TAAA Desert Skies Bulletin

Observing Our Desert Skies Since 1954

November 2026

www.tucsonastronomy.org

Membership Meeting

Friday, November 6, 2026 6:30PM

TAAA's next general member meeting will be held on **Friday, November 6, 2026**. The Main Presentation will start at 6:30PM. 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 from the TAAA YouTube page.

Inside this issue:

Notes from the President - Page 2
TAAA News & Activities - Page 3
School/Public Star Parties - Page 9
Observing Sites and Updates - Page 11
Activities and Special Interest Groups - Page 13
Member Astro Images - Page 18
Astronomical League Programs - Page 26
Equipment for Sale - Page 27
Public Astronomy Events - Page 29
Crossword Puzzle - Page 31
Skyward - By David Levy - Page 32

Main Presentation at 6:30PM AZT

Title: **Solar System Small Body Science in the LSST Era**

Presentation: The NSF-DOE Vera C. Rubin Observatory's Legacy Survey of Space and Time (LSST) will dramatically increase the inventory of known solar system small bodies (asteroids, comets, Kuiper Belt objects, etc) over the next decade. The LSST is a wide-area survey conducted using the Rubin Observatory's 8.4-meter Simonyi Survey Telescope located on Cerro Pachón in Chile. LSST will cover the entire southern sky as well as a low-latitude portion of the northern ecliptic plane, taking pairs of images every few nights in a wide range of filters. Over ten years of observations, LSST is expected to observe approximately 100,000 near earth asteroids, 5 million main belt asteroids, 100,000 Jupiter Trojan asteroids, and nearly 40,000 Kuiper Belt objects.

The orbital distributions and physical properties of all these small body populations can be used to test different models of the early history of the solar system's major planets. This talk will review what we have already learned from small body observations (especially observations of outer solar system populations), highlight some early LSST small body science, and discuss what open questions the entire LSST dataset will help us answer.

Biography: **Dr. Kathryn Volk** is a Senior Scientist at the Planetary Science Institute, an independent nonprofit 501(c)(3) corporation dedicated to Solar System exploration. Her research focuses on icy small bodies in the solar system. She is currently funded through NASA grants to study transneptunian objects (also known as Kuiper Belt objects) in the outer solar system with the goal of understanding their distribution and orbital dynamics to better test models of early solar system history using observations from ongoing surveys such as LSST. She is an active member of the LSST Solar System Science Collaboration and is the collaboration's liaison to the LSST Survey Cadence Optimization Committee.



RubinObs/NOIRLab/SLAC/DOE/NSF/AURA/H Stockebrand

Notes From The President

November 2026

by Ed Foley

We have closed out the month of October with our TAAA volunteers showing just how much we do for the Arizona community. On October 3rd, CAC hosted its semi-annual Evening Under the Stars. This event attracts attendees from across southern Arizona to the CAC site. Attending were families from Tucson to Willcox to Sierra Vista. A few visitors I talked to had been to the event multiple times to enjoy the descriptions of the wonderful CAC sky. Our volunteers operated five of our permanently mounted telescopes including the 40-inch Dob, the 9-inch folded refractor, the .8-meter DFM, the 14-inch Celestron, and the 18-inch Dob. In addition, other members using their personal telescopes and imaging set ups shared the sky with our visitors. After worrying the strong winds of the previous days would linger, we had a picture-perfect evening – clear, calm and mild. The Milky Way was bright overhead giving many visitors their first view of our galaxy.

We had an equally dedicated TAAA team at the annual Tucson Astronomy Festival at Brandi Fenton Park in Tucson. The festival combines daytime solar viewing with the hands-on kits our Starry Messenger volunteers share, and evening viewing though volunteer telescopes. Additionally, TAAA holds a raffle of child and adult astronomy prizes, with a grand prize raffle of 3 telescopes. The weather this year did not cooperate causing the evening viewing to be cancelled, but not before our volunteers shared knowledge and views of the sun and moon.

Each of these events normally draw close to 100 community members to learn about science. We can all be very proud of the efforts of our members to share. It is especially gratifying to hear the younger visitors inspired to ask their probing questions about our universe.

Ed

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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 Ed Foley to receive a Zoom link for that meeting. Please send your email to Ed by 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.

Desert Skies Bulletin
Contributions to Editor: David Rossetter by the 24th.
Astro-Images to our Image Editor: Gregg Ruppel
Proofreaders: Terri Lappin, Jeff Rothstein, Jim Knoll

From the Editor – David Rossetter

After working through a health downturn, I think it is time for me to step away from some of my responsibilities at the TAAA. **We are looking for a new Bulletin Editor (or two).**

If you are Interested in an incredibly satisfying and important way to contribute to our organization, I hope you will consider taking on this responsibility. You will have the support of a team of proofreaders and some incredible contributors. For a job description, click here.

The job need not be limited to one person. Nor do you have to have experience as an editor or with our software. I can train you on our systems. And you have the opportunity to make the Bulletin your own.

Interested in becoming the TAAA Desert Skies Bulletin Editor? Please contact the NVRC.

Astronomical League Observing Awards for November 2026

by Doug Smith

Below is a list of Astronomical League members who earned Astronomical League Observing awards during the month of November 2026:

David Sharp – Binocular Messier Observing Program



The NVRC is seeking candidates to fill some of our non-elected leadership positions including a **Chair for our Recognitions Committee, Publicist, Bulletin Editor, Social Director, and Assistant Webmaster,** all subject to final selection by the TAAA President.

