

TUCSON AMATEUR ASTRONOMY ASSOCIATION

Observing Our
MONTHLY EVENTS BULLETIN
Since



Desert Skies

1954

WWW.TUCSONASTRONOMY.ORG

June 2023

www.tucsonastronomy.org

Membership Meeting

June 2 @ 6:30 pm - 9:00 pm

TAAA's next general member meeting will be held on **Friday, June 2, 2023**. This will be a **hybrid meeting** (both in person and on social media). TAAA members will receive a Zoom link should they wish to attend remotely. The public may attend in person at the **Steward Observatory Lecture Hall (Rm N210), 933 N Cherry Ave., Tucson** or stream online at the TAAA [YouTube](#) channel.

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Main Presentation at 6:30PM AZT

Title: Annular Eclipse, October 14, 2023

Presentation: While we all look forward to totality in 2024, a great observing opportunity presents itself to amateur astronomers in the U.S. this fall. An annular eclipse (when a ring of the Sun's disk surrounds the Moon) will touch the Pacific coast and track across eight states before moving into the Gulf of Mexico. The path of this annular eclipse isn't that far from Tucson. Michael Bakich's talk will cover the details about an event that won't happen again in the 48 states until 2046.

Biography: Michael E. Bakich was Senior Editor of Astronomy magazine for 17 years before retiring in 2019. He and his wife, Holley, then realized their lifelong dream and moved to Tucson. Michael continues work for the magazine as Contributing Editor. He has authored 14 books on astronomy, including Atlas of Solar Eclipses: 2020-2045.



TAAA Desert Skies Bulletin

[David Rossetter](#) – Editor; Ken Bertschy - Graphics

Terri Lappin & Jim Knoll - Proofreading; Greg Ruppel -Image Editor

May 2023

The May TAAA Board meeting was quite busy. Departing Board Member, Gus Gomez, was thanked for his service and new Board Member, Ed Foley, was welcomed to officially join Board activities at the June meeting. It was announced that Bob Rose has been appointed Assistant CAC Director and Bernie Stinger has been designated as one (of the now three) approved TAAA Media Contacts. The donation of the new 32" telescope was accepted and funding for its transport to Tucson was approved. A proposed new TAAA budget for 2023-2024 was reviewed and accepted pending a final review and vote by the new TAAA Board in the June meeting. Other May Board activities included: Approval of a statement of Assumption of Risk and Release language for non-members participating in TAAA activities and approval of a position description for the new position of "TIMPA Facility Caretaker".

As usual, TAAA has been busy in May. Three new TAAA library telescopes were presented. The TAAA Astronomy Festival was held in

May as well as numerous star parties were conducted. The largest event of TAAA's year, the Grand Canyon Star Party occurs soon, June 10-17. We appreciate having diligent TAAA leaders conducting the TAAA GCSP Planning Team: Jim Knoll, GCSP Director; Gary Wells, GCSP Registrar; and Mae Smith, GCSP Campground Director. This team starts in the months of December or January prior to the June event each year to work on the upcoming year's GCSP. So, at least six months of foundational work is conducted prior to each GCSP. Then, we have tremendous volunteer efforts of people working in a variety of ways with public participants and special team leaders assisting with management along with tremendous guest presenters. We have had a great TAAA Team supporting all these efforts and more information will be shared next month in our post-GCSP communication. If you can come to GCSP for a night, or for the complete event, please consider doing so.

President [Mae Smith](#)

Board of Directors Meetings

The TAAA Board meets the second Wednesday of every month at 6:30pm. Members are welcome to attend Board meetings. If you would like to attend a Board meeting, you may email Mae Smith to receive a Zoom link for that meeting. Please send your email to Mae the Monday or Tuesday (By 5:00pm) and you will receive an email with the link on either Tuesday evening or Wednesday. **ALL MEMBERS ARE WELCOME.**

TAAA Election 2023 Results By Pete Hermes



The NVRC ran the TAAA Leadership Election before and during the May 5, 2023 General Membership Meeting using OpaVote. Below are the results:

President (2-year term):	Mae Smith
Vice President (2-year term):	Doug Smith
MAL (2-year term):	Ed Foley
NVRC (2-year term):	Pete Hermes

The new board and NVRC members will take their positions on June 1, 2023. The raw results files from OpaVote were submitted to the TAAA Secretary. Thank you to Gus Gomez and Allen Force for their service over the past few/couple of years in an elected leadership position. And thank you to Suzanne Bailey for running for the MAL position. We look forward to more of her involvement in the future.

As always, please contact the [NVRC](#) if you have any questions.
Pete Hermes - Chair, John Christensen, Allen Force, Dave Pass

TAAA Ladies' Night Out

by Susan O'Connor

Ladies' Night Out is a social interest group for women members of the club. The group meets once a month at a restaurant for fellowship and conversation. This month's meeting is:

Thursday, June 15, 6:30pm

Persian Room

9290 N Thornydale, Ste 100
(NE Corner of N Thornydale and W Overton)

Preview the menu at: <https://www.persianroom.com/lunch-menu/>
RSVP [Susan](#) - 520-780-0136

Astronomical League Workshop Open for Enrollment

Place: Woods Memorial Library, 3455 N. First Ave. Tucson

Date: Saturday, July 15, 2023

Time: 10 AM until 1 PM



Synopsis: This workshop is designed for anyone who may be interested in pursuing one of the Astronomical League observing programs for the first time or anyone interested in learning about these observing programs. The workshop will cover how the various observing programs work, program requirements, selection of an appropriate program, recommended equipment, resources, logging requirements, and much more.

If interested, you can contact the TAAA Astronomical League Correspondent (ALCOR) via the information listed below or sign up using the signup sheet that will be available at the June and July General Members meeting.

