

# The High Desert Observer

The Bulletin of the Astronomical Society of Las Cruces

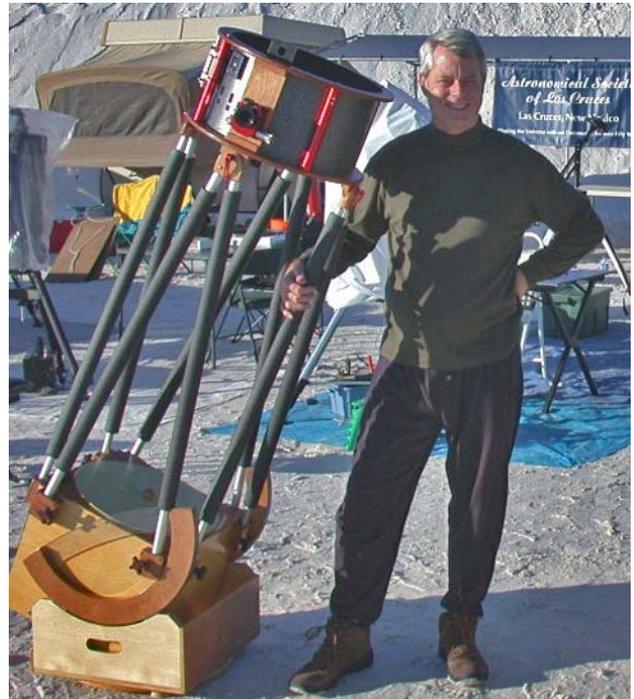
April, 2008

## Presidente's Prelude

Hello fellow astronomers! Do you know what club activities have been going on lately? More importantly, do you know what's coming up? Well, our second shot at a Messier Marathon was notable for an unusual reason.... lots of folks showed up, even some first-timers! Though hardly anyone was attacking the standard list of Messiers, we had lots of fun and swapped views time and time again.

Can you believe it? Decisions were made and orders for around 84 club-logo shirts and hats are in. Thanks to "Mr. Take-Action" Steve Henderson we will likely have our first batch in two weeks - Whoop-de-doo! ;~)

If you aren't one of our club's amazing imagers, hopefully you're monitoring their efforts. The rate of growth, productivity, and improvement these guys evidence is dizzying, and new hardware and techniques are almost weekly occurrences. We will soon be treated to direct results of this at our meetings.... stay tuned.



*Nils and his little obsession, Mira*

Our spring Intro Astronomy Course has wrapped nicely with a sweet Pleiades/lunar conjunction, and the Telescope-Making Workshop concluded just this last Saturday. The same evening we observed the 2nd International Sidewalk Astronomy Night by holding a Super MoonGaze (double the sites, double the fun).

OK, so what is coming ahead? The remaining April Saturdays are full of outreach. We will be supporting our friends of the Chihauhuan Desert Nature Park with a star party and then using our traveling astro-booth to promote our Society and dark skies at "Earth Day 2008 @ Apodaca Park." Most likely there will be lotsa people at these events, which is good since we really need to be publicizing our big spring event, Astronomy Day, at the future site of our observatory in Leasburg. If we get the word out, hopefully a bunch of Las Cruzens will come out and be impressed, at least enough to come again after the observatory is operational. We need our members to spread the word, so take the load off Chuck and Wes (and support your Society) by volunteering to help out in some capacity!

Sometimes it seems life is a blur, but we can rest later (you know, in July and August! ;~). Now that you know what's going on, perhaps the real question is, do you know what you might be missing? Stellar Stargazin' ! - Nils Allen

## Next Meeting

The next monthly meeting will be held April 25 at 7:30pm in the usual place (Main Campus of the Dona Ana Community College, room 77). The speaker will be member Wirt Atmar. His talk is entitled “New Thoughts on an Old Problem: the Evolution of Galaxies,” a major interest of Wirt’s for some time. Wirt will address unresolved issues in the current theories of galactic evolution and morphology and will provide his thoughts on an unconventional model for the generative process that forms galactic bars, and in turn all galactic forms.

The Imagers Group (contact: Rich Richins) will meet prior to the April meeting at 7pm. The Astro Tidbits Group (contact: also Rich Richins) will meet prior to the May meeting. Anyone is welcome to attend these special interest group pre-meetings.

Other events planned for April and early May include:

Star Tour at the Nature Park, Chihuahuan Desert Nature Park, Saturday, April 19, 8pm

Earth Day @ Apodaca Park, 10am - 3pm on Saturday, April 26 - ASLC booth & solar observing

Dark Sky Observing at the Upham dark sky site, Saturday, May 3

Southern New Mexico Star Party, City of Rocks State Park, April 30 - May 3

ASLC Astronomy Day Celebration, Saturday, May 10 (including MoonGaze, see article in this issue for details)

Please see the ASLC website for further information (<http://www.aslc-nm.org>).

