



# SACnews

Volume 30 Issue 1

January 2006

## SAC Officers

**President:** Rick Tejera

623-572-0713

saguaroastro@cox.net

**Vice President:** Paul Lind

602-863-3077

pulind@qwest.net

**Treasurer:** Paul Dickson

602-841-7044

paul@permanentmail.com

**Secretary:** Susan Pritchard

623-934-7496

svpritchard@msn.com

**Properties:** Tom Polakis

tpolakis@cox.net

480-967-1658

**Public Events:**

Jack Jones

623-322-1559

publicevents@saguaroastro.org

**Astro-Imaging Sub Group:** Al Stiewing

623-875-3969

Treasurer@saguaroastro.org

**SACNEWS Editor:**

Rick Tejera, 623-572-0713

saguaroastro@cox.net

**ATM Subgroup:** Thad Robosson

602-826-0328

atmgroupp@saguaroastro.org

## Inside This Issue

<i>A Year of Sky Events</i>	1
<i>NASA's Space Place—Voices from the Cacophony</i>	2
<i>Last Call For Observation's-Arles</i>	4
<i>President's Message</i>	6
<i>Calendar of Events</i>	7
<i>2006 All Arizona Messier Marathon</i>	8
<i>Changing of the Guard</i>	9
<i>Member Services</i>	10

## A Year of Sky Events—2006

By Joe Orman

Mark your calendar for these interesting alignments, conjunctions, occultations & meteor showers in the year 2006. Times are calculated for Phoenix, Arizona; other locations may differ. Most will be easy to see with the unaided eye, some very challenging -- take a look! Constructive comments and corrections welcome. This list may be copied and distributed for non-commercial use, but it must be credited to Joe Orman.

- ★ **January 8** (evening): Mars 4° to right of gibbous Moon, high in ESE after sunset.
- ★ **January 9** (evening): Gibbous Moon partially occults star cluster Pleiades, very high in E after sunset.
- ★ **January 23-February 12** (nights): Saturn less than 1° from Beehive star cluster (M44).
- ★ **January 25** (morning): Bright star Antares 0.6° above crescent Moon, in SE before sunrise (occultation for Central America).
- ★ **February 5-6** (night): Mars 3° to lower right of first-quarter Moon, Pleiades star cluster (M45) 3° to upper left of Moon, near zenith after sunset. Moon occults Pleiades as they set in WNW about 2:00 a.m.
- ★ **February 14-19** (evenings): Mars 2° from Pleiades star cluster (M45), near zenith after sunset.
- ★ **February 17** (evening): Bright star Spica 1° above gibbous Moon, rising in E about 10:30 p.m. (occultation in eastern North America).
- ★ **March 5-6** (night): Mars 5° to upper left of first-quarter Moon, Pleiades star cluster 6° to lower right, high in WSW after sunset. Mars 3° to lower left of Moon as they set in WNW about 1:00 a.m.
- ★ **March 10** (evening): Saturn 5° to upper right of gibbous Moon, high in E after sunset. Much-dimmer Beehive star cluster between Saturn and Moon.
- ★ **March 17** (morning): Bright star Spica 0.3° above gibbous Moon, high in SW before sunrise (occultation in Hawaii).
- ★ **March 20**: Spring equinox (11:26 a.m. MST). Sunrise straight east (6:32 a.m., azimuth 89.5°), sunset straight west (6:40 p.m., azimuth 270.7°). Always use proper eye protection when viewing the sun.
- ★ **March 27** (morning): Mercury 4° to upper left of crescent Moon, very low in E before sunrise.
- ★ **April 1** (evening): Crescent Moon 0.5° above Pleiades star cluster (M45), in W after sunset (occultation for eastern North America).
- ★ **April 6** (evening): First-quarter Moon, Saturn and much-dimmer Beehive star cluster make 3-° equilateral triangle, near zenith after sunset.
- ★ **April 16** (evening): Bright star Antares 0.5° to left of gibbous Moon, rising about 10:30 p.m. in SE.
- ★ **April 24** (morning): Venus 2° to upper left of crescent Moon, low in E before sunrise.
- ★ **May 3-4** (night): Saturn 6° to left of first-quarter Moon, high in W after sunset. Much-dimmer Beehive star cluster 3° to upper right of Saturn. Saturn 3° to left of Moon as they set in WNW about 1:00 a.m.

