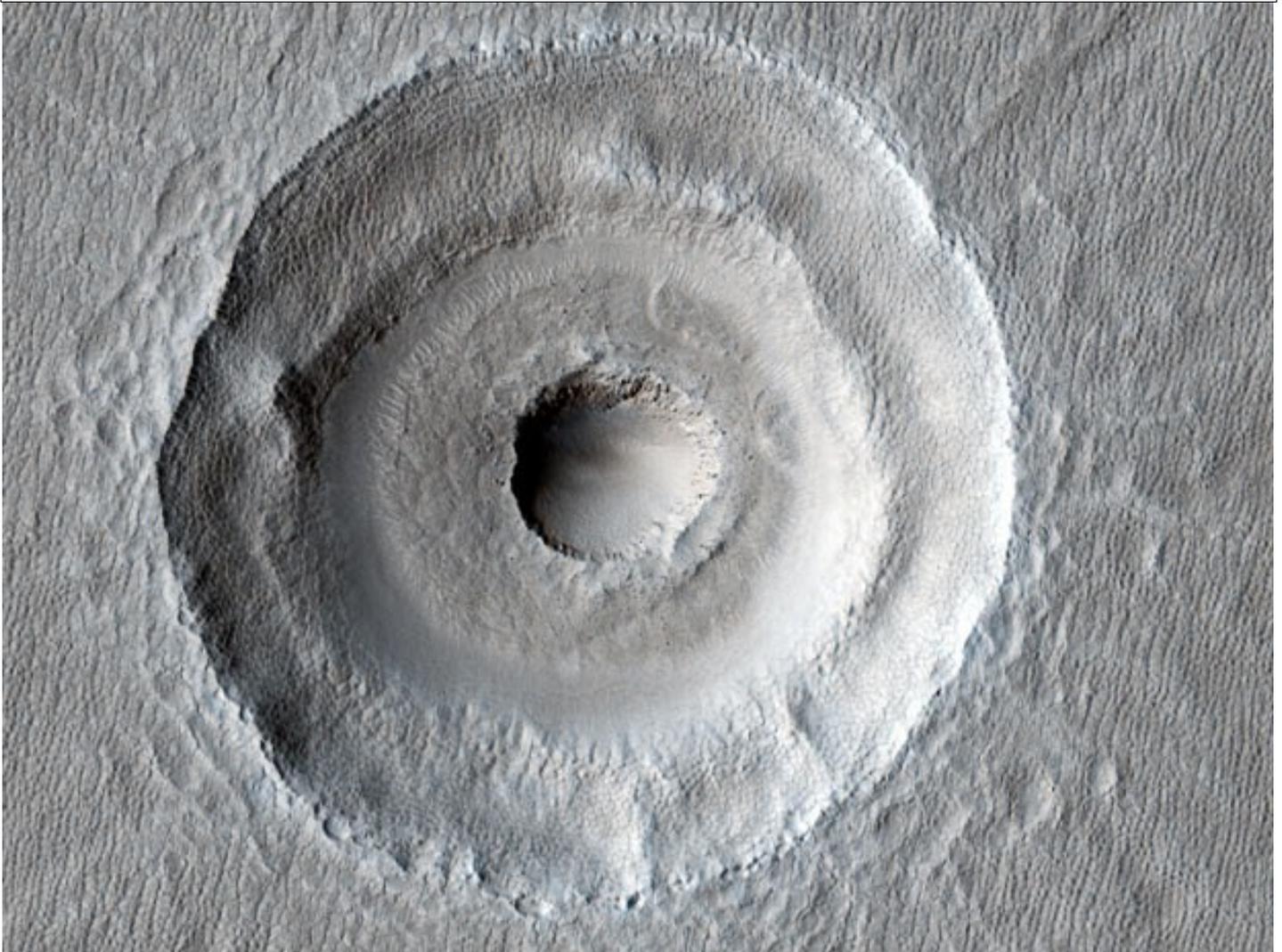


Desert Skies

Tucson Amateur Astronomy Association

Volume LVII, Number 3

March, 2011



Mars HiRISE Photo

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Orion the Hunter
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STAR PARTY ALERT - EARLY MARCH STAR PARTIES

**To all of our star party
volunteers:**

**Tuesday, March 8 -- Emily Gray Jr. High
Wednesday, March 9 -- Twin Peaks
Elementary School**

Cover Photo: NASA's High Resolution Imaging Science Experiment (HiRISE) camera orbiting Mars spotted this 'bull's-eye' crater which has left scientists baffled as to how it was created

TAAA Web Page: <http://www.tucsonastronomy.org>

TAAA Phone Number: (520) 792-6414

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	Luke Scott	749-4867	taaa-info@tucsonastronomy.org

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	\$ 7.50
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	\$ 4.80

Donations are accepted for the following funds: SA-IDA/Light Pollution, TIMPA, Education, TAAA Astronomy Complex, 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. Submissions should be submitted in Word compatible files via e-mail or on a recordable media.. 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:

Cathy Anderson
TAAA/Desert Skies Editor

Join our Email Lists on Yahoo Groups

TAAA Forum: <http://tinyurl.com/hwoau> (general astronomy discussion, posting allowed, 75/month)

TAAA Dark Site: <http://tinyurl.com/3d8ts9> (discussion of dark site issues, posting allowed)

President's Message

A recent news article in the Arizona Daily Star described a proposal to renovate the 4-meter Mayall Telescope on Kitt Peak. The \$100 million project was described as "redemptive - a chance to transform its largest telescope from outdated behemoth to high-tech wonder". While I hope the project succeeds, I can't help but think about how easily astronomy has slid into the common technological worldview that anything more than a few years old has become stale and worthless.

Yes, we live in a dynamic and ever-changing Universe; but from a broad perspective, stars and galaxies really haven't changed since the Mayall saw first light some 4 decades ago. Light pollution has certainly increased, but our ability to remove its effects, and detectors with enhanced sensitivity have also improved. So why do telescopes get mothballed so quickly? It's truly distressing whenever historical astronomical wonders like Mt. Palomar, Yerkes Observatory, and the Hubble Space Telescope are put out to pasture, and to think of Kitt Peak as a low-level astronomy complex is a shame.

In many cases, the availability of better quality instruments, combined with the high costs of maintenance at large observatories makes them gradually lose their appeal to professionals and funding sources. As amateur astronomers, we can learn some valuable lessons from the ever-shortening life cycle of professional systems.

First, it's very important to take proper care of your gear. Whether periodic mirror re-coating, greasing drive gears, or storing equipment properly, the life of your equipment depends largely on how you maintain it, and you are probably not fortunate enough to have a paid maintenance crew to do that for you. Second, don't allow yourself to be tricked by slick advertisements. Even if your telescope is not the most current model, it can probably perform just as well as the latest and greatest. Have you ever noticed that many of TAAA's most experienced observers use older telescopes? The key to enjoying this great hobby comes from within the observer, not from the cost or age of the equipment. Some current amateur telescopes with fancy high-tech features actually have lower quality optics, so don't assume that newer is always better.

One of the "new technologies" put to use by amateur astronomers is the green laser pointers. Green lasers have also been in the news of late, and not in a good way. Apparently Tucson is one of the top 10 cities for green laser strikes on aircraft. We have established contact with the FAA to let them know that TAAA is interested in promoting the safe use of green lasers, and educating our members about the risks of illegal usage. Please be very careful if you choose to use a laser pointer on an astronomy outing!

