SK. SK. SK. SK. SK. TAAA DESERT SKIES BULLETIN

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Observing Our

Desert Skies

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Since



www.tucsonastronomy.org

Membership Meeting

TAAA's next general member meeting will be held on Friday, October 7, 2022. The Main Presentation starts at 6:30 PM (AZT), followed by a Members Only meeting.

This will be a **hybrid meeting** (both in person and online). 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 online through our Facebook page at <u>https://www.facebook.com/</u> <u>TucsonAstronomy/</u>. A recording will be available on <u>YouTube</u> a few days after the meeting.

In support of Family Weekend at the UA, Steward Observatory will open the Raymond E. White 21" telescope for observing, weather permitting, from 7pm to 10:30pm on the night of our October meeting. Access is from the courtyard outside the meeting room.

Main Presentation at 6:30PM AZT

Title: A Sky Full of Satellites

Presentation: With the creation of new low Earth-orbit satellite mega-constellations (containing 100 or more satellites), astronomers face a new reality, one with as many as 100,000 bright satellites which can ruin astrophotographic images, both scientific and aesthetic. While there are many concerns about the damage these constellations cause, our speaker, Harry Krantz, is currently observing them primarily to measure their brightness and evaluate current and future mitigation goals. Based on his extensive surveys and investigation of their brightness and

October 7 @ 6:30 pm - 9:00 pm

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Pomenis telescope used to survey the night sky for satellites. Credit: Harry Krantz1

behavior, Harry will inform us about the real impacts that astronomers can expect from satellite mega-constellations.

Biography: Harry Krantz is a PhD student of Astronomy at the University of Arizona Steward Observatory. His research focuses on observing and characterizing satellites and debris in Earth orbit. With a background in engineering and systems development, Harry plays a key role in creating new instruments, telescope systems, and techniques to overcome the unique challenges in observing satellites.

September 2022

We are deeply saddened by the death of long-term TAAA member, Wendee Levy. Wendee and David Levy have been beloved members of TAAA for many years. (Some of you were members when David was TAAA President from 1980-1983.) Wendee always lit up the room with her energy. Her warmth, vivaciousness, and enthusiastic support of astronomy and education for all these years touched thousands of people. She will be greatly missed but her contributions will live on.

In spite of some continuing summer-type weather of rain and clouds (TIMPA needed to close yet another star party due to clouds this month.) we are having a number of successful events. Our participation in the Joshua Tree National Park Star Party again this year went exceedingly well with at least 25 volunteer astronomers and 500 guests one night this week. TAAA participated in one event associated with the David Levy Arizona Star Party in Oracle that occurred September 21-25th, and we hear great things about all the associated events. School and non-profit star party events are, of course, greatly increasing with our proceeding into fall. Our Starry Messenger Special Interest Group has been busy planning and organizing the TAAA Astronomy Outreach Education events for this TAAA year.

At the August Board meeting the Board established a new Website/Technology Committee. Since then, David Rossetter was appointed to head that Committee. The Committee will work on organizing, updating, and integrating our website and technology resources as well as taking responsibility for exploring additional or new options that we may wish to consider.

The TAAA Board this month took a pretty thorough dive into understanding our current TAAA insurance and discussing aspects of insurance coverage appropriate at the current time. This will be an ongoing exploration and decision-making process as we work with our insurance company to understand options, coverages, and what is most appropriate in light of our TAAA growth and development. Need for some related signage was also discussed.

by Mae Smith

Organizing and updating insurance requires accurate property inventories and Barbara Whitehead has been working industriously on both the insurance and inventories. If you can assist with any TAAA property identification and location information, please contact Barbara.

COVID cases decreased in both Pima and Cochise Counties in the last month. No TAAA COVID policy changes were made at this meeting.

Member Observatory lease agreement forms were reviewed and approved. There are variations in the agreements driven by size of the observatories and variations in supports needed for equipment. One agreement provides for a Dob space. All signatures on agreements, including those for TAAA, were completed the week of the Board meeting.

