

# Saguaro Astronomy Club



# Sacnews

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## The SAC Board, Old & New



*The Outgoing SCA board members. From Left to Right David Fredericksen, President; Rich Walker, Properties; Jennifer Keller, Secretary; Paul Dickson, Treasurer; Steve Coe, Vice President*



*The incoming SAC Board Members. From Left to Right: David Fredericksen, Properties; Al Steiwing, Treasurer; Jennifer Keller, Vice President, Thad Robosson, President Not Pictured: Joe Macke, Secretary*

Here are the folks who have kept SAC the strong active club it is for the past two years and the new Board members who will follow their footsteps and keep the club the great organization it is for the future.

# NASA's Space Place

## Flying in Formation By Patrick L. Barry

You can almost see the tabloid headlines now: "Midwest farmer spies UFO squadron flying in formation!" "First signs of imminent alien invasion," the subtitle will read. If only this fictional farmer had been keeping up with NASA's Space Place column, he would have known better. The string of white dots moving in formation across the pre-dawn sky were satellites, not alien spaceships.

Beginning next year, a series of challenging, high-precision launches will insert four satellites into orbits with just the right altitude, position, and orbital inclination to follow in lock-step behind NASA's Aqua satellite (launched in May 2002). Scientists have dubbed this squadron of satellites the "A-Train." Along with Aqua, the celestial parade will include Cloudsat, CALIPSO, PARASOL, and Aura.

In April 2004, NASA will launch CloudSat, an Earth-observing satellite with unique cloud-measurement abilities. These measurements will fill an important role in our understanding of global climate change, making long-term climate change scenarios more accurate and dependable.

So why bother flying in formation? By passing over the same swath of land within seconds or minutes of each other, the satellites will give scientists snapshots of essentially the same scene using a total of 14 different measuring instruments. CloudSat alone carries only one: a millimeter-wavelength radar sounder.

This sounder—the first of its kind put into orbit—lets scientists see a vertical "slice" of the atmosphere that shows clouds, water, and ice between the ground and 30 km altitude, with a vertical resolution of 0.5 km. Even

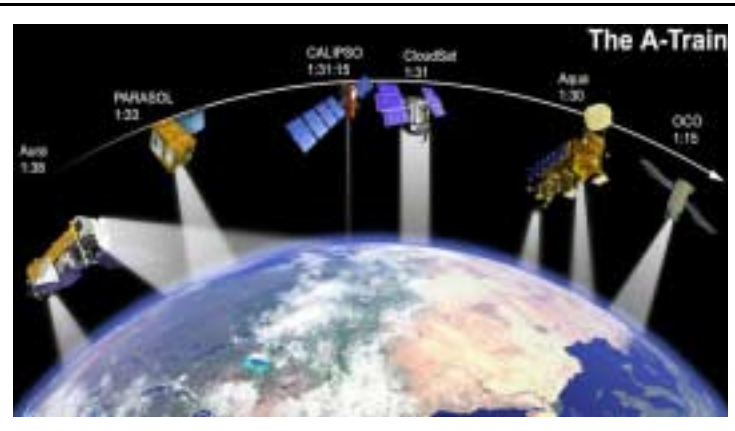
by itself, this instrument would provide an important and unique view of Earth's atmosphere, since the accurate portrayal of clouds is one of the glaring weaknesses with current simulations of climate change.

But this cloud data is even more valuable when combined with measurements from the other satellites in the A-Train—for example, air temperature, trace gases, and radiation into and out of the atmosphere. Scientists can then see connections between, say, temperature and the resulting behavior of clouds. A better understanding of these connections is one of the most sought-after goals of climate research, because changes to global cloud cover would, in turn, have a feedback effect on global temperatures.

The real story of this satellite squadron may not make the tabloid headlines, but at least there's evidence that the imminent threat of climate change is real, which is a lot more than you can say for alien invaders!

Learn more about CloudSat and the A-Train at [cloudsat.atmos.colostate.edu](http://cloudsat.atmos.colostate.edu). Kids (and grownups) can do interactive cloud picture scrambles and learn "Cloudspeak" (the names of different kinds of clouds) at The Space Place, [spaceplace.nasa.gov/cloudsat\\_puz.htm](http://spaceplace.nasa.gov/cloudsat_puz.htm).

*This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.*



# The Bilingual Astronomer

## By Rick Tejera

I grew up in a bilingual household. My mother, Grandmother & sister spoke fluent Spanish. Then there were the Tejera men. My dad, although also of Puerto Rican ancestry, grew up in boarding schools and thus didn't have the opportunity to learn Spanish the way my sister did. As for me, I just don't quite have the lingual ear of my sister. The woman can hear a language for a month and speak it conversationally, give her 6 months and it may as well be the mother tongue. Given my lack of language skills (there are those who say English would apply here as well), I never really thought I would have the NEED to learn a new language. Then came astronomy.

