

TUCSON AMATEUR ASTRONOMY ASSOCIATION

Observing Our
MONTHLY EVENTS BULLETIN
Since



Desert Skies

1954

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October 2023

www.tucsonastronomy.org

Membership Meeting

October 6 @ 6:30 pm - 9:00 pm

TAAA's next general member meeting will be held on **Friday, October 6, 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 [Facebook](#) page.

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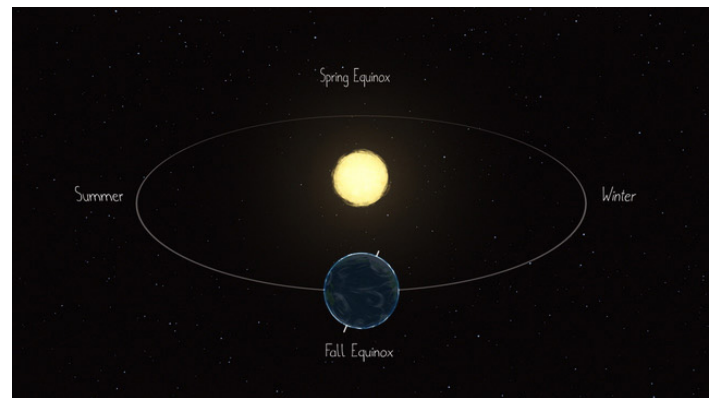
Main Presentation at 6:30PM AZT

Title: Observing The Fall Sky

Presentation: Mary Turner presents her popular seasonal talk about what to see in the night sky from October to December, as well as fascinating myths and facts about each object. Included is the Oct. 14th annular eclipse; perhaps the highlight of the next three months. Learn about bright planets, meteor showers, and all else accessible to the naked eye, binoculars, and/or telescopes.

Biography: Mary Turner received her Ph.D. in Optical Sciences at the University of Arizona (UA). She is currently the Technical Fellow in Optical Design for Edmund Optics, where she designs custom optical systems for a wide variety of applications, including camera systems, machine vision applications, free-space communications, and other laser systems. Additionally, Dr. Turner is a lecturer for the University of California-Irvine, teaching courses in optical design. She also lectures at UA in aspects of optical design including tolerance analysis, polarization devices, and stray light analysis. Throughout her career, Dr. Turner has taught optical design fundamentals to

more than 5000 students around the world. She has also authored chapters in several technical references relating to the field of optical design.



October's meeting will also include information on how to support TAAA's Outreach missions. Without robust volunteer support, this mission cannot be accomplished. Bernie Stinger, School/Public Star Party Manager will discuss the Star Party program, its process, how you can become involved, the rewards of doing outreach, and what equipment you need. And Jim Knoll will talk about the Tucson Stargazing Adventures (paid star parties), a similar process to the School program, and how you can help accomplish this portion of the TAAA mission.

September 2023

In this newsletter please particularly note two upcoming significant events: the Celebration of Life for Dean Ketelsen on October 1st with options to attend at UA Steward Auditorium in person, via zoom, or via TAAA YouTube Channel; and the CAC Open House event on November 11th to which you may travel on your own or via a TAAA partially subsidized bus departing from and returning to Tucson.

Dean's family did request the opportunity to spread Dean's ashes at the CAC site. The TAAA Board was honored by this request and unanimously agreed.

Please note that I have been asked to obtain five or six TAAA volunteers who will be attending the Celebration of Life Ceremony in person at Steward Auditorium to assist with aspects of the Celebration. Assistance with some small tasks are expected to be needed such as distribution of brochures, assistance (as needed) with seating, arrangements, and cleanup of refreshments, etc. Please email ssmith@arizona.edu if you can assist during any part of the Celebration of Life ceremony.

General Announcements: The TAAA Board of Directors met via Zoom on September 13th. The current TAAA Treasurer will be moving out of state prior to her term of office ending May 31, 2024. However, she will be provided special assistance for her local Tucson duties. and thus, she will be able to complete her regular term of office. It was noted that for the first time since TAAA's inception, there currently are three elected female members serving on the seven-member TAAA Board. The vacancy of a Committee Chair for the TAAA Information Technology Committee recently has been filled with the appointment of Terri Lappin as Chair. The TAAA Awards Committee currently is lacking a Chair and potential volunteers or persons with recommendations for this position should contact Mae Smith. TAAA is very appreciative of the thoughtfulness of Dean Ketelsen's family in designating TAAA as one of the two recommended focal points for memorial donations. Such donations are being received.

by Mae Smith

Barbara Whitehead, TAAA Treasurer, updated the Board on our current financial status and other considerations. A year-to-date comparison to Budget showed that revenue is running over budget due to donations and relevant expenditures indicating a gross profit of \$22k which is approximately \$9K over budget.

Below is quick update on the status of Board items from past meetings that were still currently being pursued.

CAC projects are moving along, and several are recently completed or proceeding toward completion such as the Member Observatory Project facilities, the RV Expansion, new gravel in the camping area, sidewalks in the learning area, technology in the classroom, electrical expansion where needed, installation of internet connections, and readying the site for the Open House. The 32-inch observatory project design is making good progress.

The TIMPA site experienced some recent storm damage which was limited to the restroom area and that has been repaired. No other facilities were damaged. John Mead has successfully resolved the City/County permit questions regarding the new TIMPA 16 project.

The lease between the Tucson International Modelplex Park Association (TIMPA) and the City of Tucson requires renewal every five years. It also carries a cancellation clause which indicates the lease can be cancelled at any time with 90 days notice without cause. The property involved in the lease belongs to the County, and the City is involved with the property due to concern over water rights. So, both the City and the County have certain controls of the property. Determining TAAA's future options for use and development of the site is complicated.

The present lease has a restoration requirement that once the parties now using the site stop using the site, then site restoration has to be performed to remove long term effects of any changes made to the site during the lease period. Research has been conducted in an attempt to estimate TAAA site

restoration liabilities which would exist if TAAA either did not choose to remain using the site or was not allowed to remain using the site. The City of Tucson has been helpful in specifying what would be involved to meet the City's requirements for appropriate restoration. From that TAAA site restoration information, liabilities in such a situation have been recently reviewed by Ben Bailey and are currently estimated at a minimum of \$7,000-\$8,000.

It was noted that the 1999 letter of agreement regarding TAAA's presence on the TIMPA site is quite out of date and a thorough review needs to be conducted resulting in determination of what would be needed to appropriately update the document. Concern was expressed that TAAA could be exposed to even greater restoration issues and/or liabilities than those previously identified. For instance, the current restrooms were a joint project of TAAA and the TIMPA organization. The estimates for restoration prices did not include the restrooms but according to the document, restroom removal definitely could be required as part of a restoration process.

Since current perspectives may influence the TIMPA-16 project, the TIMPA Planning Group will gather more information and pursue these questions further prior to a determination of the current status of the TIMPA 16 project.

A recent new member, Dan Chin, volunteered to conduct an analysis of membership data in the Member Planet Program used by TAAA. With assistance from TAAA Board members, Dan addressed various aspects of how the membership program operates and of what TAAA Membership data can tell us. At this point only some of the possibilities are being explored. Some of what we learned about TAAA members includes:

82% of TAAA members list their primary residence as Arizona.

90% of TAAA members identify as male.

The age distribution between current and previous members is similar.

