instruments, repair two inactive ones and replace components. The result will be six working, complementary science instruments with capabilities beyond what is now available, and an extended operational lifespan for the telescope through at least 2014.

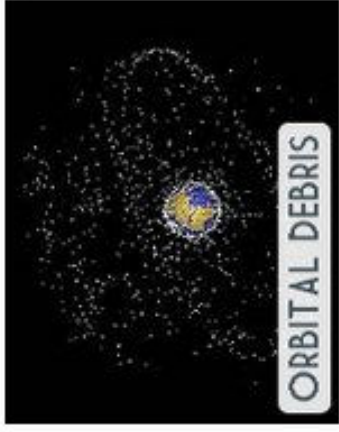


### ESA space debris conference begins

by Staff Writers

Darmstadt, Germany (UPI) Mar 30, 2009

The European Space Agency is the host for the Fifth European Conference on Space Debris through Thursday at its Space Operations Center in Darmstadt, Germany.



The ESA said the conference, which began Monday, is the largest dedicated event on space debris issues. It is co-sponsored by the British, French, German and Italian space agencies, the Committee on Space Research and the International Academy of Astronautics.

"Space debris has recently been attracting increasing attention not only due to the growing recognition of the long-term need to protect the commercially valuable low-Earth and geosynchronous orbital zones but also due to the direct threat that existing debris poses to current and future missions," the ESA said. "While commercial and scientific uses of space have expanded across a wide range of activities, including telecommunications, weather, navigation, Earth observation and science, space debris has continued to accumulate, significantly threatening current and future missions."

The space agency said speakers will present results from research on space debris, assist in defining future directions for research, identify methods of debris mitigation and remediation, assess debris-related risks and their control, devise protective measures and discuss policy issues, regulations and legal aspects.



## 100 Hours of Astronomy: Worldwide Astronomy Marathon Set To Break Records

by Staff Writers  
Washington DC (SPX) Mar 31, 2009  
The International Year of Astronomy 2009 Cornerstone project, 100 Hours of Astronomy, is on track to be the largest single science public outreach event ever. More than 1500 events have been registered in over 130 countries and this number is increasing every day.



100 Hours of Astronomy is a truly global project; an event on a scale never attempted before, with more than one million people expected to participate!

100 Hours of Astronomy (100HA) is a Cornerstone project of the International Year of Astronomy 2009 (IYA2009). It is a worldwide celebration composed of a broad range of activities aimed at involving the public. 100HA will take place over four days and nights, from 2-5 April 2009. During this period, people from around the globe will share the experience and wonders of observing the sky.

For many, it will be their first glimpse of the marvels of the heavens through a telescope. For others, it is the perfect opportunity to impart their knowledge and excitement, helping unveil the cosmos to fresh and eager eyes.

A live 24-hour video webcast called "Around the World in 80 Telescopes" will take place from 3 April 09:00 UT to 4 April 09:00 UT, following day and night around the globe to some of the most advanced observatories on and off the planet.

Viewers can find out what is happening at a research observatory in their home country or on the other side of the planet, send in questions and messages, see new images from the cosmos, and discover what astronomers are doing right now!



## Mysterious East Coast Boom Was Falling Russian Rocket

by Andrea Thompson - [www.space.com](http://www.space.com)  
Senior Writer posted: 30 March 2009 02:25 pm ET

The mysterious boom and flash of light seen over parts of Virginia USA Sunday night was not a meteor, but actually exploding space junk from the second stage of a Russian Soyuz rocket falling back to Earth, according to an official with the U.S. Naval Observatory.

"I'm pretty convinced that what these folks saw was the second stage of the Soyuz rocket that launched the crew up to the space station," said Geoff Chester of the Naval Observatory in Washington, D.C.

Residents of the areas around Norfolk and Virginia Beach, Va., began calling 911 last night with reports of hearing a loud boom and seeing a streak of light that lit up the sky, according to news reports.

Chester heard about the incident this morning; the Naval Observatory gets plenty of reports of such fireballs and Chester investigated whether it could be a meteor or whether there were "any potential decays of space junk that were coming up," he told *SPACE.com*.

He checked the listing for debris that were expected to enter the lower atmosphere from their decaying orbits around this time period and found that second stage of the Soyuz rocket that launched last Thursday was slated to hit during a window that started at 8 p.m. last night.