OK, I know you're wondering where I'm going with this, so let me explain. Like most newcomers to the hobby, my first quest was to observe the Messier catalogue. As I got close to completing the catalogue, I realized, one Sept. while compiling my observing list, that the only Messier objects left were the spring galaxies. Oh well, may as well start the SAC 110 Best NGC's. It quickly dawned on me that while there were no end of references with pictures & drawing of the Messiers, no such aids existed much beyond that. It proved difficult at first to try to

get a mental picture of what my quarry would look like. I guess I went right over or past many NGC's before I realized help was at hand. While not technically a language, the shorthand system derived by J.L.E. Dreyer to describe the objects in the NGC offers a good way to get that mental idea of what you are looking for. The first time I looked at one of the

!	remarkable object	!!	very remarkable object
am	among	n	north
att	attached	N	nucleus
bet	between	neb	nebula, nebulosity
B	bright	P w	paired with
b	brighter	p	pretty (before F,B,L,S)
C	compressed	p	preceding
c	considerably	P	poor
Cl	cluster	R	round
D	double	Ri	rich
def	defined	r	not well resolved
deg	degrees	rr	partially resolved
diam	diameter	rrr	well resolved
dif	diffuse	S	small
E	elongated	s	suddenly
e	extremely	s	south
er	easily resolved	sc	scattered
F	faint	susp	suspected
f	following	st	star or stellar
g	gradually	v	very
iF	irregular figure	var	variable
inv	involved	nf	north following
irr	irregular	np	north preceding
L	large	sf	south following
l	little	sp	south preceding
mag	magnitude	11m	11th magnitude
M	middle	8...	8th mag and fainter
m	much	9...13	9th to 13th magnitude

Figure 1: The Dreyer Alphabet

descriptions, I had no real idea what it said. After all does: Cl,pS,Ri, IC,st9...13 make sense to the English speaker? After a few frustrating observing sessions, I made it a point to, as I put it, learn Dreyerese. Once you look at the key to his shorthand the descriptions will make sense, sort of. There are several symbols that can have multiple meaning, to decipher the correct meaning takes a bit of practice in reading the context of the description, but it comes rather quickly.

To illustrate, lets take the example above, which is NGC 6520, an open cluster in Sagittarius. First we need the Dreyerese alphabet (see fig. 1).

OK, most of the symbols make sense, at least when you look at them individually. It's when

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## Last Call For Observations—Perseus

By A.J. Crayon

This month's constellation, Perseus, lays smack in the middle of the winter Milky Way, making it a treasure trove for open clusters and nebula, but it does have some surprise – like galaxies. The star patterns were identified with prominent heroes or gods in ancient cultures. From mythology, Perseus was the great-grandfather of Hercules and ancestor of the Persians.

As has been said from the beginning description for this column; this is for SAC members to have their observations posted. If you send observations please use a format similar to the one used below.

### M76 (01 42.3 +51 35)

**10inch F4.5 Newtonian, 100X;** Ken Reeves: With UHC Filter. The object is pretty small, somewhat bright, and very elongated NE/SW. There are 2 patches of nebulosity which are obvious. Using averted vision makes it grow a little. The dumbbell shape is very obvious.

**13.1" f4.5, Dobsonian, 50X;** Charles Whiting: Telrad to Phi And. Easy star hop to a bright star near M-76. Not visible in the 3" finder scope at 20x. In the 13" at 47x object was a shapeless dim smudge. The smudge began to take shape at 58x. Vaguely a rectangle. I tried filters but they did not seem to improve the sight. Tried 83x and 120x. They only seemed to increase the size of the object but not the detail. Finally, in the 10mm eyepiece, 150x, I could see that one end was brighter. It looked like 2 objects overlapping.

**16" f 4.4 Newtonian;** Rick Rotramel: PN - pL, fB, peculiar shape, with two bright nodes, with faint glow perpendicular to them.

**20inch F5 Newtonian, 320X;** Ken Reeves: The object is very bright, pretty large, elongated 2:1 ENE/WSW, containing 2 bright spots connected by a bar with the WSW spot being the brightest. There is a star just off the WSW end. Faint detail extends perpendicular to the main bar, giving almost a spiral pattern. This detail shows up especially well with averted vision. A central star is occasionally suspected. Very nice!

### NGC957 (02 33.3 +57 34)

**8" F/6 Newtonian, 75X;** Charles Whiting: About two dozen stars 10th and 11th mag in sort of an oval pattern, the oval running roughly east west. The oval pattern was about 10' by 8'. There is a double star in the south central area. The primary was yellow and the secondary was blue. The cluster is east and a little north of the famous Double Cluster. The cluster

seems to be supported by two brighter stars that are part of a figure that looked like a chaise lounge. The other chaise lounge stars are to the west and southwest of the cluster.

### NGC1023 (02 40.4 +39 04)

**8" F/6 Newtonian, 192X;** Charles Whiting: Galaxy, elongated, about 5' by 1'. Edge on? or else very shallow angle. Major axis runs east and west. Nucleus is very much brighter than the halo. Nucleus is round, about 1' in diameter. Object was not visible in 9x finder. Visible but dim and small in the 8" at 38x. It was much better in the 8" at 96x and 192x. The halo was very distinct from the background, roughly even on both sides, faint but visible, pretty even in texture. There were several field stars in a line and to the south of the object, sort of underlining it.

**10inch F4.5 Newtonian, 140X;** Ken Reeves: The object is pretty bright, pretty big, very elongated E/W with a much brighter middle, and a non-stellar nucleus is suspected. The halo is pretty large but faint with no details seen.