Be sure to also check out the *Help Wanted* section on the club's website main page for additional volunteer opportunities and links to relevant descriptions of those chances to get more involved with your club.

Please direct any questions or concerns regarding elected or volunteer positions to the NVRC at nvrcchair@tucsonastronomy.org. Pete Hermes (Chair), Dave Pass, Connor Justice, and Terri Lappin.

Chiricahua Astronomy Complex
Evening Under The Stars
by Jim Knoll

We held our semi-annual evening Under the Stars (EUTS) at the Chiricahua Astronomy Complex (CAC) October 3, 2026. We had fantastic weather and 86 public attending. Our volunteers did a great job of showing everyone the wonders of the universe through a variety of telescopes. We had the 40-inch Big Boy, the .8-meter BGSO telescope, the 18-inch Obsession, the 14-inch Wally Rogers, the 9-inch folded refractor, and plenty of personal telescopes. A special thank you to all the volunteers that helped with the event.





Our next EUTS is April 24, 2027 from 7:30-9:30 pm





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 local restaurant for fellowship and conversation.

Thursday, November 19, 6:30 pm

Eclectic Cafe

7053 E Tanque Verde
(NE corner of Tanque Verde and Sabino Canyon)

Preview the menu here.

RSVP Susan: Email or 520-780-0136

Astronomy Classes (Free!)

Constellation Locating and Identification Workshop
Open for Enrollment

Place: TIMPA **Date:** Thursday, December 3, 2026 (rescheduled) **Time:** 6:00 PM until completed

Synopsis: This is another workshop in the *practical astronomy workshop* series. Students will be taught how to locate and identify the constellations without having to memorize the night sky. Each student will use the supplied equipment to locate several constellations. They will learn how to use a planisphere and star atlas to locate constellations.

This program provides the methodology for the observing requirements of the Astronomical League's Constellation Observing Program (Northern and Southern).

If interested contact the instructor, Douglas Smith: **alcor@tucsonastronomy.org** **520-396-3233**

PLEASE NOTE: due to equipment limitations there is a **strict limit of 20 students**.

Learn how to Record Observations and Sketch Objects Workshop
Open For Enrollment

Place: TIMPA **Date:** Thursday, November 12, 2026 **Time:** 6:00 PM until completed

Synopsis: This is another workshop in the *practical hands-on astronomy workshop* series. Students will learn how to record observations and how to sketch objects. The students will be taught proper recording techniques, what information to record, what sort of forms to use, etc. In addition students will be taught techniques for sketching objects. The students will view, using a telescope, several different types of objects and perform recording activities and sketch different objects.

If interested contact the instructor, Douglas Smith: alcor@tucsonastronomy.org **520-396-3233**

PLEASE NOTE: due to equipment limitations there is a **strict limit of 20 students**.

Star Hopping Workshop
Open for enrollment

Place: TIMPA
Date: Thursday, *December 10, 2026* **Time:** 6:00 PM until completed

Synopsis: This is another workshop in the *practical astronomy workshop* series. It will teach star hopping. Students will be taught proper star hopping technique and equipment usage. Each student will use the supplied equipment to locate at least two 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.

If interested contact the instructor, Douglas Smith: alcor@tucsonastronomy.org **520-396-3233**

Using Setting Circles Workshop
Open for Early Enrollment

Place: TIMPA **Date:** TBD (early 2027) **Time:** 7:00 PM until completed

Synopsis: This is another workshop in the *practical astronomy workshop* series. It will teach students how to use manual setting circles to locate objects in the night sky. Many older telescopes have manual setting circles. This workshop is highly recommended for students who have telescopes that are not goto or pushto and have manual setting circles.

If interested, contact the instructor, Douglas Smith: alcor@tucsonastronomy.org **520-396-3233**

PLEASE NOTE: due to equipment limitations there is a **strict limit of 10 students** for this workshop. If additional properly equipped equipment becomes available the limit may be increased. Also, because we have a very small group signed up so far, if this date is not convenient for the current list of enrollees the date may be adjusted to better suit the people enrolled.

Fundamentals of Astronomy Class
Open for Enrollment

Place: Patrick K. Hardesty Midtown Multi-Service Center, 1100 S. Alvernon Way, Tucson
Date: Three consecutive Saturdays: January 23, 2027, January 30, 2027, February 6, 2027
Time: 8:00 AM until 4:00 PM each day

Synopsis: This course is designed for anyone interested in learning the basic concepts of amateur astronomy. Topics covered 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.

If interested contact the instructor, Douglas Smith: **alcor@tucsonastronomy.org** **520-396-3233** or sign up using the signup sheet that will be available at all General Members meeting starting August 2026 through January 2027.

Enrollment is limited to 25 students and is on a first-come basis.

So, I Bought a Seestar!
Basic Skills for the ZWO Seestar S30 and S50
!!Cancelled for Weather!!

Stephen Ferris, Instructor

Place: TIMPA **Date:** Thursday, October 29, 2026 **Time:** 6:00 PM until completed

Synopsis: ZWO Seestars are a hot item for amateur astronomers both new and experienced. They combine good optics, a lot of automation, and a user-friendly interface with entry level prices. This workshop will cover the basic use of both the Seestar S30 and the Seestar S50 (and maybe the S50 Pro). It is open to both current Seestar owners and those who are considering buying a Seestar. If you have a Seestar of either design, please bring it with you, fully charged. The instructor will walk you through basic procedures for using your equipment. Don't forget to bring your phone or tablet that you use to control it.