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## Moon Craters... Evolution and Classification

By Tony Gondola

Impact craters are everywhere. From nearby Arizona to the frozen icescapes of Pluto and beyond, impact craters are the most common geologic feature in the solar system and no doubt the universe as well. While big impacts are relatively rare today, the past was considerably more violent. While largely erased from the surface of the earth by erosion and plate tectonics, this history is beautifully preserved on the surface of our nearest neighbor, the moon. With even a modest backyard telescope it’s possible to observe with your own eyes the results of the cratering process, a visible history stretching back billions of years.

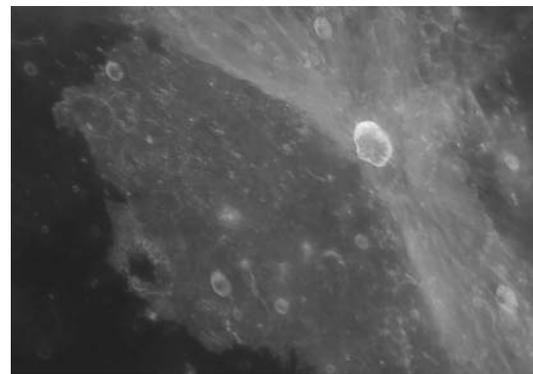
The Impact Process: In order to really get a grip on what you’re seeing through the telescope, it’s worthwhile to take a moment and imagine in your mind the actual event. The impactor might be made of stone, nickel-iron or ice, but one thing they all have in common is a high relative velocity ranging anywhere from 20 kilometers per second for asteroids to as high as 50 km/s for comets. To put these speeds into perspective, the space shuttle pokes along at a little under 8 km/s. When an object of any size impacts a surface traveling at these velocities the effects are dramatic. After burrowing down into the surface, most of the impactor along with some of the target rocks are vaporized as the enormous kinetic energy of the impactor is converted to heat. The crust below the impact site is highly compressed and intense shockwaves >>

➤ radiate outward from the impact point. Now we have a pocket of highly compressed, extremely hot gas, buried some distance below the surface. In short, it's a very powerful bomb and it's just gone off. The overlying layers are blasted outward at high velocity forming a bright ray system and secondary impacts that can extend for thousands of miles. The rock layers near the rim are peeled back and laid over forming a raised rim and ejecta blanket with the deepest rocks now exposed at the surface. The main event, while violent, is over in minutes. How the crater evolves from here depends on the angle, size, and velocity of the impacting object along with the nature of the target crust.

**Simple Craters:** The most common craters on the moon are classified as simple craters. This crater type ranges in size from microscopic to a maximum size of approximately 15 km (8 arcsec). Simple craters typically have a perfectly round rim and simple bowl or conical shaped inner slopes. Shortly after impact the walls relax to the local angle of repose with the excess material flowing down forming a small, flat



*Crater Ammonius*



*Simple craters observed at high power  
under high sun angles*

floor. Once formed and stabilized simple craters tend to change very little over time. Shown above is a good example of the type is the 9 km (4.8 arcsec) crater Ammonius (above), the largest crater to be seen on the floor of Ptolemaeus. Note the perfect, crescent shaped shadow which indicates directly the simple bowl shape.

The best time to really appreciate simple craters is to observe the lunar surface at high power under high sun angles. Under those conditions hundreds of simple craters become noticeable with their bright inner slopes and small dark floors as shown in the right image above.

**Complex Craters:** The next step in the crater classification scale, complex craters come in the 15 km to 50 km size range (8 to 27 arcsec). Because of their size, the inner walls of complex craters can't simply relax to the local angle of repose and settle into a simple slope. Soon after formation and over time, the inner walls are subject to large landslides giving many craters in this size range an irregular outline with floors covered with complex rubble deposits created when large sections of crater wall collapse. Craters of this type can also have small central peaks or humps. These are formed when the highly compressed rock layers, under the point of impact, rebound when the pressure is released.

The easy to find, bright ray crater Kepler (shown on the next page) located just to the west of Copernicus is a classic example of a complex crater. The irregular, slumped walls and associated rubble deposits are easily seen in telescopes of moderate aperture. The 27 km wide Tresnecker is another excellent example of the type.