TAAA ALCOR – Douglas Smith

Phone: 520-396-3233

E-mail: alcor@tucsonastronomy.org

TAAA 2024 Calendar

It's again time to request submissions of images and photos for next year's TAAA calendar.

We always hope to include many different kinds of subjects.



Images of deep sky and solar objects need not be recent. Post processing is optional.



We can also use “landscape” photos - pictures of astronomical objects against local terrain



And we welcome pictures of club events.



The calendar software requires the images and photos to be in JPEG format.

Submissions can be made through July 20 to my email: [Susan OConnor](mailto:SusanOConnor)

Library Telescope Program (by Jim Knoll)

TAAA has donated another three telescopes to the Pima and Cochise County Library system. This is a fabulous program that allows Library Patrons to check out a tabletop 4.5-inch telescope just as they would a book. Generally, they can be checked out for three weeks with a valid Library Card.



Sunsites Library



Sahuarita Library



Eckstrom-Columbus Library

No reservations are accepted though. You need to call the specific library to confirm status. Over the past several years (starting 2017), we have placed multiple telescopes each year into the system and now have telescopes in 11 libraries in both counties. We plan to continue as long as donors are willing, and the libraries want to host a telescope. Help us spread the word. Here is the current list of libraries. You can also get more information on the TAAA [Library Telescope Webpage](#).

Thank You to our generous TAAA member donors!!

Pima & Cochise County Library Telescope Locations			
Library Location	Address	Phone	Website
Main Library (Joel D Valdez)	101 N Stone Ave	(520) 594-5500	https://www.library.pima.gov
Oro Valley	1305 W Naranja Dr.	(520) 594-5580	
Miller-Golf Links	9640 E Golf Links Rd	(520) 594-5355	
Valencia	202 W Valencia Rd	(520) 594-5390	
Sam Lena South Tucson	1607 S 6th Ave	(520) 594-5265	
Kirk-Bear Canyon	8959 E Tanque Verde Rd	(520) 594-5275	
Ajo	15 W Plaza #179, Ajo, AZ	(520) 387-6075	
Sahuarita Library	670 W Sahuarita Rd, Sahuarita	(520) 594-5490	
Ekstrom-Columbus Library	4350 E 22nd St	(520) 594-5285	
Benson (Cochise Cnty)	300 S Huachuca St, Benson	(520) 586-9535	https://cochiselibrary.org/
Sunsites Library (Cochise Cnty)	210 N Ford St, Pearce	(520) 826-3866	

Solar Filter Workshop Announcement

With the upcoming Annular Solar Eclipse this October and the Total Solar Eclipse in April 2024, AFSIG will be hosting two workshops to build your own solar filter. The filters are purpose built to your camera lens, telescope, or binoculars and you can choose from one of two films for the filter: Seymour (which produces an orange sun) or Baader film (which produces a whitish sun).



Baader Film on the lower right and Seymour film on a 63mm lens on the left.

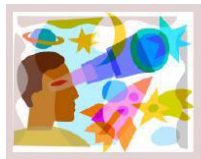
The **first** workshop is tentatively planned for the first or second weekend of August 2023 in Tucson so you can have the filters ready for the October Annular Solar Eclipse. The second workshop date is TBD but expect it to be December 2023 or January 2024. If you are interested in the August workshop, please email fundamentals@tucsonastronomy.org with the following information **by July 15th, 2023**

- Your Name
- The aperture size of the camera lens, binocular, or telescope you would like to build a filter for
- If you prefer the first or second weekend of August

Common Questions

- Will I have to be a club member to participate?
 - Yes, you will need to be a member. The workshop will not be open to non-members.
- How much will the filters cost?
 - \$15 per filter, maximum 4 per person
- When will I have to pay?
 - The fee will be due on the time of the workshop. Payment method TBD.
- Will I need to buy 2 filters if I am making them for binoculars?
 - For safety reasons this is strongly encouraged, but you can choose to build only one filter but will have to leave a lens cap on the non-filtered lens to prevent eye injury.
- Can I get one each of Baader and Seymour film?
 - Yes
- Is there a limit on the size of the filter?
 - Please limit the aperture size of your optics to 4 inches / 100mm to ensure we have enough material for both workshops.

Special Interests Groups



Starry Messengers Special Interest Group

Opening Minds to the Universe

The Starry Messengers group is taking a break from monthly meetings over the summer, but we're still doing outreach! In fact, we just recently added three more telescopes to the Library Telescope Program. This brings us to 11 scopes in libraries in Pima and Cochise Counties. Jim Knoll has written an article about these scopes in this issue of Desert Skies.

When I asked Jim if he'd make the modifications to the first scope back in 2017, I never imagined we'd have so many scopes in the program. Jim and Susan Knoll took the lead on this program and have made it a huge success! I'm so delighted that the Knolls have put so much into this program. These scopes are in use by library patrons all the time.



Activities from the Shadows & Silhouettes and Our Magnetic Sun Toolkits, including the Lunar/Solar Eclipse demonstration.

We do need to remove the scopes from the library circulation for maintenance. With eleven scopes, this has become a daunting task for Jim. It's time to get him some help with the cleaning and occasional repairs. Let Terri Lappin or Jim Knoll know if you're interested in learning how you can help with the Library Telescope Program.

The summer lull in toolkit activity requests allows SMSIG members to brush up on how to use our outreach toolkits. TAAA members can borrow a toolkit for a month at a time to learn these activities on their own time. The Shadows & Silhouettes Toolkit might be of interest to TAAA members. It includes a simple activity that can be used to explain lunar and solar eclipses. Over the next year, two partial solar eclipses will be visible from Tucson and in March 2025 we'll have a nice total lunar eclipse. This simple activity may help you demonstrate the difference between solar and lunar eclipses, and why one is more common than the other.

If you have questions about the Starry Messengers SIG, contact [Terri Lappin](#) or call 520-977-1290.

