



Desert Skies

Tucson Amateur Astronomy Association

Volume LII, Number 4

April, 2006



NASA/JPL-Caltech/University of Arizona

First image of Mars taken by the University of Arizona's HiRISE camera on NASA's Mars Reconnaissance Orbiter

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Cover Photo: Taken on March 24, 2006, from an altitude of 1,547 miles this image covers an area 30.9 miles wide and 11.7 miles high. This is the landscape typical of Mars' mid-latitude southern highlands. For the full resolution image and detailed caption, go to <http://marsprogram.jpl.nasa.gov/mro/gallery/calibration/pia08014-AEB1-full-reduced1.html>

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Membership in the TAAA

Annual Fees

- Individual membership\$25.00
- Family (includes two adults plus minor children)..... \$30.00
- Youth under 18 years must join as a family upon parental or guardian acknowledgement of participation in TAAA events. Ask the Treasurer for the required form.

Discounts (one discount allowed, subtract from above rates)

- Seniors (over 60 years)\$2.00
- College Students, Teachers (K - 12).....\$8.00
- Youth under 18 yrs (form required, contact the treasurer)\$13.00

Options (add to above membership rates)

- Tucson society of the Astronomical League (TAL) fees\$ 5.00
- Sky & Telescope Magazine 1 year (12 issues)..... \$32.95
- Astronomy Magazine 1 year (12 issues).....\$34.00
- 2 years (24 issues).....\$60.00
- Postage for New Member Pack \$ 4.05

Donations are accepted for the following funds: SA-IDA/Light Pollution, TIMPA, Education, 30" Telescope & Land, and General/Undesignated.

Renewal Information

- Your membership expires as indicated on your mailing label.
- TAAA members may join the Tucson society of the Astronomical League (TAL) at the time they join or renew.
- Discounted Sky & Telescope or Astronomy magazine subscriptions are available to members and can be started or renewed at anytime. Rates are given above. Allow 3 months for processing. Subscriptions must be sent through the TAAA. *Do not send money directly to the magazines.* To change an individual subscription to the group rate, pay the

subscription amount to the TAAA treasurer. Include your magazine renewal notice.

- Please include a note explaining what you are paying for. Credit cards are not accepted. Write one check or money order for fees plus any options or donations. Make it payable to TAAA and send to:

Tucson Amateur Astronomy Association
PO BOX 41254 Tucson, AZ 85717

Mailing Address or Email Changes - Send to address above or email the treasurer.

TAAA Mission Statement - The mission of the Tucson Amateur Astronomy Association is to provide opportunities for members and the public to share the joy and excitement of astronomy through observing, education and fun.

Desert Skies Publishing Guidelines - All articles, announcements, news, etc. must be submitted by the newsletter deadline. Materials received after that date will appear in the next issue. The editor retains all submissions unless prior arrangements are made. Partial page submissions should be submitted in Word compatible files via e-mail or on a floppy disk. Full-page articles, artwork, and photos can be submitted camera ready. All material copyright Tucson Amateur Astronomy Association or specific author. No reproduction without permission, all rights reserved. We will not publish slanderous or libelous material! Send submissions to:

George Barber
TAAA/Desert Skies Editor
15940 W Ridgemoor Ave Tucson AZ 85736

President's Message

We have had a lot of great speakers for our monthly meetings lately, and this month is certainly no exception. Loretta McKibben is going to talk about Mars, present and future missions. She currently is part of the HiRISE team (High Resolution Imaging Science Experiment) which is on the Mars Reconnaissance Orbiter. The MRO has recently achieved orbit around Mars and is going to aero brake into a lower and steadier orbit in the next few months. Loretta is with the HiRISE public outreach program at the University of Arizona.

We mourn the passing of Derald Nye's wife, Denise. She attended many of the club functions; our thoughts are with Derald.

We are also losing one of our treasured astronomy stores in Tucson. Sky Works is closing its doors at the end of March. We thank Steve and Sharon Koerber for all of the support they have given to our club over the years.

School star parties are plentiful, and we need all the help we can get. Please make an effort to show the wonders of our night sky to eager students. You need only be able to show one or two objects in the telescope (even the moon) to stir the interest of budding young minds.

The Telescopes for Telethon campaign continues through April 28th and 29th when we hold donation gathering star

parties at the Wal-Marts around town on the 28th; then on the U of A mall on the 29th. Corporate sponsorship forms will be on the table at the back of the lecture hall.

The Survey deadline is the April meeting. Please fill out and bring a survey to help with the future direction of the TAAA.

We must finalize the list of candidates for the next Board of Directors of the TAAA. If you have been a member of TAAA for at least one year and are over 18 years of age, you are eligible to run for office and help guide the organization in the coming year. Contact someone on the nomination committee, Steve Marten, Steve Ratts, or Andrew Cooper, and become an officer.

Next month, May, we run the elections for TAAA offices. To respect guest lecturers, we will have a Members' Night so that the election process can run its course without distracting from a guest speaker's presentation. This way, the whole night is devoted to only TAAA business and members. Astrophotography, gadgets, short talks, whatever, are encouraged. Please notify me early of your intention to present. It's first come first on unless you specify otherwise.

Thom Peck

Meeting Information and Calendar of Events

TAAA MEETING DATE: Friday, April 7, at the Steward Observatory Auditorium - Room N210

ASTRONOMY ESSENTIALS: 6:30 pm
 Title: Observing Guides and the Beginners' Special Interest Group
 Speaker: Mary Turner

A strong interest of the TAAA Beginners' Special Interest Group is developing good observing skills. Each month we consider a selection of objects to observe, and Mary Turner has been providing a stimulating guide for the month. Mary will present the objects for this month to illustrate her approach and give the membership an opportunity to see if we would like to have this as part of Astronomy Essentials on a regular basis. We will also update the membership on the current status of the BSIG.

GENERAL MEETING: 7:30 pm
 Title: Tucson's HiRISE Camera
 Speaker: Loretta McKibben

The High Resolution Imaging Science Experiment camera, or "HiRISE", is the most powerful camera to ever leave Earth orbit. The primary instrument on board the Mars Reconnaissance Orbiter, HiRISE can resolve objects about a meter wide from an orbital height of 190 miles, many times better than previous Mars-orbiting cameras, and scientists hope it will revolutionize our understanding of the geology, water cycle, and history of the Red Planet. Each high-resolution HiRISE image is five gigabytes in size

in its digital raw form and covers about 75 square miles of area on the surface; new, exciting programming techniques and software has been developed to manipulate these large images. HiRISE also works well in low light conditions due to its reflecting telescope with a 20-inch (0.5 meter) aperture, the largest telescope to ever leave Earth orbit, which can point off-nadir up to four times per orbit to view some surface features at new angles. HiRISE will also produce stereo pairs for studying surface topography. Called "the people's camera," the public is invited to suggest HiRISE imaging target sites on Mars late this summer when the web-based software is released. Professor Alfred McEwen, the Principal Investigator of HiRISE, believes that the public should be included, and images will be released on the web as soon as possible after they are processed so that everyone can share in the scientific discovery process.

Please come and learn about this Tucson-based camera! Loretta McKibben is the HiRISE webmaster, and also is the education and public outreach coordinator for the HiRISE Operations Center (HiROC), located in the Lunar and Planetary Laboratory's C.P. Sonett Space Sciences building on the University of Arizona main campus. Loretta will discuss how the HiRISE camera works, how it was developed, and what we may learn using it. The first images from HiRISE are scheduled for March 23, which will be presented at this TAAA talk. The web site for HiROC is: <http://hiroc.LPL.arizona.edu>. If you have questions about this talk or HiRISE, please call Loretta at (520) 626-7432.

Meeting Information and Calendar of Events (cont.)