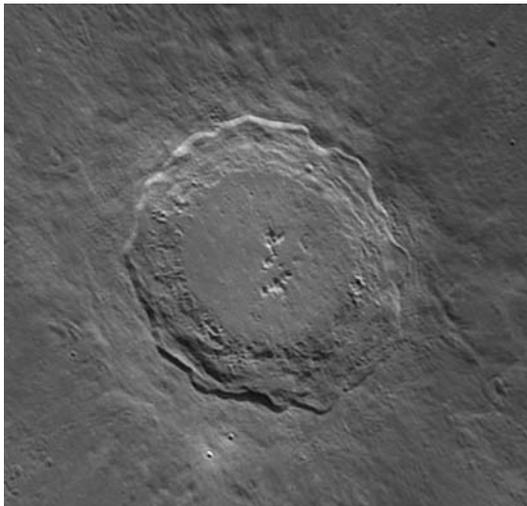


*Crater Kepler*



*Crater Tresnecker*

➤ Large Complex Craters: To the casual observer, large complex craters are the most familiar. The moon's showcase craters such as Copernicus and Tycho fall within this category. Diameters range from about 50 km to 300 km (27 to 162 arcsec). While much fewer in number when compared to smaller types, this crater type is rich in morphological variety. Large complex craters are characterized by rough scalloped rims. The inner walls tend to be broken up into distinct terraces with large areas that have been subject to landslides and collapse. The floors tend to be broad and flat, deeply covered with hummocky landslide debris, impact melt and in certain cases, basaltic lava flows. This in-filling tends to make this type of crater surprisingly



*Crater Copernicus*

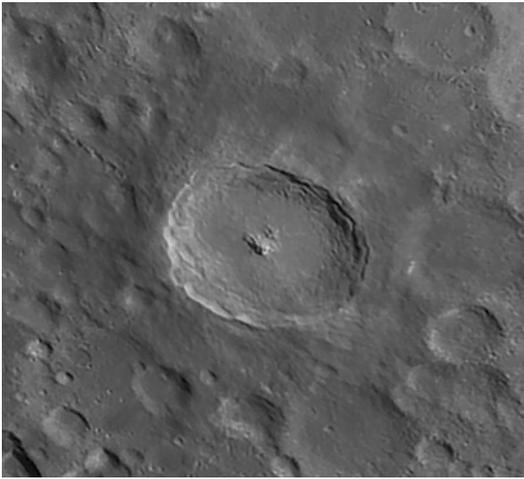


*Oblique view of Copernicus (NASA)*

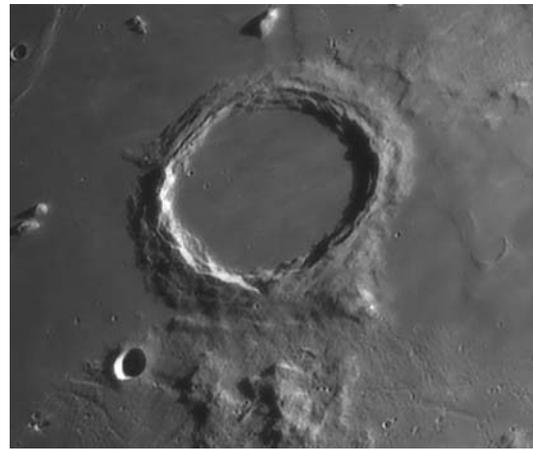
shallow for its diameter. If you could stand on the floor of some the larger examples the rim would be out of sight, well below the local horizon. Copernicus, likely the best known lunar crater, is the poster child of complex craters displaying all of the common characteristics of the type.

The oblique view of Copernicus shown above, looking north from Lunar Orbiter 2, shows just how complex these craters are. To give you a sense of scale, the central peaks rise some 1300 feet above the crater floor and measure a little over 9 miles from end to end in this view, roughly similar in scale to our own Organ Mountains here in Las Cruces.

At something less than 100 million years old, Tycho, shown on the next page, also displays all of the hallmarks of a classic complex crater. As shown in this image of 87 km wide Archimedes, many complex ➤➤



*Crater Tycho*



*Crater Archimedes*

➤ craters have floors that are partially or completely filled with Mare basalts. Plato is another well known example. In the case of Archimedes the lava filled-floor is at the same level as the Imbrium lava flows that surround it, completely submerging its central peak complex suggesting that the lava intruded from below the crater floor rather than flooding in from the outside.

In cases where full or partial lava flooding has occurred, other volcanic features such as rilles (collapsed lava tubes) and dark halo vents can sometimes be present. This is shown well in the photo of Alphonsus and Arzachel shown below.



*Volcanic features are shown well in craters Alphonsus and Arzachel*



*Mare Oriental (NASA)*

For earth-based observers who are limited to the one side of the moon we can see, the nature of large impact basins is relatively unknown. Ranging in size from 300 km to 2500 km, these are the largest impact events suffered by the lunar surface. In some cases these are the largest impacts the moon can absorb and still remain intact.