**13.1" F/4.5 Dobsonian, 167X;** Charles Whiting: Galaxy. Very much brighter middle. Elongated E-W. On line between 8.5 and 8.7 mag stars.

**16" f 4.4 Newtonian;** Rick Rotramel: G - fL, B, elongated, very gradually brightens to a bright nucleus, Nice!

**20inch F5 Newtonian, 180X;** Ken Reeves: The object is pretty large, somewhat bright, gradually brighter middle with a much brighter non-stellar nucleus, and very elongated E/W about 5:1. Using averted vision extends the galaxy quite a bit, almost doubles the size of the halo. There are 3 stars involved, 1 on the E and 2 on the W.

### NGC1245 (03 14.7 +47 14)

**8" F/6 Newtonian, 192X;** Charles Whiting: Open cluster, large and sparse (loosely packed?). Two dozen or more stars seen, 11th and 12th mag. Suspect more stars underlying but much fainter. Estimate 10' diameter. Overall fan shape at low power. Stars seemed to be in chains with the lines narrowly spaced on the northern end and more widely spaced at the southern end. There are two field stars on a line below (north) running east and west. Overall not very dim and not very bright, sort of in the middle.

**10inch F4.5 Newtonian, 100X;** Ken Reeves: This cluster is pretty big, not real bright, with 3 layers of stars over and unresolved haze. Using averted vision

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makes the haze stand out. About 10 bright stars and 20 fainter stars were counted. Using averted vision also makes many faint stars pop out.

**16" f 4.4 Newtonian;** Rick Rotramel: OC - pL, fB, vRich, round, ~100 stars of similar magnitude

**NGC1275 (03 19.8 +41 31)**

**10inch F4.5 Newtonian, 140X;** Ken Reeves: This is the Perseus I galaxy cluster. The galaxy in the center of a cross shape asterism is the brightest (NGC 1275), the galaxy to N is fainter (NGC 1278) and the one to the W is fainter still (NGC 1272). Only NGC 1275 is certain, other 2 are suspected, all are very faint. No shape or size could be determined. Really need a larger aperture scope for this group.

**16" f 4.4 Newtonian;** Rick Rotramel: G - vS, F, bright center with wispy spiral elongated edges, NGC1270, vS, F, oval galaxy with a brighter nucleus to the southwest.

**NGC1491 (04 03.2 +51 19)**

**10inch F4.5 Newtonian, 100X;** Ken Reeves: This nebula is somewhat small, not too bright, contains a bright star with the nebula fanning SW from star. The nebula does respond to UHC filter. No color was seen. There is a little brightening around star.

**13.1" F/4.5 Dobsonian, 83X;** Charles Whiting: Object was detectable without filters. But the filters improved the contrast and helped to make the object stand out from the background. The narrow band filter did the best - it improved the contrast and did not darken the field as much as the O-III. The broad band filter didn't improve the contrast as much as the narrow band filter. The best eyepiece seemed to be the 18mm (83x). The object is small, maybe slightly larger than the Ring Nebula. The object seemed to be roughly triangular shaped and had a dim star at one corner.

**16" f 4.4 Newtonian;** Rick Rotramel: EN - pL, fB, oblong patch of nebulosity between some bright stars.

**20inch F5 Newtonian, 160X;** Ken Reeves: This nebula is very bright and pretty large, emanating W from a bright star in a fan shape. Use of the O-III filter shows a dark arc around the star, then brightens up, then dims out. 1 star is involved with several others close. A very nice nebula.

**NGC1582 (04 31.8 +43 47)**

**8" F/6 Newtonian, 75X;** Charles Whiting: Very large open cluster. Object is more than 1/2-degree in overall diameter, larger than the full moon!. About 50 stars. Most stars lie in a semi-circular arc from west to north to east. A large section of middle west is devoid of stars. Object looks like a tree, the semi-circle being

the leaves and a line of 5 or 6 stars extending to the south being the trunk. This is a WOW object - the stars are quite bright and numerous. At the far southeast corner of the eyepiece were 3 very bright stars forming a narrow triangle. The cluster and the triangle were both clearly visible in the 9x finder.p.s. after checking SkyMap the following day, I can see that the "trunk" stars are outside of the "official" boundary of the cluster.

**NGC1605 (04 34.9 + 45 16)**

**8" f/6 Dobsonian, 60x;** Rick Tejera: Very small cluster. looked for a small knot of stars in the area, Honestly did not see anything resembling a cluster, even at high power. I did confirm that I did observed the field as what I drew matches with Skymap. The cluster would be in the area marked with a small circle in the Drawing

## Call for Observations

The next constellation will be the Charioteer, Auriga, yes I'm afraid to try Orion this early - perhaps next year. We'll stay with approximately the same number of objects and see what develops, but vary the content some by including more Messier selections, an IC entry and a double star. Look to turning these in during February.

M38 - magnitude 6.4.

NGC1778 - magnitude 7.7

NGC1907 - on 110 Best NGC and 400 Herschel lists.

NGC1931 - cluster with nebulosity; on 110 Best NGC and 400 Herschel lists.

NGC2281 - magnitude 5.4

IC2149 - this planetary nebula is brighter than NGC2242.