Astronomy Fundamentals SIG

Come join us for a presentation from the fundamentals of amateur astronomy. Learn your way around the night sky to add to your observing enjoyment. Meetings are on the second Thursday of each month.

The next meeting is on **Thursday, June 8th at 6:30 pm - 8:00 pm**. Topics to be determined.

Contact [Connor Justice](#) for Zoom link and more information.

Access videos of previous meetings in the TAAA's [YouTube Channel](#).

[AFSIG on the Web](#)

The next AISIG meeting is **Monday, June 19th @ 7:00 pm** via ZOOM.

Topics: Calibration Frames - How to Make Them and How to Use Them

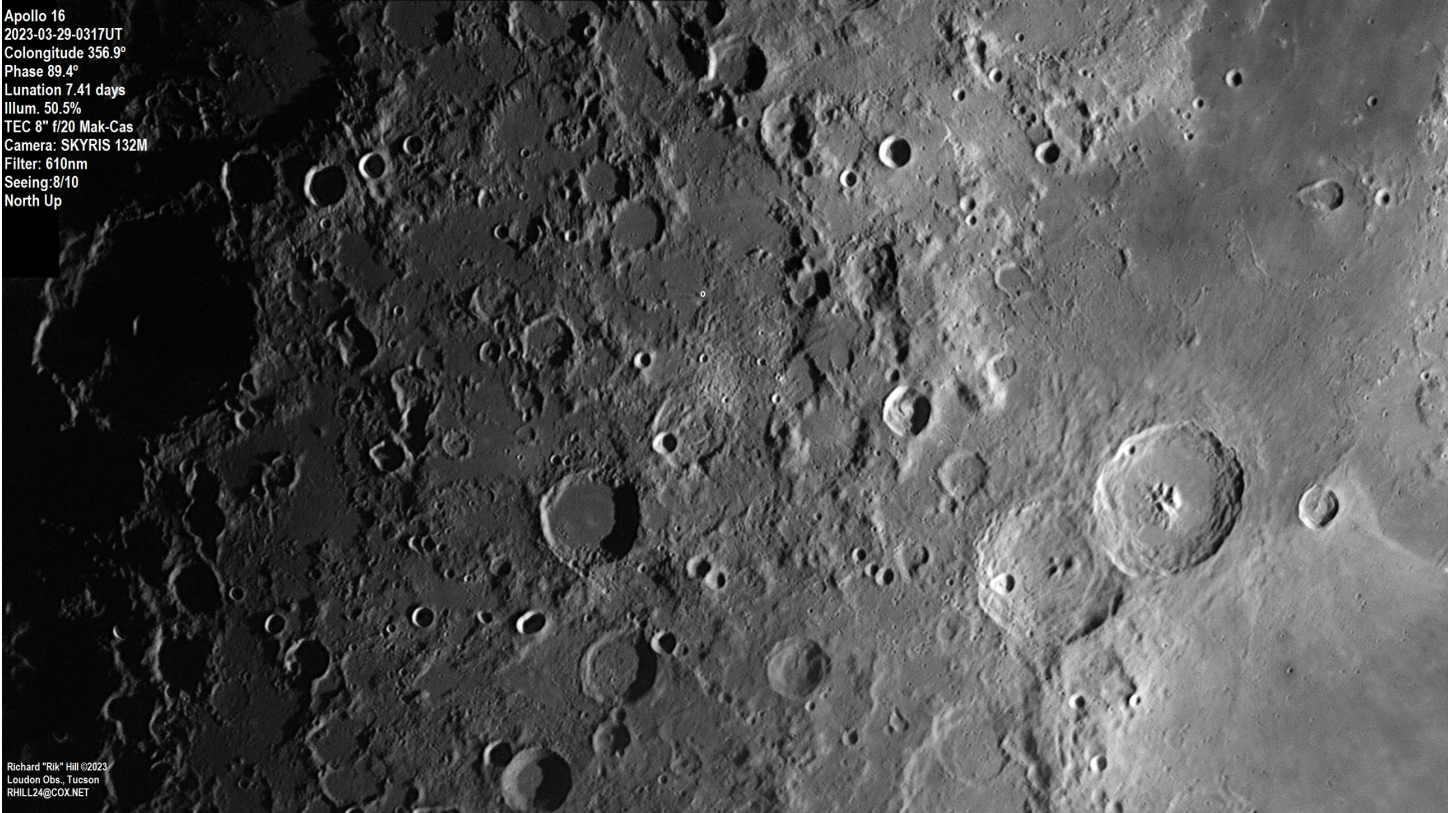
- Alan Rockowitz, Craig Harding and Gregg Ruppel

Image Sharing, Q/A

Email [Gregg Ruppel](mailto:Gregg.Ruppel) for the ZOOM link or any other information. Gregg and the AISIG folks are very active on the TAAAgroups.io forum. Check out all the helpful advice and amazing images there. For more information or instructions on how to join the forum, check out the TAAAForum. Look for previous AISIG meetings on the TAAAYoutubeChannel.

Highlights from the Astro-Imaging SIG

Apollo 16
2023-03-29-0317UT
Colongitude 356.9°
Phase 89.4°
Lunation 7.41 days
Illum. 50.5%
TEC 8" f/20 Mak-Cas
Camera: SKYRIS 132M
Filter: 610nm
Seeing: 8"/10
North Up



Rik Hill - Apollo 16 Region: There is the magnificent Theophilus crater (104km dia) on the right (lunar east) side of this image with its splendidly detailed central peaks. Below is the older and slightly smaller Cyrillus (100km). To the east of Theophilus is Madler with a fascinating ejecta splash surrounding. On the left side of this image (lunar west) is the huge shadow filled Albategnius (139km). Between these two extremes of this image are several very interesting features. Almost dead center in the image you will see a small "o". This marks the location of the Apollo 16 in the Descartes highlands. The little white spot just below the "o" is Stone Mountain that was explored by the astronauts and above are the Smoky Mountains. Below this region is the ruined crater Descartes (49km) which has an interior ring and Descartes A (14km) on the west side. Just below center is a large flat floored crater, Abulfeda (65km). Tangent to the southeast wall of this crater and trailing off this image to the southwest is a chain of craters called Catena Abulfeda. The length is listed as 216km running almost to Polybius with many of the larger craterlets being named as satellite craters of larger nearby craters but generally they are not named below the 5km diameter.