BOARD OF DIRECTORS MEETING: Wednesday, April 12, 6:30 pm at Steward Observatory Conference Room N305

STAR PARTIES AND EVENTS:

8 April Mars Mania II at UA Mall
 8 April BSIG Moon Party at Lofquists'
 13 April Astrophoto SIG at China Rose
 19 April Beginners SIG at China Rose
 22 April TAAA Star Party/BSIG Observing at TIMPA
 28 April Telescopes for Telethon About Town
 29 April Telescopes for Telethon at U of A
 29 April TAAA Star Party at Las Cienegas

NEWSLETTER SCHEDULE: Deadline for articles: Sat, April 22. Printing: Mon, April 24. Folding Party: Tues, April 25. Mailing: Wed, April 26. The newsletter is mailed at least one week prior to the following month's General Meeting.

The board of directors meeting is the second Wednesday of the month. The astrophoto SIG is the first Thursday after the monthly meeting. The Beginners SIG meets the Wednesday before the monthly TIMPA star party.

Club News

Nominating Committee Report

Any TAAA member of at least one year in good standing and 18 years or older may be nominated for a position on the TAAA Board of Directors. The Nominating Committee of Steve Marten, Andrew Cooper and Steve Ratts have received the following nominations for Board of Director Elections at the May Meeting.

President: Bill Lofquist
 Vice-President: Steve Marten
 Secretary: (none)
 Treasurer: Terri Lappin*
 Members-at Large (3 positions on the Board):
 George Barber*, Richard Dougall, JD Metzger,
 Teresa Plymate, John Polacheck and Ken Shaver*.
 * incumbent

"Write-In" candidates will be accepted from the floor at the May General Meeting.

Members are encouraged to consider a position on the Board where their energy, experience and skills may enhance the mission of TAAA. Please contact any member of the Nominating Committee via any office holder or directly if you are considering a nomination from the floor at the May General Meeting.

TAAA Apparel

TAAA apparel will be for sale at the April meeting. Also, entries in the apparel logo contest can be submitted at the apparel table during the April meeting. If you would like to submit an email entry, you can send it to taaa-sales@tucsonastronomy.org. You may also call Ann Scott at 520-749-4867 for mailing instructions. Remember, the winner will receive \$50.00 worth of TAAA apparel.

Member's Night Next Month

A signup sheet will be available at the April meeting for May Member's Night presenters to get on The List. We like to let the membership know what will be presented at Member's Nights so let us know you want to present something. Astrophotos are great, as well as any astronomy related project you may be up to. You can also tell Thom Peck that you will present at the May meeting.

Member News

We welcome the most recent members to join the TAAA: Don Branch, James F Haley (a Project ASTRO teacher), George L Jones, Jeanne McCleery, Danny King, Loretta McKibben (this month's invited speaker), Janie Schembri (another Project ASTRO teacher), Jim Telewski, and Betsy Wilkening (yet, another ASTRO Teacher). Glad to have all of you join! New members should be sure to pick up a new members pack at a meeting. Hope you'll make it to our star parties or meetings so we can all get to know you. (Updated membership lists are available online at either Yahoo!Groups list server websites under Files, or at most meetings.)

We are saddened by the sudden death of Denise Nye, wife of TAAA member Derald. Our thoughts are with Derald.

Paid Star Parties – A Busy First Quarter

by John Kalas

After a quiet holiday season and month of January, the TAAA received requests to support seven paid star parties through the end of March. Most of the requests came from the J.W. Marriott Resort & Spa. The club earned nearly \$3900 for the astronomy services. The following volunteers supplied their telescopes and their knowledge and enthusiasm. Their efforts are greatly appreciated.

Michael & Mary Turner
 Thom Peck
 Robert Crawford
 Steve Marten
 Lou Faix
 Nick Applegate
 Andrew Cooper
 George Barber

Special thanks to Michael and Mary Turner who supported 5 of the 7 events.

Club News (cont.)

TAAA Science Fair Awards

The Southern Arizona Regional Science and Engineering Fair was judged on March 21st by four TAAA volunteers: Richard Grimaldi, Molly Hancock, Nancy Howard, and Ken Shaver. Thank you judges for doing a fine job of judging. The selected four projects received gift certificates to Starizona, Another four projects received Honorable Mention. All 8 students receive a free year membership in the TAAA. The projects awarded are:

Nathan Vandivort, 1st grader	Outerspace Loners: An inquiry into Extra-solar Planets
Ethan Groff, 5th grader	Sun's Height at the Horizon
Carter Smith, 8th grader	Light Pollution over Tucson and How to Measure It
Aaron Gundy, 9th grader	To Investigate Open Clusters: The Use of Image Processing and Measurement of Distance

Honorable Mentions:

Brandon Clayton, 1st grader	The Night Sky-Before Bed and from My Backyard
Chris Bohlman, 3rd grader	What Time of Day Creates the Biggest Shadow?
Joseph Guevara, 5th grader	How Much Ultraviolet Radiation Passes Through Different Eyewear?
Jana Cary-Alvarez, 8th grader	The Correlation between Sunspots and the Intensity of Hurricanes

Survey Results Being Compiled

In January, TAAA members were asked to complete the 2006 TAAA Survey. Those results are being compiled now. We have input from only 20% of our membership! If you haven't filled out a survey yet be sure to pick one up at the meeting and turn it in. This is your chance to give direction to the TAAA. It only takes a few moments to indicate your opinion on the mostly multiple choice questions. If you're happy with our direction, it won't take long to indicate this on the survey. If you have some great ideas, we'd love to hear them. If you need a copy of the newsletter, contact Terri. We will accept surveys through the April meeting.

**Grand Canyon Star Party
North and South Rims
17-24 June, 2006**

Contact: Dean Ketelsen, ketelsen@as.arizona.edu

As I write this, in 3 months, we'll be approaching the end of the 16th Grand Canyon Star Party! Even with my missing the newsletter deadline last month, I heard from all the regulars asking for a campsite on 1 March, plus the regulars who didn't make it from last year, plus some new ones, so I may have to ask for some additional campsites!

It should be a great event, though I suspect we'll have fire restrictions in place as dry as it has been thru the winter.

Joe Bergeron says he is working on a new killer t-shirt design, so we have that to look forward to besides the great skies there. I'll likely put out the call next month for special orders, like sweatshirts, coffee cups or totebags rather than just t-shirts. In the meantime, make sure you asked the boss for those days off, confirm your reservations, and we'll see you at the Canyon! As always, drop me a line if you have any questions.

Upcoming Lecture Schedule

Below is our upcoming invited lecture schedule. If you have a suggested topic or speaker in mind for our General Meeting Lecture send an email to Terri at treasurer@tucsonastronomy.org or call her at 977-1290.

Date	Speaker	Topic
5-May	Member's Night	
2-Jun	OPEN	
7-Jul	OPEN	
4-Aug	Dr Nalin Samarasinha, NOAO	Comets



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Club News (cont.)

Beginners SIG

Under an April Moon

Contact: Tom Watson, mal2@tucsonastronomy.org

The Beginner's Special Interest Group will hold its usual April meetings, with dinner at China Rose on Wednesday, April 19th at 6:00pm, and a TIMPA observing session the following Saturday night, April 22nd. Please plan on arriving at TIMPA at least 30 minutes before sunset in order to have plenty of time to park and set up gear.

The BSIG dinner meeting will include a presentation of objects available for viewing in the skies above TIMPA on April 22nd along with a discussion of the Messier Marathon results. Other presentations may be given; these will be announced as needed at a later date via the TAAA online forum. In addition to these other matters, some time will be spent polling the BSIG attendees on subject matter and topics we should be covering for both BSIG meetings and the regular meeting Astronomy Essentials lectures. Come to the April 19th meeting with your questions and suggestions. This feedback from the membership is essential if we are to maintain the BSIG's current rate of success.

