



Desert Skies

Tucson Amateur Astronomy Association

Volume LVIII, Number 8

August 2012



Earth's Night Side from Space

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General Meeting August 3rd

Steward Observatory Lecture Hall, Room N210

6:30pm

Seasonal Objects — Mary Turner, TAAA Chief Observer

7:30pm

Light Pollution: Perspectives from Earth and Space — Scott Kardel, International Dark-sky Association

Affiliates



TAAA Meeting Friday, August 3

Steward Observatory Lecture Hall, Room N210, U of A campus



6:30pm Astronomy Essentials Lecture

Title: Seasonal Objects

Speaker: Dr Mary Turner

Mary Turner, our Chief Observer, will highlight some objects to view this season. She always includes some mythology which adds to the enchantment of the night sky.

7:30pm Invited Lecture

Title: Light Pollution: Perspectives from Earth and Space

Speaker: Scott Kardel, International Dark-sky Association

The Tucson-based International Dark-Sky Association has been working to stop the spread of light pollution for nearly 25 years. Everyone in amateur astronomy knows that light pollution is a serious problem, even in Southern Arizona where lighting controls have been put into place.

Scott Kardel will present "Light Pollution: Perspectives from Earth and Space", an engaging visual look at the problems of light pollution. Included in the talk will be a simple demonstration of the problem of light pollution and dramatic still and time-lapse imagery captured from the International Space Station that provide a new and revealing perspective on the glow and waste of city lights.

Construction Alert!

The construction project for Sun Link, Tucson's modern streetcar, continues to have an impact on the UA campus. **To ease the issue, it is suggested that you park SOUTH of Steward Observatory. Use either the Cherry Avenue parking garage or the parking lot just north of there. While much of 2nd Street is closed, the 2nd Street parking garage is still accessible.** The intersection of Cherry and 2nd St is closed. First Street is temporarily a two-way street. If you park north of 2nd Street, there is no guarantee you'll be able to easily walk across 2nd Street. Construction crews will attempt to maintain pedestrian access across 2nd St but plan on a few extra minutes needed to walk east or west an extra block to cross. Parking on campus after 5pm parking is free but observe 24-hour enforced restrictions.



Editor's Message

Desert Skies has been our monthly newsletter since the 1980s. It has served us well over the years because as we've grown, it has evolved. The most recent change occurred a few years ago when we started emailing it to our members.

The Board of Directors recently approved changes that will assure Desert Skies remains the highly anticipated newsletter of our vibrant astronomy club. You'll start to see some changes this fall. Some repetitious information found in Desert Skies will be moved to our website. In 2013 Desert skies will change to a quarterly publication which will contain more articles and fewer announcements.

Also in 2013, we will introduce a new monthly bulletin to keep you informed of TAAA activities as well as other astronomy events in the Tucson area. So, watch for these changes and improvements to occur over the next few months. If you have concerns, please contact me.

Terri Lappin

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. Available at most monthly meetings. Coordinated by Mae Smith.



Fundamentals of Astronomy Class

The Astronomy Fundamentals Special Interest Group (AFSIG) is offering its popular Fundamentals of Astronomy class this September/October. 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. The class is given on three successive Saturdays and usually runs from 9:00 AM to 4:00 PM. After the last class, students and instructors will meet at TIMPA for a potluck supper and star party. The proposed dates are September 22, October 6, and October 13. The class is open to all TAAA members. We are currently making a class roster. If you are interested, send an e-mail to fundamentals@tucsonastronomy.org or contact one of the AFSIG Committee members.

Visit the TAAA Website

www.tucsonastronomy.org

View all events on our online calendar

RSVP to those you will attend

Get directions from any starting point

Cover

A time lapse photo taken from the International Space Station. Seen from space, city lights (below) greatly outshine the stars (above). Note the top of the Earth's atmosphere cutting across the star trails. Credit: NASA

<i>This Month in Brief</i>			
<i>Event</i>	<i>Date</i>	<i>Time</i>	<i>See</i>
<i>Contact Person</i>	<i>Location</i>		<i>Page</i>
Monthly Meeting Keith Schlottman	Aug 03 (Fri) Steward Observatory Rm N210 933 N Cherry Ave	6:30 PM	2
Astro Imaging SIG Meeting Larry Phillips	Aug 06 (Mon) Coco's Restaurant 6095 E Broadway	6:30 PM (for dinner)	4
Public Lecture & Star Party Central Terri Lappin	Aug 06 (Mon) Doubletree Inn 445 S Alvernon Way	7:30 PM	3, 7
Board Meeting Keith Schlottman	Aug 08 (Wed) Steward Observatory Rm N305 933 N Cherry Ave.	6:30 PM	14
AFSIG General Meeting Ben Bailey	Aug 09 (Thu) USGS Building Room 253 520 N Park Ave	6:30 PM	5
Star Party at TIMPA Ben Bailey	Aug 10 (Fri) TIMPA 3250 N Reservation Rd	6:30 PM	6
CAC Star Party John Kalas	Aug 17 (Fri) Chiricahua Astronomy Complex		6
CAC Star Party John Kalas	Aug 18 (Sat) Chiricahua Astronomy Complex		6
Star Party at TIMPA Ben Bailey	Aug 18 (Sat) TIMPA 3250 N Reservation Rd	6:30PM	6

<i>Future Dates</i>	
Sep 7	TAAA General Meeting
Sept 8	TIMPA Star Party
Sept 10	Astro-Imaging SIG Meeting (2nd Mon due to Holiday)
Sept 12	Board of Directors Meeting
Sept 13	Astronomy Fundamentals SIG Meeting
Sept 14	Friday Nite @ TIMPA Star Party
Sept 14-15	CAC Star Party
Sept 17	Starry Messenger SIG Meeting

<i>Upcoming Lectures</i>		
Sept 7	<i>Astronomy Essentials</i>	OPEN
	<i>Invited</i>	OPEN
Oct 5	<i>Astronomy Essentials</i>	Mary Turner Seasonal Objects
	<i>Invited</i>	Veronica Bray Impact Craters

Lectures are arranged by Terri Lappin. If you have speakers to suggest, send them to Terri (see page 15). While it looks like September lectures are open, several speakers have expressed interest in speaking to us and will be given priority over other speakers.

The TAAA Board of Directors has decided to postpone the previously scheduled September TAAA Meet Yourself meeting until next year. This will give our Special Interest Group leaders and others more time to plan for the event.

Unless otherwise noted, contact information for individuals mentioned throughout this newsletter can be found on page 15—"How to Contact Us".

The Latest News from Mars

**Dr. Philip Christensen, Arizona State University
Astronomical Society of the Pacific Conference
Communicating Science Public Lecture**

Monday, August 6, 2012 7:30 – 9:00 p.m.

Free

DoubleTree Inn Grand Ballroom
445 S Alvernon Way

Dr. Christensen will describe the Mars Science Laboratory's landing site and the landing events, and any initial observations it makes about Gale Crater. He will also touch briefly on the situation and prospects for solar system planetary exploration. (This public talk will be held the day after the Curiosity Mars Rover lands on the surface of the red planet).

Following the lecture, TAAA members will have telescopes set up for public observing, weather permitting. Contact Terri Lappin if you can bring your telescope this evening.

Interested in a TAAA Book Club?

