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We still have reservations available for the remaining Mt. Wilson nights. Our concern is that we need to know if we have enough people for a particular night so we can decide if we can go ahead with that night. **PLEASE, DON’T DELAY PLACING YOUR RESERVATION FOR THE NIGHT YOU’RE INTERESTED IN.** See page 4 for details.

The 26-inch telescope, “The 26” as Mark Briggs and Bob Deubler call it, is now stored at Griffith Observatory, a location that will assist greatly in making the telescope available during public star party nights. It was donated to the LAAS by the Big Bear Solar Astronomy group for that expressed purpose. There are still a few minor issues to resolve, but given that we no longer need to use a specially outfitted pickup truck to transport the telescope, this is a major advance in the use of The 26. As the one who was the contact person between the LAAS and Griffith Observatory in this effort, I wish to express my personal thanks to Mark Briggs and Bob Deubler of the LAAS, and Jimmy Carter of the Observatory Shops staff, for their time and effort to insure that we could move The 26 in and out of the exterior elevator without damaging either. In addition, my personal thanks to Griffith’s Assistant Director Mark Pine and to its

(Continued on page 3)
director Dr. E.C. Krupp for their permission to store The 26 at Griffith.

Our outreach program always needs volunteers, especially those who live in the San Gabriel valley, and with and without equipment. For all public outreach, whether at Griffith Observatory or other locations, we need volunteers without equipment to help with crowd control, to answer questions from the public, to lend assistance to the telescope operators, and give them the chance to visit the restroom, grab a drink, et al. Please consider donating your telescope and/or time. I did the Aug 4th Whittier college event and met some very bright and intelligent middle school girls, who asked very intelligent and thoughtful questions. It was a very rewarding experience, as is every Griffith public star party.

For those interested in next year’s RTMC and concerned with the change in the date when it will be held, that decision has not been finalized as we went to press. I’ll try and keep everyone informed.

The 2010 annual banquet will be held at the Monterey Hill Restaurant in the San Gabriel valley, Monterey Park, on January 24th Sunday. See page 11 for details.

Articles, short news or story items, and photographs and images are welcome as long as they’re focused on LAAS interests. Articles need to be 1,500 words or less. Please submit only a few images at one time, and please supply a caption for each. Include such information as camera type, telescope or other equipment used, and exposure times. The deadline for submitting bulletin material is the 10th of each month. If possible, please submit electronically to: BulletinEditor@laas.org

Material may be sent to the LAAS address listed at the top of the column at left, but timely reception and publication cannot be guaranteed.

Colossus

Proud to sponsor high-tech societies like the LAAS
When you need the ultimate in IT control, go with the ultimate in AI.
Brought to you by the Forbin Group, Inc., the leader in World Wide control.
LAAS has arranged for two half-nights and one full-night at the Mount Wilson 60-inch telescope this year. All three are New Moon nights. Half-nights are until 1:00 am.

Sept 18th Fri (half night)  
Oct 16th, Friday (full night)

Only LAAS members are allowed to sign up. If there is still room two (2) weeks prior to the date, paying guests will be permitted. Everyone who shows up, whether family member, friend, or guest, will have to pay in order to be allowed in the 60-inch telescope observatory. The cost is $80 per person for the full night (no half night reservations on a full-night outing), and $45 per person for the half night. We are allowed to accommodate only a limited number of participants at each session, and your reservations are being accepted on a first come, first serve, basis.

To secure your reservation, send in your request AND A CHECK payable to LAAS to our Treasurer at:

P.O. Box 56084  
Sherman Oaks, CA 91413

Any LAAS member who has not been to a 60-inch night at Mount Wilson should consider it as an opportunity to visit astronomy history. To see the location and equipment used by giants such as Shapley and Hubble will add to your appreciation of their contributions. And you’ll never get a better visual view!

The scope will belong to LAAS for the time indicated. We mutually agree upon which objects to view. Often, a member is the operator, so it is a very comfortable environment. (Do bring a coat, however). The viewing is without a doubt the best you are likely to see in your lifetime.