We will also be holding a Moon viewing session on April 8th, the day after the regular club meeting. We have attempted to do this on two other occasions, only to be clouded out. Gather at the home of Bill Lofquist starting at 6:30pm (late arrival is not a problem with this event),

and bring your telescope or binoculars if you own such. If you do not, come anyway! We should have plenty of telescopes on hand. The Moon will be a few days past First Quarter, an excellent time to seek out some of its more well known features. Members working on the Astronomical League Lunar Club or the lunar section of the BSIG observing program will find it possible to make progress toward these goals, if the weather is clear! Join us for a long look at the only world other than our own to bear the imprint of Human feet!

The Moon Party will be held on the back yard observing patio at the home of Bill Lofquist, at 1935 West Harran Circle. This is near the intersection of Ina Road and La Cholla Boulevard. Go south from that intersection on La Cholla Boulevard. The first traffic light is at Omar, and Donaldson Elementary School is on the left. Turn left on Omar and turn right at the first street, which is Amahl. Go one half mile and turn left on Harran Drive. (You will see that Amahl changes to Sesame Lane at that point.) The next left off of Harran Drive is Harran Circle. The Lofquists live in the first house on the left on the cul-de-sac. If you get lost, call Bill at 297-6653.

April looks to be a busy and rewarding month for both the TAAA and for the BSIG. Let's hope the weather is clear for all of our planned activities!

Member's Events

Beginners SIG Moon Party

Saturday, April 8, Lofquist Home

See information under Club News, above.

Astro-photo SIG Meeting

Thursday, April 13, 7pm, China Rose

Our presentations feature CCD images, planetary webcams, and film. Come see some of the state of the imaging art over some Chinese food. Just show up and enjoy the show! China Rose is located on the NE corner of Speedway and Rosemont

Beginners SIG Meeting

Wednesday, April 19, China Rose

See information under Club News, above.

TAAA Star Party and BSIG Observing at TIMPA **Saturday, April 22**

Come on out and enjoy the spring skies! TIMPA star parties are great for both beginners and experienced observers. Our novice members can get help with observing issues or equipment problems, as there are many experienced members there who would be happy to help. If you don't own a telescope, come anyways, because there are lots of telescopes set up and everyone

is invited to look through them. This is a great way to check out different telescope designs before you make that all-important decision to buy. There is no scheduled talk for this activity, just come out and enjoy. We'll do our best to get you the answers you need. If you have friends or relatives who are curious about amateur astronomy, feel free to bring them along. The TIMPA site features a large parking area, and full restroom facilities. Be prepared for cool temperatures. Directions to the TIMPA site are located on the outside flap of this newsletter.

The Beginners SIG uses this event as their observing session. Find details about BSIG activities under Club News, above.

TAAA Star Party at Las Cienegas (Empire Ranch) **Saturday, April 28**

Las Cienegas (formerly Empire Ranch) has been our normal dark-sky observing site for quite a number of years. Please try to arrive before sunset. Stay as long as you like, but let everyone know when you are ready to leave; someone may be taking astrophotos. Bring a telescope if you have one, but you don't need one to attend. Any member would be glad to let you look through their telescope. And, there are now restroom facilities at the site. Las Cienegas is at 4000 feet so be prepared for cold temperatures after sunset. Attendees

Member's Events

should park their vehicles either perpendicular to the airstrip facing toward the center of the strip, or parallel to the airstrip along either side facing west. That way, when you are ready to leave, you will not have to back up and

turn on your bright white backup lights. See the directions to Las Cienegas on the outside flap of this newsletter.

Public Star Parties and Community Events

All members of are asked to support the TAAA School Star Party program and other community events listed below. TAAA either sponsors or co-sponsors these events. These are great opportunities for beginners as you may only need to know a few objects in the sky. Even without a telescope, you can be valuable in other capacities. Sign up sheets for many events can be found at the meeting or contact a TAAA officer.

Dunham Elementary Star Party Tuesday, 4/4/2006

East
No. of Scopes: 6

Dunham Elementary will be hosting a Star Party at 9850 E. 29th St. Go east on Speedway to Harrison. Go south (right) on Harrison to 29th St. Go east (left) on 29th St. The school will be on your right. Viewing will be Playground field. Contact person Tamatha Sauber can be reached at 731-4200 or email tamatha.sauber@tusd.k12.az.us Set-Up Time: 7:00pm. Observing will be from 7:30pm to 9:30pm. Sunset: 6:46pm Dark Sky: 7:40pm Moon Phase: First Quarter.

Sonoran Science Academy Star Party Wednesday, 4/5/2006

Northwest
No. of Scopes: 3

Sonoran Science Academy will be planning Night Sky of the Ancients and Mythology at 2255 W Ina Rd. Go west on Ina and turn left (south) onto LaCholla; take first right (west) into the Academy parking lot. Viewing will be on the basketball court. Contact person Carrie Adair can be reached at 744-4971 or email carrieis@yahoo.com. Set-Up Time: 7:00pm. Observing will be from 7:30pm to 9:30pm. Sunset: 6:47pm Dark Sky: 7:40pm Moon Phase: First Quarter.

Mars Mania II - MARS/HiRISE Public Viewing UofA Saturday, April 8

1pm: solar observing, set up at 12:30pm
6pm: evening observing, set up at 5:30pm

The University of Arizona is the lead university associated with the High Resolution Imaging Science Experiment (HiRISE). HiRISE is aboard the Mars Reconnaissance Orbiter (MRO) mission, which successfully launched from Cape Canaveral on August 12, 2005 and reached Mars orbit on March 10, 2006. HiRISE will investigate deposits and landforms resulting from geologic and climatic processes and assist in the evaluation of candidate landing sites (see <http://hirise.lpl.arizona.edu>). "Mars Mania II: Arrival at the Red Planet!" is being hosted by the Lunar & Planetary Lab's HiRISE group and Flandrau Science Center. For this public outreach event, TAAA astronomers and telescopes (organized by Flandrau Science Center) are needed on the UofA mall on Saturday, April 8 for solar astronomy (starting at 1pm) and/or stargazing at 6pm (for viewing of the gibbous Moon, and later the planets, weather permit-

ting). Setup time can start as early as 12:30pm for solar viewing, and/or 5:30pm for twilight observing of the gibbous Moon. Lights and sprinklers will be turned off for this event. This star party is the outside portion of a variety of LPL-HiRISE sponsored "Mars Mania II" space exploration open-house programs. Those TAAA volunteers who wish to volunteer should please contact Michael Terenzoni (miket@ns.arizona.edu, or phone 621-3646) for coordination due to weather concerns, and with parking/mall parking permits. If permits are not needed, or cannot be used due to soft grass/mud due to rain, then general parking (as on most Saturdays & Sundays) will be open and free of charge in any metered space or any "Service Vehicle Only" spaces. Because of news media coverage and LPL promotion off this event (and no football conflict), large numbers of the public could turn out. A sign up sheet will be available at the April meeting. Free pizza, sodas and drinks will be available (pizza given out at 5pm (at Sonnet Space Sciences) and available only for those who help with this event! Freebies include mission patches, posters, stickers (and possibly more!) For more information visit the Flandrau web site at <http://www.flandrau.org> or the LPL HiRISE/HiROC site <http://hirise.lpl.arizona.edu/hiroc/marsmania/>

Editors Note: The TAAA has been invited to display information about the TAAA We'll need a few volunteers to man our table during the event. Contact Terri Lappin at treasurer@tucsonastronomy.org or 520-977-1290 to volunteer.

