

# The High Desert Observer

The Bulletin of the Astronomical Society of Las Cruces

May, 2008

## Presidential Passé – *not!*

Well, another wild month has come and gone – they say that what doesn't kill you makes you stronger, so we should be real strong! Sometimes I don't look forward to our two most temperate months of the year, April and October, because so many public events get crammed into and around them that life just becomes a blur. Have you felt that way lately? No wonder!

Twas the season for major astronomy outreach, and we did just that, speeding from ISAN to Earth Day then right into Astronomy Day. With A-Day planned to be our biggest public activity of the year, we needed all the helpers we could muster. Thankfully, nearly 20 members and family stepped up to the plate to serve – that's probably an ASLC record for volunteer service focused on just one day. The results were limited somewhat by Mother Nature, but we did a fine job and learned a lot from the experience. Astronomy Day is alive and well here in Las Cruces! Now, thankfully, we get to relax a bit. The only outreach stuff I see coming down the road for a while are Moongazes.



*Nils at the ASLC Earth Day Exhibit (Photo from Chuck Sterling)*

So why not get some well-deserved recognition for all your efforts? Document your service and submit it to the Astronomical League for one of their Outreach Awards! To facilitate that Rich will be posting an XLS file that does most of the work for you. It lists virtually all ASLC outreach activities since 2006 - just add in the data for what you've done, edit out the rest, and you're done! It doesn't get much easier than that. Likewise, I hope our diligent observers will get those observing records organized and sent in to qualify for the various Observing Club Awards, as outlined in Dave's article herein. I would love to see our members receive a boatload of awards this year – beyond just feeling good, these serve as evidence of our Society's many efforts to promote this hobby, which improves our chances of winning *Astronomy's* Out-of-this-World Award... \$2500 sure wouldn't hurt!

But don't get too relaxed, all you observers and imagers – as outreach season departs, guess what comes roaring in with the summer - *Star Party season!* In succession we have the Texas Star Party, the Grand Canyon SP, and the Rocky Mtn Star Stare – I hope to do two of these. Members will be burning the midnight oil as preparations are made and we practice getting by on very little sleep! Like I said before, we'll just have to rest later, during those monsoon rains.

Believe it or not, our giant order for 84 club shirts 'n hats came (from *Out of the Blue*) and has been largely distributed to anxious members. If you don't have yours, pick them up at the May meeting. Again, thanks to Steve H for making this (first go-round) happen – from inputs I've received, a second will soon be needed. And yet another Steve (Barkes this time) has stepped up to be our official TSP documentarian (bet you didn't know that position [or that word] existed!) Just shows how valuable the 'Stevens' in our Society are! Stellar Stargazin'! - Nils

## Next Meeting

The next monthly meeting will be held May 23 at 7:30pm in the usual place (Main Campus of the Dona Ana Community College, room 77). The speaker will be ASLC member Tony Gondola: “The Ins & Outs of Real-World Optical Quality: Everything You Wanted to Know but were afraid to ask!”

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

Other events planned for May and early June include:

Dark Sky Observing at the Upham dark sky site, Saturday, May 31

Texas Star Party, Ft. Davis, TX, June 1-7

MoonGaze, June 14

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

## This Month's Observer

President's Message .....	1
Next Meeting .....	2
Celestial Treasures .....	2
June <i>HDO</i> .....	3
Blue Mesa .....	4
Earth Day .....	7
Astronomy Day .....	8
April Meeting Minutes .....	9
Serious Astrophotography .....	11

## In Search of Celestial Treasures

Dave Dockery

Who doesn't like a treasure hunt? The annual sabbatical to the Texas Star Party is coming up soon and one of the highlights of the week in West Texas is completing one or more of the excellent observing programs the TSP Observation Committee puts together. These include the standing TSP binocular observation programs, as well as telescope observation programs that are added each year. The telescope observation programs often follow themes like two objects in the same field or peculiar galaxies, and are usually spread though out the evening hours to give observers adequate time to locate and study the objects over the course of the week. These programs are designed to provide a challenge for observers of all levels with some oriented toward the beginning observer and others for more advanced observers that often require larger aperture and a keen observing eye. For example, there are three regular binocular observing programs: the TSP Binocular Observing Program (pick any 25 objects), TSP Challenge Binocular Program, and the infamous “TSP Binocular Program from Hell.” All observations must be made at TSP during the week of the star party and the observation log is then reviewed by John Wagoner, the Observation Committee Chairman, to earn one of the beautiful award pins they design for each list. This year's telescope program is called Globular Glory. They will also be bringing back the Shapley-Ames galaxy program from last year because so few people were able to complete it due to the weather. Links to the 2008 observing lists are posted here: <http://www.texasstarparty.org/tspnews.html>