If you need any further information about attending these nights on Mount Wilson, contact our Treasurer at treasurer@laas.org or by mail at P.O. Box 56084, Sherman Oaks, CA 91413.

Mt Wilson 60” Nights
If you get away from the city lights and find a dark night sky, you will be able to see about 2000 stars, give or take a few, depending on how well your vision works. Do likewise on a planet in the dense core of a globular cluster, and you will see anywhere from about 30,000 to 100,000 stars. The integrated light of the stars alone could be anything from 10 to 100 times the total brightness of our own dark night skies. I have heard some say that it is hard to find some constellations in a dark sky just because they are not used to seeing so many stars, compared to our urban habitat. Imagine the trouble you would have in a globular cluster sky.

Just as a halo of comets surround our solar system in the Oort cloud, so is our Milky Way galaxy surrounded by a halo of globular clusters, although the comets surely outnumber the clusters by a wide margin. Where the globular clusters came from and how they formed remains a topic of active inquiry in the astronomical community. New globular clusters are still being discovered, especially in the modern era of infrared astronomy. Sometimes astronomers realize they have mistakenly identified a cluster as open when it should be globular. One of our own LAAS amateur astronomers, the late Czernic Crute, became co-author of a paper after convincing professionals to investigate the cluster IC1257, which had been classified as an open cluster and as a globular cluster, at various times by various authorities. As a result of that investigation it was positively identified as a globular cluster (IC 1257: A New Globular Cluster in the Galactic Halo; William Harris, et al., The Astronomical Journal 113(2): 688-691, February 1997).

Open clusters (sometimes called “Galactic clusters”, not to be confused with “galaxy clusters”) usually hold a few hundred to at most a few thousand stars. But globular clusters can boast anywhere from 100,000 to 1,000,000 stars or more. Open clusters vary widely in age, are distributed in the plane of the Galaxy, and are indicative of ongoing star formation in the Galactic disk. Globular clusters are distributed in a halo around the Galaxy, with some in the plane, and are much older then typical open clusters. Many globular clusters are almost as old as the universe; so understanding the stars in globular clusters can lead to understanding star formation in the very young universe.

Globular clusters are popular objects for viewing by amateur astronomers, since even modest telescopes can distinguish individual stars from the glow of the cluster. German amateur astronomer Johann Abraham Ihle was the first person

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on record to observe a globular cluster. He discovered the cluster that would eventually be known to us as M22, on 27 August 1665, while observing Saturn, a couple of degrees away at the time. Edmond Halley discovered Omega Centauri from St. Helena in 1677 (this naked eye object was known but though to be a star since ancient times). But nobody resolved stars in the clusters, which remained fuzzy nebulae, until Charles Messier observed M4 in 1764 (M4 was not discovered by Messier, but by Philippe Loys de Chéseaux in 1746). By the time William Herschel began his survey project in 1782 (the year before the Treaty of Paris made the independence of the United States of America an officially recognized fact) there were already 33 globular clusters known, and he was able to resolve all of them into stars, as well as discovering an additional 37 globular clusters on his own (I am unaware of any other person who discovered that many globular clusters single handedly). Globular clusters were called “round nebulae” by Messier. It was William Herschel who first called them “globular clusters” in the discussion of his 2nd catalog of 1000 deep sky objects in 1789.

William Harris’ online catalog, last updated in February 2003, lists 150 known globular clusters for the Milky Way. There were 158 known Galactic globular clusters in August 2007, some recently discovered hiding behind dust clouds by infrared observatories. A few new discoveries since then puts the count about 160. Accounting for those we have not yet found, based on observing capabilities, makes us guess that the Milky Way may be accompanied by 180 to 200 globular clusters altogether. But this is not “typical”. Our friend M31 is known to have over 400 globular clusters, and the giant elliptical galaxy M87 may hold on to as many as 20,000 globular clusters! While those around the Milky Way and M31 are mostly old, in excess of 10,000,000,000 years, there are

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several local group dwarf galaxies accompanied by much younger globulars.