Impact basins are characterized by multiple rings rather than a single circular wall and a noticeable lack of central peaks. These impact sites are surrounded by scarred “scablands” made up of large amounts of ejected material and ground flows that modify the surrounding landscape for very large distances. ➤➤

➤ All earth-facing impact basins are fully or partially covered with later lava flows, forming the near side seas that are so familiar to earth based observers. For reasons that are still not completely understood, these Mare lava flows are almost totally absent from the lunar far side where large impact basins can be seen fully exposed.

The NASA image shown on the previous page of the large impact basin Mare Oriental has all of its major details revealed. Seen in scale to the rest of the lunar disk, it's easy to appreciate the massive scale of these features. The outer ring in this case is nearly 1000 km in diameter.

With a little imagination it's easy to visualize the true nature of the lunar "seas." Each one is the location of a large multi-ring basin like Oriental. The circular outline defining the original outer ring is especially apparent in Mare Imbrium, Serenitatis, and Crisium stretching in a line across the north along with lonely Mare Humorum to the southwest.

Gazing upon the remains of the largest earthside impact basin Mare Imbrium (the large circular sea to the northwest), it is well to remember that you're looking at the result of an event that happened nearly 4 billion years ago. While the large basin events are some of the oldest lunar features, even Tycho, which is considered to be one of the youngest lunar craters, still dates back to a time when dinosaurs were roaming our lands here on earth. Nowhere else can an earthbound observer see directly the results of processes and events that are so old. That is something worth contemplating the next time the bright, gray landscapes of old Luna fills your eyepiece, and your imagination.



*Mare Imbrium, the large circular sea to the northwest*

## Club Apparel Available Soon!



By Steve Henderson

We will soon have T's, polos, and hats in sand/khaki and long sleeve denim shirts with our new club logo embroidered on them. Logo colors are gold for the Zia. Red for the lettering. Black circle and scope in the center of the Zia. Blue stars above the scope. The majority of items in this order are already spoken for through preorder. We will have a few extra of each item for sale for those who missed the preorder. The prices below are for this order only and include tax. Costs for future orders will likely be different depending on what is ordered.

T shirts - \$11, \$13 for 2X and 3X; polo shirts - \$19, \$21 for 2X; long sleeve denim shirts - \$22, \$24 for 2X and 3X (not shown); hats - \$13

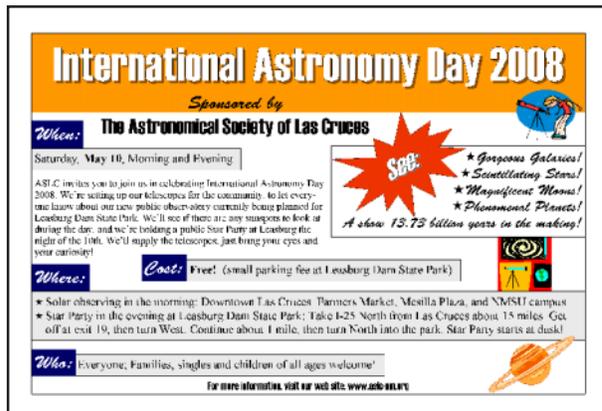


# ASLC Plans for International Astronomy Day, May 10, 2008

By Wes Baker

This report is as of April 14. Thanks to everyone who volunteered to help out with Astronomy Day. If I got your name wrong, or you'd just like to add your name to the list, please email me at [wdbaker@attglobal.net](mailto:wdbaker@attglobal.net).

Reminders: A few days before May 10th, someone from each solar observing crew needs to come by and pick up flyers and a sign board. Also, I still need a volunteer who can get the word out all over NMSU. I will soon post a final version of a two-flyer-per-page document on the ASLC website for members to print and distribute. Please let me know if you have any thoughts or concerns. Here's a summary of the plans thus far:



*Astronomy Day Flyer*

Media Publicity: Newspaper/Magazines (all possible local and regional sources). Request they announce events the week prior, but speak with papers as soon as possible. Encourage doing a major article on this event (Bert Stevens, Nils Allen will assist). Television - Request announcements during the last few days prior, but speak with stations ASAP. Include KVIA and other stations as agreeable. Suggest a televised segment on May 9 and if possible put together an impressive group of ASLC scopes and operators (Bert Stevens, Nils Allen will assist). An option is to have station(s) film solar observing operations on Saturday. Radio - Request announcements during the last few days prior, but speak with stations soon. Include KSNM, KRWG, and KVLC. Suggest a story broadcast Friday and Saturday during local news (Bert Stevens, Nils Allen will assist). An option is to ask for live interview on Friday with current or a past ASLC President.

Schools: LCPS - Announce events widely throughout public school system, using LCPS website, staff email, direct contact of science teachers (Wes Baker). NMSU - Volunteer needed to spread the word, please call Wes if you can assist.