The Board also approved \$100.00 for food for the next volunteer CAC maintenance and clean up event. This will occur on a Saturday and effort will be made to increase volunteer participation since the tasks and their size keep growing as the site develops.

TIMPA and CAC committees have been at work. A new roof was added to the TIMPA Gila Monster Observatory. Various CAC committees related to construction/building/furnishing/donation considerations have met as well as the Signage Committee has resumed regular meetings. We were all glad to see some additional volunteers to assist with technology at member meetings, to successfully conduct our first combined online and in-person raffle at the September Member Meeting and to have around 150 people in attendance (combining social media, zoom and in-person groups). We are off to strong fall and winter seasons.

Apparently, there is some misinformation for date of the TAAA General Member Meeting for October. **NOTE: All TAAA General Member Meetings are on Fridays. The October TAAA General Member meeting will be Friday, October 7th at 6:30pm.**

President Mae Smith

Book Of the Month By Douglas Smith (TAAA Librarian)

Book: The Little Book Of Astronomical Curiosities Published in 2022. The author is Robert Douglas (TAAA Member).

This is an extremely fun book to read. It contains a great deal of information about a wide range of topics that may be of interest to a wide audience, but more specifically amateur astronomers or anyone who has a scientific curiosity about 'stuff'. The book is well written with a large number of useful illustrations. There is some math but most of it is at the high school level, with a little simple calculus. The author does a really good job describing things in a simple to understand language. A very interesting range of topics is covered from ancient history to modern events. I found the author's discussion of the dancing moons of Saturn of personal interest. I spent a year in grad school in the early 80's creating and perfecting a computer simulation of that 'curiosity'. While this book is not exactly a must buy in a practical sense (like a star atlas) I would highly recommend it for anyone who always wanted to answer the 'why' questions and then went and looked up the answer online at three in the morning. This book contains a lot of answers. The book is currently selling for about \$38 on Amazon. We do have a copy in the TAAA Library.

Special Interests Groups

TAAA Ladies' Night Out

by Susan O'Conner

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.

> Thursday, October 20 6:30pm

Brother John's Beer Bourbon and BBQ 1801 N Stone Ave (NW corner of N Stone and E Lester)

Preview the menu at <u>https://brotherjohnsbbq.com</u>

RSVP Susan



Starry Messengers Special Interest Group

Opening Minds to the Universe

The Starry Messengers SIG will meet on **Monday, October 10th, 7:00 – 8:30pm.** We'll meet in-person in the N305 conference room at Steward Observatory (933 N Cherry Ave). We will be learning activities from outreach toolkits that have been requested by teachers in October and November. Even if you won't be able to help support the upcoming events, please attend this meeting so you'll learn these activities and might support events later in the year.

These are upcoming outreach events and the toolkits that have been requested:

- 10/21/22 (Friday) 5:30pm 7:30pm Esmond Station (Houghton & I-10), Space Rocks Toolkit (Tom Sarko is schedule but could use a second person)
- 10/25/22 (Tuesday) 7pm 8pm Wakefield Middle School (I-10 & 6th Ave), Shadows & Silhouettes Toolkit
- 10/27/22 (Thursday) 5pm 6:30pm Myers/Ganoung Elementary (22nd & Rosemont), Shadows & Silhouettes Toolkit
- 11/18/22 (Friday) 5:30pm 7pm Acacia Elementary School (I-10 Colossal Cave Rd), Glass & Mirrors Toolkit

Let <u>Terri Lappin</u> know if you can support any of these events.

The Space Rocks Toolkit is about craters, meteors, meteorites, asteroids, and comets. The Shadows & Silhouettes Toolkit is about eclipses, transits, and moon phases. The Glass and Mirrors Toolkit is about telescopes. To learn about these toolkits, <u>visit this page</u> and then search on the individual toolkit names.

