

Desert Skies

Tucson Amateur Astronomy Association

Volume LV, Number 7 July, 2009



Astro-imaging using a DSLR

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Cover Photo: Rik Hill created this image using a digital SLR camera. For more information, see the *Websites: Trips On The Internet Super-Skyway* article.

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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)	

Postage for New Member Pack\$ 4.80 **Donations** are accepted for the following funds: SA-IDA/Light Pollution, TIMPA, Education, 30" Telescope & Land, and General/Undesignated.

Renewal Information

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

magazines. To change an individual subscription to the group rate, pay the subscription amount to the TAAA treasurer. Include your magazine renewal notice.

TAAA Phone Number: (520) 792-6414

 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:

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

Join our Email Lists on YahooGroups

Announcements: http://tinyurl.com/e7o3y (TAAA news, no posting allowed, 15/month)

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

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

President's Message

The end of June has been very active with astronomy events. It is clear that club members are not going to go into the rainy season quietly. The reports from the Grand Canyon Star party have indicated that while attendance was down this year and the weather started out a bit poorly, the dark skies were rewarding.

Closer to home members had several events to choose from in June. A great representation of our members from TAAA attended the Huachuca Astronomy Clubs C-Row Star Party. The first night was hampered by an early monsoon storm but once that cleared the rest of the event went fantastic. We had beautiful skies, great food and great company. In the process we were able to raise some funds for the club. I would like to thank the HAC for their generosity of sharing the proceeds from this event with TAAA. I hope that we can look forward to future event participation with the HAC as we become neighbors in Cochise County.

The Fundamentals SIG met at Catalina State Park and the Gorilla Astronomers enjoyed a fine night at the Las Ciene-

gas site. In all, June was a very active viewing month. It was a fitting way to end the spring astronomy season. I hope if you did not get a chance to attend one of the events that everyone had a chance to catch some photons before the clouds set in.

I know that July brings us the dreaded Monsoons for astronomers but there is still a great deal of work going on for the club. We have made good advances on the construction of the dark site infrastructure. Permits have been obtained and contractors signed and paid. We also have several committee activities to conduct in order to begin the Phase 2 planning. There is a big task ahead of us to raise the funds we will need to continue to keep our momentum moving on the dark site. Please keep an eye open for future opportunities to help out on these projects.

As always, Clear Skies (As clear as they can be in Tucson in July),

Ken Shaver TAAA President

Meeting Information and Calendar of Events

TAAA MEETING DATE: Friday, July 3, at the Steward Observatory Auditorium – Room N210

ASTRONOMY ESSENTIALS: 6:30 pm

Title: Objects of the season Speaker: Dr. Mary Turner

Dr. Turner will give her quarterly update on the best objects for observing during the summer season.

GENERAL MEETING: 7:30 pm
Title: 400 Years of the Telescope
Speaker: PBS documentary presentation

This documentary tells the story of humanity's view of the universe and our place in it through the ever increasing telescope lens. Our perception of the universe began to change with Galileo's telescope – a scope of such poor quality that we'd toss into the garbage heap today. Technological advancements in telescope building and modern day imaging have brought about an evolution in our understanding of astronomy and physics. Innovative concepts such as the Large Binocular Telescope (in Arizona) and Keck's dual 10m telescopes (in Hawaii), have contributed to this changing view. The upcoming James Webb Space Telescope (to replace the Hubble Space Telescope) will only further advance this process.

This documentary originally aired on PBS in April 2009 but many members missed it, so we've scheduled this special viewing. The video is one hour long and includes comments by six Tucson area professional astronomers. The documentary was designated by the United Nations Education, Scientific and Cultural Organization and the International Astronomical Union as one of 11 special projects

to celebrate the International Year of Astronomy 2009. It was funded by the National Science Foundation and produced by Interstellar Studios. Additional support was provided by the Astronomical Society of the Pacific through the Night Sky Network program.

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

STAR PARTIES AND EVENTS:

02 July - Tucson Botanical Garden Star Party 06 July - Astro-Imaging SIG at China Rose 09 July - Astronomy Fundamentals SIG Meeting 18 July - TAAA Star Party at Las Cienegas

18 July – LPL Apollo Landing Celebration

21 July - Biosphere 2 Teacher Conference Star Party

25 July - TAAA Star Party at TIMPA26 July - Catalina Village Star Party

NEWSLETTER SCHEDULE: Deadline for articles: Sat, July 25. The newsletter is published at least one week prior to the following month's General Meeting.

Club News

Astro-Imaging SIG Meeting

Monday, July 6, 7pm China Rose, NE corner Speedway/Rosemont

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

Astronomy Fundamentals Special Interest GroupAFSIG meeting for July

The Astronomy Fundamentals Special Interest Group (AFSIG) will meet on Thursday, July 9, at 6:30 pm in room 253 of the Environmental and Natural Resources Building (USGS and Weather Service) on the northeast corner of Sixth Street and Park Avenue on the campus of the University of Arizona.

Summer Viewing/Monsoon Madness: With the monsoons soon to arrive we will look at what to see when we are lucky enough to have a "no monsoon day" in July or when the clouds blow off around sunset which occurs more often than you might think. When the monsoons keep us under the roof instead of the skies, we will look at ways to keep your equipment in top condition and best pursuits to prepare for your next observing session.