Keith Schlottman

Meeting Information and Calendar of Events

TAAA MEETING DATE: Friday, March 4th, at the Steward Observatory Auditorium
Room N210

Astronomy Essentials Lecture: 6:30

Title: **Is Extraterrestrial Solar System Life Just a Jovial Saturnalia?**

Speaker: Al Anzalda, TAAA Space Exploration SIG chair

Al Anzalda will give us a taste of what the Space Exploration SIG is all about. The exploration of space has evolved drastically over recent years to now include the branch of "astrobiology". Al will talk about the places where extraterrestrial life is most likely to exist in our solar system: the moons of Jupiter and Saturn. What makes these cold places so promising? Al will talk about extremophilic bacteria, the importance of the elements CHNOPS, the conditions necessary for life as we know it, the carbon-based chemical building blocks of life, and the range of those building blocks and associated molecules already found on various astral bodies --including methane, ammonia, CO₂, O₂, polycyclic aromatic hydrocarbons, and amino acids, etc. He'll be featuring the work of Sarah Horst, Richard Greenberg (both of the UA LPL), Darrel Strobbel (John Hopkins), and Kathie Thomas-Keprta and Chris McKay (both with NASA).

GENERAL MEETING: 7:30 pm

Invited Lecture

Title: **Mars 101**

Speaker: Ari Spinoza, Mars HiRISE

Our invited speaker this month is Ari Spinoza who works on the Mars HiRISE mission. The UA is the home to HiRISE Operations. HiRISE is taking high resolution images of Mars since its arrival in the early part of 2006. How have the spectacular images changed our understanding of Mars? Come hear what should be a very interesting presentation which will include some of the high resolution images of the Martian surface.

BOARD OF DIRECTORS MEETING: Wednesday, March 9th, 6:30 pm. The meeting is held at Steward Observatory Conference Room N305.

Calendar of Events

STAR PARTIES AND EVENTS:

5 Mar - CAC Star Party
 7 Mar - Astro Imaging SIG
 8 Mar - Emily Gray Jr. High Star Party
 9 Mar - Twin Peaks Elementary School Star Party
 10 Mar - Astronomy Fundamentals SIG Mtg.
 12 and 13 Mar - Outreach Event - Festival of Books
 12 Mar - AFSIG Astronomy Fundamentals Class
 12 Mar - TIMPA and AFSIG Star Party
 17 Mar - Cosmology and Space Exploration SIG
 17 Mar - Doolen Middle School Star Party
 19 Mar - AFSIG Astronomy Fundamentals Class
 19 Mar - AFSIG Solar Observing
 21 - 25 Mar - So. AZ Science and Engineering Fair
 22 Mar - Brichta_Elementary Star Party

24 Mar - Indian Oasis School Star Party
 24 Mar - 6 Apr Globe at Night Activities
 25 Mar - Pima County Natural Resources Star Party
 26 Mar - AFSIG Astronomy Fundamentals Class
 26 Mar - Whipple Star Party
 29 Mar - Luz Academy Star Party
 2 Apr - Messier Marathon at CAC
 6 Apr - Immaculate Heart Academy Star Party
 7 Apr - Coronado K-8 Star Party
 8 Apr - Rattlesnake Ridge Elementary Star Party

NEWSLETTER SCHEDULE: Deadline for articles: Wednesday, March 16th. The newsletter is published at least one week prior to the following month's General Meeting.

Member News

We welcome these members who have recently joined the TAAA: Sarah Dinham, Steve Meszaros, Paul Possemato, Eugene Vamos, David Vasquez, and Alex Woronow. Glad to have all of you join! New members can pick up a member's packet at a meeting if they didn't request it by mail. Hope you'll make it to our star parties or meetings so we can all get to know you. (Updated membership lists are available at our website after logging in as a member. You can also pick one up at most meetings.)

Astro-Imaging SIG Meeting

Monday, March 7th, 7pm
 China Rose restaurant, NE corner Speedway/Rosemont

Our presentations feature CCD images, planetary webcams, and film. Come see some of the state-of-the-art imaging over some Chinese food, or Just show up and enjoy the show! For more information, contact Steve Peterson.

Astronomy Fundamentals Special Interest Group

By Ben Bailey

On Thursday, March 10, we will hold our regular monthly meeting.

The Time: 6:30 pm

The Place: U.S.G.S. Building - room 253 - Northeast corner of Park Avenue and Sixth Street

Parking: Free parking after 5:00 pm behind the building in the parking lot.

Remember, we are successful only if you participate. I am looking forward to seeing you there.

AFsig Committee

Chairperson:	Ben Bailey
Vice Chairperson:	Dennis McMacken
Observing Coordinator:	Robert Gilroy
Workshop Coordinator:	Jim Miller
Lunar Obs. Facilitator:	Mary Turner
Solar Obs. Facilitator:	Dennis Dawson
Constellation Obs. Facilitator:	Paul Anderson
Solar System Obs. Facilitator:	Mike Finerty
Double Star Obs. Facilitator:	Tom Watson



Picture taken by Jim Miller at TIMPA during the AFSIG star party. You can see Kitt Peak in the background.

The Astronomy Fundamentals special interest group meets on the 2nd Thursday of every month with some stimulating discussions from both the TAAA members and members of the scientific community. In addition, when we launch a new observing program, we have a presentation about that program discussing the history, folklore and the necessary requirements to complete the program.

Club News (cont.)

Fundamentals of Astronomy Class

By Ben Bailey

March 12, 19, and 26

AFsig is putting on its popular Fundamentals of Astronomy class this March. This class is aimed at giving the beginning amateur astronomer a good start in the hobby including the basics of the night sky, equipment used, and observing techniques.

March 12th

We will cover Basic Astronomy, including celestial motion, the celestial coordinate system, and types of celestial objects.

March 19th

The subject will be Equipment Basics, including telescopes, mounts, eyepieces, filters, and other observing accessories.

March 26th

We will discuss Observing Basics, including locating objects, seeing conditions, and hints and tips on observing various types of objects.

The classes will be held at the regular AFSIG meeting location: Room 253 in the USGS building at 6th and Park on the UA campus. Each day will consist of several presentations, with frequent breaks and a break for lunch. We expect the class to run from 9:00 AM until midafternoon on each day.

The class is free to TAAA members and there is still some room on the roster. If you are interested, send an e-mail to fundamentals@tucsonastronomy.org or contact one of the AFsig Committee members.

TAAA and AFSIG Star Party at TIMPA

Saturday, 12 March

If the weather cooperates, it should be a good observing night for everyone. Come and join one of our activities, or observe on your own - and enjoy the camaraderie. AFSIG will open the gate at 5:45 pm.

Messier Marathon at CAC

by John Kalas

Saturday, April 2

As announced in last month's newsletter, the club will be hosting a Messier Marathon at the CAC Site on Saturday, April 2nd. Certificates will be issued to everyone who participates. Bill Lofquist is developing the sheets that will aid participants in identifying and recording the Messier Objects during the marathon. As is the case with all CAC Star Parties, attendance is by reservation. If you would like to participate in the marathon, please contact me directly at jkalas@cox.net or 620-6502. If the attendance is large enough and the capacity of the site (30 vehicles/60 people) is exceeded, I will open my property and cottage for the overflow.

Upcoming Lectures

Here is the upcoming lecture schedule. Contact Terri Lappin at terrilappin@tucsonastronomy.org to suggest

Apr 1	<i>Astronomy Essentials</i>	Mary Turner Seasonal Objects
	<i>Invited Lecture</i>	Yancy Shirley Topic TBD
May 6	<i>Members Night Starts at 6:30pm</i>	Theme: TAAA members who work in the field of Astronomy
Jun 3	<i>Astronomy Essentials</i>	Bob Gilroy Topic TBD
	<i>Invited Lecture</i>	Dr. Marcia Neugebauer Solar Physics



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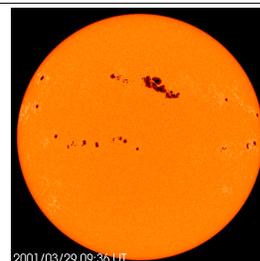


Club News (cont.)

AF-SIG Solar Observing Group

Saturday, March 19
By Dennis Dawson

On Saturday, March 19th, we will meet from 9 am until noon at Fort Lowell Park (Craycroft & Glenn) near the southeast corner. Just look for the telescopes. Bring your kids. Bring water and something to nibble on. You don't need to have a telescope; others will have them if you don't. Everyone is invited to join us. If you have your observing log-sheets, please bring them. If you don't have them, I will bring extras for those who need them. Hopefully the sun will oblige us and produce some sunspots while we're viewing. Hope to see you there.