Irene Kitzman is looking for a minimum of 5 members who would like to discuss recently read astronomy books. The TAAA-sponsored Astronomy Book Club would look at books aimed at non-professional but whose objective is to inform the general public about astronomy and astronomy-related topics. If you're interested, contact her at [ikitzman\[at\]yahoo.com](mailto:ikitzman[at]yahoo.com)



Astro-Imaging Special Interest Group (AISIG)

Meeting: Aug 6 (Mon)

7:00 PM



Coco's Restaurant (Broadway between Wilmot & Craycroft)

Contact: Larry Phillips

The Astro-Imaging SIG meets at 7pm on the first Monday of the month. Come early, anytime after 6 PM and enjoy dinner before the meeting. We will meet in the banquet room which is to the far left after you enter the restaurant proper. Our program consists of members sharing their images, setups, problems, or suggestions. Meetings end no later than 9 PM.

Starry Messengers Special Interest Group (SMSIG)

Meeting Next Month

Sep 17 (Mon)

6:30 PM

Beyond Bread (3026 N Campbell)

Contact: Terri Lappin

If you do much astronomy outreach, you may wonder if you're doing a good enough job. Are you effective at educating the public about astronomy. I recently read a short book titled "Science Educators under the Stars—Amateur Astronomers Engaged in Education and Public Outreach". It's edited in part by Marni Berendsen. The Night Sky Network is her brainchild. This book covers the effectiveness of amateur astronomers in teaching astronomy in a public setting. This is reading I highly recommend to anyone doing outreach or considering getting involved in TAAA outreach programs.

Much of the research reported in this book came from a 2002 web-based survey funded by the National Science Foundation and conducted by the Astronomical Society of the Pacific and the Institute for Learning Innovation. Perhaps you took part in this survey. The vast majority who took the survey were male and between the ages of 31 and 65 years of age. One prominent characteristic of those doing outreach was their association with an astronomy club. The survey found that long term astronomy club membership (over 2 years) was the best indication of whether an amateur astronomer participated in outreach activities.

Another finding was that amateur astronomers possess a high level of astronomy knowledge – just below that of college graduates in astronomy, physics, and astrophysics. Respondents to the 2002 survey answered a set of 21-question multiple-choice astronomy test that used in the Astronomy Diagnostic Test 2 (ADT2). The ADT2 was developed by the Collaboration for Astronomy Education Research (CAER) and normally administered to undergraduate college students at the start of introductory astronomy courses.

The related table shows the combined data from the 2002 amateur astronomer survey with the data obtained from college students. Involvement with an astronomy club can increase a person's astronomy knowledge. In general, the longer a person remains in an astronomy club, the more likely they become involved in outreach. If you've been in

Solar Observing Group

The Solar Observing group will not be meeting for group solar observing until further notice. Please ignore the August 18th Solar Observing date that appears on the 2012 TAAA wall calendar. Solar observers are encouraged to use the TAAA Forum to post their solar observations.

Unless otherwise noted, all contact information can be found in the section called "How to Contact Us", found on page 15 of this issue of *Desert Skies*.



Starry Messengers SIG -
Opening Minds to the Universe

the TAAA for a few years and not yet bringing your scope to our community and school star parties – what are you waiting for? Surveys indicate that you know more astronomy than the average person, so join in the fun of hearing the oohs and awes as someone looks through your telescope. The skies in the city aren't the best for observing – with light pollution all around and obstacles on the horizon – but these are the skies that our neighbors and friends live under – yet may have never given second thought to – until you show up with your telescope. Open their minds to the universe beyond planet Earth!

Group	Average score
College professors	97%
Astronomy related degree	92%
2 years or longer astronomy club member, at least one college astronomy course	85%
2 years or longer astronomy club member, no college astronomy course	72%
No astronomy club membership or college astronomy course	62%
Generally interested public	41%
Undergraduate, no astronomy course	32%

Starry Messengers are TAAA members who support TAAA outreach activities. We bring the message of the stars to the public. We're in good company – Galileo was the first Starry Messenger, showing the wonders of the night sky to a rather skeptical audience. We continue his legacy – lucky for us, our audience is much more accepting of our message.

The Starry Messengers meet in the evening on the third Monday of odd numbered months. Our next Starry Messenger meeting will be September 17th. Watch for the announcement in next month's *Desert Skies*.

Astronomy Fundamentals SIG (AFSIG)



Monthly Meeting

Aug 9 (Thu)

6:30 PM

U.S.G.S. Building, Room 253 (520 North Park Ave)

Contact: Ben Bailey

On Thursday, August 9 we will hold our regular monthly meeting. AFSIG is dedicated to building astronomy knowledge and practical skills among our members. Please come out and help us succeed.

The USGS Building is on the northeast corner of Park and 6th Street. Free parking is available nearby after 5pm. Please join us.

AFSIG Observing Clubs

AFSIG Observing Clubs are open to all members of TAAA at no charge. These guided programs mean that at scheduled observing sessions, there is someone there to guide you in finding the objects or features needed for successful completion of the program. You can join the programs 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. All observing programs are patterned after those of the Astronomical League (AL). If you're an AL member, you can continue their program's additional requirements and get your AL certificate.

Solar Observing Club helps those interested in observing solar activity — like sunspots, solar flares and other interesting features — and recording those observations. 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. The Solar Observing Club is taking a temporary hiatus from their regular observing schedule. Watch the newsletter for future observing dates. If you are interested in solar observing, please email Ben Bailey to be added to the solar observing email list.

Lunar Observing Club meets sporadically depending on schedule compatibility and the moon cycle. The purpose of this club is to identify and log 30 specified lunar features - some of which are easy while others are more difficult. This is a great club in which to participate as it is ideal for observing from your back yard or patio. Dark skies are not really necessary and some features are even visible through light clouds. If you are interested in participating in the Lunar Observing Club or if you just want to be added to our email list to keep posted about our activities, email Robert Gilroy at bobgilroy[at]tucsonastronomy.org.

Constellation Observing Club meets monthly on our regularly scheduled TIMPA night. The purpose of this club is to identify and log 20 constellations, their brightest stars and deep sky objects. This is a great way to learn your way around the night sky. If you are interested in participating in the Constellation Observing Club or if you just want to be added to our email list to keep posted about our activities, email Paul and Cathy Anderson at paulanderson[at]tucsonastronomy.org.

Solar System Observing Club meets monthly on our regularly scheduled TIMPA night. The purpose of this club is to observe and log the different features and actions of the planets and their moons and other interesting solar system objects. If you are interested in participating in the Solar System Observing Club or if you just want to be added to our email list to keep posted about our activities, email Brian O'Connell at boc7[at]inbox.com.

Double Star Observing Club meets monthly on our regularly scheduled TIMPA night. The dark night sky is filled with millions and millions of stars. Some are close by (relatively speaking) but most are far away. Some are single stars (like our sun) but others are multiple star systems. Of these multiple star systems, we can detect and split many double stars with our equipment. The purpose of this club is to observe and log the different types and colors of double stars. If you are interested in participating in the Double Star Observing Club or if you just want to be added to our email list to keep posted about our activities, email Tom Watson at watson1987[at]cox.net.

