

Desert Skies

Tucson Amateur Astronomy Association

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June, 2011



Sarah Hörst, Postdoctoral Research Associate, Univ. of AZ
Lunar and Planetary Laboratory

Do the building blocks of life exist in Titan's atmosphere? Lessons from the laboratory

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Cover Photo: Thousands of people visited the TAAA booth at the 2011 Tucson Festival of Books booth last month. TAAA member Willem Moss explains how to identify meteorites as Cathy Anderson answers questions. Telescopes were also available for looking at the sun. Image taken by Terri Lappin.

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

TAAA Phone Number: (520) 792-6414

<i>Office/Position</i>	<i>Name</i>	<i>Phone</i>	<i>E-mail Address</i>
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Vice President	Bill Lofquist	297-6653	vice-president[at]tucsonastronomy.org
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AL Correspondent (ALCor)	Paul Anderson	625-5035	alcor[at]tucsonastronomy.org
Community Event Scheduler	Bill Lofquist (Temp).	297-6653	school-star-party[at]tucsonastronomy.org
Volunteer Coordinator	Bill Lofquist (Temp)	297-6653	school-sp-volunteers[at]tucsonastronomy.org
TIMPA Gate Card controller	John Kalas	620-6502	timpa[at]tucsonastronomy.org
Chiricahua Astronomy Complex Dir.	John Kalas	620-6502	cac-director[at]tucsonastronomy.org
Newsletter Editor	Cathy Anderson	625-5035	taaa-newsletter[at]tucsonastronomy.org
Web Director	Terri Lappin	977-1290	webmaster[at]tucsonastronomy.org
Publicist	Liz Kalas	620-6502	publicist[at]tucsonastronomy.org
Astro-Imaging SIG	Steve Peterson	762-8211	astro-photo[at]tucsonastronomy.org
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Membership in the TAAA

Annual Fees

Individual membership \$25.00
Family (includes two adults plus minor children)..... \$30.00

Youth under 18 years must join as a family upon parental or guardian acknowledgement of participation in TAAA events. Ask the Treasurer for the required form.

Discounts (one discount allowed, subtract from above rates)

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

Options (add to above membership rates)

Tucson society of the Astronomical League (TAL) fees \$ 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

- You'll get an email reminder when it's time to renew.
- 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
taaa-newsletter[at]tucsonastronomy.org

Join the TAAA Forum on Yahoo Groups

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

President's Message

As amateur astronomers, we have opportunities in our field like no other hobby. Many of the greatest historical advancements in astronomy were started by amateurs, but even in current times we play a unique role as unpaid hobbyists. Amateurs make asteroid discoveries almost nightly; Amateurs routinely make comet discoveries; amateurs invent, build, and use much of the astronomical equipment in use today. Amateur astronomers are performing spectroscopy, discovering exoplanets, and modeling the shapes and composition of asteroids. Pick any area of astronomy, and it's a safe bet that there will be an amateur working on something in that area tonight.

However, many amateurs find themselves feeling like there is a wave of professional astronomers building up behind them, ready to use mega-funding to implement large scale surveys that will discover everything, taking all the glory and leaving nothing or perhaps only a few crumbs for the lowly amateur. We've even had recent speakers at our club meetings give us updates on these huge projects, and if you are like me, you may have mixed emotions - excitement about continuing human exploration and understanding of our universe, combined with sadness that dedicated individuals may lose their chance to experience the thrill of discovery. I also wonder how young people will be motivated to forge ahead if they don't see adults making those discoveries.

On the other hand, many of the projects have hands-on opportunities for amateurs to participate. The volume of data generated by these huge surveys is substantial, so some of them solicit aid from the public in analyzing it. Amateurs have used mission data to discover sun-grazing comets, identify cometary particles, and create stunning images of celestial objects. As humanity expands, we can all expand with it. It may be that the continued enjoyment of amateur astronomy will require a shift from the traditional concept of a solitary observer making cosmos-shattering discoveries, to a more modern concept of participation in a group effort to make incremental advances in the science.

If you're like me, you will never want to completely give up on those special nights when you quietly enjoy a few moments of solitude under a majestic sky. But there are so many ways for us to enjoy this great hobby with others, and TAAA provides many opportunities for that. As you read through this month's newsletter, look for an upcoming event that would be fun for you, and join your fellow club members. You can also monitor the TAAA Forum on Yahoo Groups for event announcements. Those giant mirrors and spacecraft will keep gathering their data and making discoveries, but don't let that keep you from stepping outside to make a few of your own personal astronomical discoveries!