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## Last Viewing Night

Well, 'We wuz Tricked'. Many members called me on the Tuesday evening and we decided to give it a miss due to the heavy cloud. I dropped by the viewing site just in case other members or guests had turned up to give them that bad news. A guest had turned up and we chatted for 15 minutes. A few small wholes appeared in the night sky. I dragged out my small refractor out for a quick look at Saturn thru the clouds. A quick look and we decided to call it a night, but then Ross arrived with his 8inch DOB, 15mins later and bit more chat, the sky completely cleared for a magic night. We stayed until almost 10pm.

We had a good look around Saturn and 4 moons, M104, Centaurus A, Omega Centauri, the doubles and triples in CRUX, the carbon star close in to Mimosa, Jewel Box, Eta Carina and the Homunculus Nebula and Cluster NGC5286 and Orion Nebula (M42).

I explained my method for tracking down M104 (Sombrero Galaxy) starting with Corvus the Crow, from there to the Stargate asterism, then to the Jaws asterism. Jaw's then points directly to M104.

A retry for Thursday was a washout.

Hope to see you all next time.



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## Moon Watch

Moon Phase Calendar

| Sun        | Mon | Tues | Wed | Thur | Fri | Sat        |
|------------|-----|------|-----|------|-----|------------|
| 5          | 6   | 7    | 8   | 9    | 10  | 11         |
| 12         | 13  | 14   | 15  | 16   | 17  | 18         |
| 19         | 20  | 21   | 22  | 23   | 24  | 25         |
| 26         | 27  | 28   | 29  | 30   |     | New, 13:24 |
| April 2009 |     |      |     |      |     |            |

Moon Phase Calendar

| Sun      | Mon | Tues | Wed | Thur | Fri | Sat |
|----------|-----|------|-----|------|-----|-----|
| 3        | 4   | 5    | 6   | 7    | 8   | 9   |
| 10       | 11  | 12   | 13  | 14   | 15  | 16  |
| 17       | 18  | 19   | 20  | 21   | 22  | 23  |
| 24       | 25  | 26   | 27  | 28   | 29  | 30  |
| 31       |     |      |     |      |     |     |
| May 2009 |     |      |     |      |     |     |



### Planets

**Mercury:** Moves out from solar conjunction and rises in the west (in Taurus). Mercury will be at maximum elongation on 26<sup>th</sup> April. Whilst Mercury rises to 20° above the horizon it will be difficult to see.

**Venus:** rises earlier on the morning to be very prominent target by late month. Reaching around magnitude -4.4, mercury shines brightly with a slight crescent form. One for the early risers.

**Earth:** enjoying an Easter break

**Mars:** Still rising at around 4am in and moving to Pisces during the month. Mars meets up with Uranus on 16<sup>th</sup> and Venus on 23<sup>rd</sup>.

**Jupiter:** plays in Capricorn rises just before Midnight by the end of the month.

**Saturn:** Now just past opposition is an eye catching spectacle. Chase here moons (how many can you see) Saturn rising under the sign of Leo. Saturn is moving closer to its side-on presentation for September this year.

**Uranus:** returns from solar conjunction Uranus returns to morning skies rising by 3am at month end.

**Neptune:** The blue planet pushes ahead of Uranus and rises by 1am by month end.

**Dwarf Planets:** Pluto rises in Sagittarius at around 9:30pm Pluto is in retrograde motion for the next few months and plays in a busy part of the night sky. . .

**Deep Sky:** Orion Nebula (M42), Centaurus A, Omega Centauri, LMC, Vela, Tarantula Nebula, M44, The next few months are great for chasing galaxies in Leo, Virgo and Com Berenices.