Dark Skies for August 2012

Data provided by Erich Karkoschka

No twilight, No moonlight
for Tucson in 24-hour MST
18hrs=6pm, 20hrs=8pm
22hrs=10pm, 0hrs=midnight

Day	Date	Dark Time		
Tu/We	31/1	-	-	-
We/Th	1/2	FULL MOON		
Th/Fr	2/3	-	-	-
Fr/Sa	3/4	-	-	-
Sa/Su	4/5	-	-	-
Su/Mo	5/6	20:48	-	21:18
Mo/Tu	6/7	20:47	-	21:50
Tu/We	7/8	20:46	-	22:24
We/Th	8/9	20:45	-	23:01
Th/Fr	9/10	20:43	-	23:40
Fr/Sa	10/11	20:42	-	0:23
Sa/Su	11/12	20:41	-	1:10
Su/Mo	12/13	20:40	-	2:01
Mo/Tu	13/14	20:38	-	2:55
Tu/We	14/15	20:37	-	3:53
We/Th	15/16	20:36	-	4:21
Th/Fr	16/17	20:34	-	4:22
Fr/Sa	17/18	20:33	-	4:23
Sa/Su	18/19	20:32	-	4:24
Su/Mo	19/20	20:30	-	4:24
Mo/Tu	20/21	20:45	-	4:25
Tu/We	21/22	21:25	-	4:26
We/Th	22/23	22:09	-	4:27
Th/Fr	23/24	22:58	-	4:28
Fr/Sa	24/25	23:52	-	4:29
Sa/Su	25/26	0:52	-	4:30
Su/Mo	26/27	1:54	-	4:31
Mo/Tu	27/28	2:58	-	4:31
Tu/We	28/29	4:02	-	4:32
We/Th	29/30	-	-	-
Th/Fr	30/31	FULL MOON		
Fr/Sa	31/1	-	-	-



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Search for "Tucson Amateur
Astronomy Association"

Members' Star Parties



TAAA Star Party at TIMPA

Aug 10 (Fri)

Gate opens at 6:30m

Aug 18 (Sat)

Gate opens at 6:30pm

Contact Person: Ben Bailey

The AFSIG is hosting two star parties this month at TIMPA. On both nights an AFSIG representative will open the gates for an evening of viewing. The Gila Monster Observatory will be open for your viewing pleasure. The TIMPA site features a large parking area, and full restroom facilities. Be prepared for cool temperatures after sunset. Guests are welcome, accompanied by a TAAA member. We hope to see you there!

The Gila Monster Observatory houses a Meade 14" telescope donated to the TAAA by David Levy's Sharing the Sky Foundation. All members are encouraged to complete the training program to learn to operate this telescope.

TIMPA Site Notice

A gate card is required for TIMPA access. Please *DO NOT* ask the caretakers for entry to the TIMPA SITE. On scheduled TIMPA star party nights, a designated TAAA representative will provide access to the site. At other times, a gate card is available from the TIMPA Gate Card Controller.

Directions to TIMPA Site

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

The TIMPA site is about 25 minutes from Speedway & I-10, about 7 miles west of the Arizona-Sonora Desert Museum.

From the North:

1. Take Ina Road west about three miles past I-10.
2. Turn south (left) onto Wade Rd. Wade Rd becomes Picture Rocks Rd as the road turns to the west (right).
3. Take Picture Rocks Rd west to Sandario Rd.
4. Turn south (left) onto Sandario Rd. Go to Manville Rd.
5. Turn west (right) onto Manville Rd. Go to Reservation Rd.
6. Turn south (left) onto Reservation Rd (a dirt road) and go about two miles. The TIMPA entrance is on the left.

From the East:

1. Take Speedway Blvd west. It turns into Gates Pass Rd.
2. Go over Gates Pass and continue west to Kinney Rd.
3. Turn north (right) onto Kinney Rd and continue past the Arizona-Sonora Desert Museum.
4. At the entrance to Saguaro National Park West, go towards the left onto Mile Wide Rd. (This is easy to miss so watch for the park entrance sign.)
5. Take Mile Wide Rd west about five miles to Reservation Rd. Mile Wide Rd ends at Reservation Rd and you must turn north (right) onto Reservation Rd.
6. Take Reservation Rd (a dirt road) north about one mile. The entrance to TIMPA will be on the right.



Star Party at Chiricahua Astronomy Complex

Aug 17 & 18 (Fri & Sat)

Contact Person/RSVP to: John Kalas

The Chiricahua Astronomy Complex (CAC) is the club's dark 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 cooler temperatures. Try to arrive before sunset. Unlike the TIMPA site, members are required to make reservations for both monthly club star parties and private member use. We are restricted to 60 persons and 30 vehicles maximum at any time. If you would like to attend, you must contact CAC Director John Kalas. Reservations will be on a first come - first serve basis. You need to reserve for both nights if observing both nights. Depending on the number of members interested in attending, guests may not be allowed.

CAC Site Notice

Reservations are required at all times including scheduled star parties. On scheduled CAC star party nights, a TAAA designated representative will unlock the gate. At other times, access can be granted by the CAC Director.

Directions to Chiricahua Astronomy Complex Site

GPS coordinates: 31 deg 52.07' N, 109 deg 30.9' W

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

1. Take I-10 east from Tucson past Benson.
2. Exit I-10 at Dragoon Road (Exit #318) . Turn right onto Dragoon Road at bottom of exit ramp.
3. Travel 13.5 miles southeast to the intersection with Route 191. Turn south (right) onto Route 191.
4. Travel 17.9 miles south (past Sunsites and Margie's Corner Café at High St on the right, and the Border Patrol checkpoint) to the intersection with Route 181 at Sunizona.
5. Turn east (left) onto Route 181 and travel 10.9 miles east to the intersection with South Price Ranch Road. Turn south (right) onto South Price Ranch Rd. This is a dirt road just before you reach mile post 49 (cluster of mailboxes on right side of Route 181).
6. Travel ½ mile south on South Price Ranch Rd to the intersection with East Perseus Way. This is a wide dirt road marked with a street sign on left. Turn east (left) onto East Perseus Way.
7. Travel east on East Perseus Way slightly more than ¼ mile to the entrance of the Chiricahua Astronomy Complex on the right. The address is 9315 E Perseus Way. It is marked with a TAAA sign and twin brown gates flanked by white rail fences set back 50 feet from road.

Community and Educational Events

Members are asked to support this outreach event. You can contact the star party leader or the volunteer coordinator to volunteer for this event; see the section "How to Contact Us" on page 15 of this issue. Details and a map can be obtained from the TAAA website calendar.

Astronomical Society of the Pacific Public Lecture & Star Party

Aug 6 (Mon)

Central

Leader: Terri Lappin

Set-up: 8:30 PM

Volunteers Needed: 3

The Astronomical Society of the Pacific will host a public lecture as part of their Communicating Science national conference. Following the lecture, we've been asked to provide telescopes for public viewing. Due to the nature of our summer thunderstorms, the decision to set up will be made just prior to the start of the lecture. If you plan to attend the lecture, bring a scope with you in the event the weather allows us to observe.



COMMUNICATING SCIENCE
A National Conference on
Science Education & Public Outreach
Tucson, Arizona • August 4-8, 2012
Sponsored by:
Astronomical Society of the Pacific,
American Geological Union,
National Optical Astronomy Observatory

*A National Conference on
Science Education & Public Outreach*

*The challenges of communicating
our understanding of the universe and science*

August 4-8, 2012 @ Doubletree Inn, Tucson

All formal and informal educators are invited

<http://www.astrosociety.org/events/meeting.html>

Galileo Workshop for 3rd -12th grade teachers



Night Sky Network Outreach Toolkits

Night Sky Network Toolkits can be used for any event where you find yourself explaining astronomical concepts to non-astronomers. This can be at a community outreach event like a star party at a school, or a scout troop you're leading. They can be used as a backup to bad weather or to complement telescope observing. These toolkits, developed by the Astronomical Society of the Pacific, are anchored to a particular NASA mission and can be used to explain such basic concepts as gravity, phases of the moon, or the scale of the universe. Several projects are contained in each toolkit, all in a handy, easy to carry box. Project Cards help in the selection of which project to use according to venue and audience/age group. Some projects are better suited for K-4, others for older audiences including adults. Our education system doesn't give wide coverage to astronomy concepts, so even adults will gain something from the K-4 projects. Creating moon phases using Styrofoam balls just before sunset will help instill the reason for the phases in anyone's mind, regardless of age.