If you are interested, please contact the instructor: Email Stephen Ferris: Text: **520-661-5355**

This training is ZWO Seestar-specific. If you are interested in a workshop for another kind of smartscope, please contact Stephen at the contact info above.

Spooky Seestars and Smartscopes
Potluck and Meet and Greet for All Smartscope Users at TIMPA!
!!Cancelled for Weather!!

Place: TIMPA **Date:** Saturday, October 31, 2026 **Time:** 5:00 PM until whenever
This TIMPA event is open to smartscope users of all levels of experience and interest, plus anyone who might be interested in getting a smartscope. We'll get started with a potluck dinner social around 5:00 PM. Bring some images and techniques to share with the group. We would love to hear about any use of any smartscopes that you might have. Then, if weather permits, we'll do some viewing after it gets dark until whenever.

October evenings can get cool in the desert, so bring some warm clothing!

If you are interested in joining us, please contact the TIMPA Director, Stephen Ferris: timpadirector@tucsonastronomy.org Text: **520-661-5355**

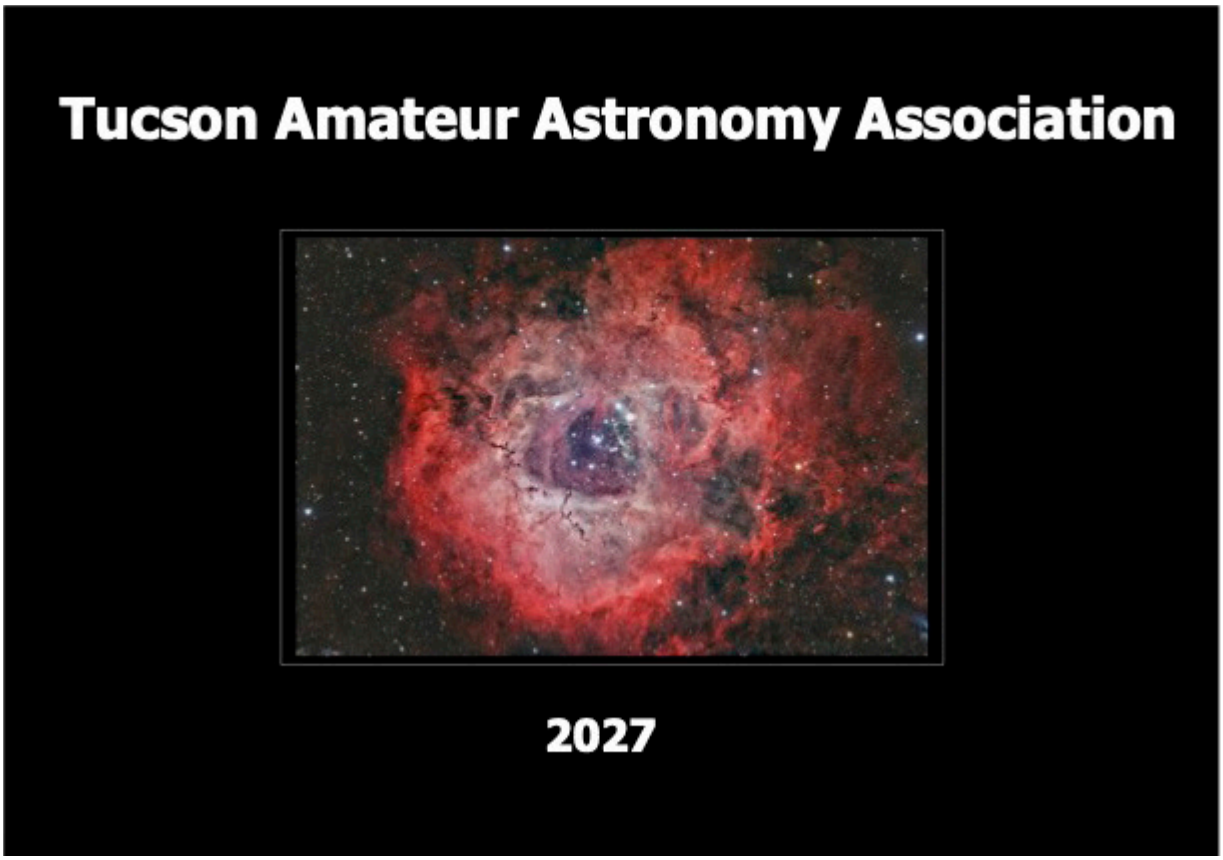
Introduction to Astrophotography Class

TAAA will be hosting a free Introduction to Astrophotography class at TIMPA. Designed for beginners, this course teaches the basics of using free software and demonstrates how to utilize the club's equipment for data acquisition.

The class will span two days:

- **November 7th, 6 PM to Midnight (at TIMPA)**: Two hours of classroom-style instruction, followed by data acquisition for the remainder of the night.
- **November 8th, 1 PM to 3 PM (Online via Google Meet)**: A session to install the necessary processing software and process the data collected the previous night into your first image.

Attendance is capped at 10 individuals. Please RSVP to the instructor, Chris Tremel via email to confirm your spot.



2027 TAAA Wall Calendar

Available at the October General Meeting!

$15 Each

Susan O'Connor and her amazing contributors have done it again! Be sure to pick up your 2027 TAAA Wall Calendar.

Any questions, contact Susan O'Connor.

by Jimmy Long

November 2026 Volunteer Star Party Request List

Thank you for volunteering your time and talents for our extremely important outreach mission. Below is the Public/School Star Party list for **November 2026**.