All members of TAAA, and new members particularly are welcome to AFSIG meetings!

The AFSIG Committee



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.

Help Wanted: Insurance Expert

As the TAAA develops its new astronomy complex, our insurance requirements are changing. The Board of Directors needs help in determining exactly what type of insurance the club should purchase. If anyone in the club is in the insurance business, we would appreciate some guidance. If you would like to offer that guidance, please contact John Kalas via phone at 620-6502 or by e-mail at jckalas(at)cox.net.

Telescope Loaner Program Coordinator

TAAA is looking for a telescope loaner program coordinator. If you wish to volunteer, contact a board member.

U of A LPL Apollo Landing Celebration

Saturday, July 18, 2009

The Lunar and Planetary Lab at the U of A has planned a day-long 40th Anniversary celebration of the Apollo lunar landings on Saturday, July 18th. The activities start at 2:00 pm with commemorative movies, Apollo 3-D images, the Physics Factory demonstrations, numerous speakers, children's activities, liquid nitrogen ice cream and solar and evening viewing. The Board of Directors agreed to have the TAAA members participate in this event as part of the club's International Year of Astronomy (IYA) activities. There will be a signup sheet at the July monthly meeting for volunteers for solar and/or evening viewing. If you are unable to attend the July meeting and you would like to participate, contact John Kalas at 620-6502 or via e-mail at jckalas(at)cox.net. Even if you prefer not to participate, come on down and enjoy the activities!

Grand Canyon Shirts And Mugs Available Through The TAAA Apparel Program At The July Meeting

TAAA members will be able to purchase Grand Canyon Star Party shirts and mugs beginning with the July General Meeting. The attractive shirts, designed by our cosmic artist, Joe Bergeron, along with a handsome mug, will be available while the supply lasts. Members will be able to give additional visibility to this important event sponsored by TAAA each year. This year's color choices are maroon with white design and light blue with royal blue design.

At its June meeting, the TAAA Board of Directors made a slight change in the pricing of the club and GCSP shirts to equalize the handling of the sales. The short sleeve tees in small, medium, large and extra large will be \$10; the larger short sleeve tees will be \$12; the long sleeve tees will be \$12 and \$14 respectively. The cost of the mugs is \$8

We hope you will enjoy these new products for the club.

Special Meeting On The New Astronomy Complex Scheduled For August 15

By Bill Lofquist

The building of Phase 1 of our new TAAA Astronomy Complex is under way. Several working groups are focusing on different aspects of creating a first class observing site for TAAA members and their guests, and we need more help with each of these for Phase 2 and beyond. Fundraising for further development beyond Phase 1 is necessary. Policies and Procedures for the Complex are being shaped. Designs for the dome and the large roll-off roof observatories, along with small roll-off roof designs are also in the works. Designs for the Educational Center/Clubhouse and the Sleeping Quarters

Desert Skies: July, 2009

Club News (cont.)

are needed. Landscaping with an interest in harvesting water and protecting any plants of interest, as well as adding new plants, needs to be planned. Getting more members involved in this development will be a focus of the Special Meeting on August 15.

The meeting will be held in Room N305 at the Steward Observatory building and will begin at 9:30 AM. We expect the meeting will be over at 11:30.

We especially hope those members who will be using the Astronomy Complex with regularity will be present for this important meeting. The overall general design of the Master Plan is the result of the collective thinking of a number of TAAA members. This August meeting will provide an opportunity for us to give more specific shape to each part of the Complex.

The Strategic Planning Group and those present at the Special Meeting on May 16 have begun to give shape to the Phase 2 building of the Complex. Financial contributions continue to be made to this next Phase. So far the emphasis has been on developing the components of the "public area" of the Complex during Phase 2. This includes ten observing pads with electricity adjacent to the parking area; a small roll-off roof observatory to house the 14" scope contributed by Wally Rogers; a Ramada to use for educational sessions and member socializing; the "amphitheater", a large area for observing; secure storage; and RV/camper sites with electric hookups.

The August meeting will help to refine these plans. Much of the Phase 1 building will be under way at that time, and we will know about when our Grand Opening can be planned for the fall.

Put this time and date on your summer monsoon calendars and provide your ideas as we continue to push ahead with shaping a great Astronomy Complex.

Name Tags

If you ordered a name tag, it will be available at the July meeting and all meetings in the future. They are only available for pick up at meetings – we do not mail them out. If you missed the latest order, we'll be placing another order in the fall.

	Astronomy Essen- tials	George Barber Comets
Aug 7	Invited Lecture	SOFIA Eric Young
Son 4	Astronomy Essen- tials	OPEN
Sep 4	Invited Lecture	TAAA Status Report
Oct 2	Astronomy Essen- tials	Seasonal Objects Mary Turner
	Invited Lecture	Bill Gates Elliptical Galaxies

Upcoming Lectures



Night Sky Network Toolkits

Below is a list of our Night Sky Network Outreach Toolkits, developed by the Astronomical Society of the Pacific under contract with NASA. These toolkits are specifically developed for amateur astronomers and are perfect for those early hours at a star party before its dark enough to observe. They are also great options for those questionable, cloudy events. Please make arrangements with Terri Lappin to borrow any toolkit.