Those attending our October 10th meeting should be aware that the doors to Steward Observatory will be locked. We'll gather in the lobby beginning at 6:30pm and will move as a group to the conference room. If you know you'll be late, or you arrive and find the doors locked, please call Terri Lappin who will let you in. Signs will be posted with the phone number to call. The Starry Messengers are TAAA members interested in doing outreach activities with the public. We meet every second Monday of the month, taking a break over the summer. We support the TAAA's outreach program through hands-on activities that generally don't require a telescope. This allows members who don't have a portable telescope to take part in the TAAA's outreach program. Our meetings are a mix of Zoom and in-person meetings, depending on what we need to get accomplished. If you have questions about the Starry Messengers SIG, contact <u>Terri Lappin</u> or 520-977-1290.

SMSIG on the Web

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, October 13th at 6:30 pm - 8:00 pm. Topics to be determined.

Contact <u>Conner Justice</u> for Zoom link and more information.

AFSIG on the Web

Access videos of previous meetings in the TAAA's YouTube Channel.

Astro-Imaging SIG by Gregg Ruppel

The next AISIG meeting is Monday, October 17 @ 7:00 pm via ZOOM.

Email <u>Gregg Ruppel</u> for the ZOOM link or find it in the <u>TAAA Forum</u>.

Topics: **ZWO AM5 Full tutorial and Review** - Peter Zelinka **Image Sharing, Q/A**

Check out <u>AISIG On the Web</u> or contact <u>Gregg Ruppel</u> for the latest information and Zoom links. Look for previous meetings on the <u>TAAA YouTube Channel</u>. Gregg and the AISIG folks are very active on the <u>TAAA groups.io</u> 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 <u>TAAA Forum</u>.

Imagers, to help ensure that the TAAA Desert Skies Bulletin has explicit permission to publish your fine work, we need you to submit your images directly to <u>Gregg Ruppel</u>, our Imaging Editor or come up with alternative arrangements. We would like you to restrict the size of your images to around 10MB (a little over is okay if needed). Members would appreciate a brief description of the object if it is not a common target along with your imaging details. If you desire, please include a link to the full-size version. I want to limit space to one page of the bulletin per contributor. If you submit five photos, they will be small or we may ask you to pick your favorites. If you do submit images, I will include you in a pre-publication version of the bulletin for your approval of the quality and layout. Feel free to ask me (<u>David Rossetter</u> – Bulletin Editor) or <u>Gregg</u> if you have any questions.

Highlights from the Astro-Imaging SIG



Moon by **Steve Thornton**

Ptolemaeus

Mare Crisium

Celestron 9.25" SCT using a ZWO ASI290mm camera. I captured the images using SharpCap, processing them in Autostakkert, Registax and Photoshop.



M31 by Vincent Goetz - Celestron C11, Hyperstar, ZWO 2600, Anglian ALP-T filter. <u>https://astrob.in/</u>



C11@f/7 (1970mm fl), asi2600, AP 900GTOCP4 mount, PhD2 guided 60mm. 56 x 3min in mediocre seeing.



Bubble Nebula

Randy Smith

C11 HyperStar 183 MC Antlia ALP-T Dual band filter Ha/ Oiii 418x60

<u>Astrobin</u>



Sun by Rik Hill

north up



As the text accompanying the image on Astrobin relates, it encodes the OIII/Ha (two gas emission lines). Brighter areas have more Ha (a lower OIII/Ha ratio) than the darker areas. If you think the name "planetary nebula" is misleading in that it has nothing to do with planets, then consider that the radial strands are called "comets." I guess that is because many of them have a small blob at the distal end, and the streak looks like a tail. https://astrob.in/doynjz/0/

New TAAA Information Technology Committee



Have you got IT skills you would like to share with the TAAA? The President and Board has authorized the formation of a permanent IT Committee. The club depends on technology to deliver so many of our services including membership, member database, meetings, social media, observing site reservations, publishing, and many other areas. **We especially need a Web Master to maintain and improve our web site**. If you have interest in being on the committee and/or serving as our Web Master, please contact <u>David Rossetter</u>.



TIMPA (Tucson International Modelplex Park Association), Dark Sky site west of the Tucson Mountains. <u>TIMPA on the Web</u>

TIMPA Star Party Dates this month: October 21 and 22.