(Continued on page 3)



## A New View of the Andromeda Galaxy

By Dr. Tony Phillips and Patrick L. Barry

This is a good time of year to see the Andromeda galaxy. When the sun sets and the sky fades to black, Andromeda materializes high in the eastern sky. You can find it with your unaided eye. At first glance, it looks like a very dim, fuzzy comet, wider than the full moon. Upon closer inspection through a backyard telescope—wow! It's a beautiful spiral galaxy.

At a distance of "only" 2 million light-years, Andromeda is the nearest big galaxy to the Milky Way, and astronomers know it better than any other. The swirling shape of Andromeda is utterly familiar.

Not anymore. A space telescope named GALEX has captured a new and different view of Andromeda. According to GALEX, Andromeda is not a spiral but a ring.

GALEX is the "Galaxy Evolution Explorer," an ultraviolet telescope launched by NASA in 2003. Its mission is to learn how galaxies are born and how they change with age. GALEX's ability to see ultraviolet (UV) light is crucial; UV radiation comes from newborn stars, so UV images of galaxies reveal star birth—the central process of galaxy evolution.

GALEX's sensitivity to UV is why Andromeda looks different. To the human eye (or to an ordinary visible-light telescope), Andromeda remains its usual self: a vast whirlpool of stars, all ages and all sizes. To GALEX, Andromeda is defined by its youngest, hottest stars. They are concentrated in the galaxy's core and scattered around a vast ring some 150,000 light years in diameter. It's utterly *unfamiliar*.

"Looking at familiar galaxies with a new wavelength, UV,

allows us to get a better understanding of the processes affecting their evolution," says Samuel Boissier, a member of the GALEX team at the Observatories of the Carnegie Institution of Washington.

Beyond Andromeda lies a whole universe of galaxies—spirals, ellipticals and irregulars, giants and dwarfs, each with its own surprising patterns of star formation. To discover those patterns, GALEX has imaged hundreds of nearby galaxies. Only a few, such as Andromeda, have been analyzed in complete detail. "We still have a lot of work to do," says Boissier, enthusiastically.

GALEX has photographed an even greater number of distant galaxies—"some as far away as 10 billion light-years," Boissier adds—to measure how the rate of new star formation has changed over the universe's long history. Contained in those terabytes of data is our universe's "life story." Unraveling it will keep scientists busy for years to come.



*The GALEX telescope took this UV image of the Andromeda galaxy (M31), revealing a surprising shape not apparent in visible light.*

For more about GALEX, visit [www.galex.caltech.edu](http://www.galex.caltech.edu). Kids can see how to make a galactic art project at [spaceplace.nasa.gov/en/kids/galex/art.shtml](http://spaceplace.nasa.gov/en/kids/galex/art.shtml).

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

(Continued from page 1)