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

TAAA has an increase in members prior to 2021, a loss of members in 2021, and an increase in members since 2021

Interests of current and previous members are similar, and outreach is the most common interest.

The data are plentiful and rich and require more in-depth exploration over time. It was recommended that TAAA obtain more information from members especially for family memberships in order to be able to serve members better and understand member needs. An annual questionnaire to members may be helpful. Also, a TAAA exit questionnaire, when someone does not renew membership, could be helpful in giving more insight into member needs.

Some very helpful suggestions and ideas were discussed regarding logistics of the program and organization/use of member data.

We hope to learn more from these data in the future.

A huge thanks to Dan for these great contributions to TAAA. We look forward to working with him further!

President: Mae Smith
president@tucsonastronomy.org

Other Elected Leader Contact Information:

Vice-President: Ed Foley
vice-president@tucsonastronomy.org

Secretary: Bob Reynolds
secretary@tucsonastronomy.org

Treasurer: Barbara Whitehead
treasurer@tucsonastronomy.org

BOD Members-At-Large:
Suzanne Bailey, mal1@tucsonastronomy.org
David Rossetter, mal2@tucsonastronomy.org
John Kalas, mal3@tucsonastronomy.org

TAAA Board address: taaabod@tucsonastronomy.org

[David Rossetter](mailto:David.Rossetter@tucsonastronomy.org) – Editor
Ken Bertschy - Graphics
Terri Lappin &
Jim Knoll - Proofreading
Greg Ruppel -Image Editor

CAC OPEN HOUSE AND RIBBON CUTTING

Saturday November 11, 2023



Mark your calendars. There will be a *Chiricahua Astronomy Complex (CAC) Open House and Grand Opening* celebration for the completion of the *Foley INNstitute and Mooney Foundation Night Sky Learning Center*, the completion of new Member Observatories, the Open Sky Campground, the *Bill Lofquist Outdoor Learning Center*, The *Stinger Telescope Pad*, and lots more. The Open House will be **Saturday November 11, 2023** (Veterans Day) starting at 5 pm. Members can drive themselves or use the TAAA reserved Charter Bus for a nominal fee of \$15 (collected at the bus). The bus will depart from the TTT Truck Stop along I-10 to CAC at 2 pm, arriving about 4:30. Departing CAC about 7:30 pm and arriving back in Tucson at 10 pm. To attend the open house or make a reservation for the bus, please use the this [reservation link](#). For any questions, please email the [CAC Director](#).



Foley INNstitute
and Mooney Night
Sky Learning
Center

Stinger
Telescope Pad



Sleeping Room



Open Sky
Campground



Learning
Center
Classroom

Practical Astronomy Workshop 1 – Star Hopping

Open for Enrollment

Place: TIMPA; Date/Time: Thursday, October 19, 2023, 5:45 PM until completed

Synopsis: This is the first workshop in the practical astronomy workshop series. It will teach Star Hopping. The students will be taught the proper star hopping technique and equipment usage. Each student will use the supplied equipment to locate at least 2 targets (maybe more if time permits). By the end of the workshop the student will know what equipment to use and how to use it in order to locate targets using star hopping.

PLEASE NOTE: due to equipment limitations there is a strict limit of 20 students for this workshop. Contact Instructor – Douglas Smith; Phone: 520-396-3233; E-mail: alcor@tucsonastronomy.org

Practical Astronomy Workshop 2 Constellation Locating and Identification

Open for Enrollment

Place: TIMPA; Date/Time: Thursday, November 16, 2023, 6:30 PM until completed

Synopsis: This is the second workshop in the practical astronomy workshop series. It will teach how to locate and identify constellations. Each student will use the supplied equipment to locate several constellations. Students will learn how to use a planisphere and star atlas to locate constellations without memorizing the sky. This program provides the methodology for the observing requirements of the Astronomical League's Constellation Observing Program (Northern and Southern).

Contact TAAA ALCOR – Douglas Smith; Phone: 520-396-3233; E-mail: alcor@tucsonastronomy.org

Fundamentals of Astronomy Class

Open for enrollment

Place: Armory Park Center, 220 S. 5th Ave, Tucson

Date: Three consecutive Saturdays: February 24, March 2, March 9, 2024; Time: 9 AM to 4 PM each day

Note: These dates have not yet been confirmed and may change.

Synopsis: This class covers all the basic topics in Amateur Astronomy. Topics covered (but not limited to) include the solar system, deep sky objects, stars, telescopes, eyepieces, mounts, star hopping, observation techniques, plus much more. This course is highly recommended for novice amateur astronomers and for anyone who may have just purchased a telescope for the first time. Taking this class will also aid the student in understanding the more advanced lectures often given during general membership meetings.

Enrollment is strictly limited to 20 students and is on a first come basis. If there is sufficient interest the class may be offered again in the fall/winter 2024 time frame.

Contact Instructor – Douglas Smith; Phone: 520-396-3233; E-mail: alcor@tucsonastronomy.org or sign up using the sign-up sheet available at all General Members meeting starting October 2023

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).

The workshop is tentatively planned for Saturday, January 13th in Tucson so you can have the filters ready for the April Total Solar Eclipse. We are increasing the maximum size of allowed equipment to 6 inches/ 152mm since we have plenty of left over material. If you are interested in attending this workshop please email: fundamentals@tucsonastronomy.org with the following information by December 15th, 2023:

- Your Name
- The aperture size of the camera lens, binocular, or telescope you would like to build a filter for.

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 at 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?

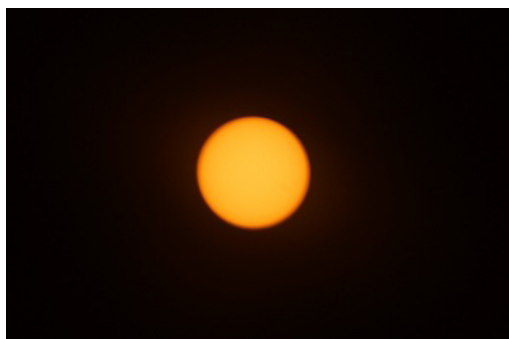
Please limit the aperture size of your optics to 6 inches / 150mm to ensure we have enough material for both workshops.

Also, please ensure binoculars are 40mm or larger. Any smaller than this and the filter may be too large to fit.

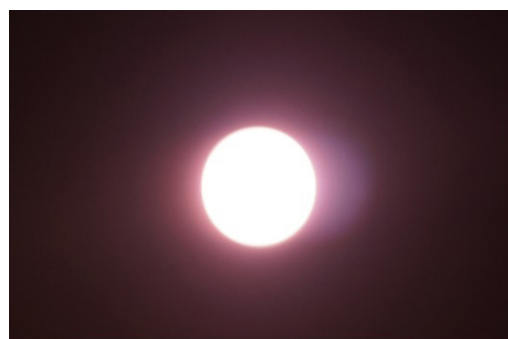
My telescope/binocular/lens is XX mm in size, will I be able to see sunspots with it?

A member attending the workshop we held in August was able to see sunspots with a 40x9 pair of binoculars

What does Seymour film make the Sun look like?



What does Baader film make the Sun look like?



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

32 Inch Eye on the Galaxy Telescope Project

There have been a number of developments in the 32 inch telescope project. The construction committee has reviewed the elements of three locally built roll-off observatories and incorporated the relevant elements into an overall design for an observatory to house the donation of the DFM 32 inch research grade Cassegrain telescope we now have in storage near our eastern dark site, the Chiricahua Astronomy Complex. The team of B. Reynolds, B. Rose, E. Foley, T. Melscheimer, D. Summers and now L. Stepp, include a number of members with significant large telescope experience. Their combined experience has allowed the team to develop a final design for the observatory. The design will likely go to our local structural engineer for review and approval in October.