Meeting Information and Calendar of Events

TAAA MEETING DATE: Friday, June 3rd, at the Steward Observatory Auditorium Room N210

Astronomy Essentials Lecture: 6:30 pm

Title: *This is AFSIG*

Speaker: Ben Bailey

The TAAA Astronomy Fundamentals Special Interest Group (AFSIG) will present an overview of its activities and programs. Included will be discussions of our monthly meetings and the observing programs and workshops that AFSIG currently sponsors. We will describe our popular "Introduction to Fundamentals of Astronomy" classes as well as our observing activities at TIMPA. Lastly, we will briefly discuss programs that the AFSIG currently has under development. The presentations will be given by the AFSIG leaders.

GENERAL MEETING: 7:30 pm

Invited Lecture

Title: *Do the building blocks of life exist in Titan's atmosphere? Lessons from the laboratory*

Speaker: Sarah Hörst, Postdoctoral Research Associate, Univ. of AZ Lunar and Planetary Laboratory

The Cassini-Huygens mission has revealed an unprecedented level of chemical complexity in the atmosphere of Titan, the largest moon of Saturn. Laboratory simulations of Titan's atmosphere are necessary to understand the

measurements obtained by Cassini. Dr. Hörst analyzes Titan aerosol analogues, so-called "tholins", which are produced in these simulations and will discuss the possibility that the building blocks of life, which are seen in tholins, may also be present in Titan's atmosphere.

Dr Hörst received her PhD in Planetary Sciences a few weeks ago from the University of Arizona. We congratulate her on this accomplishment.

BOARD OF DIRECTORS MEETING: Wednesday, June 8th, 6:30 pm. The meeting is held at Steward Observatory Conference Room N305.

Calendar of Events

STAR PARTIES AND EVENTS:

28 May - TAAA Spring Star-B-Cue at Kitt Peak
 28 May - AFsig Star Party at TIMPA
 2 June - Catalina Community Services
 3 June - TAAA General Meeting
 4 June - CAC Star Party
 4 June - Whipple Observatory Star Party
 6 June - Astro-Imaging SIG Meeting
 8 June - TAAA Board Meeting
 9 June- AFSIG Meeting
 16-18 June Archaeoastronomy Conference
 17 June - Central Church of the Nazarene Star Party
 18 June - AFsig Solar Observing Group
 18-25 June - Grand Canyon Star Party
 22 June - Newsletter Article Deadline
 25 June - AFsig Star Party at TIMPA
 29 June - 2 July ALCON 2011 - Bryce Canyon

NEWSLETTER SCHEDULE: Deadline for articles: Wednesday, June 22nd. The newsletter is published at least one week prior to the following month's General Meeting.

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.

Club News

Member News

We welcome these members who have recently joined the TAAA: Sheri Loftin, Ralph Jensen, Robert Lofquist, Tyler Nighswander, Goggy Davidowitz, George Hatfield, Kathy Blanchard, Mike McFarland, and Phil Rice. Glad to have all of you join! 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.)

Astro-Imaging SIG Meeting

Monday, June 6th, 7pm
 China Rose Restaurant, NE corner Speedway/Rosemont

Larry Phillips is the new SIG coordinator and will be assisted by Peter Lomas. The group will be placing more emphasis on the less experienced imagers. 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!

Space Exploration Special Interest Group (SESIG) By AI Anzaldua

SESIG has suspended its presentation program until September 22, at which time Raytheon space engineer, Phil Eklund, will give a slide presentation titled, The High Frontier: Exploiting Inner Solar System Resources. Mr. Eklund's presentation will take place promptly at 6:30 pm in the large conference room at the Woods Memorial Branch Library, 3555 N. 1st Ave., just south of Prince Road.

Sign-up sheets for Eklund's talk will be provided at the general membership meetings. You can also RSVP by contacting AI Anzaldua at 520-409-5797 (cell) or alanzaldua@tucsonastronomy.org.

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

Club News (cont.)

Astronomy Fundamentals Special Interest Group (AFSIG)

By Ben Bailey

Thursday, June 9th, 6:30 pm

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

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

We will hold our regular monthly AFSIG meeting on June 9th. Remember, we are successful only if you participate. I am looking forward to seeing you there. 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.