*Texas Star Party Pins*

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The Astronomical League also hosts approximately 30 observing clubs with programs for the other 51 weeks of the year. The AL observing clubs offer recognition and awards for demonstrating observing skills with a variety of instruments and objects. These include: the Messier Club, Binocular Messier Club, Herschel 400 Club, Deep Sky Binocular Club, Southern Skies Binocular Club, Meteor Club, Double Star Club, Lunar Club, Globular Cluster Club, Constellation Hunter Club, Southern Sky Telescopic Club, Open Cluster Club, Planetary Nebula Club, Lunar II Club, Outreach Club, Arp Peculiar Galaxy Club, Asteroid Observing Club, Caldwell Club, Comet Club, Earth Orbiting Satellite Club, Galaxy Groups & Clusters Club, Herschel II Club, The Master Observer Club, Meteor Club, Planetary Observers Club, Sky Puppy Club, Sunspotters Club, Universe Sampler Club and Urban Observing Club. Each Club offers a certificate based upon achieving certain observing goals and a beautiful award pin. Complete ten programs to earn entry in the Master Observer Club. There is no time limit for completing the required observing, but good record keeping is required. Observation logs are submitted through the ASLC. See <http://www.astroleague.org/observing.html> for more information.

I'm currently working on the Caldwell Club list and a big part of my personal enjoyment in observational astronomy comes from planning the night's activities. This includes examining star charts for locations, reading descriptions of the objects, and reviewing photographs. Observation guides, like Stephen O'Meara's Deep Sky Companion series, are a wonderful resource for this. Locating some objects can be challenging and the thrill of the hunt can quickly turn to frustration without a little help from time to time. Observation guides usually provide step-by-step instructions for locating difficult objects. The actual observation is also much more interesting when you know a few details about the target. I find that I can usually resolve more detail when I've seen a photograph and know exactly what that dim object should look like. (Can I resolve the knot in the spiral arm or locate a dim companion galaxy?) Using averted vision and varying the magnification can also help tease out additional detail on dim objects. Another key to getting the most out of observing is to make yourself comfortable and take your time at the eyepiece. Make sure you have a comfortable chair, enough warm clothing, and plenty of snacks to keep your energy up. Log your observations with plenty of detail. (As Walter Haas says, "If you don't properly log it, you didn't see it.") Your observing logs should record the date, time, location, conditions, instruments used, as well as the details of the observation. The more information you jot down, the more interesting the log will be to revisit on some cloudy night in the future.



*Astronomical League Pins*

Observing programs are a good way to broaden your knowledge of the night sky and add to the base of objects you regularly observe and can share with others. The universe is vast and the observation opportunities are endless. Sometimes treasure hunters need to dig a little deeper.

## June Issue of the *HDO*

Articles for the June issue should be sent to me by Saturday, June 14. Material should be sent as email (GMHLCNM@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.

# A Night at Blue Mesa

By Kirbini

I had finally nodded off for a little sleep when the persistent ringing of the telephone jarred me back to consciousness. Ever since that last trip to Upham I had not been sleeping much; in fact, hardly at all. Fortunately, Dr. George mixed me up a sleeping medication of peanut butter and gerbil feet and it seemed to be doing the trick – at least until the phone started ringing.

“Yes, this is Kirbini,” I drowsily mumbled.

“Wake up, Kid, and get your stuff packed,” Mystic Bob shouted, “we’re heading out to Blue Mesa. This is the only night of the year that we can image the Rat’s Foot Nebula and besides, you need to learn how to carry my battery and G-11 mount from the car in one trip. Otherwise, how will you ever get to be any good at imaging?”

I knew that if I turned down this opportunity I would never hear the end of it and besides, it would be another chance to learn something that I had never heard of before and probably never would again. I wasn’t sure I had built up enough wife equity to pull this off on such short notice, but decided the risk was worth it.

“Besides,” he continued, “I invited the whole crew out tonight and I want to get there in time to get the highest place on the mesa. You can setup down in the dip behind those big rocks where you won’t bother anyone. Snicker, snicker.”

I decided to ignore the implications of this last statement because Mystic Bob can be a great kidder and anyway if I showed any fear it would go on my record with the Masters and it would another year or two before I could get a promotion to “Newbie-advanced.”