STF698 - a nice color contrasting double from F.G. W. Struve's catalogue, what color or colors do you see?

For March it will be Monoceros.

NGC2215 - magnitude 8.4

NGC2232 - magnitude 3.9

NGC2236 - magnitude 8.5

NGC2250 - magnitude 8.9

NGC2335 - magnitude 7.2

NGC2353 - magnitude 7.1

Beta - nice triple star that is distant companion to Rigel, what color or colors do you see?

## Astro Bits

### By Thad Robosson

Well, finally, we had a good solid weekend of observing. All the waiting gave way to actually seeing some of the beauty of the heavens. Not only did we get to finally go out and observe, but I also got to try a few things I've been hoping to do since October. The first thing I'd like to comment on is about Bilberry extract. I have seen this brought up several times in several different places, and curiosity got the better of me. I did some checking on the Internet, and didn't find much in the way of hard facts. In fact, the only thing I consistently found about Bilberry was that was used by British RAF pilots during WWII to help their night vision, but this does not have the benefit of studies, and no data could be found on this. But I did find some information and different products that contained it and vitamin A. I asked a friend of mine, who is into the "herbal" remedy thing, for an opinion. The response was that the Bilberry was good for helping generate visual purple, which as we know, helps night vision. The vitamin A is good for the capillaries in your eyes, keeping blood flowing smoothly, helping to fend off fatigue of the eyes, and improving focus. I went to Walgreens and purchased some Bilberry extract capsules and vitamin A. I then started taking 2 of each at morning and evening. I honestly didn't hold any expectations, but figuring it couldn't hurt, I took them regularly. Within a few days, as I got up early to go to work, I started noticing that my eyes didn't take long to adjust to darkness after being in light. I could be in a lit room, walk out into the rest of the dark house, and within a few seconds, I was able to see enough to avoid furniture and such. Usually, it takes me a good 15~20 seconds to do this. I also started noticing that my focus was much clearer, I wasn't as tired in the eyes at the end of the day, and that the flares I so commonly observed in streetlights, stoplights, headlights, etc, had been reduced somewhat. I was hoping to get out and observe this under starlight, but that didn't happen until this past session. I stopped the regimen until about 5 days before the outing, and again noted

the same effects of improvement. But this time, we were headed out under the stars. Maybe it was just super clear at our location, but it sure seemed to me that the winter Milky Way had never been that defined. There were so many stars in the area of Andromeda; it took me a good few minutes to find the square! Again, it could have been the conditions, but I also believe the lack of flaring, ability to focus, and lack of fatigue was enhanced notably with the Bilberry and vitamin A.

The second thing I finally got to try was the Therma-care back wraps, as suggested by Rich Walker at the SAC Christmas Party. These wraps cost approximately \$7 for a pair, but it is well worth it. Chuck and I each tried one on about the time we were putting on our final layers, just before we got chilled. I also got a smaller, square version for putting just below the nape of my neck, and a pair of toe warmers for my feet. I first thought that all this was overkill, but as the temp dropped, I stayed very comfortable, including my toes, which are always the first to go. My hands never really got cold, and when they did, a minute in my pocket solved it. It was quite refreshing to be able to shift a bit in my winter suit, and have it be nice and warm. The only time I got chilled was when I sat down. My thoughts are that I stopped circulating that warmth in the looseness of my suit once I sat down. Upon getting back up, it only took a minute or two to be comfortable again. Chuck's comments were much the same as mine, despite only using the back wrap. We both agreed that it was a nice addition to our winter gear.

In either case, I would recommend trying these out. They both seemed to make a notable difference, and definitely improved my outing that night. For me, both of these things are going to be part of my observing routine and gear. If you have other tips like this to share, please contact me and I'll write up an article on it.

# March 2004

SUN	MON	TUE	WED	THU	FRI	SAT
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

## Schedule of Events for February & March 2004

Feb. 6th	SAC General Meeting at Grand Canyon University at 1930. Speaker: Paul Knauth, topic TBA
Feb. 14th	SAC Star Party at Flat Iron, Sunset: 1814, Ast Twi. End: 1938, Moonrise: 0327
Mar. 2nd	ATM Sub Group Meeting at Thad's Shop. Contact Thad at 602-826-0328
Mar. 5th	SAC General Meeting at Grand Canyon University at 1930. Speaker TBA
Mar. 6th	Moon is Full at 2314 mst.
Mar. 13th	SAC Star Party & Novice Group session at Flat Iron. Sunset: 1839, Ast Twi-light Ends 2002, Moonrise 0328
Mar. 13th	Moon at last Quarter at 2101
Mar. 11th	Deep Sky Subgroup Meeting at A.J. Crayon's House. Contact A.J. at 602-938-3277 for Details
Mar. 20th	All Arizona Messier Marathon at Arizona City, Directions on page 10.
Mar. 20th	Moon is New at 2241 mst.
Mar. 20th	Vernal Equinox at 1306 mst.
Mar 28th	Moon at First quarter at 23:48

## Future Planning

Mar 20-21st	2004 All Arizona Messier Marathon at Arizona City. For more information contact A.J. Crayon at <a href="mailto:acrayon@mindspring.com">acrayon@mindspring.com</a> or go to: <a href="http://www.saguaroastro.org/content/messier.htm">http://www.saguaroastro.org/content/messier.htm</a>
April 24th	The Thunderbird Public Star Party at Thunderbird Park in Glendale. The park is at 59th Ave 2 mile north of the loop 101.
Jun 12-19th	Grand Canyon Star Party. Go to: <a href="http://www.tucsonastronomy.org/gcsp.html">http://www.tucsonastronomy.org/gcsp.html</a> for more information

## Bits & Pisces

### Minutes of the January 9th Board Meeting

#### Recorded by Joe Macke

The meeting was called to order at 0145UT.