AFSIG Observing Clubs

By Bob Gilroy

All our observing programs are open to all TAAA members at no charge. They are guided programs which means that at the scheduled observing sessions, someone is there to guide you in finding the objects/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. All observing programs are patterned after those of the Astronomical League, so you can continue with the additional AL requirements and get your AL certificate.

Solar Observing Club meets on the 3rd Saturday of every month from 9 am until noon at Fort Lowell Park (Craycroft [at] Glenn) near the southeast corner. The purpose of this club is to observe the activity that is occurring on the Sun and record those observations - like sunspots, solar flares and other interesting features. The beauty of this observing program is that our Sun offers great flexibility in observing and re-cording 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 dennis@dawson[at]gmail.com.

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 in 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 bright 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 m44m46[at]live.com.

Solar System Observing Club meets monthly on our regularly scheduled TIMAP 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 Mike Finerty at mfinerty1[at]msn.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 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



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Club News (cont.)



Night Sky Network Toolkits

NASA, through sponsorship of the Night Sky Network, recognizes the essential role amateur astronomers play in public astronomical education. Under contract with NASA, the Night Sky Network team at the Astronomical Society of the Pacific has developed a series of toolkits for amateur astronomers to use in informal settings such as star parties and other outreach events. Below is a list of our Outreach Toolkits. If your scope is not well-suited for public events, or if you want a change of pace, consider bringing a toolkit to a community event. Toolkits are also great backups for cloudy nights. Each themed toolkit contains several projects; you pick and choose what you want to use. Toolkits are self-contained with nearly all the materials needed for these hands-on projects. You may need to provide fresh batteries, scissors, or a bag of flour, depending on what project you select. A Resources CD and a Training DVD is included. Individual training in their use is available upon request. Please make arrangements with Terri Lappin (smsig[at]tucsonastronomy.org) to bor-

row these toolkits. Normally, you can keep a toolkit for a month at a time.

Night Sky Network Toolkits:

- Space Rocks – Asteroids, Comets, and Meteorites:** meteorite samples, asteroid detection
- Exploring the Solar System:** scale model of solar system
- Our Galaxy, Our Universe:** scale model of the Milky Way galaxy and the Universe
- Shadows and Silhouettes:** lunar phases, eclipses, and transits
- Black Hole Survival Kit:** gravity concepts
- Supernova!** life cycle of massive stars, earth’s protective atmosphere
- Mirrors and Glass – An inside look at telescopes:** how telescopes work
- Telescopes – Eyes on the Universe:** basic principles of optics, the human eye, and observing
- PlanetQuest:** demonstrate planet detection techniques

Other Resources:

- SolarScope:** provides a white light image of the sun suitable for small group viewing.
- Dark Skies Education Kit:** light pollution principles, includes a Sky Quality Meter
- Comet Chef:** an apron (with a comet on it) and chef’s hat to wear when mixing up comets
- Moon Globe:** 12” diameter with stand
- DVDs:** *A Private Universe*; *Cosmic Collisions*

Special Interest Group Email Lists Now Available

The TAAA now has Email Message Groups for all four of our Special Interest Groups. These Message Groups can put you in touch with TAAA club members with similar interests. This should help our SIGs grow in size. Our four Special Interest Groups are: Astro-Imaging, Astronomy Fundamentals (Beginners level astronomy), Space Exploration, and Starry Messenger (Outreach and Education).

TAAA members with a Night Sky Network login can sign up for these Message Groups. Nearly all TAAA members have a NSN login. Once signed up, you will receive email messages from the SIG leader(s). Most Message Groups allow you to email other members in the group. Unlike the TAAA Forum which is for more general purposes, these Message Groups give the ability for like-minded in-

dividuals to have a more focused email discussion related to their specific area of interest.

To join a Message Groups, log into the Night Sky Network (<http://nightsky.jpl.nasa.gov/login.cfm>). Then click on “My Message Groups” which is a menu selection under “My Member Information”. (Circled in red in the screenshot below.) The lower part of the next screen lists Message Groups you can join. The top part shows Message Groups you belong to. It’s easy to join and leave groups. Just click on “Add Me” or “Remove Me”. Send an email by clicking on “Send Message”.

Don’t know how to log into the Night Sky Network or not sure you have a login? No problem; just email Terri Lappin at terrilappin[at]tucsonastronomy.org. (Replace [at] with the “@” symbol.)