The largest & brightest globular cluster around the Milky Way is the giant Omega Centauri (NGC 5139). About 16,000 light years away, it still lights up the sky with a visible magnitude 3.68, easily naked eye in a dark sky, though thought to be a star before Edmond Halley proved otherwise. It weighs in with a hefty 5,000,000 solar masses. Its color magnitude diagram shows at least 3 distinct main sequences, which implies at least 3 major bursts of star formation, over a period of perhaps 2,000,000,000 years. Whatever the origin of the smaller globular clusters, Omega Centauri is now seriously thought to be the remnant of the core of a dwarf spheroidal galaxy that has been otherwise digested by the Milky Way. Seen from Los Angeles, Omega Centauri barely peeks out over the southern horizon in late spring. But the largest & brightest globular cluster in our Local Group of galaxies is Globular Cluster G1 (or Mayall II) in the halo around M31. Although over 2,500,000 light years away, it is still accessible to larger amateur telescopes, with a visible magnitude 13.7, slightly brighter than Pluto, which is about magnitude 14.0. G1, which weighs in with an even heftier 14,000,000 to 17,000,000 solar masses, is often on the list of objects for viewing through the 60-inch telescope on Mt. Wilson. It is so large that it is hard to tell whether it should be classified as a globular cluster or a dwarf galaxy.

The nearest globular cluster to Earth was, until 2006, M4 (NGC 6121), a mere 7200 light years away in Scorpius. But in 2006 the globular cluster FSR 1767 was discovered, a mere 4900 light years away, also in Scorpius. FSR are the initials of the co-authors of the discovery paper, Froebrich, Scholz & Raferty (A systematic survey for infrared star clusters with |b|<20 degrees using 2MASS; Monthly Notices of the Royal Astronomical Society 374(2): 399-408, January 2007). Automated searching of the 2MASS infrared catalog for clusters discovered FSR 1767; it is hidden behind dust in the plane of the galaxy and so is invisible to us.
and can be seen only in the infrared. So fans of M4 take heart, it is still the closest globular cluster we can actually look at. Prof. Brad Hansen (UCLA) lead a team that used the white dwarf cooling sequence in M4 to determine its age independent of the usual color magnitude diagram, and came up with about 12,700,000,000 years (compared to an average age 13,200,000,000 years for the metal-poor globular clusters).

The most distant globular cluster from Earth is AM 1 (Arp-Madore 1), about 400,000 light years away from us, and about 402,000 light years from the center of the Galaxy. AM 1 is one of a handful of globular clusters that are so far removed from the Galaxy that it is questionable whether or not they are actually gravitationally bound to the Galaxy. AM 1 is visible only in the southern hemisphere constellation Horologium. The most distant globular cluster that can be seen from the northern hemisphere is Palomar 4 in Ursa Majoris, about 356,000 light years away from us, and about 364,000 light years from the center of the Galaxy.

Globular clusters represent the extremes of the Milky Way. They are the largest and brightest star clusters as well as the oldest star clusters. Only a few lone halo stars are known which might be older. They are also the most distant star clusters, testing the gravitational grip of the Milky Way. They formed well before the disk of the Galaxy, and the larger ones may even be remnants of the cores of dwarf galaxies that have long since been absorbed into the Milky Way. Globular clusters remain fascinating objects of astronomical study.
David Beraru took these images of the July 22nd total solar eclipse from southeast of Iwo Jima on the cruise ship Costa Classica using a Canon Rebel XT and a 250mm lens. The above image shows the famous diamond ring effect. One first hand report said that there was actually a double diamond ring effect. Below is the image of totality. All those from whom I received reports from said that the corona was limited and small on this eclipse. What will 2010 July 11 reveal? We’ll just have to wait and see.
LAAS' First Children's Classroom and Star Party was a success. We had 20 children present along with friends and family. A total of 68 LAAS members and friends came to Garvey Park. We had so much to do and so little time to do it all.