If you haven't already, please consider doing some of the school events, in addition to the ever-popular park and national monuments. The kids and teachers do appreciate it, and it is our opportunity to influence the younger generations.

Please let me know by email at astronomy-events@tucsonastronomy.org if you are interested in volunteering with your scope 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** so I can manage who from TAAA will be on-site and for you to be included in any reminder or weather emails, directions to site, and setup location. *Everyone that volunteers will get a calendar invite with information and a confirmation that you are signed up for this event.*

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 these events and get a notification when I update each event, but this is only for PUBLIC star parties listed on Facebook.

Jimmy Long, School/Non-Profit Volunteer Coordinator

SCOPES/VOLUNTEERS NEEDED FOR NOVEMBER

Needed	Event / Name (Blue names Schools)(Red names Parks/National Monuments)	Date	Time Start*	Time End*	Address	Volunteers SO FAR	Participants
7	***Los Alamos High School Astronomy Club TIMPA (BACKUP ONLY Weather Secondary)***	**11/10**	***7:00***	***10:00***	***TIMPA 3250 N Reservation Rd, Marana***	***NOT YET NEEDED Weather Backup***	**30**
3	**Senita Valley Elementary School**	**11/12**	**5:30**	**7:30**	**10750 E Bilby Rd. Tucson, 85747**		**150**
2	**Sabino High school STEM**	**11/18**	**5:30**	**8:30**	**5000 N Bowes Rd**	Giedraitis, Johnston,	**270**
1	**PCC NW Arizona STEM adventure (Solar * NSN)**	**11/20**	**9:00 am**	**1:00 pm**	**7600 N Shannon Rd Tucson**	Long, Stinger	**800**
2	**Pima County Conservation Lands and Resources (CLR) - Canoa Ranch**	**11/20**	**6:00**	**8:00**	**5375 S I-19 Frontage Road, Green Valley AZ**	Atkins, Long	**75**

Needed	Event / Name (Blue names Schools)(Red names Parks/National Monuments)	Date	Time Start*	Time End*	Address	Volunteers	Participants
0	Cooper Discovery Center (SUSD) Elvira	11/4	6:30	8:00	5403 W Trails End Rd, Tucson	Johnston, Schroll	47
0	Cooper Discovery Center (SUSD) Elvira	11/5	6:15	8:00	5403 W Trails End Rd, Tucson	Atkins, Hodge	48
0	Hermosa Montessori School	11/5	5:30	7:30	12051 E Fort Lowell Rd, Tucson	Knoll, Long	30
0	Oracle State Park	11/7	6:00	8:00	3820 E Wildlife Drive, Oracle AZ	Atkins, Bays, Johnston, Lawler, Long, Spitzer, Stinger,Taylor	150
0	Los Alamos High School Astronomy Club TIMPA Primary	11/8	7:00	10:00	TIMPA 3250 N Reservation Rd, Marana	Ferris,Foley, Greene, Johnston, Justice, Knoll, Lipitz, Long,	30
0	Cooper Discovery Center (TUSD) Miles	11/12	6:00	8:30	5403 W Trails End Rd, Tucson	Johnston, Long, Schroll	45
0	Edmond Station Elementary	11/13	5:00	8:00	9400 S Atterbury Wash Way, Vail	Johnston, Justice, Long, Shankles	500
0	Picacho Peak State Park	11/13	6:00	8:00	15520 Picacho Peak Rd	Atkins Hodge, Miller, Taylor, Stinger	100
0	Episcopal Church of the Apostles	11/18	6:00	8:00	12111 N La Cholla Blvd	Hodge, Schroll	40
0	Cooper Discovery Center (TUSD) Van Buskirk	11/19	6:00	8:30	5403 W Trails End Rd, Tucson	Bays, Johnston	42
0	Saguaro National Park - East @ Desert Research Learning Center	11/27	6:00	8:00	12661 E Broadway Blvd	Johnston, Justice, Long, Morse, TucsonDave, Schroll, Stinger	100

CAC - Dean Ketelsen Observatory (DKO) Update

Building the DKO is progressing nicely. The basic shell has been completed and the welding of the roll-off support beams is done. The contractor will be back out to CAC in early November to continue work. We will still need to install the electricity and mount the scope, so probably a few more months. We do plan to have a dedication ceremony after completion probably early next year. More details to follow as we get closer.



Observing Sites

TIMPA

by TIMPA Planning Group

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

TIMPA Star Party Dates this month

October 31-November 1
November 6-7

The TIMPA Planning Group will offer assistance with telescope usage and observing during the monthly TIMPA Star Parties. You are invited to bring your equipment and questions to TIMPA on Star Party dates for assistance. Be sure to register using the link below.

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 rodent 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.



Reservations for the TIMPA Site are made on the TAAA website at TIMPA DARK SITE RESERVATIONS. Please fill out the form completely and be sure to indicate the date you desire to visit TIMPA.