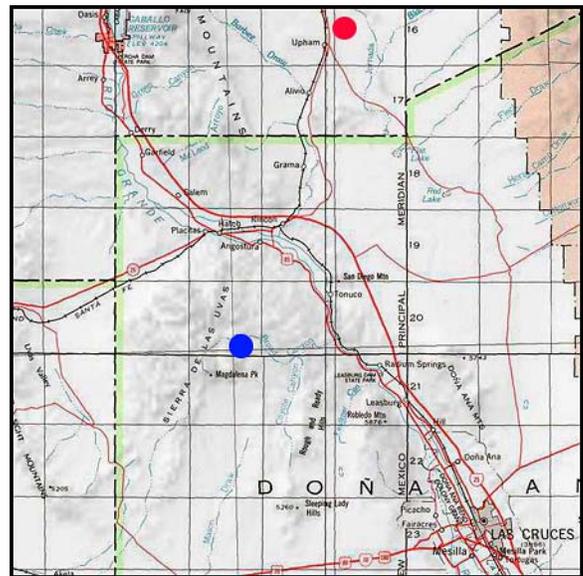
“OK, Mystic Bob, see you in about an hour,” I gushed, putting as much enthusiasm into my voice as possible during my sleep addled state.

“Oh, and one other thing, Kid.... I’ll get to your place a little early so you’ll have time to load my stuff into your truck,” he finished.

I scrambled around, packed my things up and had just finished loading them into the truck when Mystic Bob pulled into the driveway. He found a cool place to rest while I got his equipment transferred to the truck and pretty soon we were off and on the road to Blue Mesa.

“Where are we meeting everyone, Mystic Bob?” I timidly enquired, “maybe it would be a good idea to meet at Wendy’s.”

“WENDY’S! Are you nuts! If they stopped there we would never get to do any imaging tonight. Haven’t you seen those people eat? They don’t stop at seconds or even thirds. I told them to meet us at the turn off



*Location of Blue Mesa (Blue) and Upham (Red) dark sky observing sites*

next to the freeway. Now don't have any more bright ideas.”

Well, we drove the rest of the way to the county road turn off in silence which gave me the opportunity to once again consider how fortunate I was to be able to go on these outings and learn imaging from the ASLC Imaging Masters. I also recalled that the word disciple came from the concept of discipline and realized that these little corrections of my fuzzy thinking would one day bear fruit and my stars would also shine brightly on computer screens. Not to mention that I would not use the “W” word again – at least not in Mystic Bob's presence.

As we pulled up to the turn off I spotted several members of the ASLC standing around rolling eye pieces into a hole in the road ten feet away to pass the time while waiting for us to show them to way to the site.

Satellite Willie sauntered over to us. “Where have you guys been? We've been waiting here for at least 3.5544 milliseconds to the 10<sup>th</sup> power. You know, if I ran satellites like this you people would never have any TV.”

Ignoring this slight, we roared on through the group, scattering eye pieces and bodies around, and Mystic Bob yelled out the window, “Follow us to Blue Mesa or be square!”

“Uhh... Mystic Bob, I think it's ‘be there or be square’, like, you know, it rhymes, sort of....” I trailed off.

This observation was met by stone cold silence and not even a glance my direction. I was now aware I had probably screwed up again and would have to endure the rest of the drive being lectured on image scale or some other confusing and frightening subject like drift alignment.

Well, it was not as bad as I had imagined and I think I did actually learn something... do not contradict one of the Masters.

As we began the last climb up the hill toward our turn off, I suddenly began to shake uncontrollably and I could feel the tears begin to run down my cheeks.

Mystic Bob turned toward me with a look of genuine concern on his face. “Why, Kid, what's the matter? You look horrible. Are you going to pass out?”

Through chattering teeth I responded, “it's Sheriff Rich. I just know he'll be waiting for us up there. If he recognizes me, I'm a goner. I won't get into the DSO site. I'll never learn anything and never get to be a ‘Newbie-advanced’.”

“Now, now, just take it easy. I've got some Mars bars in my pocket. I'll give him a couple and he'll never know what hit him. He loves the things. Piece of cake, Kid.”

Well, as we rounded the next turn there he was and all my fears had come to pass. He was standing next to the entrance to the DSO site and was holding a large wolverine on a chain. The wolverine was standing in the middle of the road and was wearing a large sign around its neck that proclaimed:

“THIS IS REALITY SO GET USED TO IT.”

There was no way I could turn around in road because it was too narrow so the only option was to proceed slowly up to Sheriff Rich and the wolverine. As I pulled up to stop, the wolverine jumped up onto the hood, stared into the windshield and bared its teeth.

“Well, well. If it ain’t my little friend from down yonder at the TSP and Upham. You really think you’re gonna get some imaging in tonight? Heh, heh,” drawled Sheriff Rich.

About that time the wolverine started clawing at my windshield, frothing at the mouth, chewing up the windshield wipers and spitting the pieces on the ground.

“See that, Sonny? That’s what’s gonna happen to you if there’s any funny business out here tonight.”