This image was made from pieces of 3, 1800 frame AVIs stacked with AVISharp2 (IDL) and finish processed with GIMP and IrfanView



Alan Rockowitz - NGC 5585: NGC 5585 captured from my backyard in Tucson. It's about 10 hrs of LRGB data. The galaxy is fairly small, at about 4.3×2.6 arc minutes.

Alex Woronow
M83

[Astrobin](#)





Mike Mulcahy
M108 Surfboard Galaxy

Taken with an Edge 8 HD,
a ASI294MM camera and
were guided with an Askar
OAG, at f10.

[Astrobin](#)



Tom Eby - Arp 23

Arp object #23, the larger galaxy is NGC 4618, classed as a distorted barred spiral dwarf and fairly bright at mag 11.2 Arp classification is One-armed spiral.

NGC 4625 is the smaller galaxy, at mag 12.9. There is an extremely faint outer arm to the west (right) side. It also has a very faint companion slightly left, NGC 4625a.

RC8" f/8 / asi2600mc / 158 min / 3-25-2023.

David Stearn
Rosette Nebula

This was 400 30 seconds subs with the C8, Hyperstar 8v4, AVX mount and IDAS NBZ UHS filter.

Processed in PI - WBPP,DBE.

SPCC,BlurXT,NoiseXT, Bills HSO script, curve transformation the finished in Lightroom.



Jeff Rothstein
NGC 4565

This is NGC 4565, the Needle Galaxy. Brighter than Andromeda and with more globular clusters, it is a prime example of an edge-on galaxy. This image is a tight crop of a frame that is about 2 degrees by 1.3 degrees. Processed in PI: WBPP, BN, DBE, BXT, MLT Chrominance, NXT; GHS: SCNR, a little HDRMT, Curves and Color Saturation.

[Astrobin](#)

(c) Jeffrey S Rothstein, 2023

Observing Sites

TIMPA

by TIMPA Planning Group

TIMPA (Tucson International Modelplex Park Association), dark sky site west of the Tucson Mountains.

TIMPA Star Party Dates this month: **June 16-17**

Location: The TIMPA observing site is located a few miles beyond the Desert Museum (3250 N. Reservation Road, Tucson, AZ 85743).

The TIMPA site is only partially improved. There are no inside buildings provided other than restrooms. TAAA provides very limited seating (members are welcome to bring folding chairs). Please note that members visiting the TIMPA site may encounter things commonly found in partially improved desert areas such as desert creatures and/or their remnants (such as gopher holes or ant hills), uneven terrain, weeds, and desert pollens. Members using the site are encouraged to bring red lights and to move cautiously taking appropriate safety measures. The site does not have potable water, so bring your own non-alcoholic drinks.

Member Reservations for May should be sent to jmead@SIU.edu. Make sure to clearly include your name and contact information and date and time you plan to be on site.

Chiricahua Astronomy Complex

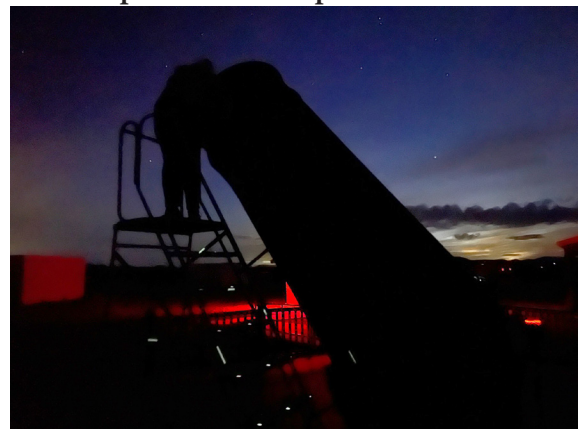
by Jim Knoll

CAC Weekend Dates coming up (Friday/Saturday): **June 16-17 (New Moon 17)**

Chiricahua Astronomy Complex (CAC) is the club's dark sky observing site, located in Cochise County approximately 100 miles southeast of the center of Tucson. If you would like to attend, you must make a reservation on the CAC Web page at [CAC Reservations](#). The reservations page has been enhanced with cancellation links. This allows members to more easily cancel a previous space or telescope reservation.

Unless you are qualified to open and close the site, dates will be limited to those around the New Moon and are listed on the CAC web page. Hosted personnel are generally on site a few days before and after these dates.

CAC Director: [Jim Knoll](#) [CAC on the Web](#)



Observing Sites Star Party Dates 2023

TIMPA

June 16-17

No Monsoon dates set

CAC

June 16-17 (New Moon 17)

July 14-15 (New Moon 17) Monsoon

August 18-19 (New Moon 16) Monsoon

September 15-16 (New Moon 14) Monsoon

Chiricahua Astronomy Complex (CAC) *by Jim Knoll*



Our very own Chiricahua Astronomy Complex is evolving into a World Class site. We have developed quite a bit of the site with observatories, observing pads, a learning center with classroom, accommodations, and lots more! If you have not been to CAC lately, you should come for some observing through your own telescope or through one of the club's fantastic telescopes. Normally, the large telescopes are operating during a member New Moon Saturday.