- ★ **May 24** (morning): Venus 5° to right of crescent Moon, low in E before sunrise.
- ★ **May 30** (evening): Mars 3° to left of crescent Moon, in W after sunset.
- ★ **May 31** (evening): Saturn 3° below crescent Moon, in W after sunset. Much-dimmer Beehive star cluster 1° to upper right of Saturn, Mars to lower right.
- ★ **June 1-7** (evenings): Saturn less than 1° from Beehive star cluster (M44), in W after sunset.
- ★ **June 11-12** (night): Major lunar standstill: full Moon stays low above southern horizon, only 27° above S horizon as it transits at 1:00 a.m.
- ★ **June 15** (evening): Mars 1° to right of Saturn, Beehive star cluster (M44) less than 1° to right of Mars, Mercury to lower right, in W after sunset. Mars 0.6° to upper right of Saturn on June 17.
- ★ **June 22** (morning): Venus 7° below crescent Moon, Pleiades star cluster (M45) 7° to lower left of Moon, in ENE before sunrise. Venus 7° to right of crescent Moon on June 23.
- ★ **June 27** (evening): Mars, Saturn, Beehive star cluster (M44), crescent Moon and Mercury in line within 15°, low in W after sunset. Moon 1° above Mars on June 28.
- ★ **June 29** (evening): Bright star Regulus 2° to left of crescent Moon, high in W after sunset. Mars, Saturn and Mercury to lower right.
- ★ **July 7-8** (night): Bright star Antares 2° to left of gibbous Moon, in S after sunset. Antares less than 1° to upper right of Moon as they set in SW around 2:30 a.m.
- ★ **July 19-20** (night): Crescent Moon just leaving Pleiades star cluster (M45) as they rise in ENE around 1:00 a.m., Pleiades 2° to upper right of Moon in E before sunrise (occultation for eastern North America).
- ★ **July 21-22** (evenings): Bright star Regulus less than 1° to lower left of Mars, low in W after sunset.
- ★ **July 31** (evening): Bright star Spica 2° to upper right of crescent Moon, in SW after sunset (occultation for South America).
- ★ **August 7-10** (mornings): Mercury 2° below Venus, low in ENE before sunrise.
- ★ **August 22** (morning): Venus 5° to upper right of thin crescent Moon, Saturn 2° to lower right of Moon, very low in ENE before sunrise.
- ★ **August 26** (morning): Saturn 0.5° below Venus, low in ENE before sunrise. Saturn 0.5° above Venus on August 27.
- ★ **August 31** (evening): Bright star Antares 1° to upper right of first-quarter Moon, in SSW after sunset.
- ★ **September 22**: Fall equinox (9:03 p.m. MST). Sunset straight west (6:25 p.m., azimuth 270.6°), sunrise straight east on September 23 (6:17 a.m., azimuth 89.6°). Always use proper eye protection when viewing the sun.
- ★ **October 9** (evening): Gibbous Moon occults Pleiades star cluster (M45). Rise in ENE about 8:00 p.m., occultation from about 8:30 p.m. to 11:00 p.m.
- ★ **October 16** (morning): Saturn 2° to lower right of crescent Moon, high in E before sunrise.
- ★ **November 8** (daytime): Mercury transits the sun, entire 5-hour transit visible from 12:12 p.m. (high in S) to 5:05 p.m. (low in WSW). Sunset 5:30 p.m.
- ★ **November 13** (morning): Bright star Regulus 1° to lower right of last-quarter Moon, Saturn 5° to upper right, very high in SE before sunrise.
- ★ **November 17 - 18** (night): Leonids meteor shower. Just-before-new Moon rising about 5 a.m. will not interfere. Shower radiates from constellation Leo, which rises in E about midnight. Best time to look between midnight and dawn. Typical rate 20 meteors per hour, some years much higher. Nights of November 16 - 17 and 18 - 19 may also be good.
- ★ **December 3** (evening): Full Moon occults Pleiades star cluster (M45) in E after sunset, occultation from about 6:00 to 8:00 p.m.
- ★ **December 4-5** (night): Major lunar standstill: full Moon passes nearly overhead, only 6° away from zenith at about 12:30 a.m.
- ★ **December 9** (morning): Mercury, Mars and Jupiter form triangle within 1.5°, very low in SE before sunrise. Mercury 0.2° above Jupiter on December 10. Mars 0.8° to lower right of Jupiter on December 11.
- ★ **December 10** (morning): Saturn 1° to lower right of gibbous Moon, bright star Regulus 5° to left, very high in SW before sunrise.
- ★ **December 13 - 14** (night): Geminids meteor shower. Just-past-last-quarter Moon rising about 2 a.m. will interfere somewhat. Shower radiates from Castor in constellation Gemini, which rises in NE around 7 p.m. and is near zenith in early morning hours. Best time to look between 9 p.m. and moonrise. Typical rate 60 meteors per hour.
- ★ **December 15** (morning): Bright star Spica 1° to upper left of crescent Moon, rising in E about 3 a.m. (occultation in South America).
- ★ **December 18** (morning): Grazing occultation of magnitude 3.0 star  $\pi$  Scorpii by thin crescent Moon, very low in SE before sunrise. Jupiter and Mars 8° to left.
- ★ **December 31** (morning): Gibbous Moon within 1° of Pleiades before they set in WNW about 4:45 a.m. (occultation for northwestern North America).