PlanetQuest: explains planet detection techniques Our Galaxy, Our Universe: scale model of the Milky Way galaxy and the Universe



STARIZONA ADVENTURES IN ASTRONOMY AND NATURE

5757 N. Oracle Rd. Tucson, AZ 85704

www.starizona.com 292-5010



Club News (cont.)

Black Hole Survival Kit: what is a black hole and how does it affect objects nearby

Telescopes – Eyes on the Universe: explains basic principles of optics, the human eye, and observing

Shadows and Silhouettes: covers lunar phases, eclipses, and transits

Exploring the Solar System: scale model of solar system and NASA exploration of planets

GLOBE at Night: light pollution principles

Supernoval: life cycle of massive stars, touches on life

cycle of sun-like stars

Mirrors and Glass - An inside look at telescopes: how telescopes work

Other Resources

SolarScope: provides a white light image of the sun suitable for small group viewing.

Comet Chef: an apron (with a comet on it) and chef's hat to wear when mixing up comets

Each toolkit contains several projects. You pick and choose which part you want to use. They contain essentially all the materials needed. Each toolkit includes a Resources CD and a training DVD, which you get to keep.

TAAA Website - Login/Password Required

The TAAA website now has more resources for members viewing. Members must login using the user name and password that has been distributed by email. If you haven't received the email message, it may mean we do not have your latest email address in our records. Please contact the treasurer to update your information. This is also how to ensure that you receive the newsletter. We currently have a common user and single password that everyone uses. You do not enter your email address or any other personal information to gain access to the member's pages. Should you not have email and want the user name/password, contact any board member.



Are you a Starry Messenger? I bet you are! If you're the resident astronomy "expert" at your workplace, or if nieces, nephews, kids, or grandkids ask you "What planet is that?", then you are a Starry Messenger.

A Starry Messenger is anyone who brings the message of the stars to the public. Starry Messengers open minds to the Universe. Galileo did it 400 years ago after watching the behavior of Jupiter's moons. We don't risk facing the Inquisition as Galileo did, but we often see puzzled faces when we attempt to explain astronomical concepts. Building upon the enthusiasm you have for astronomy, the Starry Messengers SIG will remedy this puzzlement by

providing you with tools, ideas, techniques, and communication skills to connect with the public.

Is this SIG for "beginners" or "advanced" members? Good question...it's for both! It is your astro-enthusiasm, not knowledge, which is most significant to making that magical connection with the public – the ability to hold their interest long enough so they feel engaged with the universe.

Sure, if you know zilch about the life cycle of stars, you'll learn through a Starry Messenger SIG workshop. Armed with knowledge and having some communication skills under your belt (and likely shaky knees!), will you believe you're ready to face the public? Not likely, but we know that. You'll unofficially be a Starry Messenger *in-training*. Initially, you'll be assisting other Starry Messengers (those with solid footing) until such time when you feel confident to make that magical connection to the public.

If you already know "everything", then why should you participate in the Starry Messenger SIG? My response to you is - how soon do eyes glaze over when you're describing the life cycle of stars? Or, do you state, "This is the Ring Nebula, M57" and then go on to tell who Messier was. Are you effectively transferring your astroenthusiasm to others? If you're successful, then we all want to know your secret! If you're not quite as successful as you wish, then come to a SIG workshop maybe you'll pick up some pointers. If anything, you'll want to attend just to get the nifty handouts that we have planned!

The Starry Messenger SIG will function in two ways. First, through ongoing workshops, you'll be introduced to ideas for connecting to the public and how you might use projects from the Night Sky Network Toolkits to explain astronomical concepts. Our first workshop will likely be held in September. Watch the newsletter for upcoming details.

Secondly, we will encourage Starry Messengers *in-training* to attend a few TAAA school star parties as an observer. We will coordinate with those bringing the telescopes so they'll know you're a Starry Messenger *in-training*. We'll also hold practice star parties, allowing everyone to share their experiences. After your first real school star party, you'll be contacted to find out how it went and what you feel you need before you attend another star party.

More information about this new SIG will be presented in the August Desert Skies. If you want to give us input, please do so. You can contact me, Terri Lappin, at starrymessengers(at)tucsonastronomy.org. The group is just getting underway, so there's lots of room for us to grow!

Starry Messenger in our Midst

The Starry Messenger SIG will recognize the efforts of individuals through a monthly feature article in Desert Skies. This recognition is not meant to put anyone on a

Club News (cont.)

pedestal or belittle anyone else's efforts. It is only to give us all a chance to see how one individual acts out his or her mission as a Starry Messenger.

Roger Schuelke

You may know Roger Schuelke as the person who sends emails about filling in our star party volunteer needs. He's doing an excellent job as the School Star Party Volunteer Coordinator. Roger has been involved in astronomy for many years. He grew up in the San Francisco area, back when you could see stars from within the city. From the time that his Dad bought a four inch Newtonian telescope, he's been wowed by the night sky. Like many, the rings of Saturn and the moons of Jupiter are particularly etched into his mind.



A native of San Francisco, Roger graduated from the University of California at Berkeley and was a computer programmer for 30 years in Silicon Valley. Upon retirement, Roger and his wife Neva, wanted to move to a university community. Tucson was that place. They moved here in 2002 and soon joined the TAAA. Roger continues his interest in computers, but now has more time for his science interests and, in particular, astronomy.