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 does not provide 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.

<u>Reservation Form</u> Any questions, please contact the TIMPA Director: <u>Ralph Means</u>

Chiricahua Astronomy Complex

by Jim Knoll

CAC Weekend Dates coming up (Friday/Saturday): October 21-22 (New Moon October 25)

Please join us to improve CAC with a maintenance Saturday October 8, 2022 from 9 - 4 pm. We will do some routine maintenance actions to improve the site. Please let us know if you can help out: <u>cac-director@</u> <u>tucsonastronomy.org</u>. Thank You!!

Chiricahua Astronomy Complex (CAC) is the club's dark 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 <u>CAC Reservations</u>.

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 2022

TIMPA

October 21 and 22 November 18 and 19 December 16 and 17

CAC

October 21 – 22 (New Moon October 25) November 25 – 26 (New Moon November 23) December 22 – 23 (New Moon December 23)

Chiricahua Astronomy Complex Learning Center Construction Update September 2022

Two major accomplishments occurred in the construction of our Learning Center this month. The interiors of the buildings were completely coated with closed cell spray foam insulation. This insulation is a premium method for moisture sealing, sound attenuation and insulation of metal structures. The installer commented that we now have two large 'Yetis' – keeping the interiors cozy in summer and winter. The drywall has been delivered and will be installed after the remaining minor inside electrical work, and the plumbing are completed.

The other major step forward was installation of electrical cables to our two electric panels by Sulphur Springs Valley Electric Company. Following that, our water lines were then laid by the contractor.

There is still a lot to do, but the facility is getting there.



By <u>Ed Foley</u>

Getting ready for the spray foam insulation.



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Installing water lines.

by Jim Knoll

Connecting Astronomy with the Public – October 2022 by Jim Knoll

Busy – Busy – Busy. The star party program is back in full swing. We have 17 school/public programs in October including events at Catalina State Park (10 scopes), 7 schools, Chiricahua National Monument Southeast of Tucson, and our semi-annual Evening Under the Stars at our



Solar observing at the U of A

Chiricahua Astronomy Complex. We also have 7 paid events for resorts and other private groups around Tucson. This is a great time to jump in if you want to try

your hand at some outreach events. When I was first starting out, I was not sure if I had enough knowledge to share the sky; but, you know more than you think. Plus, this is a great

way to learn the sky. Rather than getting into a rut observing the same familiar objects over and over, you can plan out 4-5 new objects for each star party, study up on them, and before you know it, you will have a great repertoire of the night sky. We have plenty of resources available to help get you started and can pair you with an experienced star party volunteer if desired.



Night Sky Festival at Joshua Tree National Park



Astronaut Snoopy (top) and Bear Stargazing

Members should receive a monthly email from us listing all the events for the upcoming month. Look them over and let us know if you want to try any of them (please sign up so we know who will be at each event). I always appreciate getting any photos of participants at the events if you get a chance to take some before it gets dark or let the other astronomers know that you will be using a flash. We need to not take pictures of youth faces though, in accordance with our Minor's Policy, so I try to take them from a distance and not show their face. Of course, any self portraits are fine. Another hit amongst the participants is taking pictures of the Moon or other bright objects through the telescocpe. I use a Celestron NexXY smart phone adapter that works pretty well on the Moon. Hard to get a focus though on other objects unless the user is adept at controlling their phone camera.

So, hopefully we will see you at an upcoming star party. They can be very rewarding and you never know, you might just inspire someone to take up astronomy or another STEM field as a career or hobby.

by Jim Knoll

Thank you for volunteering your time and talents for our extremely important outreach mission. Below is the list for October, 2022. Events are starting to pick up as schools come back into session. 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 (<u>tucsonastronomy.org</u>) and Night Sky Network (NSN) (<u>nightsky.jpl.nasa.gov</u>) 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. <u>Email</u> for questions or more information.