Dark Skies for June 2011 By Erich Karkoschka

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

Tu/We	31/01	21:04	-	3:40	Sa/Su	11/12	2:24	-	3:37	Tu/We	21/22	21:14	-	23:29
We/Th	01/02	21:04	-	3:40						We/Th	22/23	21:15	-	23:58
Th/Fr	02/03	21:05	-	3:39	Su/Mo	12/13	3:11	-	3:37	Th/Fr	23/24	21:15	-	0:27
Fr/Sa	03/04	21:18	-	3:39	Mo/Tu	13/14	-	-	-	Fr/Sa	24/25	21:15	-	0:58
Sa/Su	04/05	22:02	-	3:38	Tu/We	14/15	-	-	-	Sa/Su	25/26	21:15	-	1:32
					We/Th	15/16	FULL MOON							
Su/Mo	05/06	22:43	-	3:38	Th/Fr	16/17	-	-	-	Su/Mo	26/27	21:15	-	2:10
Mo/Tu	06/07	23:20	-	3:38	Fr/Sa	17/18	21:13	-	21:17	Mo/Tu	27/28	21:15	-	2:54
Tu/We	07/08	23:55	-	3:37	Sa/Su	18/19	21:14	-	21:56	Tu/We	28/29	21:15	-	3:40
We/Th	08/09	0:30	-	3:37						We/Th	29/30	21:15	-	3:40
Th/Fr	09/10	1:05	-	3:37	Su/Mo	19/20	21:14	-	22:29	Th/Fr	30/01	21:15	-	3:41
Fr/Sa	10/11	1:43	-	3:37	Mo/Tu	20/21	21:14	-	23:00	Fr/Sa	01/02	21:15	-	3:41

Member's Events

TAAA Star Party at CAC

by John Kalas
Saturday, June 4th

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[at]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.

MORE MEMBER'S EVENTS ON NEXT PAGE →

MEMBER EVENTS

TAAA and AFSIG Star Party at TIMPA

By Ben Bailey and Bob Gilroy

Saturday, June 25

If the weather cooperates, it should be a good observing night for everyone. The various AFSIG Observing Clubs will be active. We will have the 5 new scopes donated to AFSIG by Wally Rogers available for your viewing pleasure. Come and join one of our activities, or observe on your own and enjoy the camaraderie.

Due to a safety issue, we will not open the Gila Monster Observatory and viewing will be restricted to the area near the model airplane runway. We plan to correct this issue as quickly as possible.

AFSIG will open the gate at 6:45 pm.

Directions to the TIMPA site are located on the last page of this newsletter

Spring Kitt Peak Star-B-Cue

Saturday, May 28

The TAAA has scheduled a star party and pot-luck barbecue at the picnic grounds up on Kitt Peak on Saturday, 5/28, starting at 4:00 pm. A maximum of 70 TAAA Members and families will be allowed to participate. A gas-fired barbecue grill at the ramada will be fired up starting at 4:30 pm and members are invited to cook their dinners between 4:30 and 6:30 pm. Bring a dish to share with other members. The grill will be turned off at 6:30 pm. Telescope observing will commence after sundown. Kitt Peak allows the club to observe as late as we want. Be prepared for cool temperatures and mosquitoes.

It is very important for all attendees to abide by the rules established by Kitt Peak and respect the facility. Adherence to the rules will help to continue TAAA activities on Kitt Peak in the future.

1. No vehicles are allowed above the picnic grounds after 4:00 pm.
2. Only the Ramada gas-fired barbecue grill is permitted for cooking food at the picnic grounds. No open fires or use of the personal barbecue grills is permitted.
3. All trash must be placed in the garbage receptacles.
4. Use of cellular phones and radio walkie-talkies is prohibited. All cell phones must be turned off.
5. No alcoholic beverages are permitted.

When leaving the picnic grounds after dark, if possible, use your parking lights until you have reached the main road and are headed downhill after exiting the picnic area.

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 TAAA Forum 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 had been the club's dark-sky observing site for many years. 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.

**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.

National Park Service and astronomers from around North America, 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.

(More about the Grand Canyon Star Party on the next page.)

Member's Events (cont.)

(Continued from Previous Page...)

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\[at\]tucsonastronomy.org](mailto:gcsp[at]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 considera-

tion 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 <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!

SCHOOL AND PUBLIC STAR PARTIES

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. Beginners are encouraged to come. You generally need to know only a few objects in the sky. Even without a telescope, you can be valuable in other capacities. Sign up for these events at the meeting, through the website calendar (NSN login required), or by contacting a TAAA officer.

Catalina Community Services

Thursday, June 2 - NORTH

3535 East Hawser Street, Catalina

One scope already engaged, and three more scopes needed.