Picture Rocks Middle School Star Party Tuesday, 4/18/2006

West
No. of Scopes: 4

Picture Rocks Middle School will be planning Math and Science Family Night at 5875 N Sanders Rd. Take I-19 south, exit Ajo. Go west to Kinney. Take Kinney north past Desert Museum, through Saguaro West National Park to Sandario. Turn right on Sandario and go north. Take a left onto Rudasill, then another left onto Sanders. Viewing will be Basketball court. Contact person J.C.Schembri can be reached at 616-3700 or email J.C.Schembri@maranausd.org Set-Up Time: 7:00pm. Observing will be from 7:30pm to 9:30pm. Sunset: 6:55pm Dark Sky: 7:51pm Moon Phase: Waning Gibbous.

Public Star Parties and Community Events (cont.)

Sabino High School Star Party
Thursday, 4/20/2006
East
No. of Scopes: 2

Sabino High School will be preparing Starry Night at 5000 North Bowes Rd. Speedway east to Wilmot-north to Tanque Verde-east on Tanque Verde to Bear Canyon-north on Bear Canyon to Snyder-east on Snyder to Bowes Rd.-north on Bowes to High School. Viewing will be Baseball fields. Contact person Maryanne Carpenter can be reached at 584-7753 or email MaryAnn.Carpenter@tusd1.org Set-Up Time: 7:30pm. Observing will be from 8:00pm to 9:30pm. Sunset: 6:57pm Dark Sky: 7:52pm Moon Phase: Last Quarter.

Institute of Desert Ecology Star Party **Northwest**
Friday, 4/21/2006 **No. of Scopes: 2**

Institute of Desert Ecology will be holding Stargazing at Catalina State Park. From Ina Rd. go north on Oracle Rd. past McGee, Calle Concordia and 1st Ave. to Catalina State Park (park entrance is about 2.5 miles north of 1st Ave. on the right). Follow signs for "Institute of Desert Ecology" to the group camping area. Contact person Jessie Shinn can be reached at 628-1730 or email jshinn@tucsonaudubon.org Set-Up Time: 7:30pm. Observing will be from 8:00pm to 10:00pm. Sunset: 6:58pm Dark Sky: 7:53pm Moon Phase: (no moon during viewing).

UofA Astronomy Students Star Party **West**
Sunday, 4/23/2006 **No. of Scopes: 4**

The UofA Astronomy Department will be holding a star party for UofA astronomy students at Saguaro Natl Park West. Take Speedway Blvd. west past I-10 and continue about 3.5 mi. where Speedway becomes Gates Pass Road. Go over Gates Pass and continue about 5 mi. west to Kinney Road. Turn right (north) on Kinney Road and continue past the Desert Museum. Observing will be in the parking lot of the Visitor Center. Contact person Tom Flemming can be reached at 621-5049 or email taf@viking.as.arizona.edu Set-Up Time: 7:30pm. Observing will be from 8:00pm to 10:00pm. Sunset: 6:59pm Dark Sky: 7:55pm Moon Phase: Late Crescent.

Gridley Middle School Star Party **South-east**
Wednesday, 4/26/2006 **No. of Scopes: 4**

Gridley Middle School will be hosting Family Science Night at 350 S. Harrison. Go east on Speedway, turn right on Harrison, Gridley is located next to the fire station on the west side of Harrison. Viewing will be School courtyard. Contact person Jeannette Dooley can be reached at 731-4600 or email jeannette_dooley@yahoo.com Set-Up Time: 7:30pm. Observing will be from 8:00pm to 10:00pm. Sunset: 7:01pm Dark Sky: 7:57pm Moon Phase: Late Crescent.

Telescopes for Telethon **Walmarts and UA Mall**
Friday, April 28 and Saturday, April 29
 Contact: John Kalas, jckalas@cox.net

The TAAA will be supporting the Muscular Dystrophy T4T activity again this year on Friday and Saturday, April 28th and 29th. The activity on Friday, April 28th involves two-telescope teams at each of six different Wal-Mart stores around Tucson from 6:00 to 9:00pm. Saturday's activity will have solar viewing taking place from 3:00 to 6:00pm with evening observing running from 6:00 to 10:00pm at the University of Arizona Mall across from the Flandrau Science Center. David and Wendee Levy will be hosting the event. It is anticipated that Starizona, Stellar Vision and Flandrau Science Center will also be participating.

John Kalas is the TAAA coordinator for the event. There will be signup sheets at the April meeting. Many volunteers will be needed to operate telescopes (solar and evening), staff donation areas and assist in general public support. Please consider supporting this worthwhile event. If you are unable to attend the meetings to sign up, please contact John at 620-6502 or via e-mail at jckalas@cox.net.

The last two years, the T4T committee instituted corporate sponsorship as a means of increasing donations and it was very successful. Sponsor forms will be available at the April meeting. If you know of a company that would be interested in supporting this great event, please pick up a sponsor form or contact John Kalas.

Sahuaro Girl Scout Council Star Party **West**
Saturday, 4/29/2006 **No. of Scopes: 3**

Sahuaro Girl Scout Council will be preparing for Star Gazing at Old Tucson Park. West on Speedway, go through Gates Pass, turn left on Kinney Road. Old Tucson Park will be on the right. Viewing will be at Stage 2 Arena. Contact person Michelle Higgins can be reached at 520-319-3187 or email progspec@sahuarogsc.org Set-Up Time: 7:30pm. Observing will be from 8:00pm to 10:00pm. Sunset: 7:03pm Dark Sky: 8:00pm Moon Phase: Crescent after New Moon.

Agua Caliente Elementary School Star Party **East**
Tuesday, 5/2/2006 **No. of Scopes: 6**

Agua Caliente Elementary School will be celebrating Star Party and Family Fun Picnic at 11420 E. Limberlost Rd.. Go east on Tanque Verde, turn left (north) on Catalina Hwy. Turn right (east) on Prince, past Houghton, then Melpomene, go to end (Homestead), take left (north). Less than a block on left side. Viewing will be at the Playing field east of school building. Pass school, take right onto Homestead. Access gate to field/setup is on right. Drive onto field. Contact person Dan Beach can be reached at 520-749-2235 or email dwbeach2@juno.com Set-Up Time: 7:00pm. Observing will be from 7:30pm to 9:30pm. Sunset: 7:06pm Dark Sky: 8:03pm Moon Phase: near First Quarter.

Public Star Parties and Community Events (cont.)

Pomerene Star Party
Thursday, 5/4/2006

East
No. of Scopes: 5

Pomerene School will be preparing a Star Party. Contact person Kelly Merrill can be reached at 621-7659 or email kmerrill@as.arizona.edu Set-Up Time: 7:30pm. Observing will be from 8:00pm to 10:00pm. Sunset: 7:07pm Dark Sky: 8:04pm Moon Phase: First Quarter.

Youth Expo (Tentative)
Friday, 5/5/2006

South-Central
No. of Scopes: 4

Catalina Council, Boy Scouts of America will be holding a Star Party at TEP Sports Park. Contact person Kimberly Gonzales can be reached at (520) 750-0385 or email dulce1@lycos.com Set-Up Time: 7:30pm. Observing will be from 8:00pm to 10:00pm. Sunset: 7:07pm Dark Sky: 8:05pm Moon Phase: First Quarter.



Items of Interest

Websites: Trips On The Internet Super-Skyway

By Rik Hill; rhill@lpl.arizona.edu

Gimmie Shelter!

Editor's Note: tinyURLs have been added for long, wrapping URLs

The more convenient a telescope is, the more it will be used. Regardless of sky quality, if it only takes a few minutes to get observing you will go for that occultation, eclipse, variable star or planetary phenomenon. There is nothing that makes your telescope more convenient than an observatory. An observatory is simply any shelter for your telescope...any shelter. It does not have to have a round dome or necessarily be a roll-off roof. In fact, there's a saying among some professional astronomers that "a dome is a good way to trap bad seeing".