I felt Mystic Bob nudging me and he slipped four or five Mars bars into my hand. I thrust them out the window to Sheriff Rich. “Here, Sheriff Rich,” I mumbled, “take these as an expression of my good will and desire to create a happier experience for everyone concerned. Then and only then may we live in a world of harmony and peace.”

“Use any more of that crap around here, Sonny, and Tantalizing Tanya here gets a good meal for a change. Now, gimme them candy bars and get on up the road!”

I felt a rush of excitement knowing we had made it into the DSO site and would soon be imaging the stars.

Later, after my blood pressure had returned to some semblance of normal and I had gotten Mystic Bob’s telescope set up and polar aligned, I began to take stock of the surroundings. About then Brother Chuck came chugging up. “I just came up to look around,” he ventured, “thought it would be a good time to set some things straight around here.”

“Oh? And what is that, Brother Chuck?” I responded, always eager to learn something new.

“Well, for starters, this shouldn’t be called ‘Blue Mesa’. It should be called ‘Blue Ridge’. Now, if you just walk over this way you can see why it needs to Blue Rid.....Yiiiiiiiiiiii!!”

I heard some crashing and thumping, but knowing Brother Chuck I was sure he would be able to find his way out of the canyon. And who knows? Maybe we will call it ‘Blue Ridge’ someday.

As I turned my attention back to getting my own telescope set up, the ground suddenly began to shake and I had to grab my tripod to keep from falling over.

“What is that? What is that?” I yelled.

Master Dave, in full lotus position, floated over about 3 feet off the ground. “What is all this commotion, Grasshopper? One cannot achieve inner peace or rounder stars by running around like a hamster with its foot cut off.”

Knowing by now the great wisdom that Master Dave imparts, I quickly calmed down and cleared my head. “It’s the shaking and pitching of the ground, Master Dave. What is going on? What is it?”

“Ah, Leafhopper. It is but the disturbance in the force of Master Nils’ eighteen wheeler as he brings his large assembly up the mountain. It’s sort of an obsession with him, chuckle, chuckle.”

“You mean his telescope is so big he needs a semi truck to carry it?”

“NO, YOU DOLT! He sells trucks for a living and carries telescopes around on them to show astronomers the benefits of owning one – a truck, that is,” he proclaimed with a withering look.

Now I knew I was on Master Dave’s dummy list again and would probably have to memorize the position

of all the Chinese satellites for 2008 to get back into his good graces. But I was actually not that upset by his outburst as I knew by now it was his way showing concern for my progress as a neophyte ASLC imager. As he floated back to his telescope I turned my attention once again to getting my camera set up; even with all the rumbling and shaking as Master Nils made his way up the last little bit of road to the site. I continued to get my computer up and running and begin the process of alignment when I glanced over and noticed Master Steve (not to be confused with the other Master Steve), who was set up only a few feet away from me, began packing up his gear. This was a bit confusing since I had not even started imaging yet.

“Master Steve, Master Steve,” I whispered, “why are you packing up?”

“It’s 3 AM, Kid. Time to go home. Hope you got some good stuff tonight.”

Well, not really, I thought, but I had learned a lot from the ASLC Imaging Masters once again and maybe next time I’ll even get to take some pictures.

## Earth Day Report

By Nils Allen

Yes, the ASLC has gone green - or maybe more like black, the color of no light pollution and thus our big IDA display’s dominate look. Chuck S and I arrived early and got our booth ‘n display set up and tied down to handle the breezy conditions, which it did quite well. My Vixen with piggybacked PST provided contrasting views of old Sol. We had several more members help out - Dave D, Jerry G, John McC, and new member Shawn Rickman. Even Mystic Bob came and added validity to our presence (he kinda looks green, I think). It certainly was faster and easier doing tear-down with five guys than doing set-up with two!



*Dave Dockery at the ASLC Earth Day Booth, 2008 (Photo from Chuck Sterling)*

The overall turnout was fairly light, with around 50-60 folks (actually mostly family groups) receiving our direct attention. Other than the IDA materials, we promoted our Astronomy Day activities at Leasburg and perhaps a couple dozen folks said they might come out. Even more folks took the time to look through the two solar scopes at the quiescent sun... thankfully Jerry finally tuned-in a pretty nice solar prominence - otherwise the disc was pretty much featureless.

Chatting with some other astronomers (grad students) and a few State Park rangers was productive and helped pass the time. And it’s always nice to chat amongst ourselves in the booth when customers are scarce. I look forward to a bigger, more successful event next year... perhaps instead of IDA brochures we could giveaway BBs to all the kids with subtle reminders of how much fun it is to apply them directly to street lights..... ;~)

## Astronomy Day Done the ASLC Way!

By Nils Allen

Short version: all's well that ends fairly decent.