Day of Events (10 May):

Morning: Solar observing crews set up in 3 strategic locations with lots of people. Enthusiastically offer solar views to passersby, invite folks to evening events at LDSP, hand out fliers and ASLC cards (Wes Baker will print signs and make sandwich boards). Potential locations include: Farmers Market downtown - 8am - noon (Wes Baker, Carol Baker, Chuck Sterling); NMSU - time TBD, (Bill Stein + 2 volunteers needed); Mesilla Plaza - time TBD (Steve Henderson, Dave Dockery and one more). Locations are subject to change.

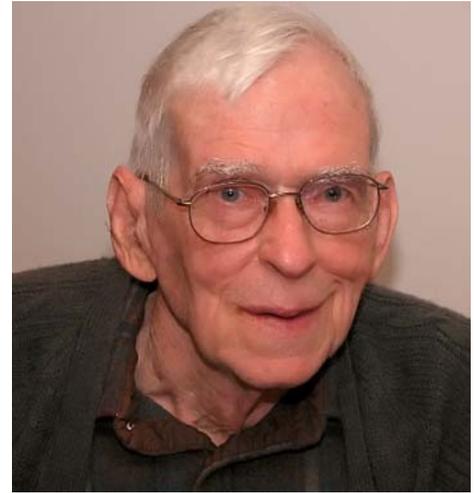
Evening: Star Party at Leasburg State Park close to the future ASLC Observatory site. Start setup around 6:00pm. Possible presentation by a speaker near sundown. Star party near observatory site, dusk to 11pm plus, assuming weather permits. We want to set up as many member telescopes and binocular set-ups as possible - perhaps even the Meade 16-inch scope intended for the observatory. Volunteers so far are Wes and Carol Baker, Frank Miller, Bobby Franzoy, Rich Richins; and all others are welcome!

[Addendum — Folks, please note that Astronomy Day will likely be our biggest outreach event of the year; thus we'll need all possible volunteers to participate. If you can do outreach just one time this year, this is it. Contact Wes and get plugged in... please don't wait till the last minute. Thanks! - Nils]

## Surprise, Surprise, Bigger is Better!

By: Walter H. Haas

During the early decades of the 20th century there was much controversy as to whether “large” telescopes, say 16 inches in aperture or more, gave better views of the Moon and the bright planets than “ordinary” apertures of around 6 to 12 inches. Everyone agreed that the potential superior resolving power of the large instruments would show more detail when the seeing, or atmospheric steadiness, was extremely good. It was argued, however, that the smaller telescopes would reveal more detail almost all of the time. Thus W. H. Pickering wrote that 6-inch telescopes were the largest useful size for lunar and planetary observers in the USA living both north of the Ohio River and east of the Mississippi; and Percival Lowell at Flagstaff, AZ regularly diaphragmed his 24-inch Clark refractor down to 18, or 12, or rarely even 6 inches, according to the seeing at the time.



*Walter Haas*

In 1935-41 I made many observations of lunar features and the five chief planets with refractors and reflectors ranging from 4 to 12 inches in aperture. It was comforting to think that I was getting the best of views. In the autumn of 1941 I began studies at the University of Pennsylvania, where there was an 18-inch Brashear refractor at the Flower Observatory. On my first night of working alone with that instrument I completed my assignment of estimating a number of variable stars, using a photometer eyepiece giving 150X, and then just had to look at that brilliant red star (Mars near a very favorable opposition). Clearly 150X was much too low a power to take proper advantage of the resolving power of the 18-inch. Yet even so, there was much more detail over that reddish disc than I had ever seen in numerous views with smaller telescopes during the preceding several months. The contrasts between brighter and darker features were also much enhanced. Surprised, yes. Disillusioned, yes. Disappointed, no.

A couple weeks later, and while Mars was still close to Earth, a couple of my planet-observing colleagues visited Philadelphia; and we observed Mars on a night with bad seeing, perhaps about 2 on a scale of 0 to 10 with 10 best. They had been observing Mars and other Solar System bodies; the telescopes they had used included an 8-inch reflector optically good enough that it had revealed the dark gap, or “division,” in the outer Ring A of Saturn to a novice observer who had not previously known of the gap’s existence. My colleagues nevertheless later stated that their view of Mars in the 18-inch under those adverse conditions was the best one they enjoyed during that whole season while the planet was close. I fancy that this incident was the greatest surprise of an astronomical career spanning more than 70 years. Leaving Philadelphia generated an incurable case of aperture fever. Perhaps others can contribute interesting personal tales to this journal.