So let's look at some of the more novel designs for observatories. How about a flip-top observatory? You can see a real feat of engineering along these lines in the Arrakis Observatory :

<http://www.arrakis.cc/>

and a similar design at "Club Observatory COLUMBA" in Belgium:

http://members.tripod.com/jef_keymeulen/columba/columba1.html

(or tinyurl: <http://tinyurl.com/pguq3>)

A California amateur built one too. It can be seen and is described with numerous photos (see the link at the bottom of the page) at:

<http://www.astronomy-images.com/observatory/observatory.htm>

(or tinyurl <http://tinyurl.com/qoyop>)

A more simple 3 panel flip design can be seen at the AstroGaze Observatory:

<http://www.astrogaze.com/>

...and the Moonbase Observatory also in Belgium:

<http://moonbase.be/html/index.htm>

An even more simple design (although it's all in French)

http://astrosurf.com/gilles-p/mon_observatoire_1.htm

(or tinyurl <http://tinyurl.com/ndkvd>)

This one is at a high latitude where the owner opted for a simple coal bin rooftop sacrificing a small amount of the northern sky.

One amateur used a double flip for his solar observatory:

<http://home.comcast.net/~ismch/Bwwso1.htm>

(or tinyurl <http://tinyurl.com/m2sks>)

It affords a good view of the region several hours either side of the meridian.

Don't like the roll-off roof? How about a roll-off building? This amateur made a very substantial design for his 12" Meade LX200:

http://members.cox.net/waltc/BLACKBERRY_OBSERVATORY.htm

(or tinyurl <http://tinyurl.com/oppdd>)

This is the design used in my own observatory except I simply use rubber wheels instead of tracks. It's a good one for those with limited yard space.

One amateur a slide-down roof for the DogPatch-I Observatory:

<http://www.intercom.net/user/shaffer/dogpatch.html>

(or tinyurl <http://tinyurl.com/otdp9>)

Nice construction, and when you explore his DogPatch-II Observatory you get the feeling that his joy is in the construction!

Do you have zoning or neighborhood restrictions that limit your ability to construct an observatory? Or maybe you have neighbors that are nervous about a dome in the backyard? Try a modification to your roof...I mean the roof of your house!

Items of Interest (cont.)

<http://www.djcash.demon.co.uk/astro/scopes/loft/loft.html>

(or tinyurl <http://tinyurl.com/4vdsz>)

Jeff Beish near Lake Okeechobee (a few miles northeast of Lake Placid, Florida) simply built a fence around his 16" telescope! See:

<http://www.tnni.net/~dustymars/IsoObservatory.htm>

or tinyurl <http://tinyurl.com/qt283>)

He uses a tarp to keep the ever present rains (remember that stuff?) off the equipment. How much more simple can you get?

Next month we'll look at some more designs that are not the common dome or roll-off roof.

As always, if you know of a particularly good website you would like mentioned here, or some web topic you like covered, drop me a line.

It Takes Work To Keep Our Skies Dark !!!

by Robert Callanan

Here is a summary of last year's activities by the Southern Arizona Section of the International Dark Sky Association (SA-IDA).

JANUARY: Old business: City of Tucson Lighting Code and County Billboard Codes. New business: developing an improved dark sky meter.

FEBRUARY: SAIDA awarded a \$25 prize to a TAAA member for the best improvement in outdoor lighting at their home. Plans were made to provide judges and prizes at the Science Fair.

MARCH: Dark skies education for Earth Day at the U. of A. Two "Dark Sky" evenings at the Desert Museum. The newly opened Marriott Hotel at Starr Pass has large unshielded light globes, which violate the spirit of the Pima County Outdoor Lighting Code.

APRIL: The Dean of Architecture at the U of A is interested in developing outdoor lighting courses. The problem of light fixtures which permit unwanted light to trespass was addressed, especially numerous ones in the Three Points area.

MAY: U. of A. College of Architecture announced the formation of the Sustainable Lighting Committee (SLC). The impetus came from an award presented to President Likins by SAIDA for improvements made to University outdoor lighting. SAIDA is a founding partner.

JUNE: Tucson Airport Authority was contacted about their outdoor lighting and they agreed to make several improvements.

JULY: An article was submitted to the Benson newspaper. Also, SAIDA members attended a Benson Council meeting

and spoke in support of their proposed outdoor lighting ordinance.

AUGUST: Plans were made to attend the Ironwood Harvest Moon Celebration hosted by Pima County Parks.

SEPTEMBER: A Mars party with telescopes was planned for Oct 29 to promote public interest in dark skies.

OCTOBER: The Rio Nuevo project was discussed. Because Flandrau Science Center plans to relocate its telescope there, it will take a great deal of planning to minimize sky glow.

NOVEMBER: The Police and Sheriff departments need to be educated the about outdoor lighting of dark areas. Excessive light, especially that which glares, is not the best solution regarding public safety.

DECEMBER: Plans for the 2006. SAIDA needs to work with local retailers to promote the sales of dark sky friendly lighting fixtures; also, the use of motion sensors so that outdoor lights will only shine when actually needed; finally, adding shields to existing outdoor lights.

SAIDA NEEDS MORE HELP FROM MORE TAAA MEMBERS. AFTER ALL, WE WILL ALL BENEFIT FROM DARK SKIES IN OUR AREA !!!

For more information, go to: www.sa-ida.org

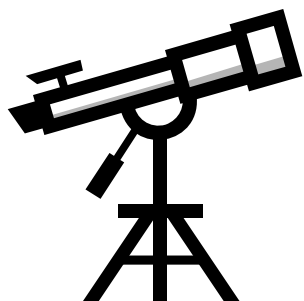
Or feel free to contact:

John Polacheck
President of SAIDA
E-mail: jpolach@dakotacom.net
Telephone: 743-1362

SAIDA meets on the second Wednesday of each month from 5:30 to 7:30 PM in the IDA office located at 3225 N. First Ave, just North of Ft. Lowell. And.....

WE USUALLY HAVE PIZZA !!!

Telescopes for Borrowing



Don't own a telescope?
 The TAAA Loaner Program is your answer!
 There's no cost to you.
 We have the following telescopes:

- Sears 60mmf/15 on equatorial mount
- Unitron 62mmf/14.5 on equatorial mount
- Meade 90mm ETX
- Coulter Odyssey8 8-inch f/4.5 Dobson
- Meade 10-inch f/4.5 on equatorial mount
- Meade 10" LX200 GPS (requires training session)

New members, here's your chance to begin learning and observing the sky before buying any equipment. Loaner Program is available to any current member after meeting requirements detailed in the TAAA Loan Policy. Contact the Equipment Loan Coordinator listed in the "Desert Skies" for details about the telescopes.

Opportunity to Volunteer

We are looking for a few members to take on positions that have recently been vacated. Two members, to be exact.

Star Party Volunteer Coordinator

Want to be part of our club that is a key person behind our successful community outreach Star Party Program? Occasionally, the Star Party Volunteer Coordinator (SPVC) is tasked to work with our Star Party Coordinator Paul Moss in finding an extra scope or two for an upcoming event. The SPVC emails Star Party Volunteers who are kept on a regularly updated list. This usually matches a scope and event in the same general area. The TAAA Announcements list server and possibly the TAAA Members Forum list server can be used to match the scope with the opening. Other than the interested star party scope list there is nothing to maintain. Please consider doing your

small part for TAAA and one of our great community outreach programs!

Equipment Loan Coordinator

The Equipment Loan Coordinator is in charge of the TAAA Loaner Telescope Program (see above). Generally, this means storing the telescopes until they are requested by a member. We are looking for someone who resides in central Tucson. The person in this position should be familiar with telescope and mount designs so they can train a beginner on the correct operation of these telescopes. (The Meade GPS telescope training is more intensive and is currently performed by Michael Turner.) The ELC is responsible for knowing who has borrowed the telescopes and maintains the loaner records for the program. Occasionally the TAAA board requests reports on the loaner program. If interested, you can speak with Jerry Penegor who has been the ELC since the program began.