The Solar Observing Program (like all of our observing programs) is open to all members of TAAA at no charge. It is a guided program which means that at the scheduled observing sessions, there is someone there to guide you in finding the features needed for successful completion of the program. You can join the program at any time and can either attend the guided sessions or work on your own. A certificate is awarded at the completion of all the requirements. The beauty of this observing program is that our Sun offers great flexibility in observing and recording the different features – you don't have to be concerned about light pollution, night vision, or traveling great distances to find dark skies. If you are interested in participating in the Solar Observing Program or if you just want to be added to our email list to keep posted about our activities and solar news email Dennis Dawson at dennisldawson@gmail.com or Bob Gilroy at bobgilroy@tucsonastronomy.org for all of the particulars.

Space Exploration Special Interest Group - SESIG

By Al Anzaldua

SESIG will sponsor a presentation on April 21 by electrical engineer and TAAA member Avery Davis on the feasibility of space-based solar power. The presentation will take place promptly at 7:00 pm at the Woods Memorial Branch Library, 3555 N. 1st Ave., just south of Prince Road.

On May 19 at the same venue and time Jason Cook, an organic farmer and expert on edible and sustainable landscapes, will give a presentation on growing food in outer space within enclosed habitats - wherein nutrients, vital gases, and water recycle.

Those wishing to attend either presentation should contact Al Anzaldua at 520-409-5797 (cell) or alanzaldua@tucsonastronomy.org. Sign-up sheets for these talks will also be provided at the March and April General Membership meetings.

TAAA Apparel

Looking for a special gift or a way to make that fashion statement? Try on something from our fine line of club apparel. We have hats, T-shirts, denim shirts, and patches. We take cash and checks.



Starry Messengers SIG -
Opening Minds to the Universe

Upcoming SIG Activities:

Tucson Festival of Books – March 12 and 13, 2011

A relatively small group attended last month's Space Rocks Workshop. We heard an excellent presentation by Dr. Robert Strom from the UA Lunar and Planetary Lab. He talked about the impact cratering which occurred in the early solar system known as the Late Heavy Bombardment. He also talked about the possibility for modern time impacts – it seems we are a little overdue for a Tunguska sized object! Workshop participants also had a chance to try out the projects in the newest Night Sky Network toolkit called Space Rocks.

Our next workshop topic will likely be light pollution. The date has not been set.

We are gearing up for the biggest outreach event the TAAA participates in within the Tucson area. The Tucson Festival of Books will be held on March 12 and 13. Volunteers are needed! See the article elsewhere in this newsletter to find out how you can help.

Any TAAA member involved in astronomy outreach is considered a member of the Starry Messenger Special Interest Group. Even if you have never attended a SMSIG workshop or meeting, you are supporting the goals of the Starry Messenger SIG. We value your contribution. The Starry Messenger SIG provides an environment in which TAAA members can enhance their knowledge and understanding of astronomy and related concepts, all with an emphasis on conveying that information to people of all ages.

Club News (cont.)



TAAA Exhibit at Tucson Festival of Books

The Tucson Festival of Books will take place over the weekend of March 12 and 13. Volunteers will need to staff our booth between 9:30am and 5:30pm both days. Helpers are also needed to set up Saturday morning (time to be determined) and take down Sunday evening after 5:30pm. Some people have already signed up, but many more are needed. The greatest need is on Saturday morning after 9am.

I have obtained permission for us to set up three solar telescopes at a time during the event. Getting a telescope to the booth could be a challenge, but through cell phone communication and an extra volunteer it shouldn't be too bad. We won't be assigned to a booth until closer to the event - last year it was just a short distance and we had more than enough carts available. I am asking volunteers to sign up for a minimum of 2 hours at a time. A signup sheet will be at the March meeting, or you can contact me, Terri Lappin. (See page 2, Starry Messenger SIG.)

There are many jobs to be done. In particular, members are needed to tell the public about the TAAA - who we are, what we do, and why we exist. We'll have many handouts for the public, so those supplies will need to be replenished. We will have several hands-on projects to teach the public about meteors, meteorites, asteroids, craters, and the potential for impacts on Earth. These projects can be easily learned, so even if you've not worked with them before you're sure to catch on. Don't worry; no one will be asked to explain anything unless they are comfortable with it. There's also the important job of filling in for the telescope operators so they can take well-deserved breaks.

Last year we had about 1400 people stop at our Festival of Books exhibit. I'd like to have the volunteer staff to handle at least this many, hopefully more, this time around. Hopefully visitors will leave our booth with a new appreciation of our universe and our place in it. I don't think any other booth at the festival will be doing that. Maybe they'll want to join the TAAA. It could depend on you, interacting with them, leaving them with an appreciation of the wonders and joy that can be found by looking up. Please volunteer a few hours on either Saturday, March 12 or Sunday, March 13. I look forward to working with you! Questions? Contact Terri for answers.

TAAA to Benefit by using Night Sky Network Services

By the time you get this newsletter, the TAAA will have begun to use the Night Sky Network online services for our membership management.

You should have received an email message containing your login information. If you did not receive it and you want a Night Sky Network account, please contact Teresa Bippert-Plymate (our treasurer) who can set it up for you. Your email address will need to be supplied to the Night Sky Network before you can be issued a login account.

Please assume responsibility for keeping your contact information current and setting your permissions and preferences. After getting your user name and password, login and check your Profile and Preferences. This is found under "My Member Information" on the main screen. "Update Profile" will allow you to change or customize your contact information. "Change Password", of course, will allow you to change your password. (User name can also be changed after clicking on "My Profile & Preferences".) There are two levels of access to your contact information (name, phone number, and email address). The first level includes other TAAA members. The second level includes members of other astronomy clubs who also belong to the Night Sky Network. Your mailing address can only be viewed by the NSN administrators, TAAA NSN Coordinators, as well as yourself.

At this same location, you can set your preferences for receiving announcements and newsletters. By default you will receive the Night Sky Network's monthly newsletter, so please set that to No if you don't want to receive it. We will use the Night Sky Network to distribute the Desert Skies newsletter. If you have questions, check the "Members Help" link from the Members Home Page under the second vertical column. Please check there first if you have a question. If you can't find an answer, then contact either Terri Lappin or Teresa Bippert-Plymate (see page 2 of Desert Skies). Give us a day or so to respond.

IF YOU DON'T HAVE AN EMAIL ADDRESS: Unless you specifically requested otherwise, your name and contact information would have been sent to the Night Sky Network and your contact information will appear to TAAA members. If you previously had asked that we not share your phone number, then it is hidden from view. You will not have access to changing this information, so if it needs to be changed, contact Teresa Bippert-Plymate who can modify it. To gain direct access to your contact information you will need to have an email address so that a login account can be established.



MEMBER EVENTS

TAAA Star Party at CAC

Saturday, March 5

The Chiricahua Astronomy Complex (CAC) is the club's newest observing site. Located in Cochise County approximately 100 miles from the center of Tucson, the site includes a full bathroom facility. At an elevation of 4800 feet, be prepared for cold temperatures. Try to arrive before sunset. Unlike the other two club observing sites, TIMPA and Las Cienegas, the CAC site requires that members make reservations for both monthly club star parties and private member use. We are restricted by a 60 person/30 vehicle maximum limitation. If you would like to attend, contact CAC Director John Kalas via e-mail at jckalas@cox.net or by phone at 620-6502. Reservations will be on a first come - first serve basis. Depending on the number of members interested in attending, guests may not be allowed.

Directions to CAC:

The Chiricahua Astronomy Complex is about 90 miles and a 1½ hour drive from the TTT Truck stop at Craycroft Road and Interstate 10.

Take I-10 East from Tucson past Benson.

Exit I-10 at Dragoon Road (Exit #318) - Turn right onto Dragoon Road at bottom of exit ramp.

Travel 13.5 miles southeast to intersection with Route 191 and turn right (south).