Photo Pages: <http://pages.prodigy.net/pam.orman/JoeHome.html>

## Last Call For Observations–Aires

By A.J. Crayon

This is start of third year and the results of observations turned in by SAC members have been quite helpful in putting this column together. It would be of help if there were a few more submitted, regardless of telescope size.

Aries the Ram, actually the Golden Ram, is not particularly a rich constellation for deep sky observers. Never the less there are a few objects worth viewing. For this month's column I've picked some of the better but not all of them as they are being save for a later time. Exactly when I haven't decided but we will visit this constellation again.

### NGC691

Our first selection is located about 30' south and about 10' east of 6<sup>th</sup> magnitude 1 Arietis. This 11<sup>th</sup> magnitude galaxy is located in the same field as our next selection. Hence this is an easy start.

**10" f5.8 Newtonian, 165x;** Rick Rotramel: G - pS, pF, round face-on spiral galaxy, grad. br. to a bright stellar nucleus.

**13.1" f5.5, Newtonian;** Steve Coe: Pretty bright, pretty small, much brighter middle, little elongated 1.5X1 in PA 75.

**20" F5 Dobsonian, 180X;** Ken Reeves: This galaxy is somewhat small, pretty faint, large faint halo, slightly brighter middle with no nucleus. The halo is round. There is possible mottling seen with averted vision, but very unsure. A very nice double star is to the NE.

### NGC678

This is a quite elongated 12<sup>th</sup> magnitude galaxy located 23' northwest from NGC691. This field also contains four more galaxies down to about 14<sup>th</sup> magnitude in a 1° field – have fun with this one! According to early observations, no one reported seeing these faint ones.

**10" f5.8 Newtonian, 165x;** Rick Rotramel: G - fS, fF, elongated, a little brighter to an oblong nucleus. Same field as NGC691, I couldn't see any of the other four galaxies AJ spoke of.

**13.1" f5.5, Newtonian, 165X;** Steve Coe: Pretty faint, pretty large round and not brighter in the middle.

**20" F5 Dobsonian, 180X;** Ken Reeves: This galaxy is pretty small, somewhat faint, elongated 3:1 ENE/WSW, has a somewhat brighter middle, and an occasional stellar nucleus. Using averted vision makes the halo grow and expands to become less elongated. Galaxy **NGC 680** is to the E, Pretty small, somewhat bright, round, slightly brighter middle and a much brighter sub-stellar nucleus.

### NGC677

This next selection is 3° northeast of  $\pi$  Piscium. No observations submitted.

### NGC772

One and a half degrees east of southeast from  $\gamma$  Arietis you'll find this spiral galaxy, a Herschel 400 object, at a bright 10<sup>th</sup> magnitude; but see if you can ferret out **NGC770**, a 14<sup>th</sup> magnitude spiral galaxy at 4' south preceding.

**8" f6, Newtonian, 100X;** AJ Crayon: this is a 6'X3' 12<sup>th</sup> magnitude galaxy that, with averted vision, moments of good seeing and a hood, is very elongated in a northeasterly position, is pretty large, has a gradually much brighter middle and is tri-nuclear (tri-nuclear, in an 8"?). **NGC770**, 5' to southwest is very, very faint, round 2' and 12<sup>th</sup> magnitude – with averted vision, moments of good seeing and a hood – of course.

**10" F4.5 Dobsonian, 100X;** Ken Reeves: This galaxy is not very big, little elongated, is somewhat bright, middle comes and goes. Overall, somewhat faint (?). Elongation is NW/SE. **NGC770**, at 165X, is G - S, F, barely saw it!