The installation of the telescope requires two specialized steel items for the pier - a jig and the plate that will form the pedestal's base. These items, valued at \$1500, have been pledged to the project by the telescope's manufacturer, DFM Engineering of Longmont, CO. A special thanks to DFM for their gift and advice.

The observatory building and telescope installation are expected to cost \$75,000. TAAA kicked off the fundraising effort for the project with a summary presentation at the September 1st member meeting. Following that meeting, TAAA has received cash and pledges exceeding \$34,000 putting us well on the way to funding this exciting project.

Please consider supporting the project making this special instrument available to TAAA and the community. See gifting details under the 32" Eye on the Galaxy picture at TAAA web site.

-Ed Foley

TAAA 2024 Calendar

Tucson Amateur Astronomy Association



2024

The 2024 TAAA Calendar will be available for sale at the general meetings starting in October. The cost is \$15 per calendar. Please contact Susan OConnor to make alternate arrangements.

[Email](mailto:susan@taaa.org); 520-780-0136



Reminder: Vote!

Proposed Constitution & Bylaws Change

The NVRC will be conducting a vote seeking membership approval of a proposed change to our Constitution and Bylaws regarding term limits for President, Vice President, Treasurer, and Secretary that was presented at last month's member meeting and published in last month's newsletter. The vote will be conducted online using OpaVote, commence Saturday, September 30, and end at 7 pm during our October member meeting. Expect to see an email announcing the vote.

The Board of Directors (BOD) of the Tucson Amateur Astronomy Association approved a change to the club's Constitution & Bylaws (C&BL) at their July BOD meeting. The change will implement term limits for the President, Vice President, Treasurer and Secretary and is encompassed in the following paragraph to be added to Article III, Section 2 as follows:

Term Limits: Members of the Board of Directors may only serve in those positions for the limits as defined below:

- A member may only serve as President for a maximum period of 4 consecutive years. Further, following a break in service, a member can only serve for an additional consecutive 4 year period. In any event, a member can not serve as President for more than a total of 8 years.
- A member may only serve as Vice President for a maximum period of 4 consecutive years. Further, following a break in service, a member can only serve for an additional consecutive 4 year period. In any event, a member can not serve as Vice President for more than a total of 8 years.
- A member may only serve as Treasurer for no more than 8 years.
- A member may only serve as Secretary for no more than 8 years.
- There are no term limits for Member At Large positions. In addition, officers who have met term limits for other Board positions may serve as Members at Large.

The time served in one BOD position does not count against the term limit of any other BOD position. Thus, a member may serve out the entire term limit in one position and then serve in a different position.

The NVRC continues to seek another member to fill out its ranks and encourages members to consider standing for a special election. The NVRC conducts most of its business and activities online, so in-person presence is not required and not living full or part time in Tucson is of little to no consequence in aiding the important work of the NVRC. Please contact the committee at nvrcchair@tucsonastronomy.org with any questions or to express your interest in serving on the NVRC.

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, October 19, 6:30pm

Kon Tiki

4625 E Broadway Blvd
(N side of Broadway just W of Swan)

Preview the menu at: <https://kontikitucson.com/>

RSVP [Susan](#) - 520-780-0136

Dean Ketelsen Services



A **Celebration of Life for Dean Ketelsen** will be held at 1:30 pm on Sunday, the **1st of October 2023**, at Steward Observatory (Room N210) on the U of A campus. Please [RSVP](#) if you plan to attend in person or on Zoom. Online attendance is best on YouTube and you must use the following link as it will NOT be publicly available: [YouTube link](#).

The day after Dean's Celebration of Life, the family will travel to the Chiricahua Astronomy Complex (CAC) for a short ceremony honoring Dean and scattering his ashes. Then the family will observe some special objects through one of the large telescopes before heading back to Tucson.

You can read the TAAA Tribute to Dean in the September [Desert Skies Bulletin](#) (Page 4).

Special Interests Groups



Starry Messengers Special Interest Group

Opening Minds to the Universe

The Starry Messengers will meet by Zoom on **October 9th at 7PM**. The link for the Zoom meeting will be distributed to those who regularly attend SMSIG meetings. If you don't regularly attend the SMSIG meetings, please ask Terri Lappin for the link by [email](#). We'll be narrowing down the activities we discussed for the upcoming Spring outreach events.

We're delighted to announce that Todd Hansen will be assisting Jim Knoll with the maintenance of the telescopes in the Library Telescope Program. Todd has generously donated several of the Library Telescopes in honor of his late wife, Lonny Baker. We appreciate Todd's support and dedication to this valued program. With 11 telescopes in the program, more volunteers would be helpful. If you want to become involved, let [Jim Knoll](#) know or email smsig@tucsonastronomy.org.

Requests are coming in for Night Sky Network Toolkit activities. Below are requests that still need support. Send an [email](#) if you can support any of these toolkit requests. Training can be arranged. Two volunteers for each event are needed.

- Oct 19 (Thurs) Wakefield Middle School; Life in the Universe Toolkit; near 6th Ave & 44th St
- Oct 24 (Tues) Gridley Middle School; Glass & Mirrors; near Broadway & Harrison
- Nov 9 (Thurs) Henry Elementary School; Shadows & Silhouettes Toolkit; near Speedway & Harrison
- Nov 16 (Thurs) Myers Ganoung Elementary School; Glass & Mirrors; near Swan & 29th

SMSIG on the [Web](#)

Questions? 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 October AFSIG meeting has been canceled.