Questions? Contact the TIMPA Director: Stephen Ferris

Observing Sites' Upcoming Star Party Dates

TIMPA	New Moon		CAC
Oct 31-Nov 1; Nov 6-7	November 8		November 6-7
December 4-5; 11-12	December 8		December 4-5
January 1-2; 8-9; 29-30	January 7	2027	January 8-9
February 5-6; 26-27	February 6		February 5-6
March 5-6; 26-27	March 8		March 5-6
April 2-3; 30 - May 1	April 6		April 2-3
(May 1 Seestar BBQ) May 28-29	May 6		May 7-8

by Jim Knoll

Upcoming CAC Weekend Dates (Friday - Saturday)

November 6-7 (New Moon November 8)
December 4-5 (New Moon December 8)



Now that our Monsoon is winding down, we will again have hosts at the site for the Friday and Saturday CAC sessions. If you have not been to CAC for a while, this is a good opportunity to come on out. We have a lot of fun. Typically, on Saturday evening, if we have the operators, we will have the RMO 40-inch and Folded Refractor 9-inch operating, so you don't even need to bring a telescope. Members do still need to make an observing reservation.

As a reminder, you can be trained to operate most of the CAC telescopes. To request training, please complete the request form here. We also have ten sleeping rooms with heat and air conditioning, a Learning Center/Classroom, seven RV sites with electricity, and a large tent camping area. There are also nearby accommodations.

If you would like to observe, you must make a reservation on the CAC Web page at: CAC Reservations.

Please email CAC Director Jim Knoll if you have any questions or suggestions for improvement or comments of what is working well.

CAC on the Web

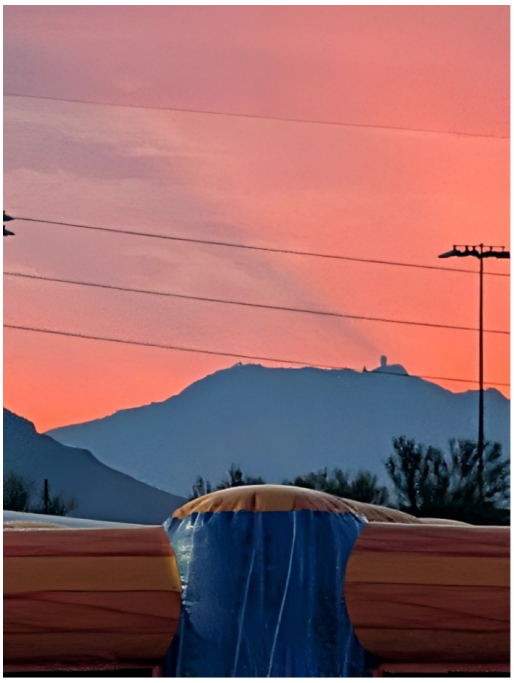
October Binocular Observers Update - Jimmy Long

The binocular group did not meet in October as the weather has again proved challenging. However, we aren't dormant and as soon as we get the window of opportunity, we'll start planning observation sessions at our dark sites again.

In the meantime, we were represented at Pima Air and Space Museum's Night of Fright event open to the public. The museum reported 1,750 attendees, of which 689 came and looked through the 25x100 binoculars and filled their candy buckets.

We had time to see Kitt Peak just before sunset 55 miles away and then spent the night on the nearly full moon. It was a hit for many families that brought their kids in costumes out for a fun evening.





The "Big" 25x100 binoculars peeping at Kitt Peak's scopes, 55 miles away.



Nelsy Toner and Martin Hale distributing candy between two Warbirds



Who would have expected a Scarecrow, a Banana and a T-Rex to have a turn at the binoculars?



At times, there were dozens of people in line waiting for their turn to observe the nearly full moon.



Nelsey brought out her See Star and pulled up M13 for the crowd while they waited.

Special Interest Groups



Starry Messengers Special Interest Group

Opening Minds to the Universe

The Starry Messengers group contributes to the TAAA outreach program by providing age-appropriate hands-on activities at school star parties and community events. We differ from the TAAA Star Party outreach program in that most of our activities can be performed indoors, and most don't require telescopes or clear skies.

Last month's Tucson Astronomy Festival at Brandi Fenton Memorial Park was successful though the weather affected attendance. We had about 75 visitors for the event. The decision to cancel the evening observing was made at 3:30pm. The astronomy exhibits and solar viewing took place, but we wrapped it up right after our door prize giveaway when we started feeling raindrops and lightning was reported less than 10 miles away. We gave away three telescopes and several other door prizes. TAAA members did a wonderful job supporting this event. Here's a list of the 30 members who volunteered:

Mike Atkins	Conner Justice	Brad Shankles
Bill Clarke	Terri Lappin	Doug Smith
Pamela Doig	Kay Lehman	Keith Steinlein
Ed Foley	Max Lipitz	Bernie Stinger
Mark Giedraitis	Richard Loper	Mason Sugarman
Martin Hale	Sam Miller	Vance Tanner
Pete Hermes	Jim O'Conner	Mike Thomas
Gerry Hodge	Susan O'Connor	Steve Thornton
Matthew Huffman	Keith Schlottman	Nelsey Toner
Jeffry Johnston	Chuck Schroll	Gary Wells

The Starry Messengers SIG will meet on Monday, November 9th at 7pm by Zoom. An email will be emailed to all TAAA members near the date of the meeting. We'll review the Tucson Astronomy Festival, held last month. We've decided our theme for the 2027 Festival of Books will be the Moon, so now we need to decide on our activities. The application deadline is November 24th. TFOB takes place on March 13 & 14, 2027.