DIRECTIONS: North on Oracle Road continuing past Tangerine Road for about five miles. Go to the town of Catalina. After passing Golder Ranch Road on the right, turn right on E. Hawser Street at the Burger King. Go a half mile, and the Catalina Community Services is at the top of the hill on the left. Start time is 8:00, ending at 9:30, with setup at 7:30.

second right at the roundabout and continue around until you can drive under the freeway to the frontage road on the east side. Turn right and drive south three miles to Elephant Head Road. Turn left and drive east, crossing the Santa Cruz River on Elephant Head Bridge. One mile east of the river, turn right on Mount Hopkins Road. Drive southeast about seven miles to the Observatory Office (end of the pavement). Start time is 7:45, informal lecture begins at 7:15.

Whipple Observatory

Saturday, June 4 - SOUTH

DIRECTIONS: The administrative complex for the Fred Lawrence Whipple Observatory is 43 road miles south of Tucson.

TAAA regularly supports this event along with the Sonora Astronomical Society (SAS). Drive south on Interstate 19 to exit 56 (Canoa). At the bottom of the exit ramp, take

Central Church of the Nazarene

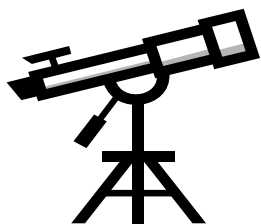
Friday, June 17 - CENTRAL

404 South Columbus

Three scopes are needed.

DIRECTIONS: The Church is on South Columbus between Broadway and 22nd Street. It is across the street from Lineweaver Elementary School. Start time is 7:30, ending at 9:00. This is a family event, expecting about 60 people.

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.

ASTRONOMICAL LEAGUE CONVENTION NEWS

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.

We also have a commitment from Orion Telescopes to bring one of their Monster Dobs for us to look through, we are all looking forward to getting a view through one of these monsters. So far we have two observing sites secured, one will a traditional Public Star Party with the park public, often from all around the world, attending in conjunction with Bryce Canyon's Annual Astronomy Festival as well as a separate site dedicated to just observing for ALCON attendees only. Both sites are very dark, the public usually departs the public site by midnight leaving the field for us till sunrise. During the day we will have speakers, a swap meet, vendors and of course Bryce Canyon National Park, one of the most stunningly beautiful spots on Earth and one of the oldest National Parks in the National Parks system.

As you can imagine this is a great location for an ALCON. As such our initial block of 100 reserved hotel rooms at Ruby's Inn has sold out even before we actively advertised the event. We have never seen an ALCON get this level of response this early on, this ALCON is truly going to be special. Ruby's Inn has agreed to open more rooms at our special rate but they will not last long. Please let your club members know that if they are considering attending they should act quickly, I don't know how long these rooms will last at the discounted rate of about \$71.25 per night plus tax. We cannot guarantee our special rate will last. These rooms usually go for quite a bit more. Ruby's Inn will be the center of all our non-observing events and is a full service resort located at the mouth of Bryce Canyon.

There are additional accommodations available in the area if Ruby's completely fills as well as camping and RV sites for those that prefer RV'ing and camping. If you have members interested in attending please act quickly. Registration for ALCON will be open shortly, however we encourage you to get your accommodations set now. Bryce Canyon is a very popular Park and will likely fill.

We hope to see you at this year's ALCON. If you have additional questions please don't hesitate to contact us. Please see the AL ALCON page for additional information regarding the event as well as travel information about getting to Bryce.

If this was sent to by mistake please let us know. If there are other people in your club this should go to we ask that you please let us know and then forward this announcement to them. We do not want to see any interested AL member miss this event for want of accommodations.

<http://alcon.astroleague.org/accommodations>

Archaeoastronomy Conference

June 16-18

Albuquerque, NM

Final arrangements for the 2011 Conference on Archaeoastronomy of the American Southwest on June 16-18 in Albuquerque have been made. The conference announcement, with the latest details, can be downloaded from the website at www.caasw.org.

The due date for abstracts has been moved to May 14th. The standard paper length is 20 minutes, but other durations may be available if requested. Abstracts should be limited to 300 words or less.

The Registration fee is \$75 for the three days. The address for mailing in your registration fee is on the announcement.

The list of nearby hotels is being finalized and will be on the website shortly. Consult the website as additional details and information is made available.