**13.1" f5.5, Newtonian, 165X;** Steve Coe: bright, large, little elongated in PA 135 degrees. The arms of this face-on spiral are very mottled. The core is much brighter than the arms and the very center has a stellar nucleus in moments of good seeing. At **100X**, pretty bright, pretty large, gradually brighter middle, elongated 1.5X1 in PA 135. Higher powers don't help arms disappear. Averted vision makes it grow in length. Core is also elongated, same PA.

**16" f4.4 Newtonian, 200x;** Rick Rotramel: G - pL, fB, oval, grad. br. to nucleus. Very nebulous arms.

**20" F5 Dobsonian, 180X;** Ken Reeves: This galaxy

*(Continued on page 5)*



(Continued from page 4)

is pretty bright, pretty large, gradually brightens to a stellar core, elongated 2:1 ENE/WSW, and has a nice elliptical shape. To the S is **NGC-770**. It is pretty bright, very small, and looks like a fuzzy star with a bright core.

### NGC821

Another pretty bright galaxy, at almost 11<sup>th</sup> magnitude is the current selection.

**10" F4.5 Dobsonian, 100X**; Ken Reeves: This galaxy is very small, hard to find due to its size, next to a fairly bright star, little elongated. At 170X, this galaxy is somewhat elongated, brighter in the middle, fairly bright.

**10" f5.8 Newtonian, 165x**; Rick Rotramel: G - S, pF, oval, little br. in the middle.

**13.1" f5.5, Newtonian, 165X**; Steve Coe: Pretty bright, small, somewhat elongated (1.5 X 1) in PA 30 degrees. There is a very bright middle.

**20" F5 Dobsonian, 180X**; Ken Reeves: This galaxy is somewhat bright and pretty small. The elongation is uncertain due to nearby star. It evenly brightens up to a much brighter non-stellar nucleus. The star is to the NW. Using averted vision doesn't do much.

### NGC972

This galaxy should have some detail to be seen.

**10" F4.5 Dobsonian, 70X**; Ken Reeves: This galaxy is pretty small, fairly bright, elongated (PA not recorded). It is next to 2 bright stars, which make it pretty easy to find. It is brighter in the middle, but no nucleus is seen. Using averted vision makes it grow.

**10" f5.8 Newtonian, 165x**; Rick Rotramel: G - pS, pF, oval, little br. in the middle.

**13.1" f5.5, Newtonian, 165X**; Steve Coe: Pretty bright, pretty small, much brighter in the middle, elongated 3 X 1 in PA 145. This galaxy really grows with averted vision.

**20" F5 Dobsonian, 180X**; Ken Reeves: This galaxy is pretty bright, somewhat large, elongated 2:1 NNW/SSE, and contains a much brighter middle but no nucleus. The stars to the W almost parallel the elongation.

### Call for Observations

February, my birth month, we will try the southerly

Lepus. In addition to a very nice globular cluster in the Messier catalog it has a nice assortment of 10<sup>th</sup> and 11<sup>th</sup> magnitude galaxies. For starters try your hand at **NGC1744** a barred spiral galaxy about 34' northwest of a 5<sup>th</sup> magnitude star. Another barred spiral with a ring is **NGC1832**, located about 34' north of northwest from mu Leporis. Next is **M79**, finally. It is located about 36' northeast from a 5<sup>th</sup> magnitude double star. A little known planetary, **IC 418** is a very nice treat. It forms a nice triangle with 6.5 and 7<sup>th</sup> magnitude stars. **NGC1964** is in the Herschel 400 list, is an elongated barred spiral that can be found about 1° 40' southeast from  $\beta$  Leporis. Finally is the open cluster **NGC2017**, also known as h3780 a most beautiful multiple star. So the question here is what criteria is there for defining a grouping of related stars as a multiple star or an open cluster? No, I don't know but I'm hoping someone can come up with something! All of the galaxies are brighter than 12<sup>th</sup> magnitude so we shouldn't have troubles seeing them in any size telescope.