Saturday October 1 -- NE TUCSON Sabino Canyon Recreation Area

International Observe the Moon Night 5700 N Sabino Canyon Road All Ages; 100 Participants;

2-3 Scopes Needed + astronomer help (see below) David Iadevaia will have his mobile observatory and will be projecting an image of the Moon on an 80 inch screen. He would like a couple people to point out moon features. Also someone to have a scope on the moon with cell phone adapter (he will provide adapter) for participants to take pictures. Setup time: 5:30 pm. Start: 6 pm. End: 10 pm. Directions: From E Sunrise Drive and Sabino Canyon Road. North on Sabino Canyon to the entrance on the right. Viewing Location: Visitor Center

Saturday October 15 -- NW TUCSON -- ORACLE Catalina State Park (Quarterly TAAA sponsored

public star party) 11570 N Oracle Road All Ages.; 10 Scopes Needed Setup Time: 6:15 pm. Start: 7:00 pm. End: 9:00 pm. 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 SW corner of the parking lot.

Wednesday October 19 -- WEST TUCSON Cooper Center for Environmental Learning

5403 W Trails End Rd, 85745 Grade 4; 45 Participants; 2 Scopes Needed Setup Time: 6:15 pm. Start: 7:00 pm. End: 8:30 pm. Nearest Moon Phase: Third 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).

Wednesday October 19 — EAST TUCSON Classical Conversations Home School

410 S Pantano Road Ages 4-18; 107Participants: 107 1 SOLAR Scope & 1 Daytime Moon Scope Needed Setup Time: 11 AM. Start: 11:30 AM. End: 1 pm. Directions: Broadway & Pantano Rd. South on Pentane to the Mountain View Nazarene Church. Viewing Location: Church front parking lot.

Friday October 21 -- SOUTHEAST TUCSON Esmond Station K-8

9400 S Atterbury Wash Way Grade K - 8; 150 Participants: 150; 4 Scopes Needed 1 Night Sky Network Toolkit (Space Rocks) Setup Time: 5:00 pm. Start: 5:30 pm. End: 7:30 pm. Directions: From I-10 & Houghton Road, north on Houghton. East on Mary Ann Cleveland. Right (south) on Atterbury Wash Way. Viewing Location: Field

School/Public Star Parties Continued

Saturday October 22 -- FAR EAST AZ Chiricahua National Monument

12856 E Rhyolite Creek Rd, Willcox, AZ 85643 All Ages; 75 Participants; 4 Scopes Needed Setup Time: 6:00 pm. Start: 6:30 pm. End: 8:30 pm. Directions: Total distance is 100 miles from I-10 Houghton Exit. Take I-10 East to Exit 336 (Willcox). East on AZ 186 (Maley St in Willcox). Travel 40 miles to Monument. Turn on AZ 181 for 4 miles to Park Entrance.

Viewing Location: Echo Canyon Trailhead. About 5 miles beyond the visitor center.

Tuesday October 25 - SOUTH CENTRAL TUCSON **Wakefield Middle School**

101 W 44th St

Grade 6; 75 Participants; 2-3 Scopes Needed Night Sky Network Toolkit: Shadows & Silhouettes Setup Time: 6 pm. Start: 6:30 pm. End: 8 pm. Directions: Ajo & S 6th Ave. North on 6th to 44 St. West on 44th to the school. Viewing Location: Field

Tuesday October 25 -- NORTHEAST TUCSON Esperero Canyon MS

5801 N Sabino Canyon Road, Tucson, AZ 85750 Grades 6 - 8; 100 Participants; 3 Scopes Needed Setup Time: 5:30 pm. Start: 6 pm. End: 8 pm. Directions: From Sunrise, go north on Sabino Canyon Road to School Complex. The second entrance is the Middle School. Viewing Location: Soccer Field

Wednesday October 26 -- FAR NORTH in ORACLE Biosphere 2

32540 S. Biosphere Road, Oracle Grades 9 - 12; 40 Participants; 2 Scopes Needed. Setup Time: 6 pm. Start: 6:30 pm. End: 8:30 pm. Directions: Oracle Road north to Highway 77. Continue north to Biosphere Road Viewing Location: Lawn area behind the cafe patio