Roger is a trained Project ASTRO partner, working with the same teacher for a number of years. They plan several classroom activities each year focusing on astronomy. One favorite activity helps the students get a better understanding of how moon phases occur. It's that "wow" factor when a student "gets" a new concept that gives Roger satisfaction. Roger says he volunteers "in the hopes that some of my enthusiasm for astronomy in particular and science in general will "rub off" and encourage new young astronomers and scientists." Every young person's "unbridled enthusiasm" when they first

view through Roger's telescope reminds him of his own excitement when he first looked through that 4-inch Newtonian from those San Francisco skies.

Roger is surprised by how many people have never looked through a scope. He feels the TAAA provides an important service to our community, giving an opportunity to both young and old, to develop a new appreciation of our natural environment, and specifically the skies above.

He admits that the prospect of helping others view the stars through his telescope was quite intimidating. What would happen if he didn't know the answer to their questions? Would he be skilled enough to point the telescope at something interesting? He says "All this fear was unfounded. I occasionally get asked questions that I can't answer. I usually send the person to another volunteer or suggest ways that the individual can find the answers on their own."

He encourages others with the same uneasiness about volunteering to attend a couple of star parties and observe what the amateur astronomers are doing, and how they do it. From his experience, it was much easier than he imagined.

If you have a chance to talk with Roger, thank him for his service to the community, and in particular his efforts as our Volunteer Coordinator.

International Year of Astronomy 2009 Events

Anyone interested (TAAA member or not) in public events that the TAAA will hold during the year in recognition of the IYA 2009 should talk to Terri Lappin. She is organizing a committee to plan our events for the remainder of the year.

Ideas so far:

- star party that begins with an afternoon telescope workshop where public can bring their telescopes and we'll show them how to set them up
- small community star parties held at neighborhood parks (how best do we get the word out?)
- a series of public lectures by local professional or amateur astronomers held at a library
- an astronomy workshop open to the public similar to the recent Astronomy Fundamentals class, but in a "Reader's Digest" version, completing in one afternoon

These are just ideas as this point. Whether we do them depends on the interest level of the TAAA members and the talents of those who will serve on the committee. Even if you don't want to be on the committee, if these (or other ideas) are something you would support, let Terri know. Terri can be reached at 520-977-1290 or by email at tklappin[at]comcast.net (place @ sign appropriately).

Items of Interest

Websites: Trips On The Internet Super-Skyway By Rik Hill DSLR astrophotos

You know what the old film SLR (Single Lens Reflex) cameras were? Well slap a Digital on the front of that and you have DSLR, Digital Single Reflex Cameras. This just means it's a camera that you look through the lens you shoot through and the reflex is the mirror popping up when you go to shoot. This removes things like parallax that you get with the more simple cameras. These cameras are very versatile and often with one lens you can do macrophotography of bees on a flower or the moon and earthshine in twilight and by changing lenses or using your telescope you can do even more.

If you have only been thinking about this kind of camera and want to know more about its astronomical potentialities a good place to start is A Guide to Astrophotography with DSLR Cameras:

http://www.astropix.com/GADC/SAMPLE1/SAMPLE1.HTM This will take you through some initial considerations BEFORE buying the camera and lead you to a purchase suited to your needs and pocketbook.

Another good "why buy this" article for the Rebel XT is at: http://www.skyinsight.com/wiki/index.php/
A_Review_of_the_Canon_Digital_Rebel_XT_350D

If you already own one of these, I have a Cannon Rebel XT, there are numerous selected astrophotography pages specific to your camera. For example, for my camera there's Michael Covington's page at:

http://www.covingtoninnovations.com/dslr/EOS300Dastro.html

While specific to the EOS300D it is quite applicable to the Rebel XT (or 350D). Much of this is from his book on the same topic.

Amateur astronomer, Andrew Welsh, has a helpful site with tutorials plus inspirational photos at:

http://astro.welsh-house.net/

I liked the fact that a lot of his photos were done with a Rebel.

A more generalized tutorial can be found on Ray Shore's webpage at:

http://www.astro.shoregalaxy.com/dslr_astro.htm

He even has a nice little calculator to calculate arc sec. per pixel and has the chip dimensions for the different camera types and a listing of object dimensions:

http://www.astro.shoregalaxy.com/dslr_calc.htm

Some more good images and notes on how they were taken can be seen on the Sarawak Skies website at: http://www.angelfire.com/space2/tgtan/

I've mentioned Weasner's website in these articles (about ETX and other Mak-Cass telescopes) but he has an excellent DSLR website for the Nikon D70 at:

http://www.weasner.com/etx/astrophotography/ nikon_d70_dslr/d70_astrophotography.html I feel safe in making the assumption that this will be as good as his Mighty ETX website, which is excellent

Another couple of D70 articles can be found at: http://www.astropix.com/HTML/I_ASTROP/NIK_CAN.HTM http://www.stargazing.net/david/NikonD70/

This is an exciting time for astrophotography when for just a few hundred bucks you can get a camera that can take pictures of the dog or cat (or even your kids!) in exquisite detail and it will do astrophotography without having to bake film or push process it. You can do all the processing yourself. It's sure a change from 10 or 20 years ago!