Attendees: Thad Robosson, Rick Tejera, Al Stiewing, Dave Fredericksen, Joe Macke, Jack Jones, Jennifer Keller, Stan Clark, Paul Dickson, Steve Coe, and A.J. Crayon

- 1) Thad inquired about the officer changeover. Paul reported that he had about two days of clean-up work to do on the books and the change would be completed by the end of the month. Dave said that he had already taken possession of the club property.
- 2) A.J. reported on the Messier Marathon. It will be the new moon weekend in March, 109 objects are possible. Two things are still needed, a porta-potty and good weather. A question was raised as to whether it would be possible to relax the rule requiring the turn-in of check-off sheets prior to the coordinators departure. There have been a few instances of people not getting them turned in. The general feeling was to leave the rules as the coordinator has made them. A.J. did allow that someone could stay longer on Sunday morning for the late sleepers to collect the check-off sheets. Jennifer volunteered to do so.
- 3) The Glendale Parks people want dates for the public star parties. As previously discussed on the mailing list, April 24 will be the spring party. Jack will select a date in the fall and announce it on the SAC-board mailing list.
- 4) T-shirt sales will be available via the web site. It will be just ads on the site with contact information to buy the shirts.
- 5) Jack reported that the last Pierre Schwaar mirror has a potential buyer from San Diego who will make the purchase at Sentinel next weekend (Jan 17.)
- 6) There was a discussion of advertisements in the SACnews. Rick mentioned that there is already a business membership (\$100 per year) that includes advertising space. Rick will develop a policy for future consideration. The ads promised to Starizona in return for Christmas party door prizes will go ahead, as well as an ad requested by the Phoenix Amateur Astronomical Society to sell a group of green laser pointers they acquired.
- 7) Board meetings will be quarterly, the next in April. Thad and Jennifer will work out the agenda and its form.
- 8) Thad brought up the topic of reworking the novice group to bring it more before the public. Suggested were in-town meetings to attract those reluctant to drive to the middle of nowhere, and occasional short novice-oriented presentations at the regular meetings. The novice group is now being led by co-coordinators, Steve and Rick.
- 9) Jennifer suggested that a table be set up at all meetings for members to sell their astro-bits. It was felt that members are always welcome to sell their surplus and it is not necessary to set up a special table for it. Thad will make an announcement at the meeting that member sales are welcome at all meetings.
- 10) A request to raise the speaker honorarium to \$100 was made. During the discussion, it was revealed that SAC's honorarium is already higher than TAAA's or EVAC's and Jennifer said that she didn't feel that it was necessary to raise the fee to get the quality of speakers we have been getting. It was voted to leave the honorarium to \$50 for in-town speakers and \$75 for speakers from out-of-town.
- 11) A motion was made to pay for each month's speaker and their guest at J.B.'s. This motion passed. It will be done by a member picking up the tab and submitting the receipt to the treasurer for reimbursement.
- 12) A motion was made to waive the membership dues for board members and working members (group chairmen, newsletter editor, etc.) It would require an amendment to the club constitution and all that entails. It was commented that some clubs do this to encourage members to participate in the offices and to repay the working members. The feeling was that it may be a good idea, but the club isn't large enough to support such a policy, so the board declined to present this to the membership.
- 13) Jennifer suggested that the board adopt an idea used by EVAC to put time limits on board agenda items. If discussion continues beyond the allocated time for an item, the item will be tabled for future consideration. The board adopted this suggestion.
- 14) Ideas for club field trips (day trips) were solicited, any members with ideas, please pass to any board member.

The meeting adjourned at 0225UT.

## Bits & Pisces

### Minutes of the January 9th General Meeting

#### Recorded by Joe Macke

The meeting was called to order at 0238UT. There were 43 attendees at the beginning of the meeting.