Thursday October 27 -- EAST TUCSON Myers / Ganoung Elementary School

5000 E Andrew St

Grades K - 5; 100 Participants; NO Scopes Needed Night Sky Network Toolkit: Shadows and Silhouettes Setup Time: 4:30 pm. Start: 5 pm. End: 6:30 pm. Directions: 22nd & Rosement. South on Rosement Ave to the school (corner of Rosement and Andrew) Viewing Location: Classroom

Thursday October 27 -- NE TUCSON Sabino High School

5000 N Bowes, 85749 Grades 9-12; 100 Participants; 3 Scopes Needed Setup Time: 6 pm. Start: 6:30 pm. End: 8:30 pm. Directions: Catalina Highway & Tanque Verde Road. Northeast on Catalina Highway to Harrison. North (left) on Harrison to Bowes (past Snyder). Alternate: Bear Canyon & Tanque Verde Road. North on Bear Canyon. East (right) on Snyder. North (left) on Harrison to the school. Viewing Location: Courtyard or Field

Friday October 28 -- ELFRIDA, AZ

Elfrida Library 10552 Highway 191 All Ages; 50 Participants; 2-3 Scopes Needed; JWST Image Presentation (5:30-6:30 pm) Telescope Setup: 6 pm. Start: 6:30 pm. End: 8 pm. Directions: From I-10 exit 131, take US 191 south ~ 42 miles to the town of Elfrda. Library is located just south of Gleeson Rd.

Viewing Location: Open area to the SW of the library

Saturday October 29 -- CAC Evening Under the Stars Chiricahua Astronomy Complex (CAC)

9313 E Perseus Way, Pearce, AZ 85625 All Ages; 75 Participants; 4 Scopes Needed Will have several CAC telescope operating. Would like several TAAA member scopes operating as well. Setup Time: 5:30 pm. Start: 6:30 pm. End: 9 pm.

Friday October 14 -- EAST TUCSON Saguaro National Park East

3693 S Old Spanish Trail All Ages; 3 Scopes Needed Setup Time: 6 pm. Start: 6:30 pm. End: 8:30 pm.

Friday October 21 -- NORTHEAST TUCSON

Tanque Verde High School; 4201 N Melpameme Way Grade 9 - 12; 25 Participants; 1 Scope Needed Setup Time: 7:15 pm. Start: 8 pm. End: 10 pm. Viewing Location: Field; Students will be doing an overnight camping adventure.

by Doug Smith What's Up list for October 2022 – November 2022

Fellow amateur astronomers, many of the Astronomical League observing programs can be done from our backyards. The following is a list of objects visible this month for the more common observing programs.

Constellation Hunter Program – Northern Skies

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 is a list of dates for the lunar phase during October and November:

New Moon: October 25, November 23 40 Hours waxing: October 27, November 25 72 hours waxing: October 28, November 26 4 days old: October 29, November 27 7 days old: October 3, November 1, November 30 10 days old: October 5, November 3 Full (14 days old): October 9, November 8 Gibbous: October 17, November 16 72 hours waning: October 22, November 20 40 hours waning: October 23, November 21

Solar System Observing Program

The following list describes the various solar system objects and their visibility during October and November: **Mercury** is an early morning object during October and the first week of November. Become an evening object during the last 3 weeks of November.

Venus is lost in the evening glare during early October, becoming a morning object in the last half of October and November.

Mars rises earlier each day in October and November, reaching opposition during the first week of December.

Jupiter is well placed for viewing during October and November. Just past opposition, its well up when the Sun sets and is visible for most of the evening.

Saturn is still well placed for early evening observation. It is setting earlier with each day. At the start of October it sets around 2 AM and by the end of November it is setting around 10 PM.

Uranus is well placed for evening observation. It reaches opposition during the first week of November. **Neptune** is well placed for evening observation. Stays relatively close to Jupiter during October and November.