**Constellations:** Leo, Cancer, Gemini. Corvus, Virgo, Coma Berenices, Crux, Vela, Carina, Centaurus,



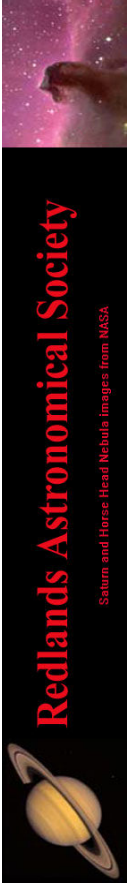
### April 2009

- Apr 07 - [Soyuz TMA-13 Return To Earth](#)
- Apr 10 - [Asteroid 2 Pallas Occults TYC 4790-00575-1](#) (11.5 Magnitude Star)
- Apr 10 - [Asteroid 2009 FO28 Near-Earth Flyby](#) (0.100 AU)
- Apr 12 - [Easter Sunday](#)
- Apr 16 - [Herschel/ Planck Ariane 5 Launch](#)
- Apr 20 - [RazakSAT/Cubesats Falcon 1 Launch](#)
- Apr 21 - [Asteroid 14 Irene At Opposition](#) (8.9 Magnitude)
- Apr 21 - [Asteroid 2009 FJ30 Near-Earth Flyby](#) (0.022 AU)
- Apr 22 - [Moon Occults Venus](#)
- Apr 22 - [Lyrids Meteor Shower Peak](#)
- Apr 22 - [Asteroid 8 Flora At Opposition](#) (9.8 Magnitude)
- Apr 28 - [GOES-O Delta 4 Launch](#)
- Apr 29-May 03 - [Astronomy Week](#)

### May 2009

- May 05 - [Eta Aquarids Meteor Shower Peak](#)
- May 07 - [Progress M-02M Soyuz U Launch](#) ([International Space Station 33P](#))
- May 08 - [Asteroid 6 Hebe At Opposition](#) (9.9 Magnitude)
- May 12 - [STS-125 Launch, Space Shuttle Atlantis, Hubble Space Telescope Servicing Mission #4](#)

Refer to the JPL Calendar for more events and event details. <http://www2.jpl.nasa.gov/calendar/>



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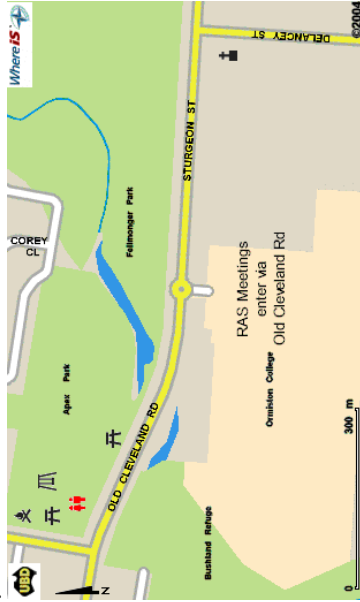
P.O. Box 2048, Wellington Point, Qld, 4160.

## Society Meetings

The Society meets at 7:30pm on the **2nd** Tuesday of the month at Ormiston College in the Music Room. Visitors welcome. A supper charge of \$2 applies.

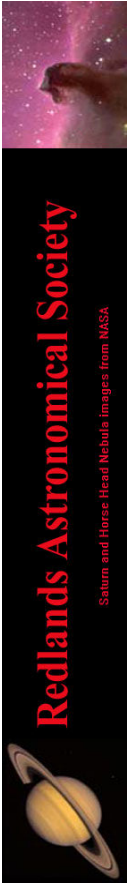
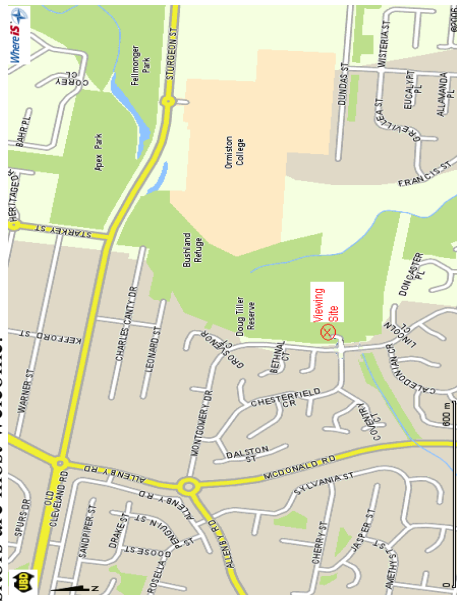
## Finding RAS

Enter the College via the lower gate at the roundabout in Sturgeon Street. Walk up the ramp/steps beside the Lingo Lin Hall. Our meeting room is ~25m from the Hall entrance.



## RAS Night Sky Viewing

Sky viewing evenings are held at 7:30pm on the **3rd** Tuesday of the month at the Doug Tiller Reserve, Montgomery Drive, Wellington Point. Look for our sign near the Amenities block. Our Back-up night for bad weather is the following Thursday. Visitors are most welcome.