- 1) President Thad Robosson welcomed the membership and asked if there were any guests present. Six people identified themselves as guests. They were invited to sign the guest book and would receive a copy of the January SACnews.
- 2) Treasurer's report, Paul Dickson, hasn't had a chance to update the books since November. At that time the club had \$4000 in the checking and savings accounts combined, \$60 in liabilities. Since then \$200 has been spent on the Sentinel porta-potty and purchasing the remainder of the club T-shirts. There are still shirts available.
- 3) Steve Coe announcements. Two star parties are scheduled for Sentinel, hoping for good weather for at least one. The dates are January 16 and 17 and February 20 and 21. Unfortunately the January dates overlap the club's regularly scheduled party on January 17 at Flat Iron. So if you are unable to drive to Sentinel, Flat Iron is an option. There is also a novice group meeting scheduled on March 13 at Flat Iron. Directions are in the SACnews or contact Steve.
- 4) Since the club financed the porta-potty at the clouded-out star parties at Sentinel, Steve established a donation can (a can can?) for the Sentinel two-nighter. It costs \$90 for two nights. If enough money is collected, Steve will evaluate the weather and decide whether to order it by Wednesday of the week in question (the last day possible.)
- 5) Rick Tejera announcements. Some mailed hard copies of the SACnews were returned by the USPS as undeliverable. Rather than argue with the brain surgeons at the post office, Rick brought them to the meeting for those who attended. Rick encouraged all those who can get the SACnews electronically to do so and avoid this kind of thing in the future.
- 6) Jennifer Keller announcements. There is a memorial service for Vicki Quave-Ketelsen (Dean Ketelsen's wife) will be held tomorrow (January 10) in Tucson. A copy of the obituary and directions to the service are on the desk. Also a copy of an article from the Arizona Daily Star about the recent death of Dr. Luis Vega is also on the desk.
- 7) Thad Robosson called for suggestions from the membership for day field trips. Trip ideas or any other suggestions regarding the club are welcomed.
- 8) Jack Jones announcements. There are still All-Arizona Star Party and both sand and blue club T-shirts available, \$15. There are also some books left, \$1 for big ones, \$0.50 for small.
- 9) There is a star party at Eagle Ridge Elementary School, 19801 N. 13<sup>th</sup> Street (take 7<sup>th</sup> Street exit from Loop 101 South, it s between Beardsley and Union Hills.) This is in association with the school's science fair January 15, from 6:00 to 8:00 PM (0100UT to 0300UT.) The school is having speakers and if any members would like to give a talk it can be arranged. There will be a raffle at 7:30 (0230UT.)
- 10) Other upcoming events, the next regular club meeting is February 6 at 7:30 (0230UT.) The "Single's Night" star party is February 14 at Flat Iron.
- 11) A.J. Crayon announcements: The Deep Sky Group meeting is also January 15<sup>th</sup> at A.J.'s house (directions in the SACnews.) The group formerly discussed the objects in the now-ended "Fuzzy Spot" column by Ken Reeves in the SACnews. At the last D.S.G. meeting the group talked about what to discuss at the meetings and thought perhaps a worthwhile topic would be "what makes a good observation?" Steve Coe has agreed to discuss the NGC descriptions (in March) and how to decode them. If any member has ideas about what to discuss, pleas attend the meeting. This is a good time to replot the direction of the group.
- 12) A.J.'s new SACnews column "Last Call" appeared for the first time in the January issue. A.J. will post the constellations and/or objects to be observed on the mailing list and observers send their observations to A.J. who will compile them for the column. One goal of the column is to allow comparisons between different types of scopes and allow members to learn about observing by reading other's descriptions.
- 13) Gene Lucas show-and-tell: Gene had two groups of stereo images. One set was composed of six anaglyphs. These are the red/blue images that require the stylish glasses. The other group was seven left/right images by Akira Inaka who was the subject of a recent article in Sky and Telescope. Gene also mentioned that there were still a few copies of the RASC Observer's Handbook available for \$15 and they will be at the EVAC meeting on Wednesday.
- 14) There was a short break at 0314UT before the evening's speaker; there were 61 attendees at this point.
- 15) At 0336UT, Jennifer Keller introduced Dr. Fulvio Melia as the speaker. He spoke on the black hole at the center of the Milky Way galaxy, the evidence for its existence; observational technology being used to image it and technology anticipated that would allow imaging of the event horizon.

The meeting adjourned at 0505UT.j

*(Continued from page 3)*

they are strung together that they can get confusing. Not unlike the King's English (which I'm told we DO NOT speak) a symbol can have more than one meaning. Thus one needs to be able to determine context in order to decipher the proper meaning. Also note that oft time the case of the symbol is indicative of the proper translation. For example: p. p by itself in lower case indicates position, in this case, "preceding" or west of. Take the same p and add it immediately in front of F,B,L or S and it becomes an adjective meaning pretty as in pretty Faint, pretty Bright, pretty Large or pretty Small. Starting to make some sense? Capitalize it and now it means "poor" so if you saw p pF pS you might want to skip this object, as it is poor, pretty faint and pretty small. Similarly, s can mean either "south" or "suddenly" the adjoining symbols will determine which meaning it has. Note that some symbols can't be combined and make sense, a clue as to the true meaning of what you are reading. Example, s by itself as previously noted means either "south" or "suddenly", c means "considerably". "sc" however means "scattered". Note that south considerably or suddenly considerably don't make sense, so the meaning has to "scattered".

So to decipher the description of NGC 6520 we get:

Cluster(Cl),pretty small(pS),rich(Ri),little compressed(IC),stars 9<sup>th</sup> to 13<sup>th</sup> magnitude (st9...13)

If you've observed this object, that pretty well describes it. The language is a pretty good

representation of what you will see visually.

The easiest way to become fluent in Dreyerese is to practice by reading it one symbol at a time. Don't try to take in the whole description in one shot. Go for it in bits and pieces. Work at bit by bit and you'll be speaking Dreyerese before you know it. Now when your looking for objects, you'll be able to get an idea of what to expect in the eyepiece. Don't be shy about having the Dreyer key with you at the eyepiece for reference and don't forget to combine your newfound skill with other resources as well. The SAC database has a wealth of info on over 10,000 objects including size, brightness, etc (along with the Dreyer descriptions). You can easily have this info available at the eyepiece using the freeware program Astrobyte.