Conference on Archaeoastronomy of the American Southwest | P.O. Box 20578 | Sedona, AZ 86341



CONSTELLATION REPORT BY CHRIS LANCASTER

Corvus

The Crow, or Raven

Zoologists know the term "Corvus" as the genus to which crows belong. Astronomers are also familiar with the term since a constellation by the same name makes its appearance in the mid-evening hours this time of year, reaching the meridian at 11pm during the middle of April. If you look southwest of Spica in Virgo you will see an irregular quadrilateral of stars that is the constellation of Corvus. It is one of the smaller constellations, measuring 184 square degrees (Orion, by comparison, occupies 594 square degrees.)

One legend states that the god Apollo gave Corvus a cup to fetch some spring water. Along the way, the crow was tempted by a fig hanging from a tree. But, since the fruit was still green, the crow couldn't resist waiting for it to ripen. When he returned, Corvus explained his tardiness by bringing back a water snake along with the full cup of water, saying the snake had attacked him. Apollo was too wise to believe the foolish bird and banished Corvus, the cup (Crater), and the water snake (Hydra) to the sky.

Another legend says that Apollo was suspicious that Coronis, with whom he was having an affair, was being unfaithful, so Apollo sent Corvus, who then was a silver bird, to spy on her. Corvus reported back that Apollo's suspicions were correct, so the god slew Coronis and sent Corvus to Hades where his feathers were burned black.

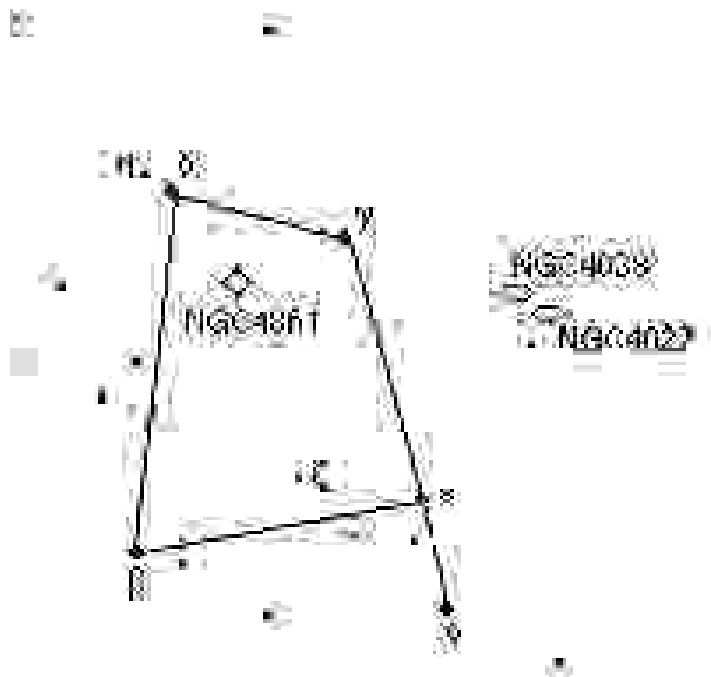
The four bright stars of Corvus were seen as a tent by the Arabs. In fact, Alpha Corvi is named Alchiba, the Arabic word for "tent." This is a relatively nearby star lying 68 light years from Earth. Delta Corvi, named Algorab (an Arabic derivative meaning "raven's wing"), is a pleasant double star which has a primary of magnitude 3.1 and spectral type of B9 V, and a dimmer secondary shining at magnitude 8.4 and having a spectral type of K2 III. The two are separated by a comfortable 24.2 arc seconds, so splitting them is an easy task. You could even consider Delta forming a visual double with nearby Eta Corvi, 37 arc minutes away and of magnitude 4.3.

The most intriguing deep sky object in Corvus undoubtedly has to be NGC4038, also known as the ring-tail galaxy. The coordinates are RA: 12h 01.8', Dec: -18d 51.3', or about 14 minutes in RA west and 1.2 degrees south in Dec from Gamma Corvi. This is a magnitude 11 galaxy measuring 2.5 arc minutes on each side. Through medium sized telescopes, this galaxy exhibits a heart shaped structure that results from what is apparently a collision between two separate galaxies. Although too dim to see through a telescope, two long filaments extend tens of thousands of light years on each side of the main body of the galaxy. It has been determined that these long trails of stars are the result of tidal interaction from the combined gravity of the two systems. You may remember that a Hubble telescope image showed vast regions within the two halves of the merging pair where stars are forming at an incredible rate because of the forces involved with this process.