Long version: What can one say about a well-planned, fully staffed, enthusiastically supported event that Mother Nature seemed to have a ho-hum attitude about?! I guess we should count our blessings that things went as well as they did, or at least ended as well as they did. Ahead of the big day we did a yeoman's job of preparation activities - we executed our most rigorous publicity campaign ever, created/edited/printed multiple flyers and signs, arranged for several value-added activities (especially for kids) to supplement our evening star party, etc, etc. We fielded a total of four daytime solar viewing teams that worked hard to attract attention to old Sol and this special day - and did a great job considering the hazy skies and lack of solar features to show and talk about. Our dedicated members who toasted under the hazy sun were Bill S, Jerry G, Steve H, Dave D, John McC, Chuck S, Wes n Carol B, Richard J, Bernie, and Nils.



*Chuck Sterling at the AstroDay display at the downtown mall  
(Photo from Wes Baker)*

Then by late afternoon as we geared up for the slate of evening activities the high clouds got even thicker and I began to wonder if all my 22-inch Dob might see would be the moon... yuck! But optimistic as possible, our faithful members showed up at the park and dutifully set-up scopes and before-dark activities. All the volunteers enjoyed a quick snack dinner together (sorry I was late) - this was our group: Wes and Carol, Nils and Bonnie, Rich R (bad back and all) and Stephanie, Chuck S, Jerry G, Kirbini, Steve NAS, Steve H, Steve NAB, Mystic Bob, Frank M, and Bobby Franzoy (so glad he joined us with his new C-11). By the way, it was impressive to see most of our group wearing their new, sharp-looking ASLC shirts.

Then we went about our tasks, though even by 7:15pm few of the public had wandered in - consequently our peripheral/kids activities kinda were under-utilized (though I heard that after dark a lot of young folks were icing and eating their planet-cookies and creating spin-art nebulas!) While I was wrapping up a pro-ASLC spiel to about 12 adults twilight fell - about then a lot more folks arrived, so I gave them a summarized version and we all headed to the telescopes, which were scattered all along the main trail. Luckily the sky had improved (as hoped) enough to make showing folks the heavens enjoyable - why, soon folks were looking at M3, 82, and 51 thru the big Dob and liking it. Probably (and predictably) the most enjoyed sights were Saturn and the moon, viewed both directly and on laptop screens.

Overall I'd estimate that we "served" around 40 visitors, much fewer than we prepared for. However, I do think workers and visitors alike left feeling good about the evening. We certainly showed that we could put on a first-class event at a remote site, which isn't easy! Special thanks go to Wes and Carol Baker for busting their buns for 3 solid days, to Rich for being so creative, and to my Bonnie for lots of help. And to Jerry Mc and Bernie who faithfully manned our regular moongaze at IDC, informing at least 30 folks about AstroDay into the late hours. This day should be our biggest outreach effort all year, with over 20 volunteers serving our hobby, our Society, and our community... JOB WELL DONE!

## 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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## Minutes, April 2008 ASLC Meeting

**Call to Order:** Nils Allen, President, Astronomical Society of Las Cruces (ASLC), called the meeting to order at 7:35pm., 25 April 2008, Rm. 77, Dona Ana Community College.

**President's Comments:** Nils Allen recognized and greeted several visitors and new members. Present were Leland and Gladys Wehland from Seattle and Patricia Hatfield, wife of George Hatfield, *HDO* Editor.

**Secretary's Report:** The minutes for the March 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 Rich Richins and seconded by Joseph Mancilla. The motion passed by acclamation of the members present. There was not an additional secretary's report.

**Treasurer's Report:** The treasurer was not present, thus no treasurer's report was given.

### Committee Reports:

**Observatory Committee:** Rich Richins, Chairman, Observatory Committee, reported that there was no real progress on state approval to report. He plans to coordinate locations for the Astronomy Day star party activities with Leasburg Dam State Park (LDSP) personnel next week.

**Astronomy Day 2008:** Wes Baker, Chairman, Astronomy Day 2008 Committee, was not present. Nils Allen briefed the membership on the detailed plans for Saturday, 10 May. The primary goal remains to inform the public of the new Club observatory at LDSP. Press releases and detailed information have been provided to local radio and television stations and print media outlets by Bert Stevens and Nils. Astronomy Day activities will start with solar observing in at least three (3) sites: the Las Cruces Farmer's Market, the Plaza in Old Mesilla, and a location at NMSU. Wes and Carol Baker and Chuck Sterling will be at the Farmer's Market to staff solar scopes and hand out information about the Club and the LDSP star party to be held that night. Steve Henderson will do likewise at the Old Mesilla Plaza and Bill Stein at the NMSU location. Plans for the star party are in the final stages and will be communicated via email and the Yahoo group. Additional volunteers are needed to fill out the day teams and to support the LDSP star party. Fliers/handouts are available for distribution at the Earth Day booth at Apodaca Park on 26 April. Nils asked that members contact Wes or him after the meeting or via email to volunteer.