Travel 17.9 miles south (past Sunsites and Margie's Corner Café at High St. on the right and Border Patrol checkpoint) to intersection with Route 181 at Sunizona and turn left (east).

Travel 10.9 miles east to intersection with S. Price Ranch Road and turn right (south). S. Price Ranch Rd. is a dirt road just before you reach mile post 49 (cluster of mailboxes on right on Rte. 181).

Travel ½ mile south on S. Price Ranch Rd. to intersection with E. Perseus Way (wide dirt road with E. Perseus Way street sign on left) and turn left (east).

Travel east on E. Perseus Way slightly more than ¼ mile to entrance of Chiricahua Astronomy Complex, address 9315 on right (twin brown gates flanked by white rail fences set back 50 feet from road). Look for TAAA sign on left side of entry road.

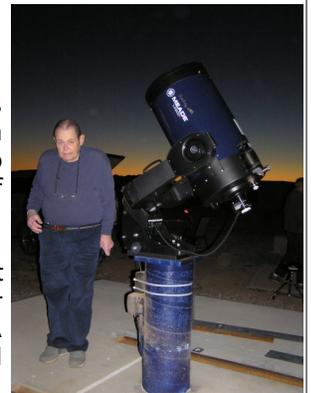
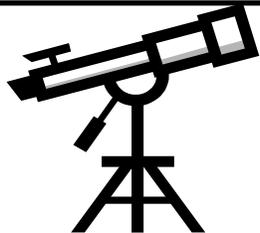
TAAA and AFSIG Star Party at TIMPA

By Bob Gilroy

Saturday, March 12

If the weather cooperates, it should be a good observing night for everyone. 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 anyway, 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. 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 cold temperatures. Directions to the TIMPA site are located on the last page of this newsletter

**Telescopes for Borrowing**

Free service



Only for Members

Don't own a telescope?

Our Loaner Program is your answer!

These telescopes are in the program

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)

Beginners, here's your chance to learn and observe the sky before buying any equipment. The Loaner Program is available to any current member after meeting requirements detailed in the TAAA Loan Policy. Contact the Equipment Loan Coordinator (see page 2) or any club officer for details about these telescopes.

Member's Events

Smithsonian Institution Fred Lawrence Whipple Observatory Star Party

By Larry Woods
 Saturday, March 26
 Free and Open to the Public
 Visitors Center at 670 Mount Hopkins Road, Amado AZ 85645 U S A

Telescopes provided courtesy of the Tucson Amateur Astronomy Association (TAAA) and the Sonora Astronomical Society (SAS).

5 p.m. Visitors Center opens
 5-6 p.m. Safe viewing of the Sun (next to Visitors Center)
 6:15 p.m. Informal lecture presented by Observatory staff
 7:15 p.m. Observing begins (next to Visitors Center)



On view: In the afternoon -- the Sun, and at dark, Jupiter, Mercury, and later the Pleiades, Saturn and galaxies. See the Sun and Stars through a telescope. Dress for cool evening temperatures. Small flashlights and binoculars are useful to bring. Lecture seating is limited, so you might want to bring a lawn chair. Please cooperate with staff directing parking when you arrive. The parking spaces nearest the building are reserved for TAAA/SAS members and their telescopes. After dark, use parking lights only until you are headed downhill on the road, please!

Las Cienegas (Empire Ranch)

Note: The club is no longer scheduling monthly star parties at this site. The site may still be used by members, but it is recommended that members make their interest known via the taaforum e-mail listserver to organize the activity. This will preclude someone going to Las Cienegas, only to find out that no one else went down. Las Cienegas (formerly Empire Ranch) had been the club's dark-sky observing site for many 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 astro-images. There are restroom facilities at the site. Las Cienegas is at 4000 feet in elevation so be prepared for cold temperatures. The directions to Las Cienegas are located on the last page of this newsletter.

ALCON 2011 - Bryce Canyon

By Robert Taylor
 June 29 - July 2

As you may know ALCON 2011 will be happening this year from Wednesday June 29th through the Night of Saturday July 2nd 2011 at Bryce Canyon National Park. This year ALCON will be co-hosted by the Astronomical League, the Salt Lake Astronomical Society and Bryce Canyon National Park. We are very excited about this particular ALCON because of the location and focus on observing at one of the darkest skies in the lower 48. We have an outstanding line-up of speakers, events, sponsors and vendors including John Dobson, Carolyn Shoemaker and others, hands on demonstrations, a live feed remote telescope for imaging and southern hemisphere site viewing, a Star-B-Q dinner and much more. Please see the ALCON page for the latest line-up of speakers. <http://alcon.astroleague.org/accommodations>, <http://www.nps.gov/brca/index.htm> and <http://slas.us/>.

Dark Skies for March 2011

DARK SKIES (no twilight, no moonlight) for Tucson in 24-hour MST: 18=6pm, 20=8pm, 22=10pm, 0=12am

Mo/Tu 31/01 19:21 - 5:54	Fr/Sa 11/12 2:12 - 5:47	Mo/Tu 21/22 19:37 - 22:32
Tu/We 01/02 19:22 - 5:54	Sa/Su 12/13 3:08 - 5:46	Tu/We 22/23 19:38 - 23:40
We/Th 02/03 19:22 - 5:53	Su/Mo 13/14 4:02 - 5:45	We/Th 23/24 19:39 - 0:46
Th/Fr 03/04 19:23 - 5:53	Mo/Tu 14/15 4:52 - 5:45	Th/Fr 24/25 19:39 - 1:47
Fr/Sa 04/05 19:46 - 5:52	Tu/We 15/16 5:38 - 5:44	Fr/Sa 25/26 19:40 - 2:43
Sa/Su 05/06 20:39 - 5:51	We/Th 16/17 - -	Sa/Su 26/27 19:41 - 3:32
Su/Mo 06/07 21:33 - 5:51	Th/Fr 17/18 - FULL MOON	Su/Mo 27/28 19:42 - 4:15
Mo/Tu 07/08 22:27 - 5:50	Fr/Sa 18/19 - -	Mo/Tu 28/01 19:42 - 4:52
Tu/We 08/09 23:21 - 5:49	Sa/Su 19/20 19:36 - 20:12	Tu/We 01/02 19:43 - 5:26
We/Th 09/10 0:17 - 5:49	Su/Mo 20/21 19:36 - 21:22	We/Th 02/03 19:44 - 5:28
Th/Fr 10/11 1:14 - 5:48		Th/Fr 03/04 19:45 - 5:27

By Erich Karkoschka

Grand Canyon Star Party - Time For Reservations!

18-25 June, 2011

By Jim O'Connor



It's about time to lock down plans to attend the 2011 edition of the Grand Canyon Star Party. GCSP 2011 is the 21st annual collaboration between the National Park Service and astronomers from around North America to bring astronomy outreach to Park visitors. The current version of the event, begun by Dean Ketelsen and now beginning its 21st consecutive year, is held concurrently on both the North Rim, coordinated by the Saguaro Astronomy Club, and the South Rim, coordinated by Tucson Amateur Astronomy Association.

What GCSP Is

GCSP is not the typical star party where astronomers gather for great viewing and the association with other astronomers. GCSP is an annual collaboration between the National Park Service and astronomers from around North America, to bring astronomy outreach to Park visitors as well as enjoy meeting old and new friends in astronomy. We astronomers act as interpretive rangers, explaining the night sky around the Grand Canyon to the visitors just as the daytime Park Rangers explain the geology of the park.

The level of public interest and involvement, and the opportunity for TAAA to make major contributions to public education and awareness, is profound. Generally, we have about 95 astronomers (nearly two dozen from TAAA) who register to take part for all or part of the week, and as many as 1200 visitors on any night. We put the Party in Star Party! And about 10 percent of the astronomers will set up at random places during the day, showing solar, lunar, and planetary views in daylight for the visitors and make them aware of the spectacular night to come.