Upcoming non-telescope outreach events are listed below. Sign up to volunteer for these events using this link: https://volunteersignup.org/TEJTM

- 11/3/2026 (Tue) 5:30 PM - 6:30 PM Ford Elementary (Pantano/Stella), Space Rocks Toolkit, 100 expected. Volunteers: Nelsey Toner, Pete Hermes, Kay Lehman (FILLED)
- 11/5/2026 (Thu) 6 PM - 8 PM Hermosa Montessori (Ft Lowell/Soldier Trail), Eyes on the Universe Toolkit, 20 expected. Volunteers: **need at least one experienced volunteer**.
- 11/13/2026 (Fri) 6 PM - 8 PM Esmond Station K-8 (Mary Anne Cleveland/Atterbury Wash Way), Exploring the Solar System Toolkit, 500 expected. Volunteers: Susan O'Connor, Pamela Doig, **and one more volunteer**.
- 11/17/2026 (Tue) 5 PM - 6:30 PM Erickson Elementary (Golf Links/Wilmot), Space Rocks Toolkit, 110 expected. Volunteers: Nelsey Toner, and **one experienced volunteer**.

- 11/18/2026 (Wed) 5:30 PM - 7:30 PM Sabino High School (Snyder/Harrison), Eyes on the Universe Toolkit, 200 expected. Volunteers: Nelsey Toner, Kay Lehman (FILLED)
- 11/18/2026 (Wed) 3 PM - 4 PM Santa Rosa Library (I-10/22nd St), 10 expected. Volunteers: Susan O'Connor (FILLED)
- 11/19/2026 (Thu) 5 PM - 6:30 PM Myers-Ganoung Elementary (29th/Rosemont), toolkit TBD, 120 expected. Volunteers: **need two volunteers**.
- 11/20/2026 (Fri) 9 AM - 1 PM (DAYTIME) NW Pima Community College (Shannon/Magee), any toolkit, 800 expected. Volunteers: Pamela Doig, **and two experienced volunteers**.
- 12/1/2026 (Tue) 5:45 PM - 7 PM Dunham Elementary (29th St/Harrison Rd), Space Rocks Toolkit, 80 expected. Volunteers: Susan O'Connor, and **one more volunteer**.
- 12/3/2026 (Thu) 5:30 PM - 7 PM DeGrazia Elementary (Camino De Oeste/Cortaro Farms), Black Hole Survival Toolkit, 150 expected. Volunteers: Susan O'Connor, **and one more volunteer.**
- 12/5/2026 (Sat) 10 AM – Noon (DAYTIME) Hendricks Elementary (Thornydale/Orange Grove), Our Magnetic Sun Toolkit, 200 expected. Volunteers: **need two volunteers**.
- 12/8/2026 (Tue) 5 PM - 6:30 PM Prince Elementary (Prince/Stone), Eyes on the Universe Toolkit, 75 expected. Volunteers: Nelsey Toner, Kay Lehman (FILLED)
- 12/10/2026 (Thu) 5:30 PM - 7:30 PM Lawrence 3-8 (Valencia/Camino de Oest), Our Magnetic Sun Toolkit, 50 expected. Volunteers: Susan O'Connor, Kay Lehman (FILLED)
- 12/15/2026 (Tue) 4:30 PM – 6 PM Dewhirst-Catalina Library (Oracle/Wilds Rd), Life in the Universe Toolkit, 40 expected. Volunteers: Pete Hermes, Susan O'Connor (FILLED)
- 12/16/2026 (Wed) 3 PM - 4 PM Santa Rosa Library (I-10/22nd St), 10 expected. Volunteers: Susan O'Connor (FILLED)

Sign up for these events in 2027 using this link: https://volunteersignup.org/MWMCL

- 1/21/2027 (Thu) 6:30 PM - 8 PM Canyon View Elementary (Sabino Canyon Rd/Sunrise Dr), Eyes on the Universe Toolkit. Volunteers: **need at least two volunteers.**
- 1/26/2027 (Tue) 6 PM - 7:30 PM Steele Elementary (Broadway/Pantano), Eyes on the Universe Toolkit, 100 expected. Volunteers: **need at least two volunteers**.
- 1/26/2027 (Tue) 6:30 PM - 8 PM Soleng Tom Elementary (Houghton/Broadway), Space Rocks Toolkit, 300 expected. Volunteers: Nelsey Toner, **and two experienced volunteers**.
- 3/25/2027 (Thu) 5 PM - 7 PM Painted Sky Elementary (Rancho Vistoso/Tangerine), Black Hole Survival Toolkit. Volunteers: **need at least two volunteers**.

Questions about the Starry Messengers SIG and our hands-on outreach toolkits can be directed to Terri Lappin (email or 520-977-1290).