### Old Business:

1. Meade SolarMax telescope – no update available; see Treasurer's

Report above. For the time being, usage will be coordinated through the Board of Directors.

2. Club logo/insignia apparel– Steve Henderson was not present. Nils Allen gave the status on the production of the initial order of apparel items as incomplete. He hoped that at least some of the items will be available for Astronomy Day 2008. Nils and Steve are working on a distribution plan for the order and believe it will occur no later than the regular 23 May meeting. If the order is ready sooner than the May meeting, an interim distribution at either Nils' or Steve's house is possible. Info will be disseminated via email and the Yahoo group.

**New Business:** Astronomical League (AL) membership – Annual membership in the AL is about to expire; Janet Stevens has received the dues renewal notice. Vince Dovydaitis made a motion to postpone the vote on AL membership renewal to the May meeting; Bill Stein seconded. Discussion of the motion followed and devolved into a discussion of the benefit(s), if any, of AL membership. The primary consideration is discounted liability insurance available through the AL for the Club's activities, particularly as plans for the new observatory proceed. Additional considerations were the awards and recognitions available for observing programs and public outreach efforts as discussed by Nils Allen and Rich Richins. Rich announced that he has an Excel spreadsheet available for members to use to apply for their own recognition(s). Rich then moved to amend the original motion to vote on AL membership at the April meeting, i.e., tonight; Dave Dockery seconded. The motion to amend was passed. The motion to vote on membership passed. The vote to renew AL membership passed and the Treasurer will be so informed.

Jerry Gabor requested that discussion of the Meade SolarMax telescope status (Old Business, item 1.) be reopened. He asked, considering Meade's so far eight (8) month delay in delivering the ordered scope, if other sources for comparable solar telescopes should be considered or reconsidered. Discussion of alternate sources followed. Jerry was tasked with consolidating the discussion and pursuing information about other sources and presenting his findings at the May meeting.

Steve Barks offered a motion to adjourn and George Hatfield seconded. The business portion of the meeting was adjourned at 8:05pm by acclamation of those present.

#### Announcements:

1. Sky brightness meter – Nils Allen presented a brief report on his evaluation of Vince's sky brightness meter, comparing reading taken at Veteran's Park (in town) vs. the Upham DSO site. The question of what units these readings used came up – documentation will have to be studied. Look for findings to be published via the Yahoo Group.

2. Southern New Mexico Star Party (SNMSP) – as a co-sponsor of this event at City of Rocks (CoR) State Park, 30 April-04 May, ASLC members will receive a registration discount. See either the Club or SNMSP web site for additional information.

3. Earth Day 2008 – Apodaca Park, 10:00 am. – 3:00 pm., 26 April. A small number of volunteers are needed; main effort will be informing the public about Astronomy Day 2008.

4. Chihuahuan Desert Nature Park (CDNP) – 19 April star party/star tour was canceled because of inclement weather.

5. Astronomy Day 2008 is May 10th with solar scope crews during the day promoting that evening's star party at LDSP starting at 7:00pm. There will be story tellers, creative constellations, spin art nebulae, viewing and other activities. Volunteers and scopes are needed (see Committee report above). The state park entrance fee of \$5 per vehicle will be in effect, but the Club may reimburse volunteers that support the

event. Jerry Gaber said he can support a solar viewing crew and bring a telescope to LDSP. Rich Richins will bring a telescope to the star party but will not be available during the day.

6. MoonGaze - A monthly MoonGaze will be held 10 May at International Delights Café, also promoting Astronomy Day in general.

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

**Presentation:** The program for the April meeting was presented by Wirt Atmar, AICS Research, Inc., Las Cruces, NM, and Club member. His topic was “New Thoughts on an Old Problem: The Evolution of Galaxies”, a major interest of his for some time. Wirt addressed unresolved issues in the current theories of galactic evolution and morphology via his thoughts on an unconventional model for the generative process that forms galactic bars, and in turn all “grand design” galactic forms. From the aics-research.com entry, Françoise Combes, l’Observatoire de Paris, recently wrote, “A barred galaxy looks like a spinning lawn sprinkler, where the water flows through a straight tube, emerges at right angles and then curves around.” However this simple explanation is wholly discounted in modern astronomical thought. Wirt argues that Combes’ statement may actually be correct. Two approaches are possible in the conduct of science: *natural history* and *natural philosophy (physics)*. In the absence of a physical understanding, natural philosophy, which initially entails little more than the grouping of observed patterns, has often proven to be exceptionally powerful. The current computer models do not match the observed patterns particularly well, and Combes’ statement, although offered as an off-hand comment, may indeed be the more correct interpretation.” 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 April 2008 monthly meeting concluded at 9:50pm. Respectfully submitted by John McCullough, ASLC Secretary