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 observation during October and November: Delta Cepheus

Public Astronomy Events



Steward Observatory Public Evening Lecture Series

We are thrilled to be able to celebrate 100 years of presenting lectures on astronomy and telescope viewing to the public by offering a special Public Evening Lecture on the 100th Anniversary of the very first Steward Public Evening. Please save the dates for the following Public Evening Lectures, which will begin at 7:30 p.m. in Steward Observatory Room N210 and on ZOOM at the URL: <u>https://arizona.zoom.us/j/4470189357</u>

All of the lectures and the use of the telescope are free of charge and open to the general public. For more information, go to the <u>Evening Lecture Series page</u>. Sign up for our monthly Astronomy Newsletter at: <u>https://signup.e2ma.net/sign up/1797802/1759894/</u>. Click <u>here</u> to stream podcasts of previous Public Evening Lectures.

Fall 2022 Centennial Year Lectures

Oct. 3Dr. Daniel Marone
Steward ObservatoryOct. 17Dr. Christopher Walker
Steward ObservatoryNov. 14Dr. Laird Close
Steward ObservatoryNov. 28Dr. Becca Levy
Steward Observatory

Imaging Black Holes with the Event Horizon Telescope Floating Above Antarctica: The GUSTO Mission

Adaptive Optics at Steward Observatory

A JWST View of Starburst Galaxies: Sweet Data Coming Soon!



LPL Evening Lecture Series

Each fall semester, the <u>LPL Evening Lecture Series</u> presents LPL scientists discussing their latest scientific research and space mission projects. Lectures (including time for Q&A) are held on Wednesday evenings, 7:00 to 8:00 p.m., in The University of Arizona Kuiper Space Sciences Lecture Hall, Room 308 and livestream via Zoom. Doors open at 6:30 p.m.

<u>Oct 19</u>	Dr. Tyler Robinson	TBA
	Associate Professor, LPL	

Nov 16 Dr. Sukrit Ranjan TBA Assistant Professor, LPL



Fred Lawrence Whipple Observatory (FLWO)

The largest satellite facility of the Smithsonian Astrophysical Observatory (SAO), part of the Center for Astrophysics | Harvard & Smithsonian. Located on Mt. Hopkins in southern Arizona, this remote site is home to a number of telescopes, including the 6.5 meter MMT Observatory.

They host many on-line presentations by eminent astronomers. Check out their <u>web site</u> and <u>Calendar</u>.

In Tribute



Wendee Wallach-Levy

Ad Astra

December 29, 1948 - September 23, 2022

Wendee was warm and vivacious and gave an extra bounce to David's step. He was madly in love with her and would call her at least three times daily when he and I were on one of our trips together to Starry Nights Festival in Yucca Valley, CA, to the Texas Star Party, the Okie-Texas Star Party, and to any other event we happened to attend. She was the force behind the Sharing the Sky Foundation David and Wendee

founded, and she always put up with his rather odd amateur astronomy friends, such as myself. Wendee became a first-class amateur astronomer and supported David in his observing, frequent travels, and in his extensive writing. She was the stimulus for many of his books, such as his marvelous autobiography.

In her early days with David, she became fast friends with Clyde and Patsy Tombaugh (right), and she was a most dear friend of myself and my wife



Carol (left). One of our happiest times were when Carol and I met David and Wendee in Montreal in 2004 for the Transit of Venus. We also had marvelous trips with them in 2008 to see the Eclipse of the Sun from offshore of Aruba and in 2017 to see the Eclipse of the Sun from Madras, Oregon.



What a great lady. She could be stern with me and David and with his other erstwhile astronomy buddies, when needed, which was often, but she had a soft heart for astronomers and for the TAAA. Oh, how we will miss her. -Tim Hunter

Wendee has peacefully begun her journey to the stars. Appropriately, many of us were together under the stars when we heard the news. Even more appropriately, a fireball blazed across the sky about twenty minutes later. We are sure that was Wendee's goodbye.