## May Issue of the *HDO*

Articles for the May issue should be sent to me by Thursday, May 15. Material should be sent as email (GMHL CNM@msn.com) or as an attached Microsoft Word document. If you have any questions about submitting something to the *HDO*, please don’t hesitate to contact me (532-5648 or via email). Thanks in advance! George Hatfield, Editor, ASLC Newsletter.

## The Astronomical Society of Las Cruces (ASLC)

is dedicated to expanding members and public awareness and understanding of the wonders of the universe. ASLC holds frequent observing sessions and star parties, and provides opportunities to work on club and public educational projects. Members receive *The High Desert Observer*, our monthly newsletter, membership in the Astronomical League, including AL's quarterly *A.L. Reflector*. Club dues are \$35 per year. Those opting to receive the ASLC newsletter electronically, receive a \$5 membership discount. Send dues, payable to ASLC with an application form or a note to: Treasurer ASLC, PO Box 921, Las Cruces, NM 88004.

ASLC members are entitled to a \$10 discount on subscriptions to *Sky and Telescope* magazine.

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Emeritus (life) Member: Walter Haas

## Minutes, March 2008 ASLC Meeting

**Call to Order:** Nils Allen, President, Astronomical Society of Las Cruces (ASLC), called the meeting to order at 7:41pm., 28 March 2008, Rm. 78, Dona Ana Community College.

**President's Comments:** Nils recognized and greeted several visitors and new members. He also briefly described the two (2) main business items for the meeting, 1) selection of a Club logo design and items of attire to display it on and, 2) distribution of the new Club members' directory/new member packet. Nils asked for a volunteer to help Steve Henderson distribute, collect, and count ballots for the logo design and Fred Pilcher volunteered to assist. The logo design voting process was then initiated.

**Secretary's Report:** The minutes for the February meeting were submitted as published in the current issue of the Club newsletter, the *High Desert Observer* (HDO). A motion to accept the minutes as published and dispense with the reading of same was offered by Janet Stevens and seconded by Bob Long. The motion passed by acclamation of the members present. There was not an additional secretary's report.

**Treasurer's Report:** The treasurer reported on the status of the Club's major accounts. The treasurer also distributed the Club directories and new member packets. She noted that individual membership expiration dates are included in the new directory and that she would no longer be contacting members to remind them to renew their membership. Delivery of the Meade SolarMax telescope continues to run late. Expected delivery is currently no sooner than late April or early May, hopefully in time for Astronomy Day 2008 activities. There have not been substantial outlays to support other Club activities. There was not an additional treasurer's report.

### Committee Reports:

**Observatory Committee:** Rich Richins, Chairman, Observatory Committee, was not present. Jerry Gaber, Club Vice-President and Observatory sub-committee chairman, reported that there was no real progress to report.

**Astronomy Day 2008:** Wes Baker, Chairman, Astronomy Day 2008 Committee, briefed the membership on the committee plans to date for Saturday, 10 May. The primary goal will be to inform the public of the new Club observatory at Leasburg Dam State Park (LDSP). Wes plans to start the Astronomy Day activities with solar observing at three (3) sites: the Las Cruces Farmer's Market, the Plaza in Old Mesilla, and a location at New Mexico State University (NMSU). Wes and Carol Baker and Chuck Sterling will staff solar scopes and hand out information about the Club and a star party to be held that night at LDSP at the Farmer's >>

➤Market. Steve Henderson will be in charge of similar activities at the Old Mesilla Plaza. Wes needs volunteers to fill out the day teams, to be Point of Contact (POC) for the local media outlets (Bert Stevens volunteered to help with pre-event publicity), and to coordinate and support the LDSP star party. Wes will post his plan on the Club web site and asked that members contact him after the meeting to volunteer.

There were no additional standing committee reports.

Old Business:

1. Meade SolarMax telescope - for status, see Treasurer's Report above. For the time being, usage will be coordinated through the Board of Directors.
2. Club Member Directory - The directory of Club members with basic contact information has been completed. Janet Stevens distributed copies to the members present. She also distributed new member packets to members that had joined since the first of the year. Members that were not present to receive their directories in person will receive them via US Mail.
3. Club logo/insignia - Steve Henderson presented the three (3) logo designs garnering the most votes during the prior voting. General discussion by the membership followed. The final design was then selected by a show of hands. The selected design was one submitted by Nils Allen. He will clean up an electronic version of the design and provide it to Steve for production.

Steve then presented possible shirt types, colors, and associated prices for consideration. After further discussion by the membership, it was decided to have short-sleeved t-shirts in a khaki/sand color, long-sleeved denim shirts in light blue, and a khaki colored baseball style cap with contrasting bill in the initial order. Steve asked that members contact him either after the meeting or via email to submit their orders. He plans to have shirts available for Astronomy Day.