## First Year of Serious Astrophotography

By Charles Anstey

*Editor’s note: This article originally appeared in Cloudy Nights Telescope Reviews in April, 2007. It is reprinted here with the permission of the author.*

It was one year ago that I received my SBIG ST-10XE + CFW-8a + AO-7 after finding a good deal on a used one on Astromart. My telescope was a CGE 1100XLT, which is a Celestron CGE mount and Celestron 11" SCT with XLT coatings. I had been attempting unguided DSO astrophotography for about a year using a Canon D60 DSLR so I was not a complete newbie, just a beginner. The D60 had two major limitations; it was unguided and it had a large amount of noise. I had dreamed of owning an SBIG camera because it had neither of those limitations. It was with high hopes that I began my first year into serious AP.

Of course the first thing you must do when getting a new camera is shooting all those objects that you are dying to photograph: the Horsehead, M51, M13, and a plethora of others. Forget about really learning how to operate the system to its fullest capability. Just learn enough to make it work and start shooting. I think that every budding astrophotographer needs to get that out of their system if only to see why you should spend some time learning the basics. The key is to not spend too much time doing it before getting serious about learning the basics. Unfortunately it took me about 8 months to get serious because I was able to improve quickly enough that I didn’t see I was nowhere near the capabilities of my imaging system.

The first wonderful piece of advice I got (and ignored, of course) was to not use the AO-7 and simply use the camera and guider directly into the CGE. But I thought, "My CGE needs the AO-7 to get good tracking" and used it right from the beginning. The trouble was for the first few months my tracking was 50/50. Some nights it worked flawlessly and other nights it couldn't keep the guidestar for more than a few minutes. Then I found and read Mike Dodd's excellent article that explained auto-guiding in detail, located on the Yahoo Group "CGE-Uncensored". From then on I had no issues with guiding and it worked flawlessly every time. One major issue solved, but the AO-7 still was having a detrimental impact on my images, but I didn't know it yet.

The focusing is normally another difficult issue to deal with, but I already had a head start. Focusing the Canon D60 was a major pain using the SCT focus knob and camera finder. To improve focus I bought a Robo-Focus for the SCT knob and got "DSLR focus" program to automate the focusing routine. With CCDSoft and the ST-10 I was able to measure the quality of focus and I was able to achieve very good focus in about 10 minutes. I cannot imagine doing it by hand, even with a Crayford focuser, so it is the first upgrade I would recommend. I tried Hartmann masks and other focusing aids but the computer got better focus without help.

Around September came another partial revelation. I spent August and September and 10+ nights working on NGC7331 trying to get a really good image. Even better, it was the CCD Image Challenge of the Month in September so I had a good head start. My image was the best I had created so far and I was quite happy. Then someone entered the contest using effectively identical equipment and totally blew my image away. I knew that it wasn't simply the processing. Clearly, he had gotten much better original frames than I, but how? At this point I hardly imaged for the next few months due to frustration, weather, and waiting for the AP1200 that had been ordered in August to show up for Christmas.

The biggest revelation came in December, a whole 8 months after starting this endeavor. In one of the CN threads a link was given to Richard Bennion's presentation at an imaging conference. I watched the 45 minute video and all was revealed. I learned that my collimation wasn't good enough, my star distortion was an issue, my focus wasn't quite good enough, and how important all of these pieces are to the final image. I removed the AO-7 to improve the overall image quality because the focus point with it was near the extreme back and without it was much closer to the middle. I spent days playing around with collimation trying to judge exactly why my stars were slightly oval and got them spot-on circular with the brightest point at the center pixel. I was finally able to get FocusMax to work extremely well and understood what HFD means and what my typical HFD values should be on good nights and bad nights.

Over January and February I spent every decent night out in the driveway practicing and tweaking each of these parameters. I was also learning how to setup and polar align the new AP1200 mount each time, every time, without fail or undo effort. I was determined not to travel anywhere until I had the basics down. The quality of my astrophotos went way up to the point where I think that I am getting about 80-90% of all I can out of the imaging rig as far as raw frames go. You would think I bought a whole new imaging system. My processing skills still need work and that will probably be the focus of the second year.