We could also use your help. With all this development comes increased maintenance. In the past, we have contracted to have this done, costing the club money that is not recouped. We have reached the point that a tractor is needed to get the job done more efficiently and a container similar to what we currently have at CAC to safely store it out of the weather. A great way to donate is through an IRA direct rollover, potentially saving you a tax liability. We can also use direct donations. For any amount over \$250, we will list your contribution on a plaque on the container, probably using four categories (over \$5,000, \$2,500-\$4,999, \$1,000-\$2,499, and \$250-\$999). If you can help, please donate either by direct rollover, check, or through the website online process. Make sure you annotate it is for the CAC Tractor.



Here is a rundown of estimated costs:

Tractor: \$25,000

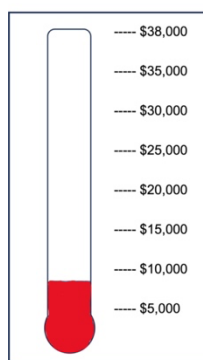
Box Blade: \$2,000

Sprayer: \$2,000

Container: \$9,000

Total: \$38,000

Raised so far: \$8,700



We appreciate your consideration to help us fulfill this extremely important project!! For any questions, email Jim Knoll at cac-director@tucsonastronomy.org.

-- For a Direct Rollover, email the Treasurer for any procedures at [treasurer\[at\]tucsonastronomy.org](mailto:treasurer[at]tucsonastronomy.org).

-- To donate by check. Mail to Tucson Amateur Astronomy Association, PO Box 41254, Tucson, AZ 85717.

-- To donate online: Go to the TAAA website at <https://tucsonastronomy.org> and select the donate button.

CAC Learning Center Construction Update - by Ed Foley

June 2023

The finishing touches are being done to the new CAC Learning Center buildings. Push bars have been installed for easy safe exit on all exterior doors. Gravel dressing has been added along the building sidewalk and a gravel path extended from the current central rest room area to the new buildings forming a comfortable walkway to the buildings. The last major item to complete is charging of the lines of the mini-split heating/air conditioning units installed to service each room. Beds have been delivered and assembled in the buildings by TAAA volunteers including Gary Wells, Bob Rose and Michael McDowell. The final county inspection of the buildings should occur in by the end of May or first week in June. TAAA expects to be accepting reservations on the website for sleeping rooms by the June CAC new moon weekend.

On a related note, three telescope enclosures for Stinger Telescope Pad have all been fabricated by member Mike McDowell and delivered to the site. They are now being assembled on pad at CAC. Welding of the mount plates to the piers, installation of power and mounting of the three telescopes will take place shortly. These telescopes, a 9 ¼" Celestron SCT, an 11" Celestron SCT and a 12" Meade SCT will then be made available for members to reserve on the website.



Learning Center Sidewalk Area from North.

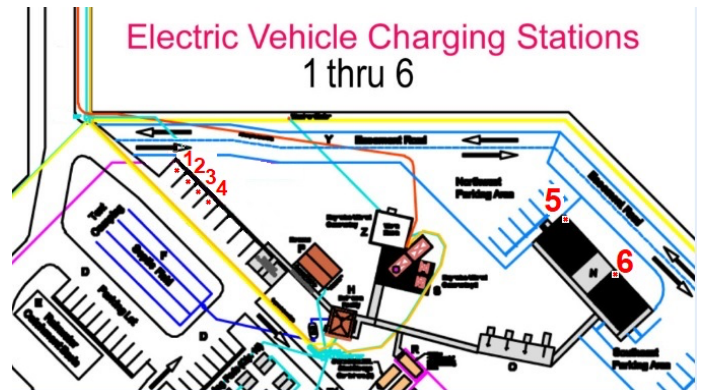
Learning Center and Stinger Pad Enclosures



EV Outlets at CAC – by Bernie Stinger

Calling all EV (Electric Vehicle) owners, future EV owners or even those who don't want an EV but will end up with one anyway: we now have dependable Level 2 charging stations at our Chiricahua Astronomy Complex (CAC)!

As those of us who do have EV's know, one of the biggest concerns is being able to get to your destination and back without running out of juice. Running the numbers, getting out to CAC and back from the city center is about 220 miles, and 250 miles from Marana and back. This distance is right at the maximum range on a full charge for most EV's at the present time. A bit risky to run it down to zero and it's also not recommended to charge the batteries to 100%. This best alternative is to have a location to stop and charge along the way. But that takes time and requires a dependable charger along the route.



Up to now this posed a problem getting out to CAC for us EV owners, but no longer. There are now six Level 2 outlets at the facility. All outlets are standard NEMA 14-50 with full 220V, 50-amp capacity. The NEMA 14-50 is a universal outlet for all EV's with an adaptor that can be easily purchased online, in the event you didn't get one with the vehicle.



Four of the outlets are located in front of the first four parking spaces as you make the left turn after the entry gate, the 5th is on the North corner of the Foley Institute building, and the 6th is on the North corner of the Margaret E Mooney Classroom building.



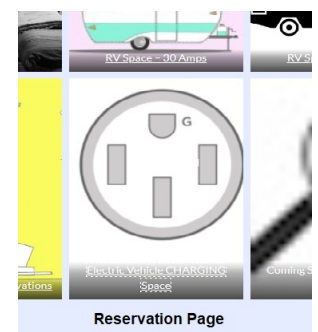
All outlets are under weather resistant covers.



All 6 outlets have a sign with a web link for reserving one of the six parking spots which will take you to the CAC reservation page where there is an icon for the outlet. Once a date is selected you will be asked to pay by CC or Paypal the \$10/day fee. How can you beat

that?!! Reservations in advance are recommended. Note: EV's with a reservation will have priority in these parking spaces. RVs are not permitted without prior CAC staff authorization.

Bernie Stinger
Public/School Star Party Manager



You can make your EV Station reservation [here](#).

School/Public Star Party Requests

by **Bernie Stinger**

Thank you for volunteering your time and talents for our extremely important outreach mission. **Below is the updated list for June, 2023.** June is winding down for the summer and all planned events are currently filled.