Components from several toolkits

The Starry Messenger SIG needs to train more TAAA members in the use of our toolkits to meet the demand for these toolkits at our outreach events. A toolkit will be brought to our TAAA Meetings to allow members to see the materials and perform the demonstrations. One-on-one training is also available. We allow toolkits to be checked out for a month at a time, giving you plenty of practice time before using a toolkit at an event,. Contact Terri Lappin who coordinates the Night Sky Network toolkit program to check out a toolkit.

Outreach Toolkits Available for Borrowing	
<p><i>Our Magnetic Sun:</i> sun model, solar magnetic storms and their impact on Earth, sun protection</p> <p><i>Life in the Universe—Are We Alone?:</i> origin of and search for life</p> <p><i>Space Rocks – Asteroids, Comets, and Meteorites:</i> meteorite samples, asteroid detection</p> <p><i>Exploring the Solar System:</i> scale model of solar system</p> <p><i>Our Galaxy, Our Universe:</i> scale model of the Milky Way galaxy and the Universe</p> <p><i>Shadows and Silhouettes:</i> lunar phases, eclipses, and transits</p> <p><i>Black Hole Survival Kit:</i> gravity concepts</p> <p><i>Supernova!:</i> life cycle of massive stars, earth's protective atmosphere</p>	<p><i>Mirrors and Glass:</i> how telescopes work</p> <p><i>Telescopes – Eyes on the Universe:</i> basic principles of optics, the human eye, and observing</p> <p><i>PlanetQuest:</i> demonstrate planet detection techniques</p> <p style="text-align: center;">Other Outreach Resources</p> <p>SolarScope: provides a white light image of the sun suitable for small group viewing.</p> <p>Dark Skies Education Kit: light pollution principles, includes a Sky Quality Meter</p> <p>Comet Chef: an apron (with a comet on it) and chef's hat to wear when mixing up comets</p> <p>Moon Globe: 12" diameter with stand</p> <p>DVDs: <i>A Private Universe; Cosmic Collisions</i></p>

Rik Hill's Website Trips on the Internet Super-Skyway

The sun at it's best.

If you observed the recent eclipse and/or the Venus transit, you were probably underwhelmed by the solar activity. These were unusually quiet days compared to what is more frequent at this time. Solar max is coming and it's time to grab your solar filters and get out there.

One of the best websites to monitor for solar activity is Space Weather at:

<http://spaceweather.com/>

Here you will find reports on the current sun in multiple wavelengths (in the left column). They also summarize flare activity and sunspot activity and compare it to other years. There are a lot of explanatory links in this column and at the bottom are flare predictions. In the center column, the widest, are often found short articles on solar activity, noctilucent clouds, aurorae or other solar-geomagnetic phenomena. Below this is a list of close passages of Near Earth Asteroids and links to other sites. The right column is mostly advertisements.

From here you may want to go to the National Weather Service Space Weather Prediction Center.

<http://www.swpc.noaa.gov/>

There is so much information on this page and the links in the left bar that you have to go here to see it all. You will leave a well informed solar observer.

If you mostly follow white light sunspots and other features, you can keep up with the professional stats on them at:

<http://www.swpc.noaa.gov/ftpmenu/forecasts/SRS.html>

Here you will find the position, area and class of each sunspot group for every day. A very useful site for the serious solar observer.

Want to know what the official designations of sunspot groups are? Go to:

<http://www.raben.com/maps>

This site is run by Raben Systems Inc., and gives an up to the minute graphical maps of the sun with designations and classifications of several types in a color code scheme on the maps. This is a very useful site if you plan to report your observations to one of the amateur solar observation groups (ALPO, AAVSO, BAA etc.).

National Oceanographic and Atmospheric Administration has their own solar observation and prediction page at:

<http://www.swpc.noaa.gov/today.html>

I like the graphic solar flare and x-ray plots here which, if you want to observe flare activity in radio wavelengths is helpful for coordination. There are a number of useful links to more data at the bottom of this page.

So how is the current Solar Cycle 24 matching up to previous cycles and the predictions? If you go to:

<http://solarscience.msfc.nasa.gov/predict.shtml>

here you will find a regularly updated page that runs an ongoing plot of the current cycle plotted on the predictions and in comparison to the previous cycle.

A comparison of many solar cycles can be found at:

<http://www.solen.info/solar/>

This is a website of particular interest to those who follow in historic solar statistics especially compared to current numbers. The value of this is to cut through press hype about flares, sunspots and other activity and truly understand where this cycle and it's activity stands historically. Spend an evening here!

Lastly I recommend visiting the Big Bear Solar Observatory website at:

<http://www.bbso.njit.edu/>

There's more up-to-date information on solar activity and the observations done at this observatory in the San Bernardino Mountains near Riverside, California. You can send an email to [activity\[at\]bbso.njit.edu](mailto:activity[at]bbso.njit.edu) and request to be put on their email Solar Activity Warning mail list and you will receive email whenever there is remarkable activity on the sun. At this time the Warnings are coming out at least once a day.

Well, you've been warned! So if you have a flare for solar observing, now is the time to see good solar activity and in the midst of our monsoon season. If it's cloudy a lot remember, all you need is a few minutes sometime in the day to get an observation in. Even so, I wish you SUNNY SKIES!

As always, if you have some feedback (other than rude comments about my droll humor), a topic you'd like explored or have some interesting URLs you've turned up, please feel free to drop me a line at: [rhill\[at\]lpl.arizona.edu](mailto:rhill[at]lpl.arizona.edu)

The Visible Planets this Month

Data provided by Erich Karkoschka

Weekend Sa/Su	Sun		Mercury		Venus		Mars		Jupiter		Saturn		Visibility (Vi)	
	Set	Rise	Rise	Vi	Rise	Vi	Set	Vi	Rise	Vi	Set	Vi	Code	
4/5	19:16	5:40	4:53	-	2:22	-4	22:17	2	1:03	-2	22:43	1	-3	brilliant
11/12	19:10	5:44	4:25	5	2:20	-4	22:01	2	0:40	-2	22:17	1	0	conspicuous
18/19	19:02	5:49	4:23	3	2:21	-4	21:46	2	0:16	-2	21:50	1	3	moderate
25/26	18:54	5:53	4:46	4	2:24	-4	21:31	2	23:52	-2	21:25	2	6	naked eye limit
1/2	18:45	5:58	5:21	8	2:29	-4	21:16	2	23:28	-2	20:59	2	9	binoculars limit

Chris Lancaster's Constellation of the Month

Corona Borealis

The Northern Crown

This constellation, with its beautiful name and lovely shape, is one of the smaller ones in the sky. It sits between Bootes, with its bright star Arcturus, and Hercules, reaching the meridian just after 10pm June 15. With its 2nd, 3rd, and 4th magnitude stars, it assumes the shape of an incomplete circle.

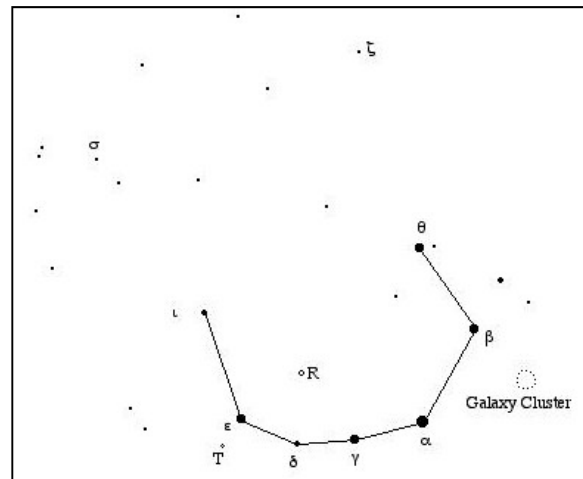
The brightest stars of Corona Borealis form an isolated group and are therefore easily recognizable. The most ancient story behind the crown involves the order by the king of Crete, Minos, that the city of Athens send him 14 young men and women each year to be sacrificed to the Minotaur, a creature that was half man, half bull living in the inescapable Labyrinth. One year, a man by the name of Theseus, the son of Athen's own king, was sent as one of the sacrifices, but Minos' daughter, Ariadne, fell in love with him. She gave him a sword and a ball of string before he was sent into the Labyrinth. He successfully killed the Minotaur with the sword and found his way out of the Labyrinth by following the string which he had trailed behind him. Theseus and Ariadne left Crete for Athens, but Theseus had a change of heart and decided to leave her during the journey. As Ariadne wept, the god Dionysus found her and presented himself to proclaim his love for her, but Ariadne was distrustful. To prove he was a god, he took the crown he was wearing and threw it into the sky, where it turned into the stars of Corona Borealis.