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

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

Astro-Imaging SIG

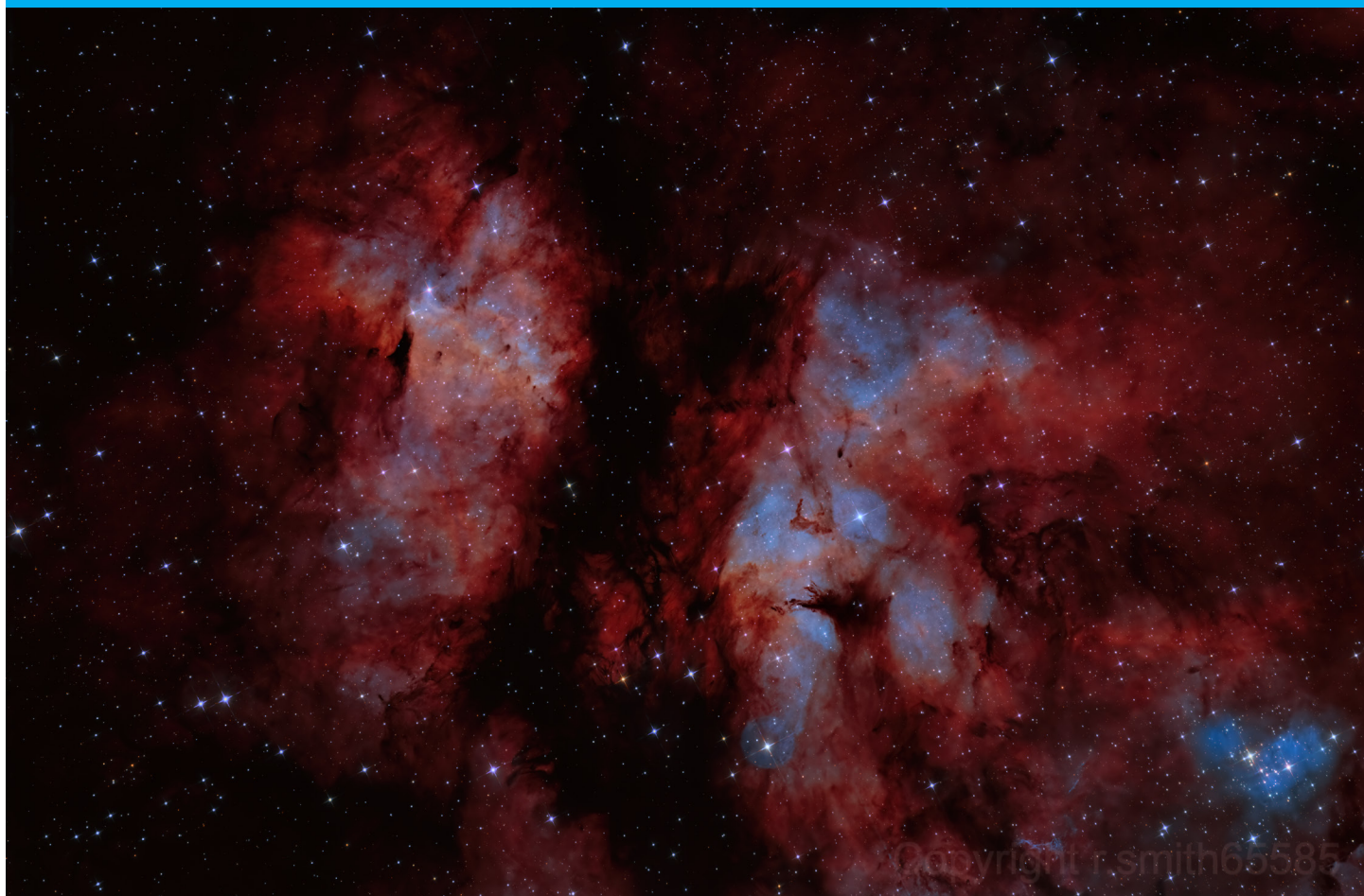
by Gregg Ruppel

The next AISIG meeting is **Monday, October 16th @ 7:00 pm** via ZOOM.

Topics: Shooting Under the Chilean Skies - Casey Good & Greg Turgeon
General Discussion, Image Sharing

Email [Gregg Ruppel](#) for the ZOOM link or any other information. Gregg and the AISIG folks are very active on the [TAAA groups.io](https://groups.io/forum/#!forum/taaa) 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 [TAAA Forum](#). Look for previous AISIG meetings on the [TAAA YouTube Channel](#).

Highlights from the Astro-Imaging SIG



Butterfly Nebula - Skywatcher 200P 8" Newtonian w/Starizona Nexus Reducer/Corrector, 2600 MM Pro, Optolong 6.5 nm SHO filter set, 92x90 Ha, 45x90 Sii, 55x90 Oiii; [Astrobin](#)



Randy Smith

Iris nebula NGC 7023

Skywatcher 200P 8" Newtonian with
Starizona Nexus reducer/corrector,
2600 MC camera, L-Pro filter 58x90
<https://astrob.in/r6jnxl/0/>



Vincent Goetz - Orion complex

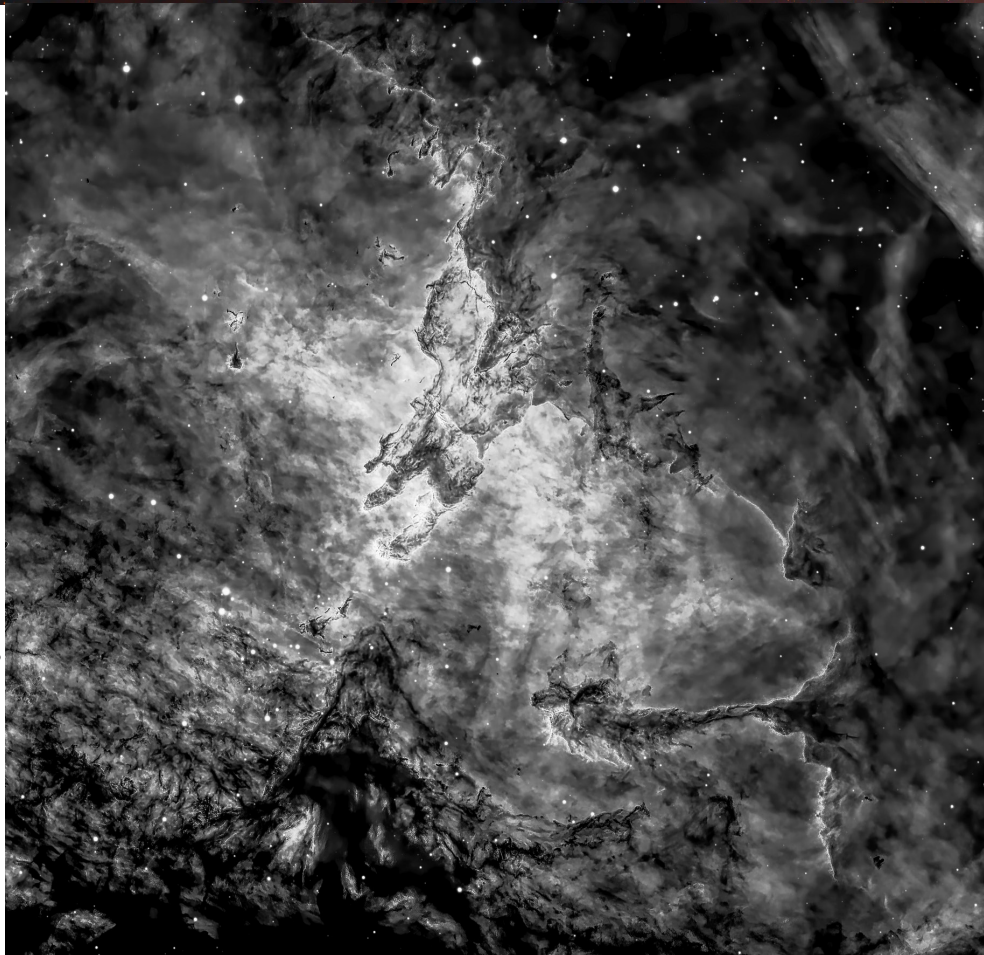
Alex Woronow - M16

Messier 16: The Inside Story – From Ha

A partial data set of only 45' of exposure drove my curiosity about the detail that could be revealed.

As we know by now, our eyes and brain perceive the most significant detail in gray-scale images. H-alpha is usually the carrier of that detail in emission nebulae. No surprise, Ha originates from energetic regions where turbulence, shock, temperature, and winds separate hydrogen protons from electrons, and when they reunite, Lyman, Balmer, Paschen, Brackett, and other wavelengths of emissions occur. Ha is a member of the Balmer Series, where a free electron, previously energized in a hydrogen atom, falls from the $n=3$ orbital into the $n=2$ orbital.