{As always, if you have a topic you'd like explored or have some interesting URLs you've turned up, drop me a line at: rhill@lpl.arizona.edu}



iridium flash image

Flandrau Science Center By Mike Terenzoni

Flandrau Science Center and Planetarium main exhibit hall and planetarium closed on June 1 due to the current statewide budget crisis. However our world-class Mineral Museum and our Observatory will remain open. The Observatory, housing a 16-inch Cassegrain telescope, is the only free public telescope that is open on a regular weekly schedule (Wednesday-Saturday, weather permitting), free to the public, in the state of Arizona. Thanks to a number of dedicated astronomy volunteers, the Observatory will continue to operate despite the announcement earlier in the year that Flandrau Science Center will be closed to the public due to state budget cuts. Although the Observatory is free, donations are requested.

The Mineral Museum is open for morning only school group field trips Tuesday-Friday, and is open to the public on Fridays and Saturdays only from 9 a.m. - 5 p.m. General Admission to the Mineral Museum is \$4 (Children 4 years and younger are FREE).

For more information to plan your visit, see our Web site: http://www.uasciencecenter.org/visit/.

Public Star Parties and Community Events

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

Tucson Botanical Garden Star Party Central Thursday, 7/2/2009 No. of Scopes: 2

Tucson Botanical Garden will be hosting Night Sky Network for an estimated attendance of 30 families at 2150 North Alvernon Way. North on Alvernon from Speedway. TBG will be on the east side of the street before Grant Rd. For telescope setup location, see John Kalas. Terri Lappin will direct setup of night sky network activites. Contact person Terri Lappin can be reached at email tk-lappin(at)comcast.net. Set-Up Time: 4:30 pm. The event will be from 5:00 pm to 9:00 pm. Sunset: 7:38 pm Dark Sky: 8:41 pm Moon Phase: near First Quarter.

U of A LPL Apollo Landing Celebration Saturday, July 18, 2009

See article in Club News section.

Biosphere 2 Teacher Conference Star Party North

Thursday, 7/21/2009 No. of Scopes: 4

Biosphere 2 Teacher Conference will be holding Exploring the Night Sky for an estimated attendance of 50 teachers at Biosphere 2. North on Oracle to Biosphere 2 Exit, turn right. Follow road to Biosphere first gate, it should be open, if not follow instructions on sign. Continue to top of hill. You will turn at second left at top of hill at sign that says Admin. There is a second gate, call

me and I will come to let you in. Viewing will be behind B2 Café, near patio area next to Student Village. Contact person Laurie Burrell can be reached at (520) 906-9117 or email lburrell(at)amphi.com. Alternate Contact person Matt Adamson can be reached at (520) 204-2444 or email madamson(at)email.arizona.edu. Set-Up Time: 8:00pm. Observing will be from 8:30 pm to 10:30 pm. Sunset: 7:32pm Dark Sky: 8:33pm Moon Phase: (no moon during viewing).

Catalina Village Star Party East Sunday, 7/26/2009 No. of Scopes: 2

Catalina Village will be planning Senior Star Gazing for an estimated attendance of 35 people at 5324 E. 1st Street. East on Speedway one block before light at Craycroft. Turn right on Woodland Street. Community is directly behind Arizona Shuttle / Transportation Service on Speedway. Viewing will be in the courtyard. Contact person Jon Bartlett can be reached at 327-4010 or email the-village2son(at)yahoo.com. Set-Up Time: 7:00pm. Observing will be from 7:30 pm to 9:00 pm. Sunset: 7:29pm Dark Sky: 8:29pm Moon Phase: near First Quarter.

Telescopes for Borrowing



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
Meade10-inch f/4.5 on equatorial mount
Meade 10" LX200 GPS (requires training session)

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

Member's Events

TAAA Star Party at Las Cienegas (Empire Ranch) Saturday, 18 July

Las Cienegas (formerly Empire Ranch) has been our normal dark-sky observing site for quite a number of years. Please try to arrive before sunset. Stay as long as you like, but let everyone know when you are ready to leave; someone may be taking astro-images. Bring a telescope if you have one, but you don't need one to attend. Any member would be glad to let you look through their telescope. And, there are now restroom facilities at the site... Las Cienegas is at 4000 feet so be prepared for cool temperatures after sunset. It's also a good idea to bring insect repellent. Attendees should park their vehicles either perpendicular to the airstrip facing toward the center of the strip, or parallel to the airstrip along either side facing west. That way, when you are ready to leave, you will not have to back up and turn on your bright white backup lights. See the directions to Las Cienegas on the outside flap of this newsletter.

TAAA Star Party at TIMPA

Saturday, 25 July

By Erich Karkoschka

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

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

Rattlesnake Alert!

Be alert for rattlesnakes! 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, so be careful when walking.