If you're interested in either position, contact the board at taaabod@tucsonastronomy.org, or speak with one of us.

Desert Skies Classified

For Sale	5.5" folded f/15 achromat refractor, tube 57" long. Lens refigured by TAAA member Duane Niehaus and won Riverside Merit Award 1984. Tube assembly only: \$1300.00 Call Terri or Gary at 520-579-0185, or email tklappin@yahoo.com . [04/05]
For Sale	7" Maksutov LX200 GPS UHTC coatings for sale. This is BRAND NEW still in the box NEVER USED. Call Joe, 520-908-3393 [06/05]
For Sale	Meade ETX 125EC with electronic controller, Autostar #497, solar filter (ident-view), Star GPS (receiver and software) NIB, #64 camera adapter NIB, #884 deluxe field tripod, original box. All like new, pkg, \$750. Orion Steady Pix universal camera mount (LNIB) \$20. .2" crosshair for collimating, \$5. 1/2 part of right angle diagonal, \$5. Celestron Polar finder like new (orange) \$50. 8x50 finder, \$5. Contact H. Lawler, 520-446-9845, or rhlawler@localnet.com [04/06]
For Sale	TeleVue 2" 27mm Panoptic \$290.00, TeleVue 1.25/2" 9mm Nagler T1 \$235.00. Both are in excellent condition with end caps and boxes. William Optics Binoviewer with two WO 20mm Wide Angle eyepieces, 1.6 OCA in William Optics box. Bought new 1 month ago, paid \$199.00, asking \$165.00. TeleVue Nagler 11mm T6, bought new 1 month ago, paid \$290.00, asking \$275.00. Contact Neal Scofield, Retired-Badge@msn.com, 520-883-5456. [07/06]

Your ad will run for 4 months unless specified. Month and year of last appearance is last item of ad. For additions or changes to this list, call or e-mail the newsletter editor.

Star Party Report

Oh, we of little faith (but of eternal optimism)!

By Sam and Phyllis Turner, clearskys@cox.net

Not receiving the message from Paul or Steve that the Patagonia Star Party was cancelled turned out to be a good thing for us. Yes, it WAS cloudy. Yes, it WAS windy. Yes, it was COLD...until 6:00 PM. Then, miraculously, the clouds disappeared. By 7:00, when the viewing was to start, the wind died down. We met Miss Cooper and her forty-five elementary students, along with as many parents in the assembly room, where the students were demonstrating what they knew about the universe.

I asked them at an appropriate break in their activities: "Miss Cooper, where do I set up the equipment?" This was met with enthusiastic shouts from the young students and a warm greeting from Patty Cooper. "Didn't you get the word? The event was cancelled because of bad weather."

"No, but we're here. I can set up the scope in a few minutes and we can view the Moon, Saturn, Constellations and the Orion Nebula."

Forty-five enthusiastic children with their parents lined up to view. Phyllis manned the binoculars –and her laser pointer (which is always a big hit) while I focused on the Moon, first. I was impressed with student remarks like: "It's a waxing gibbous Moon" and "I can see Tycho and the rays." We viewed the Moon, Saturn, Pleiades, and the Orion Nebula and answered as many questions as we could. I was glad to have reviewed the material that Mary Turner sent me on Orion to have it fresh in my mind. It came in handy.

The parents and the students were all appreciative, friendly, and well behaved, leaving with many thank-you's. Miss Cooper gave us a big hug as we took down the equipment. We were driving off the basketball court by 8:00 PM.

We awoke to a light rain and, on they way home north on Route 83, we actually had a spatter of SNOW for a mile!

Member's Forum

An Open Letter

From TAAA Member Lee Paulsel, paulsel@comcast.net

According to Sky and Telescope, one of the few planetariums near London will close this July. Madame Tussauds waxworks incorporates the London Planetarium, but this valuable resource seems destined to close. Entertainment over education seems the order of the day. The planetarium will be become an auditorium and feature shows about "celebrities."

Why should we in Tucson care? Greater London has a population just shy of fourteen million people. Until a new planetarium opens in Greenwich in 2007, the nearest facility is located an inconvenient 60 miles distant. Anyone who has visited London in the past knows the weather and light pollution is horrendous. The only way to experience the infinite instead of the ephemeral is a visit to a planetarium. The London Planetarium has educated millions of schoolchildren since its inception in the 1950's. Now the lesser stars of entertainment will shine on center stage instead of the stars of our origins and destiny. Pity.

Britain has led the way in Astronomy in spite of wretched weather. The Herschels and Edmund Halley quickly come to mind. Presently, Stephen Hawking and Martin Rees come to mind as leaders in both Astronomy and cosmology. Now a mad rush is on to close a facility that has opened two generations of minds. As city lights and despoiled air make viewing the cosmos ever more difficult, planetariums become all the more important to retaining an interest in our celestial home. Planetariums are an essential part of this syllabus to this understanding.

Why should we in Tucson care? If London can lose such a valuable resource, it can happen here also. If rock stars can become more important than real stars in London, who can say that short sighted minds in Tucson could not also place a higher value on entertainment assets rather than astronomical assets? In 1624, the British author, John Donne wrote "No man is an island....if a clod be washed away by the sea, Europe is the less....any man's death diminishes me because I am involved in mankind; and therefore never send to know for whom the bell tolls; it tolls for thee."

The London Planetarium may die and we too will become the less. Any of us can take a small action. Write the Madame Tussauds waxworks at csc@madame-tussauds.com and let them know your outrage. The planetarium you save may one day be your own.

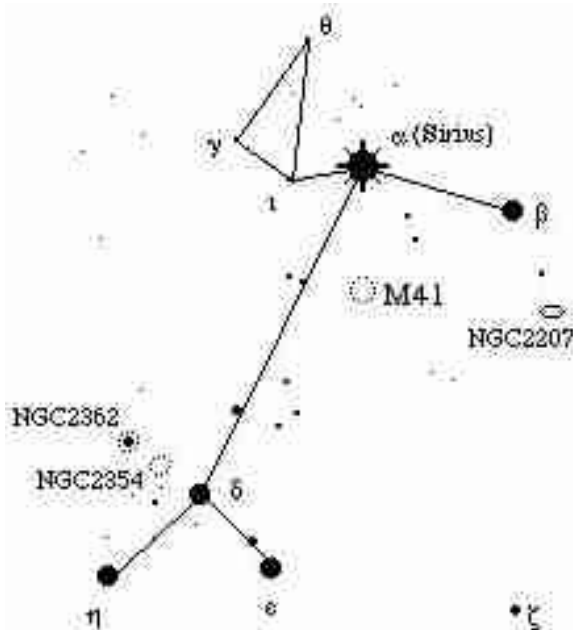
Constellation Report by Chris Lancaster (ctlancaster@msn.com)

Canis Major

The Great Dog

Before this constellation, southeast of Orion, was known as one of Orion's hunting dogs, it was seen by the ancient Indians as a deer hunter with the stars of Orion representing the prey. The three stars of Orion's belt was an arrow that had pierced the deer's side. In other times, Canis Major has been considered to be a dog in almost all other prominent stories of mythology and antiquity.

Alpha Canis Majoris probably has more legend behind it than the constellation itself, owing to the fact that it stands alone as the brightest star visible from Earth. Its modern name, Sirius, is derived from the Greek word *seirios*, meaning "scorcher." Since Sirius is behind the Sun during the summer in the northern hemisphere, it was once thought that the combined light and heat of Sirius and the Sun was what led to the hottest part of the year, as well as a more ominous role of bringing evil and sickness to humanity. One of Sirius' nicknames, the "Dog Star", leads to the expression "dog days of summer." Some of the other names that Sirius has held come in part from ancient Hindu writings that refer to Sirius as "Tishtrya," ruler of rain and water, and "Sukra," the rain god. Other names include the Persian "Tir" (arrow), the Babylonian name "Kakkab-lik-ku" (star of the dog), the Assyrian "Kal-bu-sa mas" (dog of the sun), and the Akkadian "Mul-lik-ud" (dog star of the sun.)