Major Changes This Year

Those of you familiar with GCSP will notice some major changes beginning this year. The telescopes will most likely be set up in the dark area behind the Grand Canyon Visitor Center, a short walk from the front side parking lots 1 through 4 around the clock, and accessible up until 11 p.m. by the free Village Route shuttle bus which also stops on the front side out of sight. Yavapai Point is no longer on the Village Route. It, and the newly opened Mather Point stop, is on a revised Kaibab/Rim (orange) route, with shuttle service only until an hour after sunset. This appears to pretty well lock us into moving GCSP from Yavapai Observing Station. Last year we began looking into the potential for moving to the Visitor Center. Advantages: a newly constructed indoor auditorium for the nightly talks (216 seats plus wheelchairs), very large, flat, paved setup area with virtually unobstructed horizon views, NO traffic or buses at all, and, at the time we checked, no outside lighting on the back side of the Visitor Center. Until all of the new construction (the auditorium, for example) finishes this spring, Marker Marshall, our Ranger contact, is inclined to include a little wiggle room but she said she's 99% sure we'll need to move GCSP to behind the Visitor Center. When I checked the new location out last year, the views were breathtaking, 7000 foot elevation with a planetarium-like view of the skies. This location is now the Park's primary destination for Park visitors on entry, and the foot traffic should give us a lot of opportunities to make new friends for the Park and astronomy. When the buses stop running at 11PM, the night is still ours to enjoy for our own agendas if we choose to. Again, think 7000 feet, completely dark skies, virtually no obstruction horizon to horizon.

General information regarding GCSP is found at:

<http://www.tucsonastronomy.org/gcsp.html>

If you intend to participate this year, email your intentions to me at: gcsp@tucsonastronomy.org.

Astronomers are responsible for arranging their own lodging. For those astronomers intending to stay 6 or more nights, there are plans for a limited number of complimentary campsites to be available. Requests for a free campsite will be accepted beginning March 1. Campsites will be assigned in order of request received beginning March 1 until none remain. They go fast, so if you intend to participate for six or more nights and wish consideration for a free site, please send an email on or after March 1 to the above email address to be considered for the list. Other lodging at the Grand Canyon fills fast, so make your plans and reservations as soon as possible.

For the North Rim, the veranda is already filled with telescopes for the entire week. For further information and current status on the North Rim, please check at

<http://www.saguaroastro.org/content/2011GrandCanyonStarPartyNorthRim.htm>

Please let me know if you're interested in supporting TAAA in this exciting and extremely rewarding event for one night, eight nights, or anything in between!

Member's Events (cont.)

Less of Our Light for More Star Light Join the 6th worldwide GLOBE at Night 2011 Campaign

By Constance Walker, Ph.D.

What: The Globe at Night Campaign

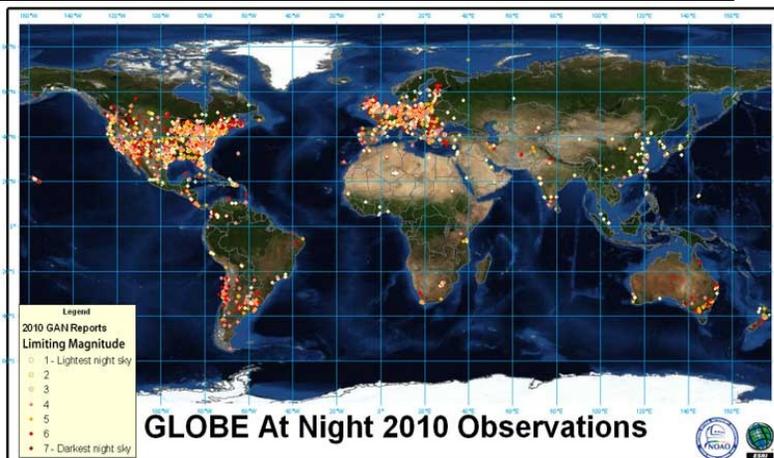
When: 8pm to 10pm local time, February 21 - March 6 and March 24- April 6

Where: Everywhere

Who: Everyone

How: See <http://www.globeatnight.org>

GLOBE at Night encourages citizen-scientists worldwide to record the brightness of the night sky. During 2 winter/spring weeks of moonless evenings, children and adults match the appearance of a constellation (Orion in February/March and Leo and Crux in March/April) with 7 star charts of progressively fainter stars found at www.globeatnight.org. They then submit their choice of star chart on-line with their date, time and location to help create a light pollution map worldwide.



The GLOBE at Night 2011 campaign dates are February 21 - March 6 (worldwide) and March 22 - April 4 (for the Northern Hemisphere) and March 24 - April 6 (for the Southern Hemisphere). 52,000 measurements have been contributed from more than 100 countries over the last 5 years of two-week campaigns, thanks to everyone who participated!

This year children and adults can submit their measurements in real time if they have a smart phone or tablet. To do this, you can use the web application at www.globeatnight.org/webapp/. With smart phones and tablets, the location, date and time are put in automatically. And if you do not have a smart phone or tablet, there are user-friendly tools on the GLOBE at Night report page to find latitude and longitude.

Through GLOBE at Night, students, teachers, parents and community members are amassing a data set from which they can explore the nature of light pollution locally and across the globe. Please make a difference and join our efforts in 2011. For activity packets, one-page flyers and postcards advertising the campaign, visit www.globeatnight.org/pdf/.

ADOPT-A-STREET PROGRAM DURING THE GLOBE AT NIGHT 2011 CAMPAIGN

GLOBE at Night offers a "Call to Action" for those who want to take more than one measurement during the campaigns. Children and adults can "Adopt a Street" in their town to take visual and possibly sky-brightness meter measurements during the GLOBE at Night campaigns. (For information on sky brightness meters, see "SQM-L" at www.uni-hedron.com.) The Girl Scouts as well as the amateur astronomy association in Tucson will be undertaking the "Adopt a Street" project. The aim is for people to adopt a different major or semi-major street and take measurements every mile or so for the length of the street (or for as long as they can). The grid of measurements will canvas the town, allowing for research later in comparison to wildlife, health, energy consumption and cost, among other things.

To adopt a street, go to <http://www.globeatnight.org/Tucson/> and type your email address into the box next to the street you are adopting. Click the Submit button and you will be signed up. Your email address will not be shared on this site or with any other parties. Once a street has been signed up for, it will be stamped "ADOPTED." Once you have signed up for a particular road:

- Try to measure sky brightness every mile along the road you chose.
- To measure sky brightness, observe Orion and match what you see to the charts. (charts and overall directions) Make sure to record the chart selected, your location, date, time and cloud cover. Location can be the intersection at which you take the measurement, even though latitude and longitude are preferred.
- You may also use a Sky Quality Meter (SQM) to measure sky brightness, in addition to observing Orion. To use an SQM, be as far away (as possible) from a light or structure as it is high. Hold the SQM at arm's length straight up above your head. Press the start button once. Record the number on the meter. (SQM instructions)
- If you need to borrow a Sky Quality Meter during the campaign, you may sign one out with Maria at NOAO Headquarters (950 N. Cherry Ave., across the street from Steward Observatory on the UA campus.) She is there Monday through Friday from 8:15am till 4:15pm except during 12:30-1pm. Her phone number is 318-8000. You must return them to her by March 11, 2011 unless you are also participating in the second campaign from March 22 to April 4. Then they are due back by April 8.
- Submit your measurements via the web app. If you have a smart cell phone or tablet, you can submit your measurements as you take them. (Your latitude, longitude, date and time are automatically recorded by the smart cell phone or tablet.) Try to do the entire length of the street as specified (typically 7 miles plus or minus 2 miles).

SCHOOL AND PUBLIC STAR PARTIES (Cont.)