A short hop of 0.7 degrees to the southwest will reveal another galaxy with a similar brightness of magnitude 11.6 and a size of 2.0 x 1.7 arc minutes. This is NGC4027 (RA: 11h 59.5', Dec: -19d 15.3') which, at an actual distance of only about a million light years from NGC4038, appears to be a third member of this small group. In fact, it is an irregularly shaped spiral that also seems to be distorted by the gravity of its interacting neighbor. Through a telescope it shows little overall detail other than a smooth oval.

A fairly easy planetary nebula floats within the heart of Corvus at RA: 12h 24.6', Dec: -18d 43.3'. With the designation of NGC4361, this 10.5 magnitude planetary can also be found by moving 5 minutes west in RA and 2.3 degrees south of Delta Corvi. The diameter of this nebula is about 80 arc seconds (or almost exactly the same size as the often observed M57 in Lyra) and, depending on the size of your telescope, gives you a decent opportunity at glimpsing its central star shining at magnitude 13. The nebula is almost perfectly round with a hint of an oval shape, and its surface is smooth with no apparent mottling.

If you can tear yourself away from the galaxy clusters of Virgo and Coma Berenices, look southward to Corvus where you can find more individual treasures.



TAAA BOARD OF DIRECTORS MEETING—9 March 2011

Attending: Board members present (7): Keith Schlottman, Bill Lofquist, Luke Scott, Teresa Bippert-Plymate, John Croft, Michael Turner, and John Kalas. **Members present** (9): Roger Schuelke, Liz Kalas, Ben Bailey, Bob Gilroy, Claude Plymate, Terri Lappin, Jim O'Conner, Paul Anderson, and Cathy Anderson

Call to Order: The President called the meeting to order at 6:30 pm.

Minutes: Minutes from the April 2011 Board meeting were approved unanimously.

Announcements for Record

The following TAAA officers were elected at the May meeting:

President: Keith Schlottman
 Vice President: Bill Lofquist
 Secretary: Teresa Bippert-Plymate
 Treasurer: John Croft
 Member-at-Large: John Kalas
 Member-at-Large: Michael Turner
 Member-at-Large: Claude Plymate

Member Feedback

- The May meeting received positive comments.
- The Sharing the Sky Star Party received positive feedback, with some people asking why TAAA does not hold more public star parties.
- Bill Lofquist noted that about 65 people attended the first star party held in collaboration with Catalina State Park. Additional events will be scheduled for the fall.
- The President noted that the Board needs to solicit more member feedback.

Upcoming Meetings

- A main lecture speaker is tentatively arranged for June.
- The July main lecture is not yet confirmed, and the August and September main lectures are open.

Treasurer's Report

- The club has \$24,785.58 in checking. All routine bills are paid. The Treasurer noted that payments are in arrears for several Astronomy Services star parties.
- There are currently 355 members on the club roster.

Special Interest Group Status Reports

Astronomy Fundamentals (Ben Bailey):

- A meeting will be held 12 May to develop a plan for using the telescopes donated by Wally Rogers.
- Electrical service to the TIMPA pads needs to be completed. It was noted that the step up to the Gila Monster Observatory pad presents a trip hazard; a solution will be discussed via e-mail.
- Bob Gilroy will attend the TIMPA Board of Directors meeting on 17 May.

Astro-Imaging (Michael Turner):

- Larry Phillips is the new SIG coordinator and will be assisted by Peter Lomas.

- The group will be placing more emphasis on the less experienced imagers.

Starry Messengers (Terri Lappin):

- The next workshop is being formulated. The desire is to hold a workshop on light pollution.

Board Retreat

- A Board retreat will be held on 9 July to determine priorities and focus for the club. The location is to be determined.

Chiricahua Astronomy Complex

- John Kalas reported that Phase 2 construction is proceeding well. All concrete work is complete. Steel outriggers for the roll-off roof observatory are being installed. Both steel storage units have been delivered.
- Phase 2 construction costs will exceed Phase 2 donations by approximately \$10000. Some additional incidental expenses are expected. The Board noted that the club has enough funds in the general fund to cover all Phase 2 costs.
- A motion was entered by John Croft and seconded by Michael Turner to lend funds from the General Fund to the CAC fund to cover the additional Phase 2 costs. The motion was approved unanimously. The loaned funds will be repaid to the General Fund from future Astronomy Services revenues.