One more way to make sure your newfound linguistic skills are honed to a sharp edge is to use Dreyerese as a shorthand at the eyepiece. Face it, when it's chilly out the last thing you want to do is write detailed notes about your observation. Writing a few notes in Dreyerese Will speed up the process of recording your observation for posterity (and hopefully A.J.'s nw column, hint, hint). Once back in the comfort of home you can translate them back to English into whatever medium you use to store records. It's also fun to check your notes to the NGC's to see if you saw what great observers like the Herschels saw.

Now, start practicing your Dreyerese, there will be a test.

## Kids Star Party at Thunderbird Park

Thunderbird Park, the site of our Spring Public Star Party in May, will host a special star party for deserving kids on Friday, March 12 from 6:00 to 8:30 pm. They have asked Saguaro Astronomy Club to participate in an evening with the stars and planets. Please bring your telescopes, astronomy knowledge, and enthusiasm for observing to Thunderbird Park, Ramada #6 (the large ramada at the front of

the park), two miles north of the 101 on 59th Ave. Sponsored by Glendale Parks and Recreation.

Jack Jones  
Public Events

## Such A Deal

### For Sale

Orion StarMax 127mm 5" Maksutov-Cassegrain 1540mm focal length f/12.1 with 25mm eyepiece, 6x26 finder scope and telescope carrying case. Dual axis drive that's never been used. With AstroView equatorial mount. I don't want to deal with shipping, so for sale in the Phoenix area only. \$400.00 Call Damion at 602-240-5421

### GREEN LASER POINTERS FOR SALE

This top quality **green laser** pointer makes an immediate impact. Presenters using **green lasers** are immediately perceived as ahead of the pack in both style and technology. Housed in a plush velvet case, this is a great choice for any purpose. Constant output.

Powered by a Sony diode with a lifetime of 3000-5000 hours, it projects a **green** dot up to an incredible 2 miles away.

It so powerful that the beam itself can be seen for several hundred feet in darkness. That's why astronomers use it to point out constellations and stars in the night sky, the US Army uses it for training exercises, and executives at all levels use it to enhance their prestige. Anyone can use it for fun.

#### SPECIFICATIONS

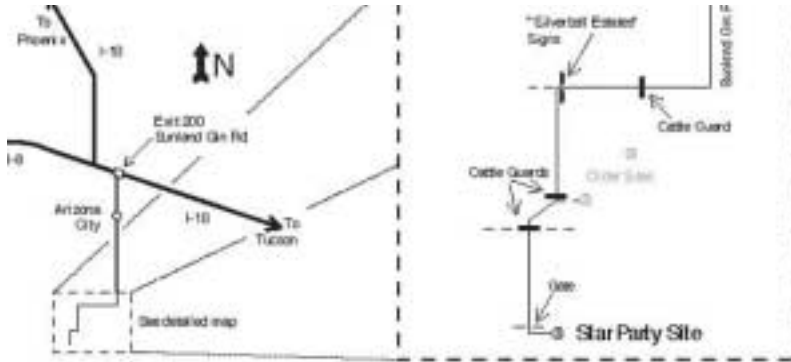
- Output type: constant
- Output Power: <5mW,(Class IIIa)
- Wavelength: 532 nm
- Polarization: Linear (50:1)
- Beam Dia. at Source: 1.1 mm
- Output Variance: 10% after 20 min.
- Beam Divergence: 1.2 mRad
- Dimensions: 5.85 in. long, 0.54 in. dia.
- Switch: Push Button
- Operating Lifetime: 3000 - 5000 hours
- Batteries: 2 X AAA (incl.)
- Range: 9,500 ft (2800 m) in darkness
- Class: IIIa

Each Laser is \$100 with batteries and carrying case. To order your Laser, call William at 602-561-5294.



# SAC Meeting and Observing Sites

## All Arizona Messier Marathon



Take I-10 to exit 200 (Sunland Gin Road). From here it is about 29 miles to the site. Turn right (south) after exiting the freeway. After about 15 miles, the pavement ends and about one mile further, the road turns sharply to the west. After another four miles, the main road will turn south just after the "Silverbell Estates" signs. Three miles past the signs, the road will veer off to the west, and five miles further, the road will pass through a gate. Turn left immediately after the gate and continue for another 2/3 of a mile, driving over a fence. The site is to the right.

## Deep Sky Group Meeting



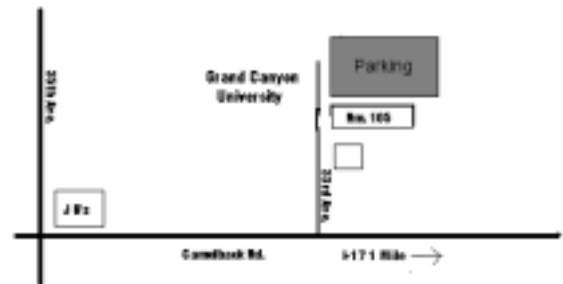
## Flatiron Star Parties



Head west on I-10 to the 339th Ave exit (exit 103). Turn North (right) and go two miles to Indian School Rd. Turn West (left) on Indian School and go 2 miles to 355th Ave. Turn North (right). This will turn into Wickenburg Rd. Follow this road for about 12 miles. Just after mile marker 23 you will go through Jackrabbit wash and pass a cattle guard sign. There is a dirt road just after the sign, marked by white painted rocks. Turn on to this road and follow it about .9 miles. Just after you pass through a wash, you'll see the field on your left. If you hit the cattle guard, or the dirt road your on is next to a fence, you've missed the correct road. Go back and look for the white rocks. (see detail map above).