Special thanks go to Mary who worked so hard to make sure the children would enjoy the event. Without her determination and strong desire to teach astronomy to our youth, this event would never have taken place. Good job, Mary Brown!

I'd like to thank Mary's daughters, Gina and Zena for their hard work and the fabulous loot bags they put together for the children. Mike White did a great job touring everyone in the workshop. Dave Sovereign ran the telescope for the kids in the evening along with Jon and Steve Silveira. Richard cooked all of the hot dogs to perfection. Thanks go to Sarah Shaw and Norm Vargas for the best part of the day which was the creation of a comet! Everyone loved it!

The following volunteers ALL did an outstanding job! Without their dedication and hard work, the day wouldn't have turned out as well as it did for everyone present.

Paul Wicker, Helen Osborne, Sarah Shaw, Hank Lin (our new Youth Liason), Wai-Yin, Richard Roosman, Mike White, Zena and Gina Brown, Rick, Jon and Steven Silveira, Dave Sovereign, Sheri Breaux, Norm Vargas and Tim Thompson who helped us gather the flock together and chat with the guests as the day progressed. And thanks to everyone who brought food and drinks to share! Special thanks also go to Dan Costley, the Superintendent of Recreation for the City of Monterey Park who made sure that our needs for the day were met. One last "thank-you" to Lisa Judd in Colorado who made and shipped pins and magnets for the children at her own expense. Thank you, Lisa! Thank you all! Great Job! You are all very special people! ♦
2010 Annual Banquet

Here are the current details for the 2010 annual banquet. Please check future bulletins for any updates and changes.

Date: Jan 24th

Time: 5:00pm for the bar
      6:00pm for dinner

Location: Monterey Hill Restaurant
          3700 Ramona Blvd., Monterey Park
          http://www.montereyhillrestaurant.com/

Cost: $45 per person
      $20 for children under 13

Mail reservations and checks to LAAS Treasurer at
       P.O. Box 56084
       Sherman Oaks, CA 91413

Make checks out to Los Angeles Astronomical Society. On the note line, write "2010 banquet reservation".

See ya there!

David Nakamoto
Griffith Observatory
Public Star Party Procedure

PJ Goldfinger handles our Griffith Observatory Public Star Party List. As patrons may drive up freely and reservations are no longer needed, we will continue to keep a sign up list for this event. Please note changes may occur in future PSP events and to read the policy below each month.

LAAS Members must still sign up on time - Deadline is no later than the Tuesday night prior to the Saturday GO Public Star Party each month. The list information required is:

- Your name, any LAAS Members and Non members in your car.
- Bring Telescope y/n.

**NOTE: Those attending without a telescope as a favor will be required to be of some assistance if asked, needed and able.**

It is primarily the main focus of any LAAS member who attends this event to be of Public Service with their telescopes in showing the patrons of Griffith Observatory the delights of the nighttime sky. New Members are not expected to adhere to this policy. Please feel free to come up and enjoy the event given you are signed up.

Parking will be on the east side of the Griffith Observatory Hill designated for GO employees. A guard will be stationed with the LAAS GO PSP list. It is always wise to have one’s LAAS name badge and/or club ID on them just in case. Unloading telescope and equipment will remain the same procedure as well, with a drive up, drop off and park down hill routine.

The list currently has been updated to 30 spots for LAAS members. First come, first serve.

Please check the LAAS website and Yahoo list for changes and updates in any LAAS event, as there are many communication mediums and some are missed.

To sign up for the Griffith Observatory Star Party the email address is: laas.starparty@gmail.com. Attendance is only granted once a confirmation email has been received. Most important though is to have fun and enjoy! 💫

*P.J. Goldfinger*
Outreach Program

Come on out to the school and show all the enthusiastic kids, parents, and teachers the night sky. They always appreciate it. And if you get WOW's when they look through your scope, you'll feel good. If no scope, come out anyway and help set up or answer questions from the kids. So, Outreach volunteers, let's pitch in. I'm sure the kids and adults will appreciate our effort.