Dark Skies for July 2009

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DARK SKIES (no twilight, no moonlight) for Tucson in 24-hour MST: 18=6pm, 20=8pm, 22=10pm, 0=12am
RISE, SET, VISIBILITY for sun and bright planets: rise for morning object, set for evening object
Tu/We 30/ 1 0:52 - 3:41
                                Sa/Su 11/12 21:11 - 22:03
                                                                Tu/We 21/22 21:04 - 3:57
We/Th 1/ 2 1:28 - 3:42
                                We/Th 22/23 21:03 - 3:58
Th/Fr 2/ 3 2:08 - 3:42
                               Su/Mo 12/13 21:10 - 22:30
                                                                Th/Fr 23/24 21:02 - 3:59
Fr/Sa 3/ 4 2:52 - 3:43
                               Mo/Tu 13/14 21:10 - 22:58
                                                                Fr/Sa 24/25 21:17 - 4:00
                               Tu/We 14/15 21:09 - 23:28
Sa/Su 4/ 5 3:42 - 3:43
                                                                Sa/Su 25/26 21:48 - 4:01
                               We/Th 15/16 21:09 - 0:03
Su/Mo 5/ 6 - - -
                               Th/Fr 16/17 21:08 - 0:44
                                                                Su/Mo 26/27 22:20 - 4:02
Mo/Tu 6/ 7 - - -
                               Fr/Sa 17/18 21:07 - 1:33
                                                                Mo/Tu 27/28 22:52 - 4:02
Tu/We 7/ 8 Full Moon
                               Sa/Su 18/19 21:07 - 2:32
                                                                Tu/We 28/29 23:28 - 4:03
We/Th 8/ 9 - - -
                                                                We/Th 29/30 0:07 - 4:04
Th/Fr 9/10 - - -
                                Su/Mo 19/20 21:06 - 3:40
                                                                Th/Fr 30/31 0:50 - 4:05
Fr/Sa 10/11 21:12 - 21:36
                               Mo/Tu 20/21 21:05 - 3:56
                                                                Fr/Sa 31/ 1 1:38 - 4:06
Weekend
                                                           Jupiter
          Sun
                 Sun
                          Mercury
                                     Venus
                                                                     Saturn
                                                Mars
          Set
                Rise
                          Rise Vi
                                     Rise Vi
                                                Rise Vi
                                                           Rise Vi
                                                                     Set Vi
                                                                                Vi=Visibility
Sa/Su
          19:32 5:21
                          4:35 7
                                                           21:57 -3
                                                                     23:04 1
4/5
                                     2:33 -3
                                                2:09 2
                                                                                -3 brilliant
11/12
          19:31 5:24
                          Set:
                                     2:32 -3
                                                1:58 2
                                                           21:28 -3
                                                                     22:38 2
                                                                                0 conspicuous
18/19
          19:28 5:29
                          19:54 -
                                     2:34 -3
                                                1:48 1
                                                           20:59 -3
                                                                     22:12 2
                                                                                3 moderate
                                     2:37 -3
                                                1:38 1
                                                                     21:46 2
                                                                                6 naked eye limit
25/26
          19:24 5:33
                          20:12 7
                                                           20:29 -3
                                     2:43 -3
                                                1:28 1
                                                                                9 binoculars limit
          19:19 5:38
                          20:20 5
                                                                    21:21 3
1/ 2
                                                           19:59 -3
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TAAA Board of Directors Meeting - 10 June 2009

Attending: Board members present (7): Ken Shaver (presiding), Keith Schlottman, Luke Scott, Teresa Bippert-Plymate, John Kalas, John Croft, George Barber. Members present (5): Bill Lofquist, Mary Lofquist, Terri Lappin, Claude Plymate, Steve Marten.

The president called the meeting to order at 6:35 pm.

Minutes from the May Board meeting were approved.

Member Feedback

The newsletter announcement e-mail did not go out.

Upcoming Meetings

A members' observatory meeting and tour has been suggested.

The September and December Astronomy Essentials lectures are open.

Announcements

- Ken Shaver attended the TIMPA annual board meeting and reported that there are no changes to the TIMPA Board of Directors. The TIMPA caretaker's house has not been rented.
- Richard Dougall is stepping down by the end of the year from his position as TAAA Loaner Scope coordinator.

Treasurer's Report

A check in the amount of \$22646.02 was written to SSVEC for electrical service to the Dark Site.

Dark Site Development

- John Kalas reported on Phase 1 construction. TAAA has signed for two contracts with Peter Ammon. Randy Maddox's
 contract needs to be updated because costs have decreased slightly as a result of adjustments.
- TAAA received a quote for installing concrete parking bumpers in the parking area. A motion was entered and seconded to approve the expenditure of \$1184 for concrete parking bumpers. The motion was approved unanimously.
- Bill Lofquist reported that 20 members attended the Phase 2 planning meeting. Among ideas discussed were public
 telescope pads, ramadas, amphitheater, storage, and camper sites. Bill proposed a follow-up meeting in August to
 solicit additional member feedback.

Chase Bank

John Chalmers of Chase Bank addressed the board regarding business credit cards and signature authority transfer for TAAA accounts. Teresa Plymate, Terri Lappin, and Ken Shaver will meet with Chalmers on 15 June to transfer signature authority.

International Year of Astronomy

The club was contacted by Tucson Botanical Gardens about participating in an astronomy-related activity at the gardens. 2 July, 30 July, and 22 August were suggested as possible dates, but it was noted that viewing opportunities may be limited due to the time, 5 pm to 9 pm, and location. Terri Lappin will coordinate this activity.

The club will host IYA star parties on 12 September and 19 December at the TIMPA site.

Pacific Astronomy and Telescope Show

Keith Schlottman reported on club participation opportunities at PATS, 26-27 September in Pasadena, CA. Clubs may set up an information table at no cost. An announcement soliciting club interest will be placed on the Forum.

Apparel

Bill Lofquist distributed the invoice for Grand Canyon Star Party shirts. The Board has been informed by the apparel program coordinator and concurs that prices for GCSP and TAAA logo shirts will be equalized at \$10.