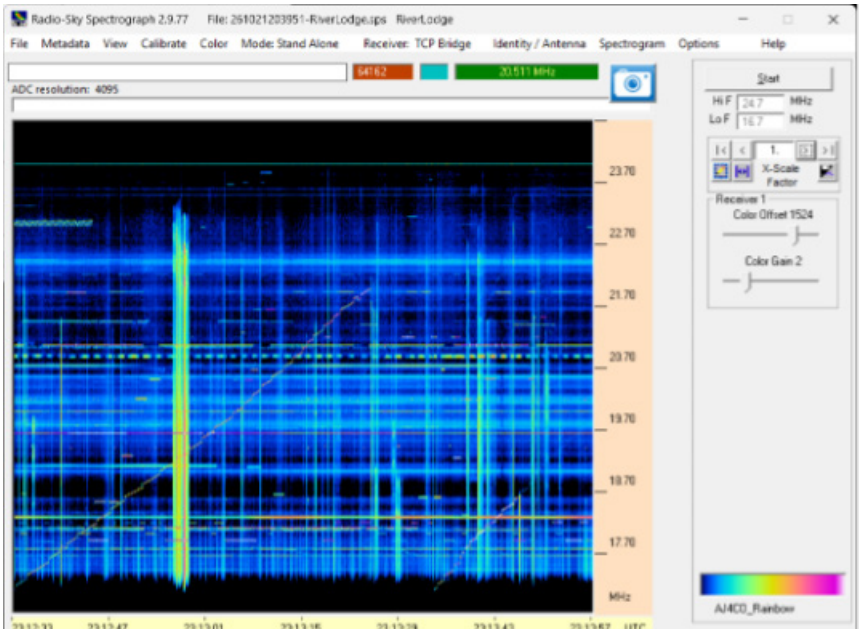
Radio Astronomy
October 2026

Radio Telescope:
- Antenna – Phased dual dipole array, elevation 10ft
- SDR receiver – SDRPlay RSP1B, tuned to 16-24 MHz
- Computer – Dell Inspiron 16GB RAM, Windows 11 OS
- Software: SDRConsole, SDRc2RSS, Radio Sky Spectrograph

Operator: Sandy Nichols

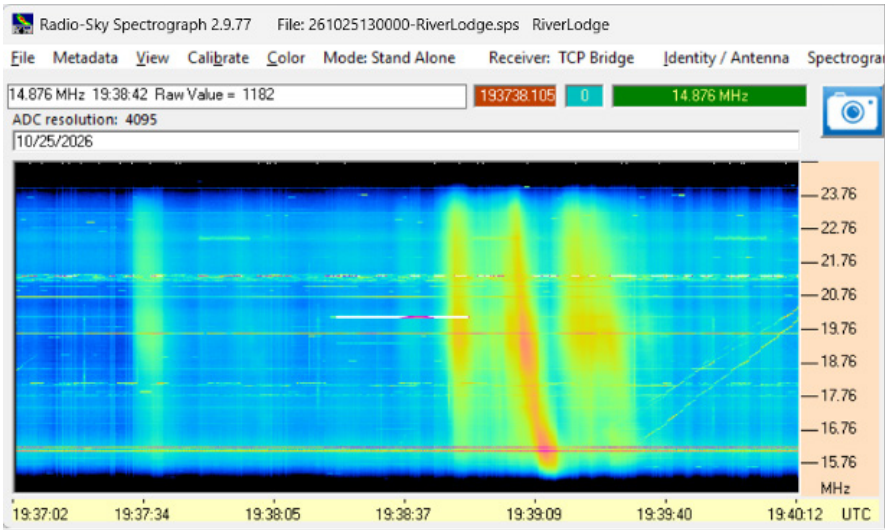
1. Jupiter Radio Bursts captured for 2 hours on 10/21/26

Prediction tool for IO-A configuration - 95% probability
Sample burst near 23:13 UTC



2. Solar Flares

C1.5 Solar Flare observed on 10/25/26



Radio Astronomy SIG (RASIG)

by Sandy Nichols

The next RASIG meeting will be **Wednesday, November 18** at 7:00 PM via Zoom. All TAAA members are welcome to attend. The Zoom link will be posted to the TAAA Forum, or you can obtain it directly by emailing Sandy Nichols.

Topics: To be announced.

Email Sandy Nichols for the Zoom if you do not already have it. RASIG on the Web

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Astronomy Fundamentals SIG

by Connor Justice

Come join us for a presentation on 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 AFSIG meeting is **Thursday, November 12, 6:30 PM to 8:30 PM.**

Topic: To be announced.

Contact Connor Justice for more information.

Access videos of previous meetings in the TAAA YouTube Channel AFSIG on the Web

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Astro-Imaging SIG

by Gregg Ruppel

The next AISIG meeting will be **Monday, November 16 at 7:00 PM** via ZOOM.

Topics: **Beginners' Corner** - Ask a Question
Catching Comets - Gregg Ruppel
If you are a comet imager, or would like to become one, join the discussion.
Image Sharing, Q/A