If you are new to Star Party outreach, let me know and we'll be sure to help you get started. **It is important you sign up for star parties if you plan to attend**, whether you bring a scope or help in other ways, so I can manage who from TAAA will be on-site and for you to be included in any reminder or weather emails.

The PUBLIC Astronomy Events are also listed on the [TAAA](#) and [Night Sky Network](#) (NSN) calendars. Also, all PUBLIC star parties will be listed on the TAAA Facebook events page and will be updated based on weather, etc. in real-time. You can follow any of those events and get a notification when I update the event. Again, this is only for PUBLIC star parties listed on Facebook.

The events have been updated as of June 24th and are listed here for reference purposes, all events are filled. For more information, please contact me: [Bernie Stinger](#); TAAA Public/School/Non-Profit Star Party Manager

Thursday – June 1 -- Willcox – Solar event

Willcox Theater and Arts

312 W Stewart St, Willcox, AZ

All Ages; # Participants: 100

0 Solar Scopes Needed (filled)

Setup Time: 1:30 pm. Start: 2:00 pm. End: 5:00 pm.

Directions: I-10 to Rex Allen Dr exit, East to Haskell Ave, South to Stewart, Approx. 6 blocks to Community Center.

Viewing Location: Willcox Community Center park.

Saturday – June 3 -- Mount Lemmon

Candlelighters Childhood Cancer Foundation @ Camp Lawton

Boy Scout Camp

12900 E Organization Ridge Rd

Age/Grade Level: All ages; # Participants: 50

0 Scopes needed (filled)

Setup Time: 8:00 pm. Start: 8:30 pm. End: 9:30 pm.

Nearest Moon Phase: Full

Directions: Just after Mile Marker 20 on the Mt. Lemmon Highway is Organization Ridge Rd. Camp Lawton Boy Scout Camp is about 500 meters on your left when you drive west on Organization Ridge Rd from Catalina Hwy. Parking is at the top of the hill on the camp property.

Setup Location: At Camp/TBD

Saturday – June 17 -- ORACLE AZ

Oracle State Park

3820 E Wildlife Dr, Oracle AZ

Age/Grade Level: All Ages; # Participants: 200

0 Scopes needed (filled)

Setup Time: 7:30 pm. Start: 8:00 pm. End: 10:00 pm.

Nearest Moon Phase: New

Directions: Highway 77 (Oracle Road) north from Tucson. Follow signs to Oracle State Park.

Viewing Location: Sidewalk along the Kannally Ranch House parking lot and on the Ranch House upper patio. Some manual movement of equipment may be required to access.

Tuesday – June 20 -- WEST TUCSON

Cooper Center for Environmental Learning - Tucson Verde Rotary Club

5403 W Trails End Rd

Age/Grade Level: Adults; # Participants: 60

0 Scopes Needed (filled)

Setup Time: 8:00 pm. Start: 8:30 pm. End: 9:30 pm.

Nearest Moon Phase: New

Directions: West on Grant Rd, becomes Silverbell, becomes Ironwood Hills Drive which dead-ends at Camino De Oeste. Turn south. ALTERNATE: West on Speedway west of I-10. North on Camino De Oeste. Both paths: Turn west on Trails End Road and follow signs to "Cooper Center".

Viewing Location: Open area near restroom facilities. Access the site from the dirt road at the east end of the main parking lot (near the dumpsters).

Friday – June 23 -- EAST TUCSON

Saguaro National Park EAST

Saguaro EAST is located at 3693 S Old Spanish Trail.

Age Group: All Ages; Est. # Participants: 75 – 100

0 Scopes needed (filled)

Setup Time: 7:30 pm Start: 8:00 pm End: 10:00 pm

Nearest Moon Phase: 1st Quarter

Directions: I-10 Exit 275. North on Houghton for ~8 miles to Escalante. East on Escalante for 2 miles to Old Spanish Trail. N on Old Spanish for .3 miles to Park entrance. ALTERNATE: Houghton/22nd St. south on Houghton to Old Spanish Trail. East (left) on Old Spanish Trail 2.8 miles to Park entrance.

Viewing Location: Admin/HR area. After entering Park, make first right and proceed to HR/Admin area parking lot.

What's Up list for June - July 2023

Fellow amateur astronomers. Many of the Astronomical League observing programs can be done from our backyards. The following is a list of objects visible during June and July for the more common observing programs.

Constellation Hunter Program – Northern Skies

The following constellations are well placed for observing for June and July:

Bootes, Canes Venatici, Coma Berenices, Corona Borealis, Draco, Hercules, Serpens Caput, Serpens Cauda, Ursa Minor

Messier Observing Program

The following Messier Objects are well placed for observation during June and July (listed in ascending RA):

IM53, M63, M51, M83, M3, M83, M101, M102, M5

Lunar and Binocular Observing Program

The following is a list of the dates for the lunar phase when observations should be made during June and July:

New Moon: June 18, July 17

40 Hours waxing: June 20, July 19

72 hours waxing: June 21, July 21

4 days old: June 22, July 22

7 days old: June 26, July 25

10 days old: June 29, July 28

Full (14 days old): June 4, July 3

Gibbous: June 10, July 10

72 hours waning: June 15, July 14

40 hours waning: June 16, July 15

Solar System Observing Program

The following list describes the various solar system objects and their visibility during June and July:

Mercury is an early morning object for all of June. It becomes an early evening object during July.

Venus is a very bright early evening object during June and July. It is at its brightest on July 7.

Mars is still well placed for early evening observation during June and July. However it is setting earlier each day. On June 1 it sets around 11 PM. By end of July it sets around 8:30 PM.

Jupiter is still a late evening/early morning object, rising around 3 AM on June 1. But it is rising earlier each day. By the end of July it rises around 11 PM.