Thanks! Outreach@laas.org (818) 891–3087 ✿

(Editors Note: Be aware that often these requests come with very little advanced notice. Therefore, we won’t post any events in the bulletin. The best way to get news of these events is to use the Internet and either join the LAAS Yahoo group or access the LAAS website. To join the LAAS Yahoo group, see page)

Don DeGregori

Map to Monterey Park Observatory

(The place to build your telescope)
Summer star parties are here! Now is the time for new members and existing members that would like to try out something new to check out one of the LAAS loaner telescopes. At the present time there are several available. All are fully equipped with a set of eyepieces. A simple collimating tool is included with all reflectors and a star diagonal is included with refractors.

LAAS-1: 4.5” f/8 Celestron reflector on a Polaris mount.

LAAS-2: 4.5” f/8 Tasco reflector on an Edmund equatorial mount with a clock drive. This telescope has been upgraded with a 1.25” focuser and 6x30 finder.

LAAS-4: 6” f/5 Telescopics reflector on a Dobsonian mount.

LAAS-6: 10: f/4.5 Discovery reflector on a Dobsonian mount. This fast telescope is also equipped with a Tele View Paracorr to correct off axis coma common with fast paraboloids.

LAAS-7: 80mm f/15 Meade refractor on an Orion Sky View Deluxe equatorial mount. This is an excellent instrument for the Moon and planets.

LAAS-8: 80mm f/11.4 Selsi refractor on an equatorial mount.

LAAS-9: 80mm f/6.25 refractor with University Optics objective on an equatorial mount. This fine Rich Field Telescope is good for going through the Messier Catalog.

For more information call: David Sovereign at (626) 794—0646.

David Sovereign
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<td>Sept 9th (Wed)</td>
<td>Board Meeting</td>
<td>Garvey Ranch Park Class Room. 8:00 pm to 10:00 pm</td>
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<td>Sept 14th (Mon)</td>
<td>General Meeting</td>
<td>Griffith Observatory&lt;br&gt;Leonard Nimoy Event Horizon Theater&lt;br&gt;Speaker to be announced later 7:45 pm to 9:45 pm</td>
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<td>Sept 19th (Sat)</td>
<td>Dark Sky Night</td>
<td>Lockwood Valley</td>
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<td>Sept 26th (Sat)</td>
<td>Public Star Party</td>
<td>Griffith Observatory&lt;br&gt;2:00 pm to 10:00 pm&lt;br&gt;See pg 12 for details on how to attend.</td>
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<td>Oct 17th (Sat)</td>
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LAAS Home Page: [http://www.laas.org](http://www.laas.org)
LAAS Bulletin Online: [http://www.laas.org/Resources_Newsletter.htm](http://www.laas.org/Resources_Newsletter.htm)
LAAS Yahoo Group—how to join

The group is private, and therefore does not come up in a search. To join, send email to: LAAS-subscribe@yahoogroups.com. Include your full name so the moderator can verify your LAAS membership. Your full name is necessary so we can check our records to see if you really are a LAAS member. If approved, you will receive further instructions via email. ✪

Sky and Telescope Subscriptions

Sky and Telescope subscriptions renewals should be sent directly to Sky Publishing. To start a Sky and Telescope subscription, contact the LAAS Treasurer (see the contact information on page 2) directly to get the club rates, then thereafter send the renewal bills directly to Sky Publishing. ✪

Astronomy Magazine Subscriptions

For those that subscribe to Astronomy Magazine through the LAAS, the rate has gone up to $34 a year, $60 for two years. ✪

Membership Annual Dues:

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(Membership due date is indicated on the mailing label)

HANDY PHONE LIST

LAAS Answering Machine ...... (213) 673-7355
Griffith Observatory
Program.................................... (213) 473-0800
Sky Report.......................... unavailable for now
Lockwood Site........................... (661) 245-2106
   (not answered, arrange time with caller.
   Outgoing calls – collect or calling card)
Mt. Wilson Institute............... (626) 793-3100