Web Site Working Group

- The Web Site Working Group submitted a report containing a proposal for moving forward with development of the TAAA website. The report includes proposals from 3 web developers and comments from the working group members. The report makes two recommendations:
 - That TAAA select Wordpress as the content management system.
 - That Lewis Lepley be engaged as the web development consultant.

Executive Session

- The Board went into executive session to discuss the recommendations made by Web Site Working Group. After discussion, a motion was entered by Bill Lofquist and seconded by Michael Turner to accept the two recommendations made by the Web Site Working Group to (1) select Wordpress as the content management system and (2) engage Lewis Lepley as web development consultant to port the existing web site to Wordpress for a cost not to exceed \$1000. The motion was approved unanimously.
- The President will direct that only necessary maintenance be performed on the existing web site during the transition to Wordpress.

Other

- John Kalas reported that 3 paid star parties are scheduled for the week of 15 May.

Meeting adjourned at 9:15 pm.

Respectfully submitted,

Luke Scott,

Secretary

CHIRICAHUA ASTRONOMY COMPLEX

Facility Update

Phase 2 construction continues at a very fast pace. All of the concrete work is done. The roll-off roof observatory walls have been framed and the steel structure to support the roof when open has been installed and welded. Both steel storage containers have been delivered and locked. Peter Ammon has graveled the loop drive road around the public area. The electric power will be run starting on Saturday, 5/21.

Contractor items remaining to be completed include; fabrication of the roll-off roof and applying the roof coating, pouring of the observatory pier, painting of the exterior of the observatory, installation of the observatory door and final electrical hook-ups.

The June CAC Star Party is scheduled for 6/4 and may be the last good chance for observing at the site before the monsoons set in. Why not take this opportunity to visit the site and see the development for yourself?

submission should take place by April 1st.

Amphitheater pad with storage container



Roll-off roof observatory (smoke from Chiricahua fire in background)



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 bigger scope.

NGC 6210 is a small but bright PN in the constellation Hercules. It was discovered in 1827 by Friedrich Struve and is also called the Turtle Nebula. With an apparent magnitude of 8m8, it can easily be detected in telescopes with an aperture as small as one inch. However, the size (48" x 30") is rather small; you will definitely need magnification to resolve it as a disk. I observed NGC 6210 on February 2nd, 2011, from the Austrian Alps, having good observing conditions.

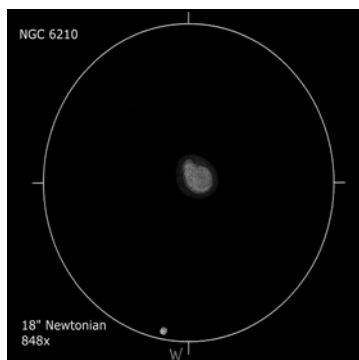
With my 18" Dobsonian I noted: Very bright, no central star, small halo, turtle shape at very high magnifications, filters do not really help; fst 6m7 (Vir), 848x, 18" Newtonian

PK 47+42.1 (Abell 39) is a faint PN, also located in Hercules. Its apparent magnitude is 12m9; the size comes close to 3 arc minutes. It was discovered within the Palomar Observatory Sky Survey before 1955. Abell 39 is famous for its perfect circular shape. I got interested in this object because of a wonderful image taken at the WIYN-3.5m telescope on Kitt Peak.

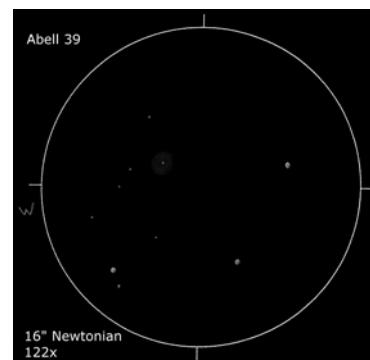
I observed this PN on July 6th from Kitt Peak with a 16" Dobsonian. Since it is a low surface brightness nebula, a black cloth and averted vision will be helpful.

My notes read: Requires [OIII]-filter, very faint, perfectly circular, central star permanently visible at 195x, no structures; fst 6m4 (Vir), 122x, 16" Newtonian

NGC 6210
RA: 16h 44.5 min
Dec: 23° 48'
Constellation: Hercules
Brightness: 8m8
Central star: 12m3
Size: 20x313 arc sec
Distance: 3600ly



PK 47+42.1 (Abell 39)
RA: 16 h 27.6 min
Dec: 27° 55'
Constellation: Hercules
Brightness: 12m9
Central star: 15m8
Size: 170 arc sec
Distance: no data



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.