In North America, the Shawnee tribe of Native Americans saw this constellation as a circle of dancing women appearing as stars in the heavens. The circle is incomplete because one of them decided to leave for Earth to live with a mortal.

You won't find any nebulae or galaxies in Corona Borealis, but what you will encounter are some very intriguing stellar objects. Epsilon Coronae Borealis is a very challenging double star along the east side of the crown. The primary star shines at magnitude 4.1, which is easy enough to find. Spotting the companion will require some skill, however. First of all, it sits only 2 arc seconds from the primary, and secondly, it glows reluctantly at magnitude 12. You will see that the secondary is lost in the light of the primary unless very high magnification is used.

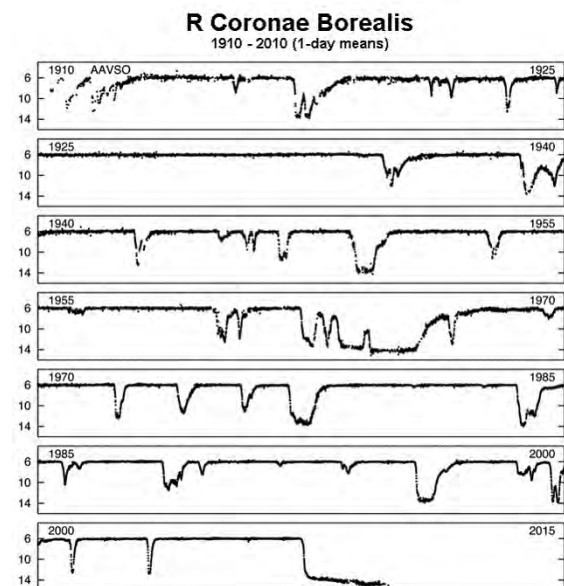
Two much easier binaries are Sigma and Zeta Coronae Borealis. Zeta is a pair made of one 5th and one 6th magnitude stars separated by 6.3 arc seconds. The two stars are identical in color, both being of spectral type B. Sigma is virtually an exact copy of Zeta. Except for their slightly different PA's, you'll have trouble telling the two apart.

The variable star R Coronae Borealis is the epitome of what is called an irregular variable. Since it was first observed in 1795 the star has followed no predictable pattern. Maximum brightness is near 6th magnitude, and it can hold steady at this brightness for either several years or just a few days! And at other times, it fluctuates wildly between 6th and 15th magnitude. Observations have shown these fluctuations can last anywhere from one to



ten years before stabilizing back to maximum again. As of this writing, R is behaving at its brightest, but it is anyone's guess how bright it may be at any date in the future. (Editor's Note: Currently, R Cor Bor has been at its faintest, fainter than 14th magnitude, but has been struggling to get above 12.3th magnitude. After a quick web search I found that it was 12.5 magnitude on April 26th of this year.)

Earlier, I mentioned that no galaxies are apparent in Corona Borealis. There is, however, a galaxy cluster that rivals the well-known Virgo/Coma cluster in terms of numbers and actual size in space. The difference is that this cluster of over 400 galaxies is so much more distant, that from Earth its brightest members are fainter than 16th magnitude! Unless you have a 45-inch telescope, let your imagination ponder this vast collection of spirals and ellipticals.



Data are © Copyright 2011 by the American Association of Variable Star Observers (AAVSO), 49 Bay State Rd., Cambridge, Massachusetts 02138 (U.S.A). All rights reserved. No part of these data may be reproduced, transmitted, distributed, published, stored in an information retrieval system, posted to any online or ftp site, or otherwise communicated, in printed form or electronically, without the express written permission of the AAVSO.

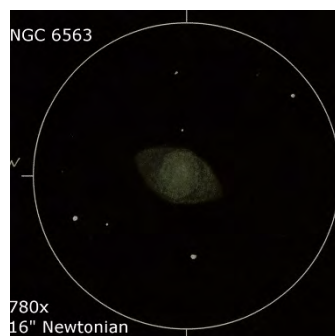
Christian Weis' Planetary Nebulae of the Month

NGC 6563 and IRAS 18059-3211 (Gomez's Hamburger)

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 bigger scope.

NGC 6563 is quite a big planetary nebula that mostly is said to have been discovered by William Herschel in 1837. This is wrong.

Actually, this nebula was discovered in 1826 by James Dunlop in Australia. Dunlop was a very successful British observer temporarily living in down under. With a size of a little less than an arcminute it is just a bit smaller than the ring nebula in Lyra. Again, the data one can find is not consistent as some suggest a brightness of 13m while others give 10m8 for it. Since I found NGC 6563 to be very bright in a 16" telescope I would rather tend to the brighter value. In May 2012 I observed this nice PN with the 16" Ketelsen-Weis-Telescope on Kitt Peak having mediocre sky conditions and noted: Very bright and pretty big PN, no central star, oval, center a little brighter using [OIII] or UHC, somehow mottled using UHC-filter; 780x, fst 6m6 (Vir)



NGC 6563

RA: 18h 12.0min

Dec: -33° 52'

Constellation: Sagittarius

Brightness: 10m8

Central star: 18m

Size: 54 x 41 arcsec

Distance: 4900 ly



IRAS 18059-3211

(Gomez's Hamburger)

RA: 18h 9.2min

Dec: -32° 11'

Constellation: Sagittarius

Brightness: 14m(?)

Size: 5 arcsec

Distance: 900 ly

While the catalog "name" IRAS 18059-3211 likely does not ring a bell to the most of you, its alternate name "Gomez's Hamburger" probably will do so. Again, this object is not a real planetary nebula but a protoplanetary one. I have described a protoplanetary nebula (PPN) in the March issue. Interestingly, the object then and the object now were discovered by the same person in the same year: Arturo Gomez in 1985. Because of the appearance which resembles a Hamburger it is called Gomez's Hamburger. A Hubble-image of IRAS 18059-3211 made Astronomical Picture of the Day on August 7th, 2002, see <http://apod.nasa.gov/apod/ap020807.html>. Whereas one can understand the name-giving when looking on a highly resolved image it might be difficult for a lot of observers to actually find the

object and to identify it. The most important thing is to have a detailed finder chart. Try http://www.reinervogel.net/pdf/Proto_PN.pdf for suitable charts (Thanks Alan!). You might be able to see the object but do not expect to resolve the Hamburger as its overall size is only 5 arcseconds. In most nights this is just twice the size of the eddies in the atmosphere, so it will be hard to actually see the object extended. My observing notes that I dropped down an hour after the observation of NGC 6563 read: Very faint, seen with direct vision only at moments of calmness, averted vision shows it permanently, not really seen as PN but found and identified with good finder chart, filters are counterproductive, no structures, remains stellar at all powers

Volunteers Needed for Two Important Programs

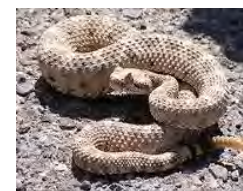
It's time to begin compiling our annual TAAA member showcase calendar. The calendar is a very popular item! Twila Peck will be moving, so we need a volunteer (or two) for the Calendar Coordinator position. Responsibilities include gathering photos from members, assisting the Board with identifying dates for TAAA star parties and events, putting it all together in a nice-looking format, and submitting it to the publisher.