For March the All Arizona Messier Marathon month, scope out high in the northern sky Lynx. All but one are galaxies and we start with the barred spiral **NGC2273** is about 1° 25' north of northwest from 14 Lyncis. Next is the elliptical **NGC2320** is about 1° 30' southwest from magnitude 5.5 UY Lyncis. There are five other galaxies in a one-degree field, all of which are fainter than 14<sup>th</sup> magnitude. Can you ferret them out? Give it a try and post your results here. Another barred spiral is **UGC 3685**, listed as a 12<sup>th</sup> magnitude galaxy by the SAC database, is almost between two 8<sup>th</sup> magnitude stars. One of the stars is BV Lyncis and the other SAO 14106. Next is **NGC2340** is 16' north of 8<sup>th</sup> magnitude SAO 41600. In a 30 arc-minute field there are 3 more NGC and 6 more IC galaxies – all very faint! Thirty-five arc-minutes west of magnitude 5.5 SAO 41644 will be found **NGC2344**. Finally, one of the main attractions if not the main attraction of Lynx is the globular cluster **NGC2419**, often called the intergalactic tramp due to its extreme distance from the Milky Way galaxy. If you haven't seen this one take a look as soon as possible. It can be found about 40' northwest from 6<sup>th</sup> magnitude SAO 60257.

## President's Message(s)

### By Rick Tejera



Well, the New Year has begun and here I am writing my first column as President of the club. Just a few thoughts on some topic I was musing over on the way home from work. First, if you haven't already done so, please renew your membership. There is a member service form on page 11 of this newsletter and Paul will have copies at the next few meetings. Remember,

memberships that aren't renewed by March will be considered lapsed. You don't want to go a month without SACnews, now do you?

While on the topic of membership, if you're new to the club and have been a bit shy about getting more involved, or participating, the upcoming novice group star party, Feb 18<sup>th</sup>, is the perfect opportunity to finally get our under some dark skies. No question is too silly or unimportant. If you've got a new telescope or are looking to expand your observing skills, there's no better teacher than Steve Coe. Come on out and enjoy the night with us.

Start clearing your calendar for Mar. 25<sup>th</sup>, as we host the 2006 All Arizona Messier Marathon. It looks good to get all 110 objects this year, so don't miss out.

Now onto something we'll no doubt be talking about in

the near future: Sentinel. For those who subscribe to AZ –Observing, you know that there have been concerns about the continuing safety of observing at Sentinel due to the practice of human smuggling. The site is in an area known to be a route for illegal aliens. The Sheriffs department has told a few members that they don't consider the area safe. On the other hand, most members who observe there have never seen any illegal activity. There has been talk of finding a suitable replacement site, possibly north of I-8. At this point in time, my stance on this would be to continue using Sentinel but to also look to find an alternative site. I don't think the danger is as prevalent as the law enforcement folks want us to believe and since we usually go out there en masse, I think we have the advantage of safety in numbers. The one experience I had was back on Thanksgiving weekend a few years back. I'd guess we had at least 30 folks out there when a black SUV slowly made its way north with light off. I doubt the occupants would have wanted to alert us to their presence, and I think this would be the case most of the time. I would, however, ask everyone to use all caution when there, especially if you're alone, as there is an element of risk. We can keep an eye on the situation and as the risk increases to an uncomfortable level, we can decide a course of action. If we have an alternate sight in mind, the change, if needed, should have a minimal effect.

Till Next Month  
Clear Skies

## Saguaro Astronomy Club Novice Group Meeting

Sat, Feb. 18<sup>th</sup> 6:30 PM to 10:00 PM

Is "Lost in Space" a re-run of your last observing session?

Do you put your telescope together and have parts "left over"?

Then the Novice Group is just for you. All you need is an interest in viewing Arizona skies. Please be on time, the demonstrations need to start in twilight. Members of the Saguaro Astronomy Club (SAC) will have their tele-

scopes set up for you to use, or please bring your own scope to get some help with alignment and finding your way around the sky.

Dress warm--bring your curiosity and a red flashlight.

Directions to the site are on page 10.