The ancient Egyptians celebrated the pairing of Sirius and the sun since it coincided with the annual flooding of the Nile. This revitalized Egyptian agriculture as well as Egyptian life in general. Sirius' "heliacal rising," or rising at dawn, thus marked the Egyptian new year.

Looking at Sirius through a telescope is by no means necessary since it is so dazzling just to the naked eye, but if you do so you are treated to an impressive sight, reminiscent of looking toward the Sun as an interstellar voyager at the edge of the solar system. There is a companion to Sirius, called Sirius B (or "The Pup"), which is a white dwarf of magnitude 8.6. Periastron of this system occurred in 1994 and currently the separation is about 4" at a P.A. of 151 degrees. Maximum separation of this system will be in about 25 years when the two will be 11" apart, but Sirius B is always extremely difficult to detect due to the glare of Sirius A. Some speculation has been made of the behavior of Sirius B over the last two thousand years. Ancient writings by such notables as Ptolemy, Horace, and Homer describe the light of Sirius as ruddy, coppery, and redder than Mars. One theory suggests that Sirius B could have been in the red giant stage in recent times, which would have reddened the combined light of the system enough to garner such descriptions. Or it could have simply been a result of the Earth's atmosphere, which refracts the light of a bright star such as Sirius so that it appears to twinkle in a spectrum of colors when close to the horizon, and these writers took advantage of this for dramatic effect.

If you drop exactly 4 degrees south of Sirius you will see the star cluster M41 (RA 6h 49.9' Dec -20d 44'). This is a 4.5 magnitude cluster easily seen with the naked eye in dark skies, and when spotted through a telescope reveals close to 100 stars of magnitude 7 and dimmer in a space about 1/2 degree across. The brightest star of the cluster is near the center and is a pinkish star of spectral type K3 II. The other bright members are giants of type K, G, and B.

NGC2354 is another cluster smaller and more subtle than M41 that has about 60 dim stars spread out in an area about 20' wide. Move about 1.5 degrees ENE of Wezen (Delta Canis Majoris) or center your scope at RA 7h 14.3' Dec -25d 44' for this 6.5 magnitude cluster.

A third cluster is the exquisite NGC2362, just 1.3d to the NE of NGC2354 at RA 7h 18.8' Dec -24d 57'. This is a tight cluster of about 40 stars 6' across crowded around the 4th magnitude star Tau Canis Majoris (also designated 30 Canis Majoris), a hot O9-type giant. The cluster roughly assumes the shape of an equilateral triangle with Tau at the center. Studies indicate that this collection of stars is quite young--perhaps only 1 million years old.

Among the few galaxies that can be glimpsed in Canis Major is NGC2207. In terms of size (4.5' X 3') and brightness (mag. 12), this galaxy is typical of those which are found in Canis Major, but it shows a unique structure. It is tear drop shaped with the appearance of a double nucleus, which probably indicates that it is an interacting system of two galaxies. From Mirzam (Beta Canis Majoris), move 3.5d to the SSW or center on RA 6h 16.4' Dec -21d 22.35'.

TAAA Board of Directors Meeting -

**TAAA Board of Directors Meeting Minutes
March 8, 2006**

Attending: TAAA Board Members present: Thom Peck, presiding; Bill Lofquist, Steve Marten, Terri Lappin, Ken Shaver and George Barber.

President's Call to Order: 6:40PM

Review of February Minutes - Accepted, Unanimous.

TAAA Survey - Results continue to be tabulated. Survey deadline will be April 2006 General Meeting and final results will be reported on Members Night in May.

Web Site Re-design. - Work continues. Board discussed how project is organized and if participants have reasonable timeline, expectations. Thom will discuss with Dean. The Board will work with participants to develop milestones.

TAAA Budget - Design has been completed.

TAAA Visitor Log. - Final design was approved by Board and will be completed by Steve Marten.

Status of the 16' Dome Construction - Drawings have been presented and reviewed. Pier change not yet reflected in drawings. Electrical materials list is being generated. Contractor is securing permits.

Status of the 30" Scope Project - No decision by Steward Observatory is yet available regarding the 30" Telescope Project.

Adjourn 8:50pm

Respectfully Submitted,
Steve Marten, Secretary

Dark Skies for April 2006

DARK SKIES (no twilight, no moonlight) for Tucson in 24-hour MST: 18=6pm, 20=8pm, 22=10pm, 0=12am
RISE, SET, VISIBILITY for sun and bright planets: rise for morning object, set for evening object

Fr/Sa 31/ 1	21:43 - 4:50	Mo/Tu 10/11	- - -	Fr/Sa 21/22	20:25 - 2:42
Sa/Su 1/ 2	22:53 - 4:48	Tu/We 11/12	- - -	Sa/Su 22/23	20:26 - 3:17
		We/Th 12/13	Full Moon		
Su/Mo 2/ 3	23:58 - 4:47	Th/Fr 13/14	- - -	Su/Mo 23/24	20:27 - 3:49
Mo/Tu 3/ 4	0:58 - 4:45	Fr/Sa 14/15	- - -	Mo/Tu 24/25	20:28 - 4:16
Tu/We 4/ 5	1:50 - 4:44	Sa/Su 15/16	20:19 - 21:14	Tu/We 25/26	20:29 - 4:15
We/Th 5/ 6	2:34 - 4:42			We/Th 26/27	20:30 - 4:13
Th/Fr 6/ 7	3:11 - 4:41	Su/Mo 16/17	20:20 - 22:18	Th/Fr 27/28	20:31 - 4:12
Fr/Sa 7/ 8	3:43 - 4:40	Mo/Tu 17/18	20:21 - 23:22	Fr/Sa 28/29	20:32 - 4:11
Sa/Su 8/ 9	4:11 - 4:38	Tu/We 18/19	20:22 - 0:22	Sa/Su 29/30	21:39 - 4:10
		We/Th 19/20	20:23 - 1:15		
Su/Mo 9/10	4:36 - 4:37	Th/Fr 20/21	20:24 - 2:02	Su/Mo 30/ 1	22:43 - 4:08

Weekend	Sun Set	Sun Rise	Mercury Rise Vi	Venus Rise Vi	Mars Set Vi	Jupiter Rise Vi	Saturn Set Vi	Vi=Visibility
1/ 2	18:42	6:09	5:03 5	4:00 -3	0:22 1	21:21 -2	3:03 0	-3 brilliant
8/ 9	18:47	6:00	4:55 5	3:56 -3	0:12 1	20:51 -2	2:35 0	0 conspicuous
15/16	18:51	5:52	4:51 5	3:52 -3	0:02 1	20:19 -2	2:08 0	3 moderate
22/23	18:56	5:44	4:51 6	3:47 -3	23:52 2	19:48 -2	1:41 0	6 naked eye limit
29/30	19:01	5:37	4:53 7	3:42 -2	23:42 2	19:16 -2	1:15 0	9 binoculars limit

By Erich Karkoschka

Object of the Month by Alfredo Garcia

This month's OTM belongs to the class of objects known as galaxies, and in particular, a type further classified as barred spiral galaxies. Barred spiral galaxies abound in the universe and provide us with great objects for telescopic observation. One of the best of these galaxies is a particular one found in a constellation named after a serpent in the sky. This "serpent" is the constellation of Hydra, the Water Serpent, and the galaxy is the celestial wonder known as M83 or NGC5236. It is also commonly referred to as the Southern Pinwheel Galaxy.