There was no additional old business discussed.

**New Business:** There was no new business for discussion.

Bert Stevens offered a motion to adjourn and Janet Stevens seconded. The business portion of the meeting was adjourned at 8:30pm by acclamation of those present.

Announcements:

1. Richard "Rocky" Olson remembrance – Nils presented a brief slideshow remembrance of member Richard Olson who passed away unexpectedly very recently.
2. Awards - Nils presented the following recognitions:
  - Mounds award – to Janet Stevens for her "mounds" of efforts as Club treasurer, compiling the Club directory, and obtaining a Meade SolarMax telescope for the Club.
  - Score Award - to George Hatfield for his outstanding work as editor of the Club newsletter, the *High Desert Observer*.
  - Lifesaver award - to Chuck Sterling for his work as Public Outreach coordinator.

There were no additional announcements made.

**Observations:** There were no observational reports offered.



➤ **Presentation:** The program for the March meeting was presented by Dr. Walter Haas, Association of Lunar & Planetary Observers, and founding member of ASLC. In an unusual “interview” format conducted by Nils Allen, Walter shared his unique insights from a lifetime of pursuing solar system astronomy, including his recollections of his long friendship with Clyde Tombaugh and his pivotal role in the founding of the Association of Lunar & Planetary Observers. This presentation was recorded for playback via the Internet. It and other meeting presentations can be accessed on the web at <http://www.aicsresearch.com/lectures/aslcnm/>.

The March 2008 monthly meeting concluded at 9:25pm.. Respectfully submitted by John McCullough, ASLC Secretary

## Spring Astro Class a Great Success

Rich Richins, Education Chair

Over a dozen enthusiastic individuals participated in the most recent ASLC beginning astronomy class which concluded last Tuesday evening (April 8). Unlike some previous classes, this group was treated to good to excellent weather for 6 out of 7 of the sessions. Most of the sessions were conducted in the library of the UU church on Solano. Also a dark sky viewing session was held at Leasburg Dam State Park. Throughout the 7-week course, the students challenged the instructors with a battery of questions (and stumped us a few times). The “usual” (unusual) instructors (Dave, Steve, Nils, and Rich) were joined this time by “Mystic” Bob Long. He really pushed the information envelope with details of cosmology and stellar evolution. He also brought his new refractor and SBIG camera to do an imaging demonstration for the students on the final night. Many thanks to all who gave their time to share knowledge and equipment with the students. I’m pretty sure we’ll be seeing some of them again.



*Bob and student at the Astro Class (rare photo with Bob looking through an eyepiece!)*

## Spring Telescope Making Workshop Also a Success!

By Nils Allen

The TMW is back on track! A mixed group of around nine builders constructed five nice scopes - for the first time we used Rich’s garage (thanks buddy!). With Sheriff Rich and Johnny Mac assisting, the enthusiastic group made a lot of noise and had a good time, finishing on the April 12, our third consecutive Saturday of work. The quality of construction of this batch of scopes is perhaps the best of any group I’ve worked with - maybe the instructors and instructions have improved (or maybe these students are just superior builders!). In any case, congrats to the new scope owners - hopefully we’ll see them at future ASLC events. Looking forward to the next workshop.



*First light of newly completed scope at Moongaze*

## PhotoShop Toolbox: Emboss Sharpening

By Rich Richins

Some time ago, I put out a note to the imagers list about creating 3-dimensional looking images. A couple of replies came in, but they mostly involved doing the cross-eyed 3-D images (that I've never been able to see properly). I was tinkering around with offsetting images slightly (to get a pseudo 3-D 'shadowing' effect), and serendipitously hit on an approach for doing subtle sharpening.

The procedure involved offsetting two identical layers just a bit (one or two pixels in two directions, for example right and down), inverting the top layer, then setting that layer's blending mode to "Soft Light." That created a really nice 3-D effect which could be increased or decreased according to how much offset was applied. If this image was flattened, then copied and pasted atop the original image, I found that I could do a standard high pass sharpen (set top layer to "Soft Light" and run a High Pass filter with a radius = 20), and the original image would sharpen somewhat, and maintain some of the 3-D effect. Just how much depends on the opacity of the layer (50% usually yielded an acceptable result).

Naturally, I thought I had hit upon a totally brand new approach to image processing, but my Nobel Prize for image processing would have to wait. Thinking back to the early steps, I realized that the first few steps looked a lot like embossing (only with proper colors). So I Googled embossing and sharpen, and lo and behold, there was already mention of embossing sharpening out on the internet. The on-line procedure involved fewer steps - simply duplicate the layer, emboss (to taste), set the blending mode to soft light, and that's it. Again, the layer's opacity needs to be set appropriately (30 to 50 percent seems to work nicely). You can also set the layer's opacity to 'Overlay' or 'Hard Light' for somewhat different outcomes.