All members are asked to support the TAAA School and Public Star Party programs and other community events listed below. TAAA either sponsors or co-sponsors these events. These are great opportunities for beginners, as you 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

STAR PARTY ALERT **EARLY MARCH STAR PARTIES**

To all of our star party volunteers:

We have two star parties in early March on Tuesday, March 8 and Wednesday, March 9. The general meeting is on Friday, March 4, so we need to get volunteers signed up before that meeting. This will enable us to let the teacher and all volunteers know about these events before the general meeting. The first event is in the far east, and the second is in the far west. If you can help with either or both of these star parties, please let me know of your availability. Contact me by email or phone as follows:

Bill Lofquist

wlofquist@comcast.net

520-297-6653

The star parties are as follows, and you will find the details below in this newsletter.

Tuesday, March 8 -- Emily Gray Jr. High

Wednesday, March 9 -- Twin Peaks Elementary School

Emily Gray Jr. High Star Party

Date: 2011-03-08 (Tuesday), Volunteers Requested: 4

General Area: Foothills

Emily Gray Jr. High will be doing a Exploring the Night Sky for an estimated 75 students and parents at 4201 N. Melpomene Way. Speedway to Wilmot to Tanque Verde to Catalina Hwy., go about 4 miles, just before hwy meets Snyder, turn rt. onto Melpomene Way, go 1/4 mi., school on right. Viewing will take place on the athletic field. Observing will be from 7:00pm to 9:00pm, with setup 30 minutes prior to start.

Twin Peaks Elementary School Star Party

Date: 2011-03-09 (Wednesday), Volunteers Requested: 6

General Area: North

Twin Peaks Elementary School will be doing a Stellar Science Night for an estimated 250 students and parents at 7995 W Twin Peaks Rd. I-10 North to Twin Peaks Rd. Turn left on Twin Peaks Rd continues on through intersection of Twin Peaks and Coachline. School is on the left just before Safeway and Silverbell. You will have to do a u-turn right before Safeway. Viewing will take place on the playground. Observing will be from 6:30pm to 8:30pm, with setup 30 minutes prior to start

Doolen Middle School Star Party

Date: 2011-03-17 (Thursday), Volunteers Requested: 3

General Area: Central

Doolen Middle School will be doing an A Night With the Stars for an estimated 50 students and parents at 2400 N Country Club. The School is on the North East corner of Grant and Country Club. Viewing will take place in the Central Court yard. Observing will be from 7:00pm to 9:00pm, with setup 30 minutes prior to start.

Brichta Elementary Star Party

Date: 2011-03-22 (Tuesday), Volunteers Requested: 4

General Area: West

Brichta Elementary will be doing a Vernal Equinox/50th Anniversary for an estimated 75 students and parents at 2110 W Brichta Drive. West on Speedway to Silverbell, North on Silverbell past Albertson's Shopping Center, left onto either of first two left turns, Calle Campana de Plata or Brichta Drive, both dead end into school, go to south (parent parking lot) onto gravel and gates to sports field/court will be open. Viewing will take place on the paved basketball court, grass soccer field area. Observing will be from 6:00pm to 8:00pm, with setup 30 minutes prior to start.

SCHOOL AND PUBLIC STAR PARTIES (Cont.)

Indian Oasis Elementary Globe at Night Star Party

Date: 2011-03-24 (Thursday), Volunteers Requested: 3

General Area: Sells, AZ

Indian Oasis Elementary School will be doing Globe at Night and Project ASTRO activity night for an estimated 200 students and parents in Sells, AZ. Go 57.4 miles out on AZ-86 W/W Ajo Way. As you drive through Sells, turn left on Main Rd and then turn right on Main Rd. The school will be on your left. Viewing will be behind the school, there will be signs to guide you to the area. Globe at Night and Project ASTRO activities will be in the gym from 6:00 pm until 7:00 pm. Observing will be from 7:00pm to 9:00pm. With setup 30 minutes prior to start.

Pima County Natural Resources Star Party

Date: 2011-03-25 (Friday), Volunteers Requested: 3

General Area: West

Pima County Natural Resources will be doing a Night with the Stars for an estimated 50 attendees at 7300 W. Hal Gras Road. 1.5 miles south of Gates Pass Road or 3.8 miles north of Ajo Way. Viewing will take place Ironwood Picnic Area. Observing will be from 7:00pm to 9:00pm, with setup 30 minutes prior to start.

Luz Academy of Tucson Star Party

Date: 2011-03-29 (Tuesday), Volunteers Requested: 4

General Area: West

Luz Academy of Tucson will be doing a Science Extravaganza for an estimated 100 students and parents at 2797 North Introspect Drive. West on Grant Rd., turn North on Silverbell. Drive .5 to 1 mi north. Introspect Drive. will be on the left (west) past last house. Viewing will take place on the basketball court. Observing will be from 7:30pm to 9:30pm, with setup 30 minutes prior to start.

Immaculate Heart Academy Star Party

Date: 2011-04-06 (Wednesday), Volunteers Requested: 4

General Area: North

Immaculate Heart Academy will be doing a Night Sky Adventure for an estimated 75 students and parents at 410 E Magee Rd. Take Oracle north. Turn right (east) at Magee, the second signal past Ina and Oracle. The driveway to the school is roughly ¼ mile from Oracle on the right (south) side of the street. Viewing will take place at the east side parking area. Observing will be from 7:00pm to 9:00pm, with setup 30 minutes prior to start.

Coronado K-8 Star Party

Date: 2011-04-07 (Thursday), Volunteers Requested: 6

General Area: North

Coronado K-8 will be doing an Exploring the Sky for an estimated 200 students and parents at 3401 E. Wilds Rd. Take Oracle Road North past Rancho Vistoso to Wilds Rd. Turn Right or EAST on Wilds Rd. The school is on the north side of the road. Viewing will take place on the north softball fields. Observing will be from 7:00pm to 7:00pm, with setup 30 minutes prior to start.

Rattlesnake Ridge Elementary Star Party

Date: 2011-04-08 (Friday), Volunteers Requested: 3

General Area: North

Rattlesnake Ridge Elementary will be doing a Night With the Stars for an estimated 45 students and parents at 8500 N. Continental Reserve Loop. Take I-10 West to Cortaro Road. Exit Cortaro Road and turn left, heading west. Turn right on Silverbell Road. Head north past Coyote Trail Elementary, Wade Road, Continental Reserve Urgent Care, and turn left at the light onto Continental Reserve Loop (Coachline Blvd is the street name to the east). Rattlesnake Ridge is on the left just past the Quik Mart. Viewing will take place at the school. Observing will be from 7:00pm to 9:00pm, with setup 30 minutes prior to start.

Want better observing?
Join the group that's keeping the sky dark
International Dark Sky Association
Southern Arizona section

We get people to use better lighting, so we'll have a dark sky
Some of the things we do:

- Talks to schools and organizations
- Demonstrations at Desert Museum
- PowerPoint presentations on CD
- Work with government agencies

- Identify non-compliant lighting in So AZ

Monthly meetings
2nd Wednesday, 5:30 - 7 pm.
3225 N. First Ave

Contact: Joe Frannea
sky@sa-ida.org
www.sa-ida.org

To preserve and protect the nighttime environment and our
heritage of dark skies through quality outdoor lighting

CHIRICAHUA ASTRONOMY COMPLEX

Chiricahua Astronomy Complex Facility Update

John Kalas – Construction Coordinator/CAC Site Director

The February CAC Star Party on February 5th started out with fantastic skies, but within about two hours clouds moved in and the eight attendees packed up early and left by 10:30 pm. The March CAC Star Party is scheduled for Saturday, March 5.

Prior to the February 5th CAC Star Party, I had the opportunity to install “No Trespassing” signs on 3 of the 4 sides of the 40-acre parcel containing the club’s 16-acre astronomy complex. Only the west side requires posting.

Peter Ammon plans to have the two Phase 2 areas (public and RV) cleared by mid-March. This will allow Randy Maddox to start preliminary electrical installation and concrete prep before the end of March. The electric company, SSVEC, has been paid for the extension of the power in Phase 2. We are awaiting notification of when they will be able to install the service.

INFORMATION ON LASER POINTERS

FAA Announces Record Number of Laser Events in 2010

Pointing Lasers at Aircraft Poses a Serious Safety Issue



WASHINGTON – The FAA announced today that in 2010, nationwide reports of lasers pointed at airplanes almost doubled from the previous year to more than 2,800. This is the highest number of laser events recorded since the FAA began keeping track in 2005.