The big payoff came on the Messier marathon weekend of March 16<sup>th</sup> and 17<sup>th</sup>. My family and I were going to go to a MM star party at a dark site east of Columbus, GA on Saturday for visual work, but I went down Friday night to get set up and possibly do some imaging. I had been saving my 3<sup>rd</sup> attempt at M51 for this dark site as my first two were sub-par. Eventually the wind died down somewhat Friday night and I let the system shoot 10 minute subs in LRGB while I went to bed in the tent. The results were more than I was hoping for given the conditions. See the pictures at the end to follow my progress.

After a year of experience on this learning curve, here are my suggestions to budding astrophotographers who are just starting out in the field of serious AP.

1. If you have a decent mount like the G11 / CGE or maybe even the ASGT or LXD-750, get a quality advanced amateur camera first. I would rather have my SBIG ST10 on the CGE than a DSI on the AP1200. Some may disagree with that sentiment, but I really think the SBIG or your favorite equivalent camera makes a bigger difference than upgrading from the entry level mounts to the top tier.
2. The second upgrade is the mount and the last thing to “upgrade” is the scope. You may have different focal length scopes for different FOV, but that isn’t really an upgrade. Almost any scope can be used to produce wonderful images as long as the target is appropriate.
3. Read Mike Dodd’s paper on guiding and watch Richard Bennion’s presentation on getting good raw frames many times. That information is vital to improving the quality of the images and can save you months of experimenting to come to the same conclusions.
4. Practice, practice, practice. Don’t worry about heading for a dark site until you can reliably setup and polar align, guide well every time, check and fix collimation, and focus very well. After 8 months I learned that spending two months practicing and not trying to take images for show was the best thing I could do. I still took images during the practice sessions but the goal was to test if the setup was correct, look for errors, and understand and improve the behavior of the system. Polar alignment, guiding, and focusing can be done any mostly clear night and lunar phase isn’t important. Focus on the details and the imaging part will take care of itself.
5. Learn the ins and outs of your imaging rig, which goes along with #4. Learn how faint a guide star you can use or how bright. How long can your guide exposures be and still get good guiding? How accurate does your polar alignment need to be before it doesn’t seem to matter? How accurate is your GOTO and when it wasn’t performing like normal, what did you have to do to fix it? The more you know about the capabilities of the system, the better your decisions will be out in the field when choosing targets or recovering from a bad start and the less time will be wasted. Better to “waste” nights at the beginning in the comfort of your own driveway testing the extremes of performance than out in the middle of nowhere after driving for an hour.
6. Dedication is the key to success. There have been nights where I simply wasn’t going to go outside because I was too tired, it was too cold, or I just wasn’t in the mood. Every time that happens it is a missed opportunity to learn and improve something and depending on where you live, you may not get many opportunities a month. There has to be a balance, but watch out when it starts becoming really easy to find a reason not to spend some time outside. Once I really understood collimation, guiding, focusing, and polar alignment, it usually took about 5 nights for each skill to really learn it well enough. Some nights I could work on more than one skill but that was usually after the 3<sup>rd</sup> night of practice on the first one. At this point I have the confidence that I can be up and imaging at my best within 90 minutes unless a total disaster happens. I also have the confidence that I can let my mount go unattended for the rest of the night and stop it in the morning but that is mostly a function of the mount. With that confidence I don’t worry about spending four hours setting up and imaging with nothing to show for it. I am free to choose the nights I image and let others go since I am very likely to have a successful session, sans weather. I don’t have to image every good night hoping that some of them will come out well like I did before.
7. Image processing. A 16-bit camera really needs a photo editor that can work with 16-bit images (48-bit RBG) to process them well. The only one I know of is Photoshop CS and CS2 but I think there are some others now and it makes a very big difference. You need to work with the full dynamic range to get the best results. When you start getting really good raw data, it is not unreasonable to plan to spend around \$1000 for a set of

image processing software and books if you do not already have it. Yes it is yet more money to spend, but worth it.

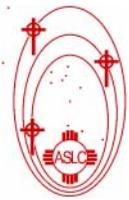
I hope other beginners find this recount of my first year useful and helps them avoid some of the mistakes I made. Following are some pictures of M51 throughout the year as I improved my skill.



The image on the left is my 1st attempt at M51 in April , 2006: C11 + Focal Reducer + AO7 + ST-10XE + CGE mount. The center image was taken in December 2006: C11 + Focal Reducer + ST-10XE + AP1200 mount. The image on the right is my 3rd attempt at M51 in March 2007: C11 + Focal Reducer + ST-10XE + AP1200 mount at a dark site, 10 minute sub-exposures. *Editor's note: the images in the original Cloudy Nights article are better. See them for a better comparison.*

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