Mae Smith has been doing an excellent job with the TAAA Apparel Program, but she would like some help. The responsibilities include helping with sales of T-shirts and other items at the monthly meetings, managing the inventory, and placing orders for new items.

Contact any Board member if you are interested in filling these needs. Contact information is found on page 15.

Desert Dwellers

Be alert for rattlesnakes, especially at night! Rattlesnakes are generally aggressive only if disturbed. If you see one, keep a safe distance and DO NOT try to interact with it in any way. Snakes are much faster than our reflexes, and should be handled only by professionals. Wear boots and long jeans. For more information, go to <http://www.friendsofsaguaro.org/rattlesnakes.html>.



Along with rattlesnakes, other desert critters, such as gophers and ground squirrels, make their home wherever they want. These residents can leave holes and other potential tripping hazards. Be careful when walking, especially at night.

Newsletter Deadline

The deadline for the September issue is Wed, August 15. Desert Skies is published one week before the General Meeting. Publishing guidelines are on page 15.

Kitt Peak has Job Openings!

Share your love for Astronomy and get paid! Your National Observatory is recruiting part time staff to show the wonders of the night sky to the public through its world renowned nightly stargazing programs. We have a number of openings for our evening programs for this coming Fall season. Please apply online by going to <http://www.noao.edu/> and click on carriers at the top of the web page. You do not need to have your doctorate to be considered for this program. We are looking for self-taught amateurs to assist with our programs.

AOP Imager Guide

Kitt Peak National Observatory is looking for an enthusiastic individual to help conduct its Advanced Observing Program (AOP). The position requires a strong knowledge of astronomy, skills in public speaking, proficiency with CCD imaging acquisition, processing and the ability to run a telescope. Working evenings some weekends is a must. Part-time position. The work location is based at Kitt Peak National Observatory, approximately 50 miles southwest of Tucson, Arizona. The successful candidates must be physically capable of working at altitudes of 7,000 feet above sea level and able to meet physical work requirements. Transportation, meals and lodging may be provided. Eligible for part-time benefits, open until filled, local candidates only.

Public Program Specialist NOP

Kitt Peak National Observatory is looking for an enthusiastic individual to help conduct its Nightly Observing Program (NOP). The position requires a strong knowledge of astronomy, skills in public speaking, and the ability to run a telescope. Working evenings some weekends is a must. Part-time position. The work location is based at Kitt Peak National Observatory, approximately 50 miles southwest of Tucson, Arizona. The successful candidates must be physically capable of working at altitudes of 7,000 feet above sea level and able to meet physical work requirements. Transportation, meals and lodging may be provided. Eligible for part-time benefits, open until filled, local candidates only.



Tucson Workshop

September 21-22, 2012

Project ASTRO is a program that matches teachers with amateur and professional astronomers. Many TAAA members have participated in the program and developed long lasting relationships with Tucson teachers. The teacher-astronomer partnership combines teaching skills with astronomy knowledge to benefit the kids in the classroom. Workshops are free to teachers and astronomers, and all participants receive the new "Universe At Your Fingertips" DVD packed with hundreds of astronomy resources, lessons, and activities. The Tucson workshop also includes a night-time trip to the Kitt Peak National Observatory.

TAAA Loaner Telescope Program

Don't own a telescope?

Our Telescope Loaner Program is your answer!

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. These are some of the telescopes in the program:

Meade 90mm ETX

Couler Odyssey 8" f/4.5 Dobson

Meade 10" LX200 GPS (requires training)

For members only. Contact the Equipment Loan Coordinator for details about these telescopes.

Support Our Sponsors

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NASA's Space Place



For our young members...

A fun website with games and resources for kids to learn about astronomy and space sciences.

<http://spaceplace.nasa.gov>

Star Child

Information about all things spacey. A service of NASA/Goddard Space Flight Center. Has links to other websites.



<http://starchild.gsfc.nasa.gov>



Imagine the Universe

For older kids, age 14 and up.
<http://imagine.gsfc.nasa.gov/>

Possible International Space Station sightings from Tucson in August 2012

Tucson Date/Time	Duration (min)	Maximum Elevation (°)	Approaching Direction	Departing Direction
Sun Aug 05/04:41 AM	6	41	10 above NNW	10 above ESE
Sun Aug 05/09:17 PM	3	40	10 above WSW	39 above NNW
Mon Aug 06/08:24 PM	6	84	11 above SW	12 above NE
Tue Aug 07/04:32 AM	6	64	10 above NW	10 above SE
Wed Aug 08/08:15 PM	5	32	12 above WSW	12 above NNE



Starizona is celebrating the successful launch of telescope system they custom built for the ISS. The telescope was on a Japanese supply ship launched on the 43rd anniversary of the Lunar Landing. It is part of the ISERV program and will look down on the Earth to capture images of natural disasters, humanitarian crises, and environmental threats.

The table above is a list of selected passes of the ISS visible from Tucson. For a more complete list of possible sightings of the ISS, go to <http://spaceflight.nasa.gov/realdata/sightings/cities/skywatch.cgi?country=United+States>.

Example: On August 5th at 9:17pm, look for the ISS to appear 10 degrees above the West-Southwest horizon, moving towards the North-northwest. It will be visible for 3 minutes, reaching 40 degrees above the horizon. Always begin looking several minutes before the predicted time. Look for a bright “star” moving against the background stars.

Space Place Partners' Column

August 2012



Don't be a Lightning Rod

By Diane K. Fisher

A lightning storm is one of the most dramatic shows of nature. You may feel like rushing outside to experience the blinding bolts, with the loud CRACKs and rumbles of surround-sound thunder following close behind.

But don't.

Lightning is dangerous. Stay inside.

Each year there are around 25 million lightning flashes in the United States. That's a lot of chances to be a lightning victim. Although most people who are struck by lightning survive, many are badly injured, some permanently.

But what causes lightning? And how can we stay safe?

Lightning starts inside a storm cloud. Strong winds inside the cloud toss ice particles and water drops around like underwear in a clothes dryer. The ice and water particles rub together, which builds up static electricity. Sometimes the same thing happens to your underwear in the dryer! But in a cloud, it's on a humongous scale.

The strong static electrical charge that builds up in the cloud “wants” to discharge. So it seeks out something with the opposite kind of charge, which is usually another cloud. But often it is the ground. The charge—in the form of a lightning bolt—travels along the easiest route to the ground. That usually means the nearest, tallest, or most conductive object—such as a tree or a lightning rod. Don't let that lightning rod be you!

People have been struck by lightning while talking on a corded phone, while leaning on freezer in their garage,



In this storm over Boston, Massachusetts, lightning is find lots of tall objects to strike. NOAA's National Weather Service (NWS) Collection, photo by Boston Globe.

while working on plumbing in the house, while sailing, while camping, while playing golf (this one is a no-brainer!), and while doing any number of other activities outside. One poor park ranger just doing his job over the years was struck by lightning seven times!

Understanding how lightning behaves will help you keep safe before, during, and after a storm. If you cannot reach shelter inside, at least you will know, for example, not to stand under or near a tree or a metal pole or fence. Metal is a great conductor of electricity and invites lightning looking for a fast, easy way to the ground.

Find out more about lightning and lightning safety at the NOAA/NASA Scijinks website at <http://scijinks.gov/lightning>. It is by the same people who bring you The Space Place (<http://spaceplace.nasa.gov>).