Saturn is getting better placed for observation each day. It rises about 2.5 hours before Jupiter. On June 1 it rises around 12:30 AM and on July 30 it rises around 8:30 PM, well placed for evening observation.

Uranus is rising about 30 minutes behind Jupiter. On June 1 it rises around 3:30 AM. End of July it rises around 11:30 PM.

Neptune is a late evening object in June and July. It rises around 1:30 AM on June 1. End of July it rises around 9:30 PM.

Urban Observing Program

The following deep sky objects are well placed for observing during June and July: M3, M5

The following **Double Star** is well placed for observation during June and July:

Zeta Ursa Major

Annular Solar Eclipse Help

Greetings from Northern Arizona. Glen Canyon National Recreation Area is looking ahead to the annular solar eclipse on Saturday, October 14. We are planning for potentially a lot of visitors who may come for this event and tentatively hosting a solar viewing event at the Carl Hayden Visitor Center. There will also be an evening Star Party at the Navajo Bridge Interpretive Center near Marble Canyon which is coordinated by our partner Glen Canyon Conservancy.

Would any members of your group be interested in volunteering to help with these activities? I know that your members have expertise in sharing their knowledge of astronomy with the public such as at Grand Canyon National Park's annual Star Party. This would be a smaller but unique event.

Libby Schaaf
Program Manager for Interpretation, Education and Partnerships
Glen Canyon National Recreation Area/ Rainbow Bridge National Monument
691 Scenic View Road, Page, AZ 86040
928-608-6351 Office, 928-640-0509 Cell
Libby_Schaaf@nps.gov



Steward Observatory Public Evening Lecture Series

Did you miss any of the Spring Lecture Series? You can still watch the recordings.

Apr. 24, 2023 - Dr. Chris Impey, Steward Observatory
[Worlds Without End: Exoplanets, Habitability, and the Future of Humanity](#)

Apr. 10, 2023 - Dr. Everett Schlawin, Steward Observatory
[JWST's First Stares at Planets that Peak in Front and Behind their Stars](#)

Mar. 27, 2023 - Dr. Emma Beasor, Bok Fellow, Steward Observatory
[How do Massive Stars Live and Die?](#)

Mar. 13, 2023 - Dr. Kate Alexander, Steward Observatory
[The Messy Eating Habits of Snacking Black Holes](#)

Feb. 27, 2023 - Dr. Melissa Brucker, Lunar & Planetary Laboratory
[The First 40 Years of SPACEWATCH: Asteroids, Planetary Defense, and the Steward Observatory 36" Telescope](#)

Jan. 30, 2023 - Dr. Catherine Fielder, Steward Observatory
[An Alien's-eye View of the Milky Way](#)

Jan. 16, 2023 - Dr. Thomas A. Fleming, Steward Observatory
[100 Years of Steward Observatory](#)

Skyward

By Dr. David H. Levy
May 2023

Wendee Among the Stars



Never in my life did I appreciate the peace and beauty of the night sky as I do now. It offers solace; it brings peace. And now more than eight months since my wife Wendee's death, it is an easy reminder of why I love the sky.

Over many years, I have been reading brief poems for multiple online and personal sessions. One of my favourites is the Denver Astronomical Society, which I first joined in May of 1963 while I was a patient at the Jewish National Home for Asthmatic Children in Denver. Recently they even elected me as their poet laureate. Like the night sky, poetry brings peace.

The days go on; I watch the news, the details of war, of debt, of artificial intelligence well beyond my own, of murder, theft, and lies. But as the Sun sinks in the west, the shadow of our planet rises in the east, and with the daily darkening of the sky comes a bigger picture. The Universe does not care about the details; our days and years are nanoseconds in the cosmic timescale. But when we look toward the sky, with our eyes in the hope of catching a shooting star, through binoculars to make out a new pattern of stars, or with a telescope to celebrate a planet's rings or a far-off galaxy, we can enter that cosmic picture and be part of it for a brief time.

In my professional life, I have tried to connect the night sky to poetry, but those rhymes are rarely my own. I make an exception this month. Besides raising my insight and bringing me peace, I find nothing that so stirs my heart as the joy of the night sky.

Each day I awake; today is the day!
I look toward her, she is not there.
My heart goes on, but do I care?
Will anything—anything—let in some ray.

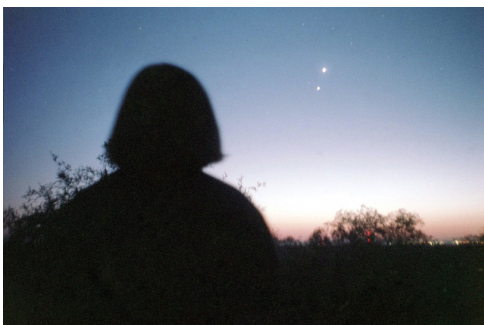
The night is dark, as dark as coal.
The sky is stars from west to east
From south to north, just like a feast
A pill, heav'n sent to calm my soul.

A telescope stands, it stands and waits
For my eye, it asks, "just one brief look."
Forward through space, like an open book;
And back through time, open wide its gate.

I see a star; why is it there?
Lapis philosophorum, philosopher's stone
That strikes the night, it ushers me home
As part of a pattern to learn, I dare.

But reason not. General relativity;
Gravity's geometry, no speck of thought;
No idea works, no system bought,
A spacetime crash, to save its dignity.

She's part of me, a beam of light
Among the stars, in the sky a plant
Not there, but there, my soul enchant.
From grief to joy, all through the night.



Dr. David Levy is a long-time member and former President of the TAAA. He is a well known astronomy writer and discoverer of comets. He writes this monthly "Skyward" column for the Vail Voice and generously allows us to publish it here.