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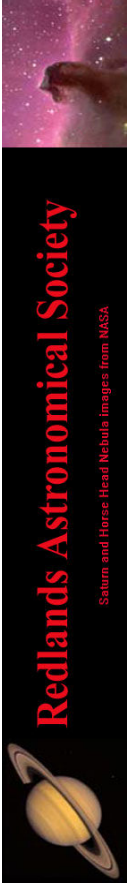
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## Society Calendar - 2009

|              |                           |   |  |                     |
|--------------|---------------------------|---|--|---------------------|
| <b>April</b> | <b>4<sup>th</sup></b>     | - 100 Hours of Astronomy (Brisbane Planetarium) | <b>4<sup>th</sup></b>                  | - Committee Meeting |
|              | <b>7<sup>th</sup></b>     | - Committee Meeting                             | <b>11<sup>th</sup></b>                 | - Society Meeting   |
|              | <b>14<sup>th</sup></b>    | - Society Meeting                               | <b>14<sup>th</sup>-23<sup>rd</sup></b> | - QLD Astrofest     |
|              | <b>21<sup>st</sup></b>    | - Viewing Night                                 | <b>18<sup>th</sup></b>                 | - Viewing Night     |
| <b>May</b>   | <b>5<sup>th</sup></b>     | - Committee Meeting                             | <b>1<sup>st</sup></b>                  | - Committee Meeting |
|              | <b>7<sup>th</sup></b>     | - CROSSROADS Viewing                            | <b>8<sup>th</sup></b>                  | - Society Meeting   |
|              | <b>12<sup>th</sup></b>    | - Society Meeting - AGM                         | <b>15<sup>th</sup></b>                 | - Viewing Night     |
|              | <b>19<sup>th</sup></b>    | - Viewing Night                                 | <b>6<sup>th</sup></b>                  | - Committee Meeting |
|              | <b>22/23<sup>rd</sup></b> | - RAS Astro Camp                                | <b>13<sup>th</sup></b>                 | - Society Meeting   |
|              |                           |   | <b>20<sup>th</sup></b>                 | - Viewing Night     |
| <b>June</b>  | <b>1<sup>st</sup></b>     | - Lota Cubs @ Ormiston                          | <b>3<sup>rd</sup></b>                  | - Committee Meeting |
|              | <b>2<sup>nd</sup></b>     | - Committee Meeting                             | <b>10<sup>th</sup></b>                 | - Society Meeting   |
|              | <b>9<sup>th</sup></b>     | - Society Meeting                               | <b>17<sup>th</sup></b>                 | - Viewing Night     |
|              | <b>16<sup>th</sup></b>    | - Viewing Night                                 | <b>1<sup>st</sup></b>                  | - Committee Meeting |
| <b>July</b>  | <b>7<sup>th</sup></b>     | - Committee Meeting                             | <b>8<sup>th</sup></b>                  | - Society Meeting   |
|              | <b>14<sup>th</sup></b>    | - Society Meeting                               | <b>15<sup>th</sup></b>                 | - Viewing Night     |
|              | <b>21<sup>st</sup></b>    | - Viewing Night                                 |  |                     |



# Redlands Astronomical Society

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## Membership

Membership enquiries should be directed to the Treasurer. We offer Student (\$15), Adult (\$25) and Family memberships (\$40) memberships.

## Library & Equipment (Members Only)

Books, charts, videos, slides & magazines etc are available for loan to members. If any members see or hear of any multimedia material that they would like purchased for our library, please let the committee know.

For those special occasions, the society has a Mead 10 Inch Schmidt Newtonian Scope mounted on a go-to motorized LXDS55 German equatorial mount.

## Telescope Hire (Members Only)

The Society has an 8" (204mm) Dobsonian and 5" (127mm) Orion telescope available for hire to members for \$10 per month. See Chris Tacke or Rod Allison for availability.

## Newsletter

Our COSMOS newsletter is posted or emailed to Members prior to each meeting. Monthly sky viewing highlights are typically discussed at each monthly meeting time permitting.

## Office Bearers 2008/2009

|                 |                  |                 |              |
|-----------------|------------------|-----------------|--------------|
| President:      | Chris Tacke:     | (07) 3207 2818, | 0410 444 702 |
| Vice President: | George Nicholls: | (07) 3286 7005, | 0438 411 655 |
| Secretary:      | Rosalind Wyatt:  | (07) 3207 1827  |              |
| Treasurer:      | Rod Allison:     | (07) 3822 2991  |              |
| Committee:      | Richard Drennan  |                 |              |
| Committee:      | Stuart Scanlan   |                 |              |
| Cosmos Editor:  | Chris Tacke      |                 |              |