The difference is subtle, to be sure, but give it a try on some of your 'finished' images and see what it can add. I've tried this on a number of Tony's moon shots, and the result was to bring out the fainter craterlets a bit more. The overall hue and color range was not affected. In addition, the image did not tend to get grainier (as can happen with unsharp masking and high pass filtering). I've now utilized this on most of my recent images, and really like the subtle 3-D effect (foreground stars end up with a hint of a shadow). Give it a try and see how you like it. It's not a replacement for unsharp masking or the more traditional version of high pass filtering, but it can add a bit of subtle sharpening and add some dimension to your images.

# ASLC Membership Benefits

By Nils Allen

We are lucky that our Society is composed of a friendly and open group of astronomers. Because of that, a majority of our activities and opportunities can be participated in without actually joining the club as a full dues-paying member. As I tell folks regularly, “you don’t need to own a big expensive telescope to enjoy its images – you just need to be on good terms with someone who does!” So what are the reasons to go ahead and pay your membership dues like most of us do? Let’s list some of them, defining two main categories – local and other.

## Local Benefits:

1. Voting privileges - having this can be quite valuable at times.
2. Club officer - qualify to be nominated & elected (yes, that is a benefit!).
3. Member directory - receive this listing of contact info for all ASLC members.
4. YahooGroups - automatically qualify to join our online groups, ASLCNM and ASLC\_Imagers
5. Club equipment - have access to use club hardware assets like the soon to arrive 60mm H-alpha solar scope; loaner scopes from 4" to 12" in aperture; access to utilize our future LDSP observatory, with 16" Meade LX200.
6. ASLC awards and discounts - qualify for various awards and discounts on our own classes and workshops.
7. Star Party Discounts - get reduced registration fees at certain area events, like the SNMSP.

## Other Benefits:

1. Discounted subscription to *Sky & Telescope* (\$10 off), a premiere astronomy magazine. Many take advantage of this.
2. All our members are part of the Astronomical League (AL), via our club affiliation, and thus receive *The Reflector*, AL’s quarterly newsletter; can participate in AL observing programs and receive the related awards; qualify for discounts in astro-goods and services that the AL has negotiated,
3. Astro-vendor discounts - certain vendors of astronomy goods generally provide club members a small discount. OPT in CA comes to mind, and there are several others.

So there you have it - a list that will probably grow in time. Perhaps no one benefit is truly outstanding, but taken as a whole they do add up to something quite substantial. Taking advantage of any one or two of these could easily make your dues a wise investment. Of course, there are some intangible benefits to being a member too - it makes a public statement that you are contributing to the current and future success of our Society and amateur astronomy in general. I hope you are convinced now that membership is worthwhile. After writing this, I sure am!

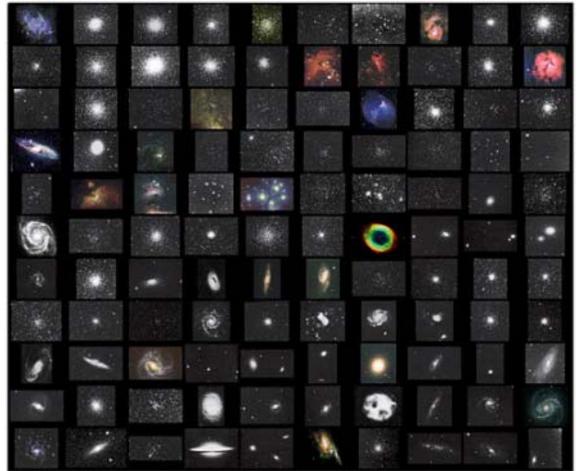


*Yet another benefit, you can join the ASLC Yahoo groups and see great images like this one of M81/82 by Dave Dockery*

## Messier Marathon II

By Rich Richins

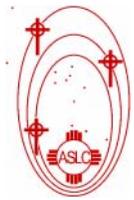
I can provide only limited information regarding the second run of the Messier Marathon which was held at Upham on April 5. There was a good turnout. Most people just treated it as a standard Upham night. I went looking for the Messier objects that were missing from my Astro League viewing list, then started doing Caldwell objects. I think Dave Dockery imaged. Steve Barkes was a no show (bad back). Nils Allen and Bill Stein were there looking through the 20". There were several others - I don't remember all of them. A couple of guys went for the Marathon and viewed around 70 objects before the sky went "blech" around 1am. I got there a bit late (just as it was getting dark). Sorry there are no pictures of the group. By the time I was set up, Mystic Bob was imaging and forbade me to take a picture.



*The 110 Messier Objects (or is it 111?)*

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