Business Cards and Fliers

More business cards need to be ordered. The TAAA flier will be rewritten and submitted to the Board for approval. A motion was entered and seconded to authorize expenditures for TAAA business cards and fliers after being approved by the Board. The motion was approved unanimously.

<u>Other</u>

- Terri Lappin will investigate and report to the board on using Google to send the newsletter announcement.
- Steve Marten will report to the Board on AFSIG activities a few days before the monthly meetings.
- The president appointed John Kalas, Bill Lofquist, and Keith Schlottman to a committee to determine the club's insurance needs.

Meeting adjourned at 8:45 pm. Respectfully submitted,

Luke Scott, Secretary

TAAA ASTRONOMY COMPLEX

Phase 1 Construction Update

John Kalas – Construction Coordinator

As I mentioned last month, the pace of activity at the dark site is increasing dramatically. The month of June confirmed that fact. On 6/10, I visited with our excavation/ septic contractor, Peter Ammon, at his home in Dragoon, AZ to sign his contracts and present him with advance payment checks. On 6/17, Robert Crawford and I visited the dark site to review the upcoming well drilling with our contractor, Harvey Allen. Harvey explained the clearing requirements at the well site, so he can get his drill rig into position. The most impressive accomplishment at the site this month occurred on 6/20 when Peter Ammon cleared the vegetation from the entire Phase 1 construction area, the full 50' width of the entry road and the north side of E. Perseus Way (see photos below). John Croft just happened to visit the site that day and witnessed/photographed the activities. Finally, on 6/24, Robert Crawford, Bill Lofquist and I visited the power company (SSVEC) in Willcox to deliver the required signed/notarized easement document to the Right-of-Way Dept. allowing our work order to proceed to the Construction Dept. for installation. We also had a meeting with two SSVEC engineers to discuss future power expansion at the site for subsequent phases of construction; a very worthwhile meeting. After the SSVEC meeting, Robert, Bill and I went over to the dark site to see, first hand, the cleared site. It was fantastic! Standing in the cleared area, you could imagine exactly how the site will look after the completion of Phase 1 construction and it was thrilling.

Upcoming activities will include the drilling of the well, hopefully before 7/10, and the clearing of S. Price Ranch Road in preparation for the grading of both roads. I will be visiting the site during the week of 6/29 to investigate the availability of DSL internet service to the site and to sign the contract with our bathroom facility and concrete handicapped parking spaces/walkway contractor, Randy Maddox. As you can see in one of the photos below, the cleared vegetation is being piled within the site. As soon as Peter Ammon completes the clearing of S. Price Ranch Road, that pile will be significantly larger. Soon after all clearing has been completed, we will schedule a burning of the debris with a Sunsites-Pearce Fire Dept. tanker truck standing by for safety. That should be an impressive bonfire!

I would like to emphasize that despite being cleared the site is not available for use until the Phase 1 construction is complete and we receive an occupancy permit from Cochise County. At this time, that will probably not occur until the end of October. In the next few weeks, there will be trenching taking place for electric service, water lines and the septic field. It is advised that members do not visit the site due to the hazards of potential trench caveins. The soil is very loose and rocky out there. We will document the progress of the construction with photos in future newsletter updates. Thanks for your consideration. Stay tuned.



Titus Ammon "plucking" the vegetation





Cleared E. Perseus Way looking east 50 ft. wide entry road

TAAA ASTRONOMY COMPLEX (cont)



Partial burn pile with Bill Lofquist



Standing at bathroom location looking NW

Ammon Enterprises grader with Robert Crawford

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.

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

Desert Skies Classified						
FOR SALE	Meade 2080 8 inch Schmidt Cassegrain with an installed declination motor and the original case (trunk). Excellent condition. \$800 OBO. Joe Grisillo, 2sonjoe(at)att.net [09/09]					
FOR SALE	Winer Observatory has acquired through a donation from an estate hundreds of telescope parts and accessories. All items are for sale at clearance prices. Items include a complete 20-inch Newtonian telescope on a Software Bisque mount, several carbon fiber tube assemblies (some including optics, some empty), FLI CCD cameras, filter wheels, focusers, spiders, secondary mirror holders, large binoculars, instrument rotators, eyepieces, photo accessories, much more. Please see http://www.winer.org or call Mark Trueblood at 520-455-9263 for details. [09/09]					
FOR RENT	The residence at the TIMPA site will be available for rent in April. The house is a 3 bedroom, 1 bath. The rent is \$450/mo. but will be discounted \$100 if the renter is willing to empty the trash cans for TIMPA. They may have additional credits for other duties at the site. Please contact TIMPA President Mike Cummins at 299-0593. e-mail michael(at)mcummins.com					
SERVICE	Green laser pointer need repair or tune up? Contact Donald Arndt at (415) 215-2409 or donaldja(at)pacbell.net. Typical repairs cost \$25-50, including return shipping.					

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

Constellation Report by Chris Lancaster

Hercules

The Strongman

From Greek myth we get the elaborate story of Hercules, who was the son of Zeus and a mortal princess. Hera, the wife of Zeus, in her jealousy sent serpents to kill the infant Hercules, but his strength was immediately displayed when he strangled the snakes. When that didn't work, Hera managed to send him away to become a servant to King Eurystheus. There he grew up to be stronger than any mortal man. In order to be released from the servitude of the king, he was commanded to complete the Twelve Labors, including slaying many terrifying creatures such as the Nemean Lion (which became Leo) and a several headed monster called Hydra (also placed in the sky).