M83 is the one of the brightest members of a small physical group of galaxies known as the M83 Group of which with the peculiar radio galaxy Centaurus A (NGC5128) and the unusual galaxy NGC5253 in Centaurus are also members of. The astronomer Abbe Nicholas Louis de la Caille discovered the Southern Pinwheel Galaxy in 1752. It was cataloged by Charles Messier in 1781 and took on his catalog designation of M83 as it is most popularly known today.

The estimated distance to the Southern Pinwheel Galaxy is about 15,000,000 light-years. At this distance estimate, the galaxy has a linear size of approximately 50,000 light-years. The galaxy has an apparent size of 10.5 arc minutes, covering an area the sky of about 0.35 times the apparent size of the Full Moon. It has a visual magnitude of 7.6, which makes it invisible to the unaided eye. Calculations show that it is receding from the Earth at over 330 kilometers per second.

If you go out observing (from the Tucson area) during April at about 23:00 MST and look to the southeast to south horizons, you will find the Southern Pinwheel Galaxy at an altitude of about 25 degrees above the south by southeastern horizon in early April to about 27 degrees above the southern horizon in late April. You may want to use setting circles or an automated go-to scope to locate it as it is difficult to find. The coordinates are Right Ascension 13 hr 37 min 21 sec and Declination -29 deg 53 min 59 sec.

For those who are more adventurous, it can be found by star hopping techniques. The way I have found to star hop to M83 is to first find the bright star Spica (magnitude 1.2), in Virgo. Then find the 2.3 magnitude star Menkent in Centaurus. "Draw" a straight line between these two bright stars and about two-thirds of the way towards Menkent (or about 19 degrees) and about 1 degree to the southwest of this point, you will find the 6.1 magnitude star, SAO 181999. About 2 degrees to the southwest of this star you will find M83 nestled in the dark sky. You will know you have found it as the 5.8 magnitude star, SAO 181825 is located about 28 arc minutes to the northeast of the galaxy (See Figure I). Both are easily visible in a low power field of view.

The Southern Pinwheel Galaxy is visually a good target to see through a telescope, but only when it is astrophotographed or CCD imaged, does it reveal its true beauty! If you have the equipment to astrophotograph or CCD image M83, I recommend you do so. Your time and effort will be rewarded with an image of one of the best galaxies in the sky. There are many outstanding amateur and professional images of M83 on the Internet and I suggest you do some "surfing" and find them. Some of the best professional images by the HST/VLT are at: <http://www.mssl.ucl.ac.uk/~rs1/M83.html>. And some of the better amateur images are at: http://www.seds.org/messier/more/m083_m2.html.

Another interesting tidbit about M83 is that several supernovae have been observed among its stars throughout the years. This makes it the Messier galaxy with the highest recorded number of supernovae. And until recently it held the record for the most supernovae observed in a galaxy with a total of six. The record is now held by NGC6946 with a total of eight. Perhaps you could be the discoverer of yet another supernova in M83! So take advantage of some of the clear, moonless fall nights this month has to offer and see if you can spot this amazing galaxy and wonder at its place in the universe.

Clear Skies,
Alfredo

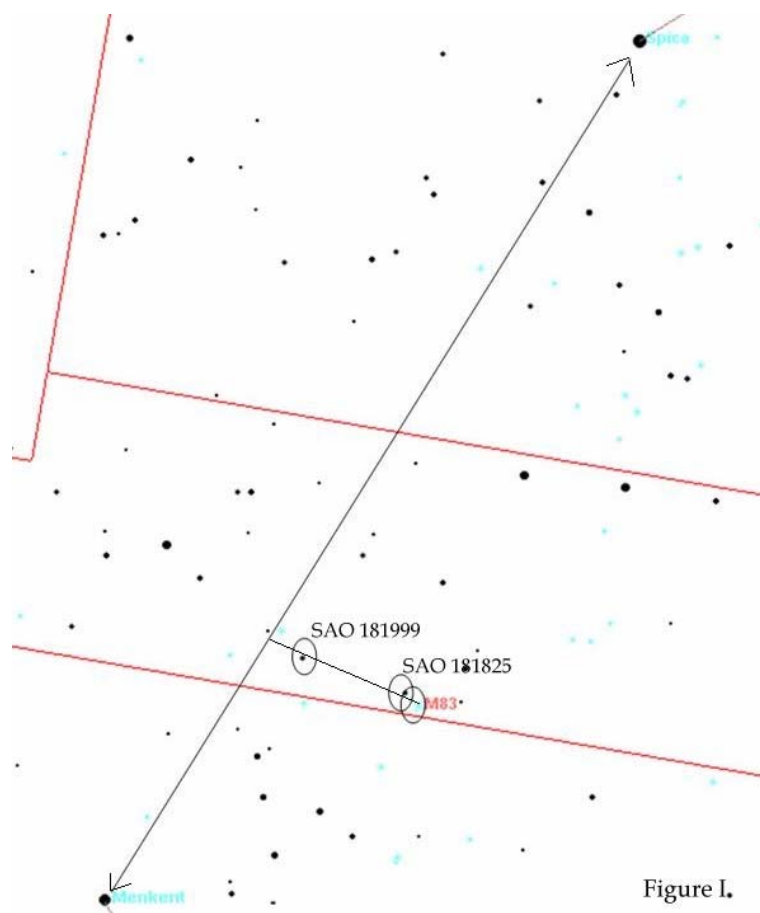


Figure I.

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Directions to TIMPA and Empire Ranch

Directions to TIMPA Site

GPS coordinates: 32 deg 15.868' N, 111 deg 16.390' W

From the North:

1. Take Ina Rd. west about three miles past I-10.
2. Turn left (south) on Wade Rd.. Wade Rd. becomes Picture Rocks Rd. when the Rd. bends to the right (west).
3. Take Picture Rocks Rd. west to Sandario Rd..
4. Turn left (south) on Sandario Rd. to Manville Rd..
5. Turn right (west) on Manville Rd. to Reservation Rd..
6. Turn left (south) on Reservation Rd. (dirt Rd.) and go about two miles. The entrance to TIMPA will be on the left.

From the East:

1. Take Speedway Blvd. west and it turns into Gates Pass Rd..
2. Go over Gates Pass and continue west to Kinney Rd..
3. Turn right (north) on Kinney Rd. and continue past the Desert Museum.
4. Kinney Rd. bends left at the entrance to Saguaro National Park West and becomes Mile Wide Rd..
5. Take Mile Wide Rd. west about five miles to Reservation Rd.. Mile Wide Rd. ends at Reservation Rd. and you must turn right (north) onto Reservation Rd..
6. Take Reservation Rd. north about one mile. The entrance to TIMPA will be on the right.

NOTE

Please DO NOT ask the caretakers for access to the TIMPA SITE. Contact a board member to arrange access to TIMPA. For scheduled TIMPA star parties, a designated TAAA representative will provide access to the site.

Directions to Las Cienegas (Empire Ranch)

GPS coordinates: 31 deg 47.356' N, 110 deg 37.913' W

Take I-10 East from Tucson and turn off at Exit 281 (Route 83 Sonoita-Patagonia Highway South). Travel south on Route 83 for about 19 miles and watch for the green and white milepost 40 sign along the right side of the road. Approximately ¼ mile past milepost 40, turn left into Las Cienegas. The road is dirt and has some "washboarding" so don't go too fast. At about the 2.9 mile point there will be a fork in the road. Stay to the right. When the road ends in a "T", take a left. You will cross a concrete section of the road down in a wash. Just up the hill from the wash (about .2 mile), turn left. Just ahead of you (.1 mile) will be the end of an abandoned airstrip with a covered ramada. The club members have been setting up several tenths of a mile down the runway. If you arrive after dark, as a courtesy to other members, use only your parking lights to approach the set-up location.