[Astrobin](#)



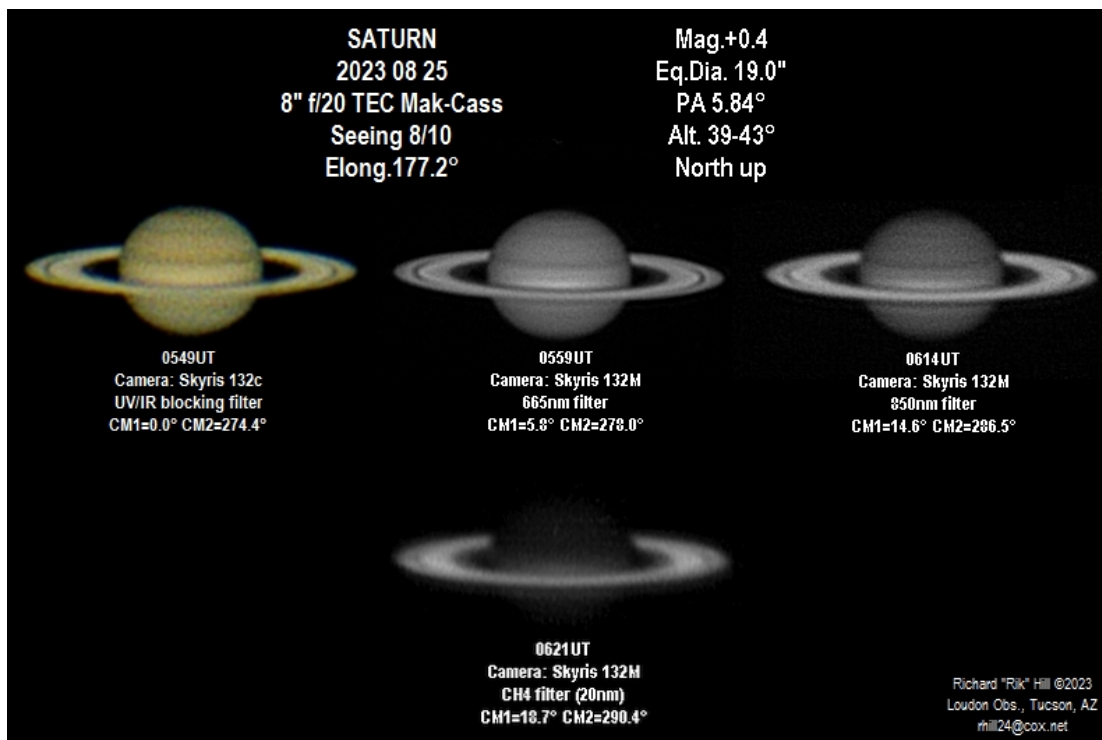


Cygnus Wall using Bill Blanshan's latest NN process. <https://astrob.in/9uo999/0/>

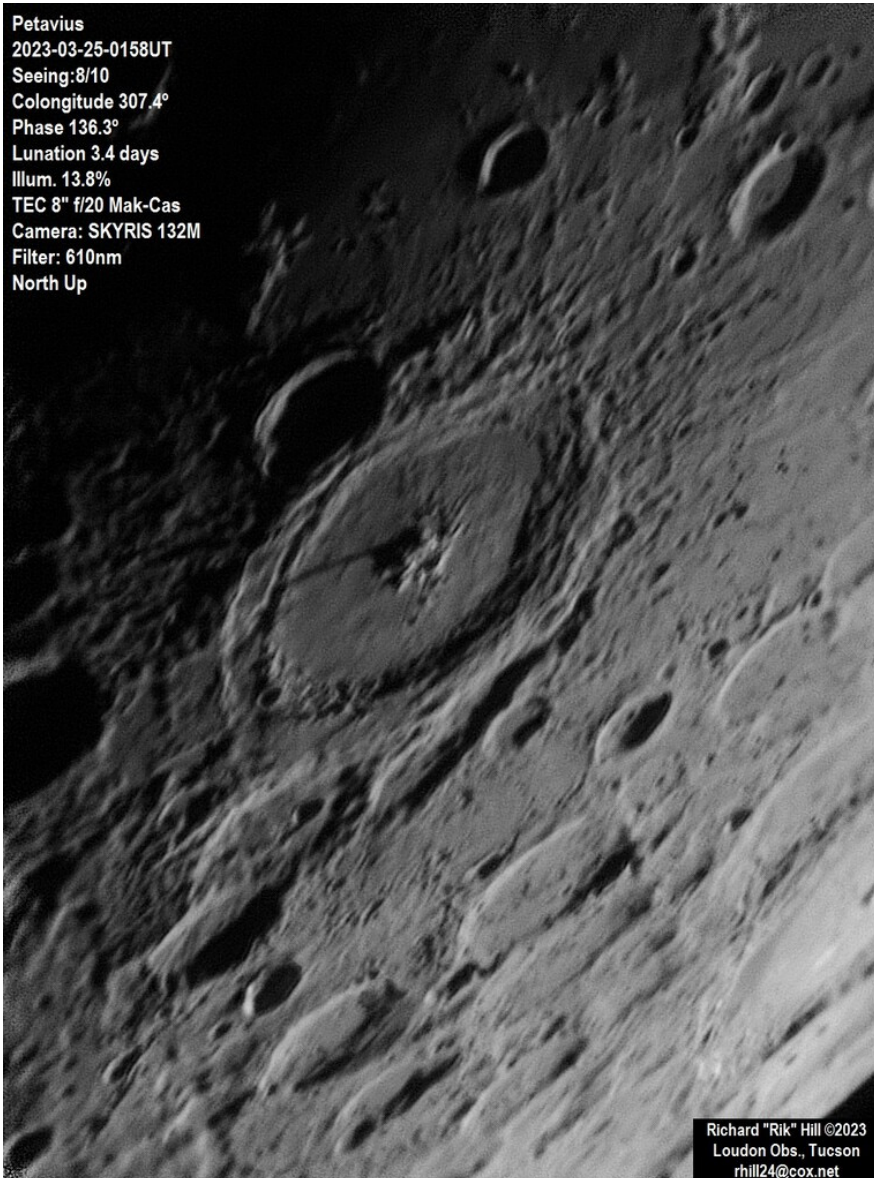
David Stearn

Wizard Nebula using the new HOO
process in PI.





Rik Hill





Iris and Ghost Nebulae; RASA 11" @ f/2.2 / zwo 2400mc pro/CEM70ec mount, unguided/141 minutes/no filters/ 9-5-2023; This was first use of new ZWO 2400mc pro full-frame camera with the RASA 11. The Iris is a blue reflection embedded in a busy region of dusty nebulosity including Sh2-136 "Ghost Nebula" at right.



Tom Eby

LDN 1235 Shark Nebula

RASA 11" @ f/2.2 /
zwo 2400mc pro /
Baader UFC+ Baader
clear filter / CEM70ec
mount unguided / 4.2
hours exposure / no
Moon / 9-14-2023
This dark nebula is
part of the Cepheus
molecular cloud,
the shape giving it
the popular name of
"Shark Nebula".

Observing Sites

TIMPA

by TIMPA Planning Group

TIMPA (Tucson International Modelplex Park Association), TAAA's dark sky site west of the Tucson Mountains. Location: The TIMPA observing site is located a few miles beyond the Desert Museum (3250 N. Reservation Road, Tucson, AZ 85743).

TIMPA Star Party Dates this month: **October 13-14**

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.