Los Angeles International Airport recorded the highest number of laser events in the country for an individual airport in 2010, with 102 reports, and the greater Los Angeles area tallied nearly twice that number, with 201 reports. Chicago O’Hare International Airport was a close second, with 98 reports, and Phoenix Sky Harbor International Airport and Norman Y. Mineta San Jose International Airport tied for the third highest number of laser events for the year with 80 each. “This is a serious safety issue,” said U.S. Transportation Secretary Ray LaHood. “Lasers can distract and harm pilots who are working to get passengers safely to their destinations.”

Nationwide, laser event reports have steadily increased since the FAA created a formal reporting system in 2005 to collect information from pilots. Reports rose from nearly 300 in 2005 to 1,527 in 2009 and 2,836 in 2010. “The FAA is actively warning people not to point high-powered lasers at aircraft because they can damage a pilot’s eyes or cause temporary blindness,” said FAA Administrator Randy Babbitt. “We continue to ask pilots to immediately report laser events to air traffic controllers so we can contact local law enforcement officials.”

Some cities and states have laws making it illegal to shine lasers at aircraft and, in many cases, people can face federal charges. The increase in reports is likely due to a number of factors, including the availability of inexpensive laser devices on the Internet; higher power levels that enable lasers to hit aircraft at higher altitudes; increased pilot reporting of laser strikes; and the introduction of green lasers, which are more easily seen than red lasers.

We believe there are a number of reasons for the increase in laser incident reports. Among them:

- Pilots are becoming more diligent in reporting these incidents.
- Lasers are increasingly available on the Internet, and the price of the devices has dropped.
- The power level of these devices has increased substantially during the last five years, meaning they are capable of hitting planes at higher altitudes.
- Green lasers are more easily seen than red lasers. Green lasers were introduced several years ago, and the number of red laser reports has greatly diminished.

There have been several reports of pilots being temporarily visually impaired by laser exposure. Some of these exposures have resulted in operational problems, including giving up control of the aircraft to another pilot and aborted landings (i.e., go-arounds). Fortunately, no aircraft has crashed as a result of a laser incident, and we’re not aware of any civil pilot suffering permanent eye damage as a result of a laser strike.

The FAA has taken steps to protect flight crews from lasers and discourage people from pointing them at aircraft. Pilots are requested to immediately report laser events to air traffic controllers, who pass the information on to local law enforcement. Additionally, FAA doctors have extensively studied the effects of lasers on pilots. The FAA’s Vision Research Team at our Civil Aerospace Medical Institute in Oklahoma City is developing an Aeromedical Educational brochure on laser illuminations, which will further educate pilots on what to do if they’re hit with a laser beam. People can face stiff penalties if convicted of deliberately pointing lasers at aircraft. In October 2008, a 28-year-old Bakersfield, Calif. man was sentenced to two years in



Tucson Amateur Astronomy Association

TAAA Board of Directors Meeting

9 February 2011

Attending: Board members present (7): Bill Lofquist, (presiding), Luke Scott, Teresa Bippert-Plymate, John Croft, John Kalas, Michael Turner, Ken Shaver. Members present (6): Bob Gilroy, Paul Anderson, Claude Plymate, Terri Lappin, and Ben Bailey

Call to Order: The President called the meeting to order at 6:35 pm.

Minutes: Minutes from the January 2011 Board meeting were not prepared.

Member Feedback

The briefer Astro-Imaging presentations at the February general meeting received positive feedback from members.

Announcements for Record

The Math-Moves-You event is next week.

The annual Sunsites Community Center Star Party will be held 12 February. There are sufficient club volunteers for this event.

Treasurer's Report

The club has \$49226.78 in checking. All bills are paid.

The club received a payment credit for the CAC electrical meters.

The electrical cost for CAC Phase 2 construction has been paid.

4 new members joined this month.

TIMPA Report (Bob Gilroy)

Concrete repair work to the TIMPA observing pad is complete.

The electrical repairs are tentatively scheduled for completion the end of March.

Special Interest Group Status Reports

Astronomy Fundamentals (Ben Bailey):

The Double Star Observing program is launching at the monthly AFSIG meeting on 10 February.

The next introduction to Fundamentals of Astronomy class will be held on 12, 19, and 26 March.

The Red LED Workshop will be held on April 19, 2011 at the home of Bill Lofquist. Seating is limited to 12 members.

Astro-Imaging: No report..

Starry Messengers (Terri Lappin):

Planning for the 12 February workshop is proceeding well. The workshop will be held at Steward Observatory.

Cosmology and Space Exploration: No report.

Website

Bill Lofquist will arrange a meeting with a web designer for information gathering purposes; prior to the meeting, the Board and web team will establish a list of requirements for the web site.

The migration to the Night Sky Network will proceed as planned.

CAC

John Kalas reported that 8 members attended the February star party at CAC. The event was clouded out about an hour after sunset.

Four contracts have been written for Phase 2 construction. A partial payment has been made to Peter Ammond for clearing the RV, public pad areas, and storage container areas.

The cost from SSVEC for running electrical power to the RV areas has increased approximately \$150.

School Star Party Program

Bill Lofquist reported that he had met with Roger Schuelte on transitioning the Volunteer Coordinator position. Bill also talked to Mark Meanings on the star party request system; a follow-up discussion will be held.

The February school parties have enough telescopes and volunteers.

Other

TAAA will hold a Messier Marathon at CAC on 2 April; participants will get a certificate. Bill Lofquist will distribute a Messier Marathon list to interested members.

Meeting adjourned at 8:15 pm.

Respectfully submitted,

Luke Scott

Secretary

CONSTELLATION REPORT BY CHRIS LANCASTER

Orion The Hunter

We could call Orion the heavyweight among all the constellations. Probably the most well-known group of stars with, perhaps, the exception of the part of Ursa Major called the Big Dipper. On the celestial equator is a line of three stars forming the very recognizable "belt" of Orion. The faint stars and nebulosity below this represents his "sword", and other faint stars on each side of Orion's body show one arm raising a club and the other holding a shield against Taurus, the bull charging out of the northwest.

Mythology portrays Orion as a strong hunter. He claimed that no living thing could kill him, so to prove him wrong, the goddess Hera sent a scorpion to attack him. After falling victim to the scorpion's sting, Orion squashed the pest, but soon died from the venom. We now see this relationship between the scorpion (the constellation Scorpius) and Orion on fall and spring nights. The two characters are placed on opposite sides of the sky, so when one rises, the other is defeated and sets below the horizon.

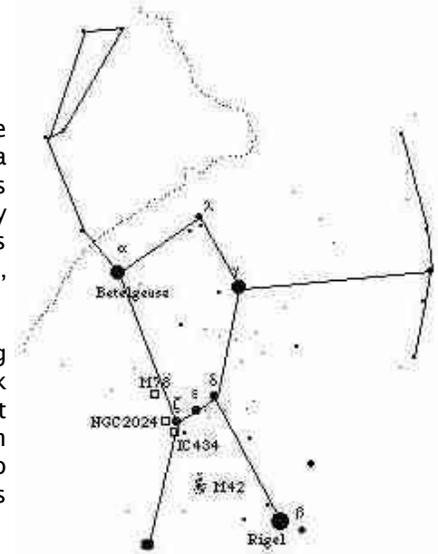
You can begin observing Orion before it is fully dark. Use high power to see Rigel and its magnitude 6.7 companion 9" away and holding a PA of 202 degrees. Diagonally across the body of Orion from Rigel is Betelgeuse. This is an M2 supergiant of a striking orange color. Betelgeuse puts out an enormous amount of energy, only a fraction of which is in visible light. As a result, its outer atmosphere has inflated to make the star a truly bloated behemoth. Estimates of its size put its diameter matching the orbit of Mars or more, which also creates a stellar density of an exceedingly small nature--millions of times less than the Sun.