The demise of Hercules came after he had won the affection of Deianeira, a beautiful maiden. When Nessus, a fearsome centaur, kidnapped Deianeira, Hercules him with an arrow. Nessus gave Deianeira a drop of his blood and deceived her by saying that Hercules would be forever in love with her if he ever came in contact with it. But when Hercules wore a tunic that Deianeira had dotted with the blood, his flesh began to burn away. As a result of this blunder, Deianeira's emotional anguish and Hercules physical pain led them to both kill themselves. Zeus put Hercules in the sky for all the world to see and remember the mighty hero.

Hercules is still low in the sky after dark during the middle parts of May and reaches the meridian just after midnight. He poses in a kneeling position to the west of the bright star Vega in the constellation of Lyra. The most recognizable part of Hercules is the quadrilateral of stars that form the "keystone" figure. The other stars of Hercules forming his limbs splay out from this keystone and are in the range of 2nd, 3rd, and 4th magnitude.

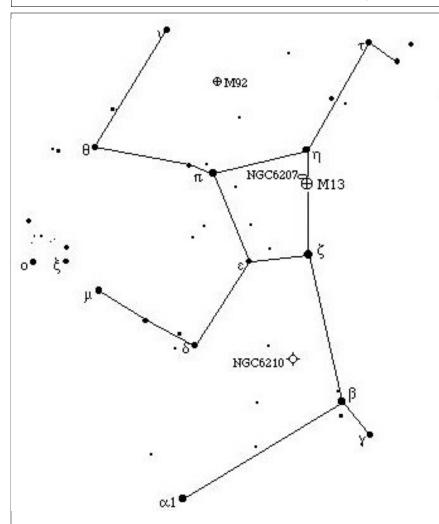
Hercules is home to one of the best deep sky objects visible from this hemisphere, the great Hercules globular cluster M13. When Charles Messier discovered it in 1764, he described it as "a nebula which I am sure contains no star," which gives you an idea about the kind of instruments he had at his disposal in his day. It will rise to within about 4 degrees from the zenith and will appear as a diffuse spot of magnitude 5.9 to the naked eye on nights of exceptional darkness and clarity. A small telescope of about 4 inches will show this spot as a large ball with a few of the brighter stars coming into view. Eight inches or more of aperture will make this globular cluster bloom into a dense explosion of hundreds of stars while the other hundreds of thousands fill in the spaces in between with a dense glow spreading across 16' of the sky. A prolonged gaze at M13 will be a treat for your imagination as geometrical patterns of stars will come in and out of view. Besides the brightness of M13, the other aspect that makes this object a joy to view is how easy it is to find. Simply look 2.5 degrees south of Eta Herculis, the 3.5 magnitude star marking the northwest corner of the Keystone asterism. If



Hercules Cluster M13. Imaged by Dean Salman

you wish to use your setting circles or a go-to scope, M13's location is RA 16h 42m 53s Dec +38d 55' 20".

Constellation Report by Chris Lancaster (cont.)



The dazzling nature of M13 makes us forget that a galaxy lies less than half a degree from it. However, a large telescope is required due to its weak 12.2 magnitude glow. NGC6207 is very much overshadowed by M13, but presents a challenge for those who want to hunt it down. Look 27 arc minutes to the northeast of M13 for this small, oblong glow, or RA 16h 47m 59s Dec +36d 49' 59".

While M13 is an unquestionable visual treat, don't forget about Hercules' other great globular cluster, M92, which is only slightly smaller and dimmer than M13. If you draw a line from Eta to lota Herculis, M92 is about 2/3 of the way between the two, or RA 17h 17m 6s Dec +43d 8' 00".



Hercules Cluster M92. Imaged by Dean Salman

Robert Burnham Jr in his famous Celestial Handbook indicates that M92 holds its own among the sky's other fantastic globular clusters by saying that "the view (of M92) in large instruments is stunning beyond words; the countless star images run together into a dazzling central blaze which is equaled by only a few of the globulars." M92 shines at magnitude 6.5 and spans an area of 11.2 arc minutes.

From these ostentatious objects we can also seek some of the other obscure things Hercules has to offer. Toward the south, a little less than 8 degrees from the "keystone", is the small planetary nebula NGC6210 (RA 16h 44m 30s Dec +23d 49' 00"). Boost the power for this tiny nebula which spans only about 12 arc seconds in diameter. But the small size coupled with its fairly bright 9th magnitude glow makes it fairly easy to spot.

Alpha Herculis, named Ras Algethi from the Arabic phrase which means "head of the kneeler", is a naked eye irregular variable star. Its brightness can be compared to nearby Delta Herculis which shines at magnitude 3.1. Alpha goes from that same magnitude down to about magnitude 3.9 over a period averaging about 90 days. It has a spectrum of M5 which gives it a reddish color.

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.
- 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:

- 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..
- 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.

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 1/4 mile past milepost 40, turn left into Las Cienegas. The road is dirt and is "washboarded" 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.

<u>Directions to Las Cienegas (Empire Ranch)</u>