Email: [Member Reservations](#). 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

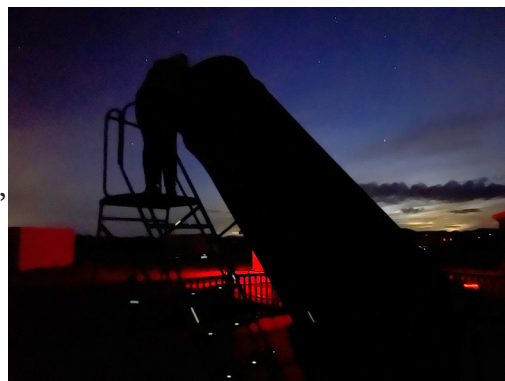
CAC Weekend Dates coming up (Friday/Saturday): **October 13-14 (New Moon 14)**

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 to facilitate easy cancellation if necessary.

CAC Evening Under the Stars is Saturday October 7. We will be opening the site to community neighbors and the public. Members are invited to attend as well. EUTS will go from 7 - 9 pm with the gate open around 5:30. Please email [John Kalas](#) if you plan to attend with # people, # vehicles, email address, and contact phone number. Let Jim Knoll, CAC Director, know if you want to help with the event.

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. Those qualified to open & close the site can use it anytime but still need to reserve through the CAC Reservations process.

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



Observing Sites Star Party Dates 2023

TIMPA

October 13-14
November 10-11
December 8-9

CAC

October 13-14 (New Moon 14)
November 10-11 (New Moon 13).
December 8-9 (New Moon 12).

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 list for October, 2023.** October has several popular public events as well as a few school events. We also have the annular eclipse of the sun mid-month.

Please let me know via [email](#) if you are interested in volunteering for any of the events listed below. First come – first served. I will let you know in return if you are on it or that it was already filled. Some events go fast!

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 (tucsonastronomy.org) and Night Sky Network (NSN) (nightsky.jpl.nasa.gov) 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 requests have been updated as of September 24th. *Stared events and bolded telescope references still have need for volunteers.

If you can help out please contact me at: astronomy-events@tucsonastronomy.org

Wednesday – October 4 -- WEST TUCSON

Cooper Center for Environmental Learning

5403 W Trails End Rd

Age/Grade Level: Grade 4 – 7; # Participants: 25

Filled -- 0 Scopes Needed

Setup: 6:30 pm. Start: 7:00 pm. End: 8:30 pm.

Nearest Moon Phase: 3rd Quarter

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).

*Saturday – October 7 – EAST TUCSON - SOLAR

Radio Society of Tucson

8711 East Speedway

Age Level: Adults; # Participants: 100

1 Solar Scope Needed – White light or H-alpha

Setup: 7:30 am. Start: 8:00 am. End: 11:00 am.

Nearest Moon Phase: NA

Directions: Speedway and Camino Seco, NE Corner. Turn left into Calvary Tucson Church parking lot. The event is in the parking lot on the east side of the Cavalry Tucson Church building.

Viewing Location: Between the parking lot solar panel roofs and the South Parking lot

Saturday – October 7 -- NORTHWEST TUCSON -- CATALINA

Catalina State Park (Quarterly TAAA public star party)

11570 N Oracle Road

Age/Grade Level: All Ages.

Filled -- 0 Scopes Needed

Setup: 6:30 pm. Start: 7:00 pm. End: 9:00 pm.

Nearest Moon Phase: 3rd Quarter

Directions: North on Oracle Road to Catalina SP.

Viewing Location: Trailhead picnic area at the end of the road inside the Park. Setup will be in the spaces inside the cones on the southwest corner of the parking lot.

Sunday – October 8 -- EAST TUCSON - SOLAR

Saguaro National Park - EAST

Saguaro EAST is located at 3693 S Old Spanish Trail.

Age Group: All Ages; Estimated # Participants: 50

Filled -- 0 Scopes Needed

Setup: 12:30 pm Start: 1:00 pm End: 3:00 pm

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: Left of the Visitors Center at the Bicycle Ramada

***Saturday – October 14 -- CENTRAL TUCSON – SOLAR – ANNULAR ECLIPSE**

Flandrau Planetarium

1601 E University Blvd.

Age Group: All Ages; Estimated # Participants: 100+

Two additional Solar scopes needed (white light or H-alpha)

Setup: 7:30 am Start: 8:00 am End: 11:00 am

Directions: From Campbell Ave and Speedway travel South 4 blocks to University Blvd. Left on University Blvd. The Planetarium will be on the right hand side at the intersection with Cherry Ave.

Viewing Location: On the Mall in front of the Planetarium.

Wednesday – October 18 -- SOUTH TUCSON

Federal Correctional Institution (FCI Tucson)

8901 S Wilmot Rd

Age/Grade Level: Adults; # Participants: ~100

Filled -- 0 Scopes Needed

Setup: 6:00pm Start: 6:30pm End: 8:00pm

Directions: 1 mile South of I-10 on Wilmot Rd. Left (East) side of Wilmot.

Viewing Location: Field inside facility.

Thursday – October 19 -- SOUTH TUCSON

Wakefield Middle School

101 W. 44th St.

Age/Grade Level: 6 Grade; # Participants: 50 - 100

Filled -- 0 Scopes Needed

Setup: 6:00 pm. Start: 6:30 pm. End: 8:00 pm.

Nearest Moon Phase: 1st Quarter

Directions: From I-10 & 6th Ave. exit go south to 44th St. West on 44th St. for one block. Turn left (south) on 9th Ave. Park in the first parking lot on left.

Viewing Location: Paved basketball court south of the school next to parking lot.

***Friday – October 20 -- EAST TUCSON**

Far Horizons Co-Op

5000 E Grant Rd

Age/Grade Level: 55+; # Participants: 50 - 75

1 Scopes Needed

Setup: 6:00 pm. Start: 6:30 pm. End: 8/8:30 pm.

Nearest Moon Phase: 1st Quarter

Directions: East on Grant from Swan. Approx. ¼ mile on south side of Grant. Sign at entrance.

Viewing Location: Behind community center at center of mobile home park.

Saturday – October 21 - FAR SOUTH - GREEN VALLEY

Canoa Ranch

5375 S I-19 Frontage Road

Age/Grade Level: All Ages; # Participants: 75-100

Filled -- 0 Scopes Needed

Setup: 6:30 pm. Start: 7:00 pm. End: 9:00 pm.

Nearest Moon Phase: 1st Quarter

Directions: I-19 South to Exit 56. Cross under interstate, take frontage road north to park entrance.

Viewing Location: Open area - center of complex.

Tuesday – October 24 - -- FAR EAST TUCSON

Gridley Middle School

350 S Harrison Rd

Age/Grade Level: 6th Grade & up.; # Participants: 300

Filled -- 0 Scopes Needed

Setup: 6:00 pm. Start: 6:30 pm. End: 8:30 pm.

Nearest Moon Phase: 3 days past 1st Quarter

Directions: From Broadway and Harrison drive south on Harrison, school is about a half a mile on the right hand (West) side.

Viewing Location: open outdoor area or volley ball court.

Thursday – October 26 - -- NORTHEAST TUCSON

Sabino High School

5000 N. Bowes Rd.

Age/Grade Level: 1st to 12th; # Participants: 200+

Filled -- 0 Scopes Needed

Setup Time: TBD – just after sunset.

Directions: Catalina Hwy northeast to Harrison Rd. North on Harrison Rd. Follow Harrison Rd just past Snyder Rd. School is on the left.