THE Dark Sky GIVEAWAY IS ON!

IDA members can enter to win a full set of TeleVue Ethos Eyepieces!

Not a member? Join and enter by 8-31-12!

Visit darksky.org for details.

www.darksky.org



Enter the International Dark-Sky Association's Darksky Giveaway for an astronomically grand prize— a set of eight TeleVue Ethos eyepieces valued at \$5,665, generously donated by Televue Optics.

To enter the IDA's Darksky Giveaway, you must be an IDA member before the entry closeout date of August 31, 2012. If you are not a member, joining is easy and the

new Suburban Outreach Sites project partners with astronomy clubs to establish accessible programs for kids and their parents. These programs help IDA to engage communities and to raise awareness and ultimately "to preserve and protect the nighttime environment and our heritage of dark skies through environmentally responsible outdoor lighting."

IDA members make a big difference in their communities and around the world, which is why IDA is thrilled to offer its members such a premium giveaway from Televue Optics. Make sure you enter the DarkSky Giveaway by the deadline and good luck!

The winner will be announced at the Pacific Astronomy and Telescope Show in September 2012, but does not need to attend PATS to win.

cost of a one-year membership is only \$35.00. To join or renew your membership, visit <http://www.darksky.org> and select the "Join" tab at the top of the webpage. You can also join by calling the IDA office at (520) 293-3198. Entering to win is also a breeze. Visit <http://darksky.org/giveaway> where you can fill out the entry form online and read the official rules.

Individual memberships help IDA perform its mission in stopping light pollution and helps to support its many programs. Through the International Dark Sky Places program, IDA and its partners certify locations with exceptional nightscapes as International Dark Sky Communities, International Dark Sky Parks, and International Dark Sky Reserves. The Dark Sky Parks and Protected Area Program currently works with national parks to help them utilize quality outdoor lighting. IDA's



International Dark-Sky Association
Southern Arizona Section
 Meets 2nd Wednesday
 5:30 – 7PM
 3225 N First Ave
www.sa-ida.org

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

TAAA Classifieds

For Sale	1989 10in. Meade Schmidt-Cassegrain telescope. Includes tripod, 12 eyepieces, dual axis controller, 2 spotting scopes and original manuals. Asking \$800 OBO. Call Robert at 520-266-9940. First Offered May 2012
For Sale	Celestron 11-inch SCT, three years old, observing chair, micro-touch focuser, auto-focuser Hyperstar and many additions including eyepieces, filters, registered copy of Maxim DL, Deep Sky, Sky Tools, \$3950. Contact Kenny Broste at hooemeye[at]hotmail.com or 520-471-5291 First Offered June 2012
For Sale	14 1/2" Dobsonian telescope. Great optics. Portable. Includes: Telrad finder, NGC "Mini-Max" digital setting circle computer, Crayford focuser, dust cover. Older model Sky Designs unit that still works great. \$1000 obo Contact Warren at 520-826-0177 or warreninaz[at]yahoo.com. First Offered June 2012
For Sale	Orion SkyQuest XT 4.5 Classic Dobsonian Telescope with 1.25" focuser, includes 6 X 30 finder, 25 and 10 mm eyepieces, collimation cap, Starry Night software, eyepiece rack. Excellent condition, great "grab and go" scope. \$125, 1/2 price of new. Michael Thompson, 520-743-8161 First Offered July 2012
For Sale	MR. OLCOTT'S SKIES: AN OLD BOOK AND A YOUTHFUL OBSESSION by Thomas Watson. A brief memoir about find, losing, and finding again the joys of amateur astronomy. Available in paperback from Barnes & Noble and Amazon, \$6.99. Also available in ebook form for Amazon Kindle, Barnes & Noble Nook, iPad, and other ereaders for \$1.99. More information: watson1987[at]cox.net. First Offered July 2012
For Sale	Meade AR 6 refractor. OTA only. Includes hard sided travel case. \$400 Contact Phil Yehle at phil3155[at]gmail.com First Offered July 2012
For Sale	Like new telescope system, 37+ items. AP900, C8 Fastar, ST237A and lots more. Asking \$7000. Contact James at 520-749-3957. A full item list is available. First Offered July 2012

For Sale ads run for 4 consecutive months. Upon request, the ad will run an additional 2 months but only if the asking price is reduced. All other ads will run for 4 months. Beyond these limits, an ad can be resubmitted provided 30 days have passed since the previous ad ran. For additions or changes to this list, call or e-mail the newsletter editor.

New Policy

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 qualified 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)

Astronomical League (AL) fee..... \$7.50
 Sky & Telescope Magazine 1 year (12 issues, group rate)..... \$32.95
 Astronomy Magazine 1 year (12 issues, group rate)..... \$34.00
 2 years (24 issues, group rate) \$60.00
 Postage for New Member Pack \$4.95

Donations are accepted for the following funds: SA-IDA/Light Pollution, TIMPA, Education, Chiricahua Astronomy Complex, and General/Undesignated.

Renewal Information

You'll get an email reminder when it's time to renew.
 TAAA members may join the Astronomical League (AL) 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 any time. Allow 3

months for processing. New subscriptions must be sent through the TAAA treasurer. Renewals can be paid online through magazine websites. To change an individual subscription to the group rate, pay the group rate to the TAAA treasurer. Include your magazine renewal notice. Include a note about what you're paying for. Credit cards are not accepted. Write one check or money order for dues 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

Mail changes to address above, email them to the treasurer, or make them yourself online through Night Sky Network login account at <http://nightsky.jpl.nasa.gov/login.cfm>.

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

Send submissions to [taaa-newsletter\[at\]tucsonastronomy.org](mailto:taaa-newsletter[at]tucsonastronomy.org) 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 Word compatible files sent by e-mail or on recordable media. All copyrights retained by Tucson Amateur Astronomy Association or specific author. No reproduction without permission, all rights reserved. We will not publish slanderous or libelous material!

How to Contact Us

TAAA Website: www.tucsonastronomy.org Mailing Address: PO Box 41254 Tucson 85717 TAAA Phone Number: 520-792-6414

Office/Position	Name	Phone	E-mail Address
President (elected board member)	Keith Schlottman	520-250-1560	president[at]tucsonastronomy.org
Vice President(elected board member)	Bob Gilroy	520-743-0021	vice-president[at]tucsonastronomy.org
Secretary (elected board member)	Chuck Hendricks	520-247-3815	secretary[at]tucsonastronomy.org
Treasurer (elected board member)	Al Anzaldua	520-409-5797	treasurer[at]tucsonastronomy.org
Member-at-Large (elected board member)	Vern Dunlap	520-326-1964	mal1[at]tucsonastronomy.org
Member-at-Large (elected board member)	Bill Lofquist	520-297-6653	mal2[at]tucsonastronomy.org
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Chief Observer	Dr. Mary Turner	520-743-3437	chief-observer[at]tucsonastronomy.org
AL Correspondent (ALCOR)	Paul Anderson	520-625-5035	alcor[at]tucsonastronomy.org
Community Event Scheduler	Bill Lofquist	520-297-6653	school-star-party[at]tucsonastronomy.org
Volunteer Coordinator	Bill Lofquist	520-297-6653	school-sp-volunteers[at]tucsonastronomy.org
TIMPA Gate Card Controller	John Kalas	520-620-6502	timpa[at]tucsonastronomy.org
Chiricahua Astronomy Complex Director	John Kalas	520-620-6502	cac-director[at]tucsonastronomy.org
Newsletter Editor	Terri Lappin	520-977-1290	taaa-newsletter[at]tucsonastronomy.org
Web Director	Tim VanDevender	520-495-0694	webmaster[at]tucsonastronomy.org
Publicist	Liz Kalas	520-620-6502	publicist[at]tucsonastronomy.org
Astro-Imaging Special Interest Group (SIG)	Larry Phillips	520-777-8027	astro-photo[at]tucsonastronomy.org
Astronomy Fundamentals SIG	Ben Bailey	520-903-7925	fundamentals[at]tucsonastronomy.org
Family Astronomy Program	Jim Miller		family@tucsonastronomy.org
Starry Messenger SIG	Terri Lappin	520-977-1290	smsig[at]tucsonastronomy.org
Space Exploration SIG	Al Anzaldua	520-409-5797	sesig[at]tucsonastronomy.org
Club Apparel Sales	Mae Smith	520-850-7137	taaa-sales[at]tucsonastronomy.org
Equipment Loan Coordinator	Al Dohner	520-297-7118	elc[at]tucsonastronomy.org
Librarians	Hunter Bailey		librarian[at]tucsonastronomy.org
Grand Canyon Star Party Coordinator	Jim O'Connor	520-546-2961	gensp[at]tucsonastronomy.org
General Information	Keith Schlottman	520-250-1560	taaa-info[at]tucsonastronomy.org