TAAA Astronomy Equipment For Sale

TAAA has an assortment of astronomy related equipment for sale at this time. This equipment is available for members only at this time. The following list is just a sample of what is available.



Criterion pedestal equatorial mount with clock drive. This is a classic pedestal German Equatorial Mount. Very sturdy. Can handle up to 8 inch Newtonian scope. Clock drive tested and is in excellent condition. Mount is fully functional.

TAAA Member Price: \$50



6 Inch Newtonian Optical Tube Assembly;
6 inch f8.0 primary mirror.
Comes with an 8x50 finder.
TAAA Member Price: \$100



Beyers Drive Gear Set

Large unused Beyers drive gear with matching worm gear and stepper motor. The main drive gear is 14.5 inches in diameter and has a 4 7/8 diameter central hole. Motor has been tested and works fine. Note worm gear and motor not shown.

TAAA Member Price: \$900

Note that these prices are exclusive for TAAA members and after 45 days these items will be offered to the general public at a higher price.

We also have an assortment of other items available at this time including: Finder rings, focusers, telescope rings of various sizes, mirror blanks of many sizes, a 6 inch Newtonian mirror set mounted in cells, several large mirrors and more.

To make inquiries about what is available or to express a desire to purchase one of items please contact:

[Douglas Smith](mailto:Douglas.Smith@taaa.org); 520-396-3233



Celestron tripod

This is a standard Celestron tripod. Looks like it's for an 8 or 11 inch scope. In the image below it's just the tripod, not the two black bags.

TAAA Member Price: \$185

TAAA Equipment Loaner Program

The following inventory represents the current list of instruments contained in the Tucson Amateur Astronomy Association Equipment Loan Program as of September 04, 2022. A photograph of each item is included with the description. This equipment is for TAAA members to checkout and use. Email Ralph Means for information or to schedule time for pick up.



Celestron 11" CPC series
Alt-Az fork mounted, with tripod and
GOTO. We have 2 of these telescopes.



Orion SkyWatcher 12" Collapsible
Dobsonian with 8x50 finder



Orion SkyWatcher 10" Dobsonian
with Telrad



Orion SkyQuest 10" Dobsonian with Telrad
and 8x50 finder.



Meade LX200 10" SCT, Fork Mount, GOTO, with 8x50 finder, in case.
With tripod. Training required for this telescope.



TAAA Equipment Loaner Program (Continued)



**Orion 10" Dobsonian black tube
8x50 finder**

NOTE from the Equipment Loan Coordinator:

I am looking for eyepieces for the loaner program. We do not have enough for an eyepiece kit for each telescope. If you have any sitting around that you are not using. Would you consider making a donation to the Club and the loaner program.

Thank you, [Ralph Means](#)



**Celestron 6" SCT, single fork mount, GOTO
with tripod.**



**Meade 4" SCT in case, with tripod,
battery pack, diagonal, and 2
eyepieces**



**Celestron 8" SCT, Single Fork
mount, GOTO**



**Orion SkyQuest XT-10 clas-
sic 10" Dobsonian, f 5.0, 1.25
focuser, 8x50 finder, push-to.**



Celestron Nexstar 6" SCT, diagonal, and eyepiece



Stellar Vue 85mm Refractor

TAAA Equipment Loaner Program (Continued)



Eyepiece Case #1: Black Orion Case
5 1.25-inch Celestron Multi Coated X-Cell LX eyepieces: 25mm, 18mm, 12mm, 9mm, 7mm focal lengths. 6x30 finder and diagonal.



Eyepiece case No. 2
Black Orion Case contains a 2" Hyperion-Aspheric 72-degree 36mm and 1.25" Hyperion eyepieces: 8mm, 13mm, 17mm, 21mm, and 24mm.



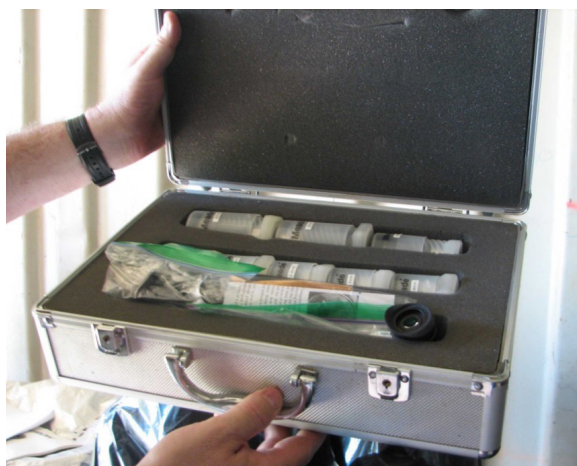
Eye Piece Case #3
1.25" AstroTech Paradigm in 8mm, 12mm, 15mm, and 25mm



Eyepiece Case #4:
Black Case. 5 Celestron X-Cell 1.35" eyepieces. Focal Lengths: 25mm, 18mm, 12mm, 9mm, 7mm



Eyepiece Case #5: Black case
Eyepieces: : 2" Celestron E-Lux 40mm, Meade 2" QX 26mm, 1.25" VLW 13mm, VLW 17mm, Orion 9mm Plossl, Orion 6mm Kellner, Unknown 32mm, Unknown 25mm, Ortho, 20mm Kellner 20mm, Unknown crosshair, 1.25", Kellner .965",
Other: 2" Extension Tube, 1.25" extension tube, 2" Nebula filter, 3x Barlow, 1.25" Orion diagonal dielectric mirror



Eyepiece Case #6. Small Silver case
8 Meade Super Plossl 1.25" eyepieces.
Focal Length: 40mm, 32mm, 26mm, 20mm, 15mm, 12mm, 9.7mm, 6.4mm,
12mm Illuminated reticle, 1.25" eyepiece 1.25" diagnol.



Case #7. Silver Case.
Misc. A couple of eyepieces and numerous filters. Will get this sorted and inventoried shortly