Viewing Location: On the grass by the Flag pole, there will be an area of the Parking lot available as well if needed by the flag pole.

Saturday – October 28 -- Catalina

Trail Life Troup AZ747 – American Heritage Girls

Catalina State Park – Firefly Group Camp

11570 N Oracle Road

Age/Grade Level: 5 – 18; # Participants: 120

Filled -- 0 Scopes needed

Setup: 6:00 pm Start: 6:30 pm End: 8:00 pm.

Nearest Moon Phase: Full Moon

Directions: North on Oracle Road to Catalina State Park.

Viewing Location: Firefly Group Camp

What's Up list for October 2023 – November 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 October and November for the more common observing programs.

Constellation Hunter Program – Northern Sky

The following constellations are well placed for observing for October and November: Andromeda, Aquarius, Aries, Cassiopeia, Cepheus, Cygnus, Delphinus, Equuleus, Lacerta, Pegasus, Pisces, Triangulum

Messier Observing Program

This is the sparse time of year. This is the area where the Sun is in March which allows us to do a Messier Marathon, because it's so empty. The following Messier Objects are well placed for observation during October and November (listed in ascending RA): M15, M2, M39, M30, M52

Lunar and Binocular Observing Program

The following are dates for the lunar phase when observing during October and November:

New Moon: October 14, November 13
40 Hours waxing: October 16, November 15
72 hours waxing: October 17, November 16
4 days old: October 18, November 17
7 days old: October 22, November 20
10 days old: October 24, November 22
Full (14 days old): October 28, November 27
Gibbous: October 6, November 5
72 hours waning: October 11, November 10
40 hours waning: October 12, November 11

ANNULAR ECLIPSE OF THE SUN ON OCTOBER 14. It will be partial from Tucson

Solar System Observing Program

The following list describes the planets and their visibility during October and November:

Mercury is an early morning object during the first couple of weeks of October. Becomes an evening object during the last 3 weeks of November.

Venus is an early morning object during October and November.

Mars is lost in the twilight until December when it rises in the morning sky.

Jupiter is well placed for viewing during October and November. During October it rises shortly after sunset and transits shortly after midnight. During November it transits before midnight. It reaches opposition on November 2.

Saturn is well placed for evening observation. At the start of October it transits around 9:30 PM. By the end of November it transits around 6 PM.

Uranus is well placed for evening observation. It reaches opposition during the first week of November. It rises about 15 minutes behind Jupiter.

Neptune is well placed for evening observation. It transits around 11 PM on October 1 and around 7 PM on November 30.

Urban Observing Program

The following deep sky objects are well placed for observing during October and November:

NGC 7009, M15, M2, M39, NGC 7160, NGC 7209, NGC 7243, NGC 7662, NGC 7789

The following **Double Star** is well placed for October and November: Delta Cepheus

Public Astronomy Events



COLLEGE OF SCIENCE

**LUNAR & PLANETARY
LABORATORY**

LPL Evening Lecture Series

October 18, 2023

Dr. Veronica Bray

Kuiper Space Sciences, Room 308 and Zoom

The What If? Real-time Effects of a Bennu-Sized Asteroid Impact on Tucson

November 15, 2023

Dr. Dani DellaGiustina

Kuiper Space Sciences, Room 308 and Zoom

Exploring Hazardous Asteroids with the OSIRIS Spacecraft



The Vatican Observatory Foundation is celebrating the 30th Anniversary of the "first light" of the Vatican Advanced Technology Telescope in Tucson, AZ Sept. 29th to Oct. 2nd. Events include an anniversary dinner on Sept. 29th, a tour to the telescope on Sept. 30, and a tour of the Richard A. Caris Mirror Lab at the University of Arizona on Oct. 2nd. For more information and to RSVP, visit vaticanobservatory.org/vatt30



**DEPARTMENT OF ASTRONOMY
AND STEWARD OBSERVATORY**

**Public Evening
Lecture Series
Fall 2023**

We are thrilled to celebrate over 100 years of presenting lectures on astronomy & telescope viewing to the public. Public Evening Lectures will **begin at 7:30 p.m. in Steward Observatory Room N210.**

All of the lectures and the use of the telescope are free of charge and open to the general public.

For more information, contact Dr. Thomas Fleming at 621-5049 or taf@arizona.edu or check out the [Web Page](#).

You can watch each lecture live on [ZOOM](#).

Oct 2	Vatican Observatory Panel	<i>30th Anniversary of the Vatican Advanced Technology Telescope</i>
Oct 9	Dr. Azalee Bostroem LSSTC Catalyst Fellow Steward Observatory	TBA
Oct 23	Dr. Carlos Vargas Steward Observatory	<i>Unveiling the Missing Universe with ASPERA</i>
Nov 6	Dr. Brittany Miles 51 Pegasi b Fellow, Steward Observatory	Probing the Depths of Planetary Atmospheres!
Nov 13	Dr. Tim Hunter Maj. James McGaha, M.S. Grasslands Observatory	<i>E. E. Barnard and Dark Nebulae: Then and Now</i> Book-signing after the lecture
Dec 4	Dr. Kevin Wagner Steward Observatory	<i>Exoplanet Imaging: From Protoplanets to Exo-Earths</i>



Finally Reopened!

[Read Press Release](#)
[More Information](#)



I am happy to let you know that we're now reopening Kitt Peak after a long hiatus due to the pandemic and the Contreras Fire. -Lars

Lars Lindberg Christensen

Head of Communications, Education & Engagement

950 North Cherry Ave., Tucson, AZ 85719; noirlab.edu

And you can get a job there! Click on the links for more information.

[Kitt Peak Visitor Center Evening Guide](#)

[Kitt Peak Visitor Center Overnight Guide](#)



Texas Star Party Solar Eclipse Event

Looking for another great place to watch the 2024 total eclipse?

Texas Star Party, Inc. (TSP) is hosting a TSP total solar eclipse and star party event to view the 2024 total solar eclipse. TSP has selected Latham Springs Camp and Retreat Center, Aquilla, Texas, as its event location. Latham Springs is located just west of the centerline with the duration of totality being 4 minutes and 23.5 seconds.

Check out their [website](#) for more information.

Skyward

By Dr. David H. Levy

October 2023

Pons-Brooks: A comet for the centuries.

When David Rossetter and I began our observing session at the Tucson Amateur Astronomy Association's Chiricahua Astronomy Complex on the evening of August 5, 2023, we did not expect that we would be treated to an evening of cosmic history. That was the night we glimpsed Comet Pons-Brooks, a comet with an orbit that, like Halley's comet, takes almost a human lifetime to orbit the Sun. I might have spotted it the night before, but on this night David and I saw the same thing, a spot of haze in the darkness. It was a faint misty cloud that bears the names of two of the most famous comet discoverers in all history, a spot of haze with quite a story to tell.

Comet Pons-Brooks was first identified by Jean-Louis Pons, the great French comet hunter, during the summer of 1812. In the late summer of 1883, on its subsequent pass around the Sun, it was rediscovered by another famous comet hunter, William Robert Brooks. I first encountered Brooks in a Sky & Telescope article I read in the second issue I received, at age 14, in April 1963. As I digested the story, I learned how Brooks might have politely entertained a visitor to his observatory, and how that visitor eventually learned that Brooks was one of the world's most famous comet discoverers. As I relished these words, I foresaw myself, some day, also as a hunter of comets. Not a discoverer, because that would be hard. But as a hunter, that's easy. Those ideas stayed with me until December 17, 1965, when I began my program of searching for comets. Since then, my own life has been punctuated by several sparks of cometary light, as each new comet added brightness to the field of my telescope. I joined a group of people linked not by nation, nor either by continent, but by being citizens of the world united by a love of comets.