Dark skies bring Orion's many deep-sky objects into view. His sword is home to the best region of nebulosity in the sky, M42. So prominent is this misty glow even to the naked eye that it is mentioned in some examples of 19th century literature, namely Tennyson's *Merlin and Vivien* and Poe's *The Murders in the Rue Morgue*. Binoculars show a wispy fog surrounding its central stars, 3-inch telescopes will bring out a fan shaped nebula, and 8-inch and larger scopes will show detailed knots and tendrils extending away from the main glow. The entire complex of gas is made to fluoresce by Theta 1 Orionis, called the Trapezium. Most views of this group of stars will show 4 members of magnitude 5.4 to 6.7 about 30" in expanse, but high power and large aperture will bring the total to 6. Adjacent to the main mass of M42 is M43, a roughly comma shaped object separated from M42 by a dark rift. To the north is a dusty reflection nebula with the designations of NGC1975, 1973, and 1977. It's curiously named the "Running Man Nebula" from the shape that is traced out by the dark lanes that separate distinct sections of the nebula. 10-inch apertures and larger are best for the dim glow of the "Running Man".

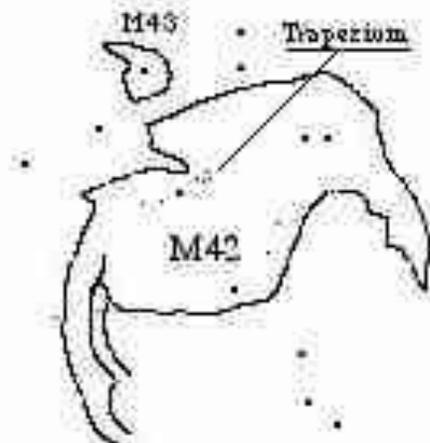
Another well-known nebular region surrounds Zeta Orionis. This one, however, is notorious for its difficulty to observe. NGC2024, the "flame" or "flaming tree" nebula, is not too elusive about 15' east of Zeta. Seen with a 6-inch or larger telescope, it's a circular emission nebula with branching dark lanes crossing it toward the north. Below this is the famous "Horsehead Nebula." The glowing region, IC434, is a 1 degree long spike of nebulosity pointing south from Zeta. Intruding into this is the dark nebula B33 forming the shape of the horse's head. While some claim to have seen it on dark nights with plenty of aperture, most will only capture it on film or CCD images.

2.5 degrees northeast of Zeta is M78, one of the more challenging Messier objects to find, but unmistakable when you do. It is cometary in appearance with a dusty glow surrounding a double star of magnitude 8.2. The nebula shines at magnitude 8 and covers 8.0'. Hunt down M78 at RA 5h 46m 42s Dec +00d 3'.

With all that Orion has to offer, it is easy to brave the cold temperatures of winter to spend some time with his treasures.



15'



Planetary Nebulae of the Month – by Christian Weis

Planetary nebulae (PN) are fascinating objects that come in numerous forms of appearances. Besides the well-known grand four Messiers (M27, M57, M76 and M97), there are hundreds more to explore. This article suggests two PNs, a pretty bright and easy-to-observe one and a harder one for the more ambitious observer who is equipped with a big scope.

NGC 1535 is a pretty bright (9m4), yet relatively unknown planetary nebula in the constellation Eridanus. Eridanus is not very prominent, maybe that is the reason why the PN is not that famous. It is best to start the star hop from the 3mag star gamma Eri. Even though this PN is relatively small (0.7 arc min), it reveals structure if you magnify. To me, NGC 1535 looks a bit like a small brother of the Eskimo nebula NGC 2392. When using high power, the central star can be seen easily (11m6 according to the PN list compiled by Kent Wallace and Doug Snyder; see www.blackskies.org for reference). My notes are: NGC 1535 is comprised of a very bright inner ring that is surrounded by a fainter shell. A foreground star which is a little dimmer than the central star can be found in the northwestern part of the shell. Central star is easy at higher magnification (>390x). Beautiful object.

Photographs show NGC 1535 to be a little elongated, especially the shell. To me that was not obvious while observing the PN under best conditions.

PK 198-06.1 (Abell 12) is probably the easiest to find planetary nebula and at the same time, on of the hardest to observe even though its brightness of 12m4 should show it in a 4" telescope. The problem has a name: Mu Orionis, a 4.1mag star which is located a mere arc min to the southwest. It is practically impossible to get mu Ori out of the FOV, so one has to use power to detect Abell 12. An OIII-filter will definitely help since it not only increases the contrast between the PN and the background but because it will also reduce the glare of mu Ori significantly. I observed Abell 12 in the early morning hours of September 17th at Geology Vista having good sky conditions (fst 6m4) with my 16" Dobsonian and noted: Circular, homogeneous in brightness, only visible with high magnification (>390x) and OIII filter, no central star (19m2 according to Wallace and Snyder) seen.

Both objects can be seen in February in the evening hours. Go out, observe and have fun!



Desert Skies Classified

FOR SALE	Celestron Nexstar 80GTL Refractor telescope on computerized mount. Used very little. Clean and in very good condition. See http://www.celestron.com/c3/product.php?ProdID=391 for product information. Includes accessories and users manual. Selling for \$175 OBO. Contact Susan Warner at warners@email.arizona.edu or 621-6526. [05/11]
FOR SALE	Vixen ED80Sf on AZ4 alt-azimuth mount with NEQ5 steel tripod. Includes 0.8X field flattener for astrophotography, owner's manual, and padded aluminum carrying case, plus 8x50 finder and very smooth 2-inch Crayford focuser. Provides beautiful images of both terrestrial objects and the nighttime sky. Asking \$775.00 for the complete package. Photos available via email. Contact Robert at 520-648-1421 or email rewoerner@gmail.com . [03/11]
FOR SALE	Vixen VMC95L Cassegrain with Mini-Porta Mount; Vixen Dot Finder; Vixen NPL25mm eyepiece; Celestron 32mm Plossl eyepiece; Celestron 15mm Plossl eyepiece. All items for \$300.00 OBO Contact - Neal Scofield, RetiredBadge@comcast.net 883-5456 [03/11]
FOR SALE	Coronado (Pre-Meade) SolarMax 60mm Hydrogen Alpha scope with BF10 blocking filter. In excellent to mint condition. Includes CEMAX eyepieces 25mm, 12mm, and 18 mm + 2x Barlow, Clamshell mounting rings, Hard case (a few scuffs). Asking \$2200, OBO. Contact John Barnes (520) 663-4174. [03/11]
FOR SALE	Celestron NexStar 11" GPS (28cm). Like new. Also includes mount, remote control, Pelican 1450 case, Celestron 40mm eyepiece, Tele Vue 18mm and 10mm eyepieces, and SCT Micro Touch Focuser. Telerad guide and instruction manual too. Bargain priced at \$2,400. Contact Lee Paulsel at paulsel@comcast.net or phone: 520-577-8966. [04/11]
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Tucson Amateur Astronomy Association
P.O. Box 41254
Tucson, AZ 85717

Address Service Requested

Please consider renewing your membership on time. Renewal month and dollar amount appears on your address label. Magazine subscriptions are not included. TAL fee is included if participating in TAL. See details on page 2.

Directions to TIMPA and Las Cienegas

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 TIMPA entrance is 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

A gate card is required for TIMPA access. Please **DO NOT** ask the caretakers for entry to the TIMPA SITE. A list of TIMPA key keepers is available on the TAAA website, or by contacting a board member. 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. Take Exit 281 (Route 83 Sonoita-Patagonia Highway South). Travel south on Route 83 for about 19 miles, watch for green and white milepost 40 sign on the right side of the road. Approximately ¼ mile past milepost 40, turn left into Las Cienegas. The road is dirt and is "wash-boarded" so go carefully. At about 2.9 miles, there is a fork in the road. Stay to the right. When the road ends in a "T", take a left. Cross over a concrete section of the road down in a wash. Just up the hill from the wash (about .2 mile), turn left. 0.1 mile ahead 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.