TAAA Board of Directors Meeting—11 July 2012

Attending Board members present (5): Bill Lofquist, Al Anzaldua, Vern Dunlap, Keith Schlottman, Bob Gilroy.

Members present (3): Tim Van Devender, Terri Lappin, Larry Brown .

Call to Order: The Vice-President called the meeting to order at 6:32 pm.

Member Feedback: The Board received a lot of positive feedback about the effectiveness of TAAA activities during the recent Annular Eclipse and the Venus Transit.

SIG Status Reports

Starry Messengers SIG (SMSIG) Report: Terri Lappin reported that the Starry Messengers are working on a program which will be accessed through the TAAA webpage. It will allow attendees at our community events to learn more about objects they view through our telescopes. Jim Knoll is heading up the program and has solicited star party volunteers for objects to be included in the database.

Non-Profit Star Party Coordinator Report:

Bill Lofquist reported that Jim Knoll is helping organize and manage our school star parties.

Chiricahua Astronomy Complex: Bill Lofquist suggested expanding solicitations for engraved bricks donations to a variety of astronomy-related groups, institutions, and retailers. His suggestion was met with universal Board approval. Wally Rogers has donated a TeleVue Ethos 13mm eyepiece that we can make available to TAAA members for \$500. The \$500 purchase price will go towards construction of the CAC Ramada/Outdoor Education Center.

Web Director/E-Services Report: Tim Van Devender reported on a misleading security warning that pops up when a TAAA member tries to logon to our website. To eliminate the problem, the Board approved a motion to pay \$74 per year to our website host, Successful Hosting, to register an encryption security certificate with our domain name, "tucsonastronomy.org."

I worked with their support team and this was setup yesterday, hence the invoice.

Upcoming Meetings: Terri Lappin reported that Scott Kardel will give the lecture in August. Veronica Bray will give the Invited Lecture in October, but we still need an Invited Lecture speakers for September and November, as well as Essentials speakers for September, November, and December.

Fundraising/Brick Program: Bill Lofquist reported that we have already collected 20% of the engraved-brick donations needed to construct the CAC Ramada/Outdoor Education Center.

Upcoming Events: Mt. Lemmon Sky Center is going to open exclusively to TAAA members Sunday September 9 for observing and a potluck dinner. November 10 - 11 Arizona Science Expo is coming to the Tucson Community Center, and TAAA members will have a booth at the event. The Astronomical Association of the Pacific (ASP) is having a convention at the Doubletree Inn and has requested scopes for the evening of Aug 6th. TAAA members are encouraged to volunteer for this event. Science Downtown

has asked for TAAA volunteers to operate solar scopes and give astronomy exhibitions on August 4 to celebrate the "Curiosity" rover Mars landing the next evening.

Treasurer, Secretary, and Membership Coordinator

Positions: The Board approved a motion to accept the resignation at midnight of Al Anzaldua as Secretary and Chuck Hendricks as Board-Member-at-Large, so that Al Anzaldua can then assume the Treasurer position and Chuck Hendricks then assume the Secretary position.

The Board appointed Larry Brown as Assistant Treasurer. The Board also appointed Vern Dunlap to be Acting Membership Coordinator in coordination with Tim Van Devender and Bob Gilroy.

The Board approved a \$50 discretionary fund per year for the Treasurer to buy incidentals such as stamps, paper, writing implements, etc.

Newsletter: As a more effective way for the TAAA to communicate news and information to its members, Terri Lappin proposed club production of a shorter monthly newsletter, coupled with a longer quarterly edition for expanded information and reports. She also proposed a one-page publicity and information flyer to go out to retail stores on a monthly basis. The Board approved both proposals.

Calendar: Because the time has come to put together a calendar for 2013, the Board approved a call for volunteers to carry out this effort. Keith Schlottman will ask for calendar-design volunteers at the next TAAA general meeting and through an "Announcements" email.

Respectfully submitted,

Al Anzaldua, TAAA Secretary

Board of Director's Meeting

Aug 8 (Wed)

6:30 PM

Steward Observatory Conference Rm N305



Contact the president to have your topic added to the agenda. There may not be time for topics that are not on the agenda. The front doors at Steward Observatory will be locked. Be there by 6:30pm or call the cell phone number of someone you know is attending the meeting and they can let you in.

Join the TAAA Forum

General astronomy discussions
~75 messages/month posted by TAAA members

Hosted by Yahoo Groups

Go to <http://tinyurl.com/hwoau>

Click on "Join this Group"

Astronomical League Observing Programs



The Astronomical League Observing Program are designed to provide direction for your observing, teaching you skills useful for the full enjoyment of our hobby. Each program has a set of requirements. Upon completion of the requirements, you qualify for a certificate and are awarded a pin.

Upon completing the requirements for a program, submit your observations to the TAAALCOR. Our ALCOR will review them and then forward them onto the appropriate program coordinator for further review. If they are complete you will be awarded your certificate and pin at one of our meetings.

Our ALCORs are Paul and Cathy Anderson

For more information, ask our ALCOR or visit
<http://www.astroleague.org/observing.html>

Beginner Level

- ◆ Analemma Program
- ◆ Binocular Double Star Program
- ◆ Binocular Messier Program
- ◆ Carbon Star Program
- ◆ Constellation Hunter Program
- ◆ Comet Observers Program
- ◆ Dark Nebula Program
- ◆ Dark Sky Advocate Award
- ◆ Deep Sky Binocular Program
- ◆ Double Star Program
- ◆ Galileo Program
- ◆ Lunar Program
- ◆ Messier Program
- ◆ Meteor Program
- ◆ Sky Puppy Program
- ◆ Southern Skies Binocular Program
- ◆ Universe Sampler Program
- ◆ Variable Star Program

Intermediate

- ◆ Asteroid Observing Program
- ◆ Caldwell Program
- ◆ Earth Orbiting Satellite Observing Program
- ◆ Globular Cluster Program
- ◆ Herschel 400 Program
- ◆ Lunar II Program
- ◆ Outreach Award
- ◆ Planetary Observers Program
- ◆ Southern Sky Telescopic Program
- ◆ Sunspotters Program
- ◆ Urban Observing Program

Advanced

- ◆ Arp Peculiar Galaxy Program
- ◆ Flat Galaxies Program
- ◆ Galaxy Groups & Clusters Program
- ◆ Herschel II Program
- ◆ Local Galaxy Groups & Neighborhood Program
- ◆ Master Observer Award
- ◆ Open Cluster Program
- ◆ Planetary Nebula Program

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