I first met Wendee at the Adirondack Astronomy Retreat. David was the celebrated astronomer. Wendee ran the event. I remember hearing her voice across the observing field: "David R, what do you have in 'Fritz'". I then helped her up the big ladder to look through the 25" dob at M15 (our favorite view). I will be looking for her in that beautiful cluster. I know she is up there. -David Rossetter

Skyward

By Dr. David H. Levy October 2022

An Obituary for Donald Edward Machholz

Dear Don,

You left us far too soon, my friend. From your home in California and later in Arizona, you lived quietly and well, with a passion for stargazing that dominated your life.

As the English poet Gerard Manley Hopkins wrote, "I am like a slip of comet,/ Scarce worth discovery." He wrote his poem in 1864 but it might have been composed with you in mind. You were born on October 7, 1952, in Portsmouth, Virginia. I first heard of you during the 1970s, when you were popularizing a program to observe all (or almost all) the Messier objects in the sky, in a single night. I did not take the idea seriously for a long time. I have seen all the Messier objects, but I found them over a relaxing period of five years, from Messier 45 (The Pleiades star cluster) during the summer of 1962, to the distant and ethereal galaxy Messier 83, in the spring of 1987. Your idea was to learn the sky far more thoroughly than I did, and catch all the clusters, clouds of gas and dust, and distant galaxies that Charles Messier carefully recorded. (Messier himself was an 18th century hunter of comets, but he is known more for his catalogue.)

Thank you for inspiring me. By the mid-1980s, I was more proficient in observing than I was in earlier decades. One clear night in the early spring of 1983, I successfully observed all but one of the Messier objects. Messier 30 was the only one I missed that night.

By that time, Don, you were already famous. In 1978, after some 1700 hours of searching, you discovered your first comet using your simple telescope. (You never gave up, did you?) I thought of your success on that beautiful quiet night. In 1985, on the final night of the Riverside Telescope Maker's Conference that year, you discovered a second comet after another 1700 hours. You used a beautiful 10-inch cardboard and glass telescope for that second comet. (You really never gave up, did you.) Luck began to go your way after that. Your third comet arrived in 1986. You used a pair of 29 x 130 binoculars for that one. Right in between the passages of your second and third comets, Comet Halley, the most important and famous comet of them all, rounded the Sun on February 9, 1986. I like to think that as the great Halley's comet made its pass through the inner solar system, it was guarded by these two other comets discovered by you.

Don, you never ever quit. No one would have criticized you if you had. Instead, you spent the remaining years of your life searching the sky. You spent almost nine thousand hours over the course of your life comet hunting. Through it all, you never lost your passion for watching the sky. You and I share that one important aspect, Don. As many comets as you and I might have found, it was the search that was so important, for "in no better way," as Leslie Peltier wrote, "can we come face to face, night after night, with such a wealth of riches as old Croesus never dreamed of."

In recent years the professional astronomers have taken over comet discoveries. But still you kept on searching. Despite their great big telescopes, you kept going, always searching, with a series of small telescopes. You found two new comets in 1994, one of which broke apart into several pieces. By the start of the new millennium, amateur astronomers had pretty much given up. Visual comet hunting, was passé. No more. Only not for you. You discovered not one, not two, but three comets since the year 2004 and as of August 2022, you were the leading discoverer of comets by visual means in the world.

Don, I wish I had known you better. I do know I shall miss you, and our friendship which has evolved over the years, very much. I conclude this letter, this obituary, with the end of the Hopkins poem:

"But then her tether calls her. She falls off, And as she dwindles sheds her smock of gold... So I go out. My little sweet is done. I have drawn heat from this contagious sun, To not ungentle death now forth I run.

Rest in peace my friend.

David H. Levy

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.

This piece was written about a month before David lost his wife, Wendee.



From The Editor - David Rossetter

Thank you for your patience with my getting the Desert Skies Bulletin out this month. It is been a long, stressful, and sad last few weeks. We'll be back on schedule in October. Look for the Bulletin on the 28th as usual.

David Rossetter

TAAA Desert Skies Bulletin <u>David Rossetter</u> – Editor; Terri Lappin & Jim Knoll - Proofreading Greg Ruppel -Images; Ken Bertschy - Graphics