# February 2006

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				

## Schedule of Events for February 2006

Feb. 5th	Moon at first quarter at 0629 mst.
Feb. 7th	ATM & Astro Imaging Subgroup Meetings at Thad's Shop 1930
Feb. 10th	SAC General Meeting at Grand Canyon University at 1930, Speaker TBA.
Feb. 13th	Moon is full at 0444 mst.
Feb. 18th	SAC Star Party at Flat Iron Sunset 1818, End Ast. Twilight 1942, Moonrise 2335. There will be a Novice Group Meeting at this Star Party
Feb. 21st	Moon at last Quarter at 0717 mst.
Feb. 28th	Moon is new at 0031 mst.

## Future Planning

Mar. 25th, 2006	2006 All Arizona Messier Marathon at Arizona City
May 26th-28th	Riverside Astronomy Expo

## Announcing the 2006 All-Arizona Messier Marathon By AJ Crayon

It's that time of year again!

Date: Mar 25<sup>th</sup>-26<sup>th</sup>, 2006

Site: The Farnsworth Ranch, South of  
Arizona City, AZ (Midway between  
Phoenix & Tucson)

This year we are lucky, very lucky as we will be able to observe the entire Messier Catalog on this one night. At twilight Saturday, with no moon in the sky, the closet object to the horizon will be M74 at about 7° above. Next in order will be the Andromeda Galaxy at 11.2°; M77 at about a degree higher; M33 14.4° and M52 at 14.7°. All others will be more than 15° above the horizon. Noteworthy is M39 at 4° "BELOW" the horizon, so don't try for this one as you will have plenty of time in the morning.

Once twilight begins Sunday morning M103 is 10.5° above the horizon, giving plenty of time to pick this one off - if you have been keeping a good pace. The Andromeda Galaxy can again be had at about 5° above the horizon. Finally, our tormentor and frustrator M30, is 2.3° above the horizon. But, and you just knew there would be a but here, the moon is 3° above the horizon about 7° left of M30. At 12.15% illuminated this isn't expected to be much of a problem. Both rise around 4:47 PM but this doesn't take into account the mountain range towards Tucson.

So after this review it definitely appears we will be able to observe all 110 entries in Charles

Messier's catalog - weather permitting. And the weather has been favoring us for some time!

Your observing will not go unnoticed.

There will be awards in recognition of effort

- ★ People observing 50 or more objects will receive a printed certificate.
- ★ For first, second and third place: a small plaque suitable for mounting on a telescope.
- ★ Duplicate awards will be made for tying totals.



Registration in advance is not required. The event is free and open to all, but we will need either your or your clubs support to purchase the plaques, which in the past have cost under \$10.00. If you're not affiliated to a supporting club, you may pay for the plaque in the morning after completing the marathon. There is no charge for the certificates.

For more details on getting there & event particulars go to: <http://www.saguaroastro.org/content/messierpaul.htm>.

A map and directions is on page 10 for your convenience.



## The Changing of the Guard

The time has come for us to say Thanks to the outgoing board that has served the past two years and welcome the members who will take over for 2006.

### The Outgoing Board



*From Left to Right:  
Vice President Jenifer Polakis  
Treasurer Al Steiwing  
President Thad Robosson  
Properties Dave Fredericksen  
Secretary Susan Pritchard*

### The Incoming Board

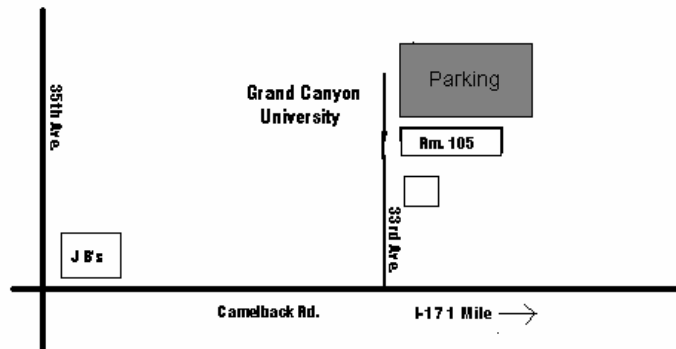


*From Left to Right:  
Vice President Paul Lind  
Properties Tom Polakis  
President Rick Tejera  
Treasurer Paul Dickson  
Secretary Susan Pritchard*