## General Meetings

7:30 p.m. at Grand Canyon University, Fleming Building, Room 105: 1 mile west of I-17 on Camelback Rd., North on 33rd Ave., Second building on the right.



# SAC Membership Services

**Membership**– Memberships are for the calendar year and are pro-rated for new members as follows: Jan– Mar: 100%; Apr– Jun: 75%; Jul-Sep: 50%; Oct-Dec; 25%.

- \$28.00 Individual Membership
- \$42.00 Family Membership
- \$14.00 Newsletter Membership
- \$ 7.50 Nametag for members  
(will be mailed to address below)

## Magazine Subscription Services

The following magazines are available at a discount to club members. Check the magazines you wish to subscribe to or renew, and pay the club treasurer. Please allow 3-4 months for the order to be processed.

- Sky & Telescope \$33.00/yr
- Astronomy \$29.00/yr

Please Print

**Make Check Payable to : SAC**

Name: \_\_\_\_\_

**Bring completed form to a meeting or mail it with your remittance to:**

Address: \_\_\_\_\_

City: \_\_\_\_\_ St: \_\_\_\_\_ Zip: \_\_\_\_\_

**SAC Treasurer  
c/o Al Stiewing  
16210 Desert Holly Dr  
Sun City, AZ 85351**

Phone: \_\_\_\_\_

Check here if this is an update of information already on file.

E-Mail: \_\_\_\_\_

## SAC on the Internet

SAC has several E-mail mailing lists. To subscribe, send an email to the email address and put **Subscribe** in the subject box.

**SAC-Announce@freelists.org:** SAC-Announce is a mailing list for just club announcements, Typically 3-5 messages per month.

**SAC-Forum@freelists.org:** SAC-Forum is a general discussion mailing list. Topics should be related to Astronomy or SAC

**SAC-Board@freelists.org:** SAC-Board is a mailing list for discussions of club business. If you d like to see how the club is run (or not run), or have a question about the club, this is the list to read. Typically month to month matters are discussed.

**AZ-Observing@freelists.org:** AZ-Observing while not a Sac list , is well attended by SAC members. This is the list to with observing places around Arizona. Find out where people are going and what they saw.

## Printed Newsletter

Sac can save a lot of money if you download the PDF version of the newsletter. PDF files are readable by both PC's and Macs. When the newsletter is published, a message will be sent to the address indicated above with the URL of the newsletter. Check the box below if you don't have access to the internet or if your prefer a printed copy.

Please send me a hard Copy of the newsletter

# SAGUARO ASTRONOMY CLUB

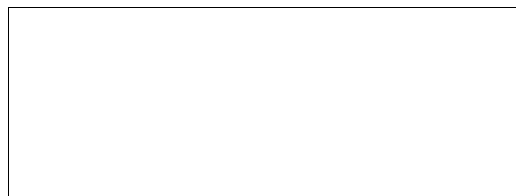
February 2004

5643 W. Pontiac Dr  
Glendale, AZ 85308-9117

Phone: 623-572-0713

Fax: 623-572-8575

Email: [newsletter@saguaroastro.org](mailto:newsletter@saguaroastro.org)



*Videmus Stellae*



## SAC Schedule of Events 2003-2004

### SAC Meetings

Jan 9th, 2004	Jul 2nd, 2004
<b>Feb 6th, 2004</b>	Jul 30th, 2004
Mar 5th, 2004	Aug 27th, 2004
Apr 2nd, 2004	Sep 24th, 2004
May 7th, 2004	Oct 29th, 2004
Jun 4th, 2004	Nov 19th, 2004

### Deep Sky Group Meetings

Jan 15th, 2004	Jul 8th, 2004
Mar 11th, 2004	Sept 2nd, 2004
May 13th, 2004	Oct 4th, 2004

### SAC Star Parties

Date	Sunset	Astronomical Twilight Ends	Moonrise	Site
Jan 17, 2004	1747	1915	0429	F
<b>Feb 14th, 2004</b>	<b>1814</b>	<b>1938</b>	<b>0327</b>	<b>F</b>
Mar 13th, 2004	1839	2002	0328	F
April 10th, 2004	1859	2025	0124	F
May 15th, 2004	1924	2103	0404	C
June 12, 2004	1942	2127	0234	C
Jul 10th, 2004	1943	2126	0105	C
Aug 7th, 2004	1924	2058	2335	C
Sep 11th, 2004	1840	2005	0405	C
Oct 9th, 2004	1804	1927	0256	F
Nov 6th, 2004	1734	1859	0141	F
Dec 4th, 2004	1723	1851	0027	F

F= Flat Iron; C= Cherry Road