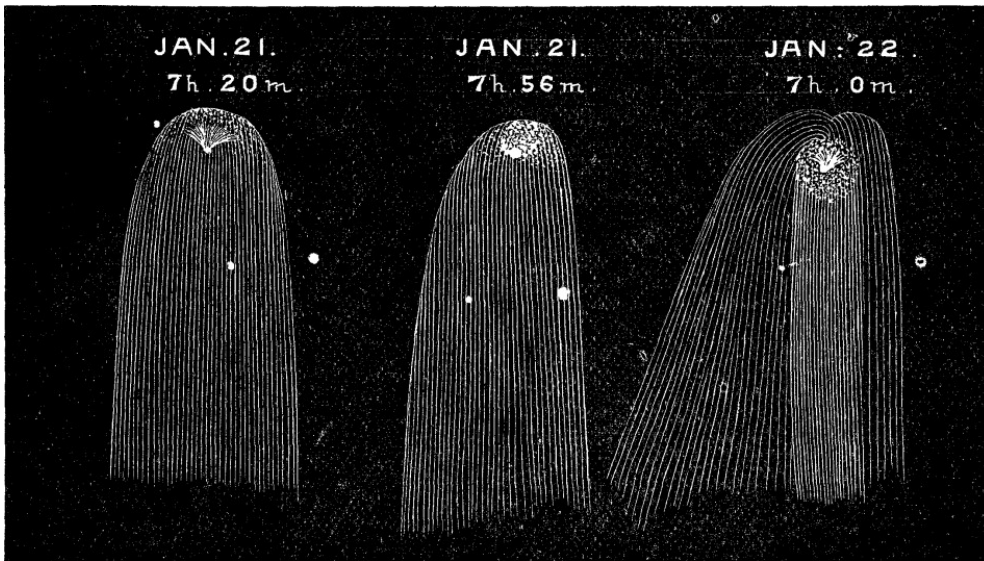
Emboldened by the offer by Hulbert Harrington Warner of an award of \$200 for each comet discovered, Brooks managed to find three comets within five weeks of each other, on April 17, April 30, and May 22, 1886. He must have known how his colleague Edward Emerson Barnard built his "comet house" partly out of funds also earned from Warner's award. (The Warner prize has survived through history. The Astronomical Society of the Pacific offered its "Donohoe Comet Medal" for a time, and later Roger Tuthill gave a plaque, and now there exists the Edgar Wilson Award, which is sponsored by the Central Bureau for Astronomical Telegrams [CBAT] of the International Astronomical Union.)

Like all serious comet hunters, Brooks was far more interested in discovering comets than in the money he could earn from these finds. In later years his success as a comet hunter earned him a professorship in astronomy at Hobart College in Geneva, New York. With Brian Marsden's 1979 Catalogue of Comet Orbits as a guide, we can surmise that Brooks discovered a minimum of 22 comets in his lifetime.

Despite this remarkable accomplishment, Brooks is only the second most prolific comet finder in world history. The winning ticket goes to Jean-Louis Pons himself, who was the first "discoverer" of Comet Pons-Brooks. Truly, Pons was also not the first. This comet might have been observed by Chinese astronomers in the late summer of 245 CE, then definitely by the Chinese in 1385, and in 1457 by Paolo del Pozzo Toscanelli. Pons today is considered to have discovered about thirty comets. Over the decades I observed a second Pons periodic comet, Pons-Gambart, in January 2013. By the way, Pons had a most humble and trusting nature, and in his younger years he was ridiculed by astronomers who should have known better.

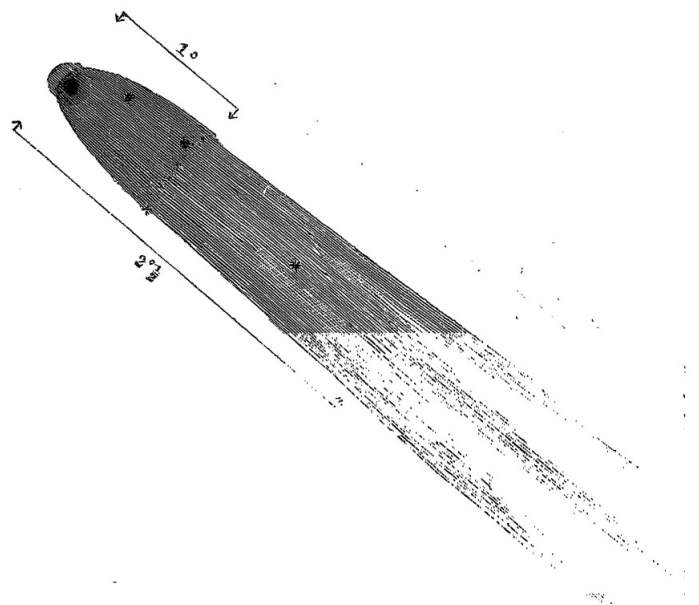
These days, it is almost impossible for an individual to discover more than half a dozen comets. My total is 23, but as CBAT director Dan Green (possibly correctly) stated, “he discovered 9 comets and lucked out on 11 more,” before graciously adding Comet Shoemaker-Levy 9 to my total.

Pons and Brooks shared a passion for telescopes and the fleeting comets they could detect parading about the sky. I like to imagine that finding new comets was secondary to their pure enjoyment of the night sky, its treasures, and the secrets that it infrequently shared with those people who truly lived, and live, for its precious hours of darkness.



Three sketches of the comet during its January 1884 apparition by Herbert Couper. Wilson. Besides his obvious ability in sketching, Wilson sighted canals on Mars and was one of the few who agreed with Percival Lowell's arguments about these alleged features.

From 1843, this sketch was done by Edwin Emerson Barnard, one of the foremost visual observers who ever lived.



Dr. David Levy is a long-time member and former President of the TAAA. He is a well know 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.



Celestron tripod

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

TAAA Member Price: \$185



6 Inch Newtonian Optical Tube Assembly;
6 inch f 8.0 primary mirror.
Comes with an 8x50 finder.

TAAA Member Price: \$100

8 Inch Dobsonian
Homemade 8 inch
Newtonian reflector
in a dobsonian
mount. Comes with
a red dot finder.

**TAAA Member
Price: \$175**



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](#); 520-396-3233

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 SkyQuest 10" Dob with Telrad and 8x50 finder and 8x50 finder.



Orion SkyWatcher 12" Collapsible Dobsonian with 8x50 finder



Orion SkyWatcher 10" Dobsonian with Telrad



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



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

TAAA Equipment Loaner Program (Continued)



Orion 10" Dobsonian black tube 8x50 finder 25



Celestron 6" SCT, single fork mount, GOTO



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



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



Celestron Nexstar 6" SCT, diagonal, and eyepiece



Celestron 8" SCT, Single Fork mount, GOTO



Stellar Vue 85mm Refractor

TAAA Equipment Loaner Program (Continued)



Eye Piece 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.



Eye Piece 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



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



Eye Piece 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.



Eye Piece 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" diagonal.



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