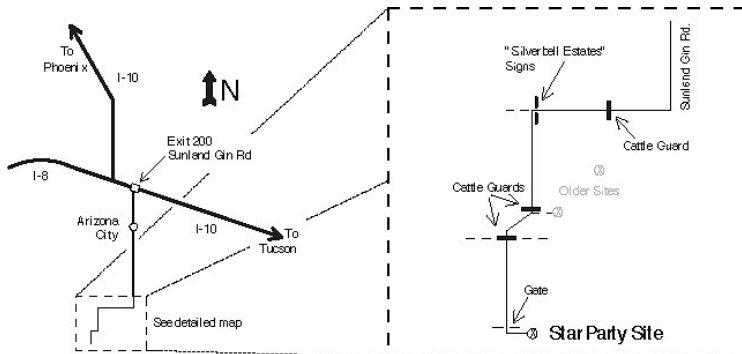
# SAC Meeting and Observing Sites

## 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.



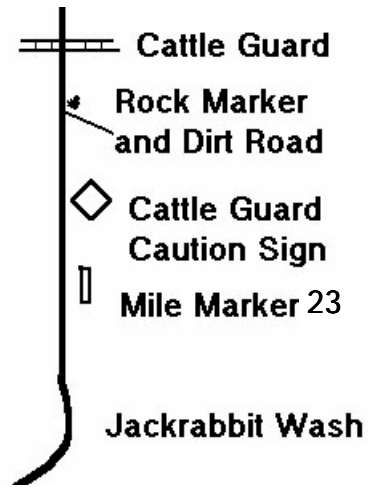
## 2006 All Arizona Messier Marathon



The directions are:

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.

## 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).

## 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 \$34.00/yr

Please Print

**Make Check Payable to : SAC**

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

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

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

**SAC Treasurer  
c/o Paul Dickson  
7714 N 36th Ave  
Phoenix, AZ 85051-6401**

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

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

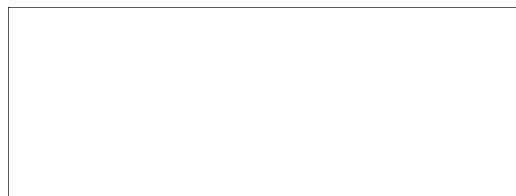
January 2006

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 2006

### SAC Meetings

January 13th, 2006    July 14th, 2006  
**February 10th, 2006**    August 11th, 2006  
March 10th, 2006    September 8th, 2006  
April 14th, 2006    October 6th, 2006  
May 12th, 2006    November 10th, 2006  
June 9th, 2006    December: TBA

### ATM & Astro-Imaging Group Meetings

January 10th, 2006    July 11th, 2006  
**February 7th, 2006**    August 8th, 2006  
March 7th, 2006    September 5th, 2006  
April 11th, 2006    October 3rd, 2006  
May 9th, 2006    November 7th, 2006  
June 6th, 2006    December 5th, 2006

### SAC Star Parties

Date	Sunset	Astronomical Twilight Ends	Moonrise	Site
Jan 21st, 2006	1752	1919	0044	F
<b>Feb 18th, 2006</b>	<b>1818</b>	<b>1942</b>	<b>2335</b>	<b>F</b>
Mar 18th, 2006	1842	2005	2230	F
Apr 22nd, 2006	1908	2037	0347	F
May 20th, 2006	1928	2108	0157	C
Jun 17th, 2006	1943	2129	0029	C
Jul 22nd, 2006	1938	2117	0346	C
Aug 19th, 2006	1911	2042	0240	C
Sep 16th, 2006	1854	1958	0135	C
Oct 14th, 2006	1759	1921	0033	F
Nov 11th, 2006	1723	1850	2316	F
Dec 16th, 2006	1725	1854	0449	F

F = Flat Iron; C = Cherry Road