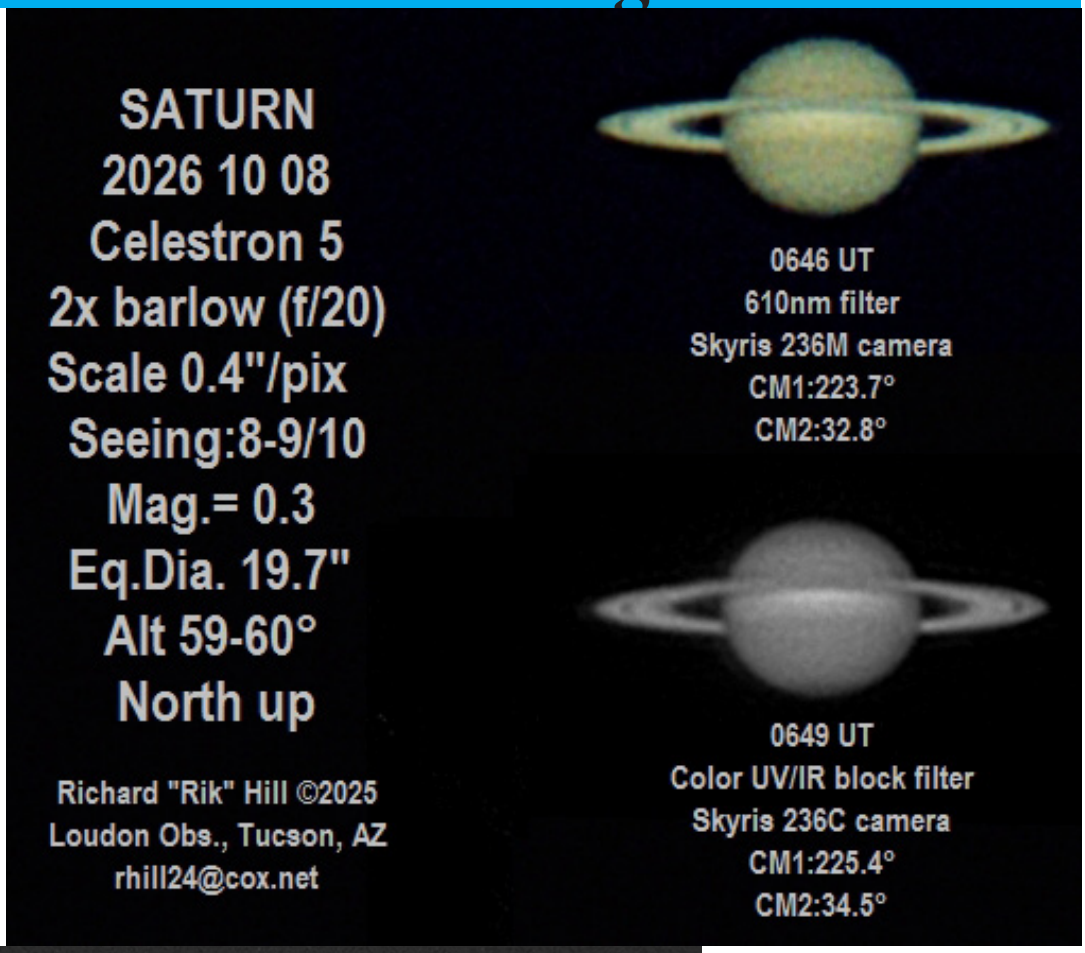
We will post Zoom details on the Forum before the meeting.

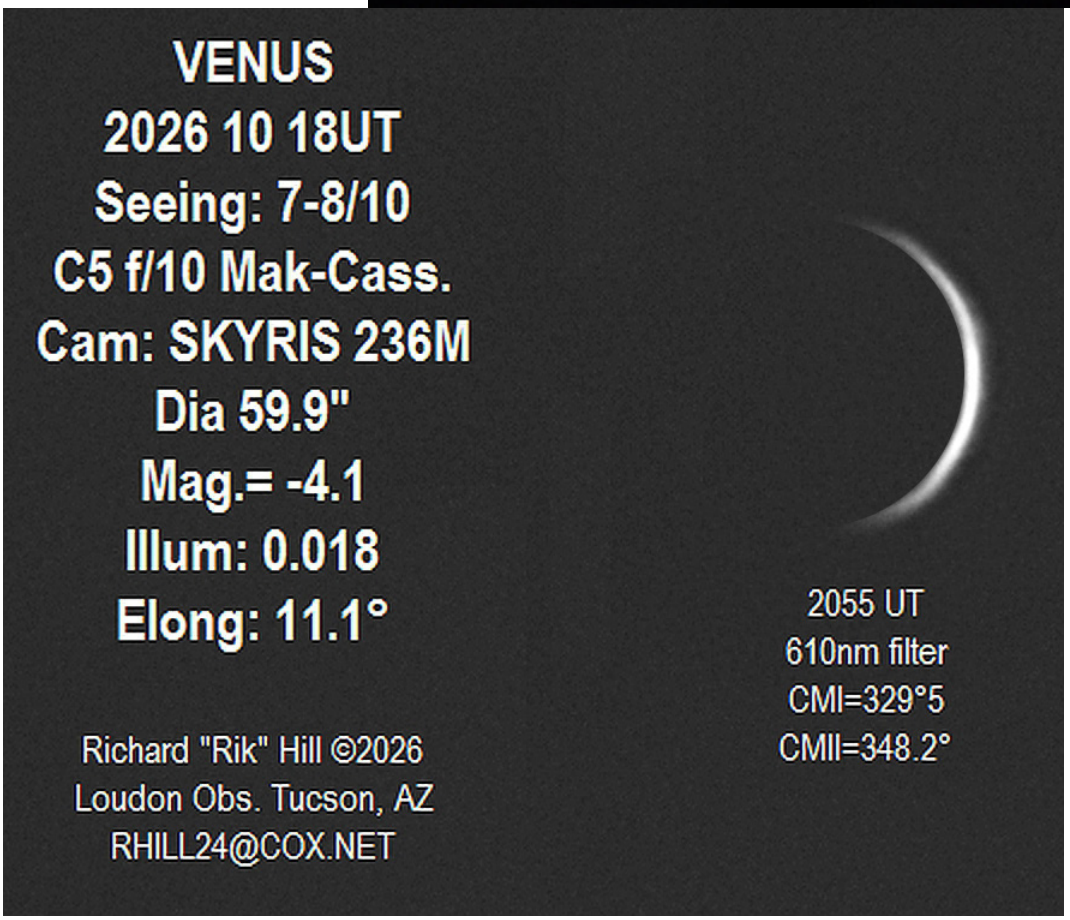
Email Gregg Ruppel for the ZOOM link or any other information. Gregg and the AISIG folks are very active on the TAAA groups.io forum. Check out all the helpful advice and amazing images there. For more information or instructions on how to join the Forum, click here.

View previous AISIG meetings on the TAAA YouTube Channel.

Member Astro-Images

Rik Hill

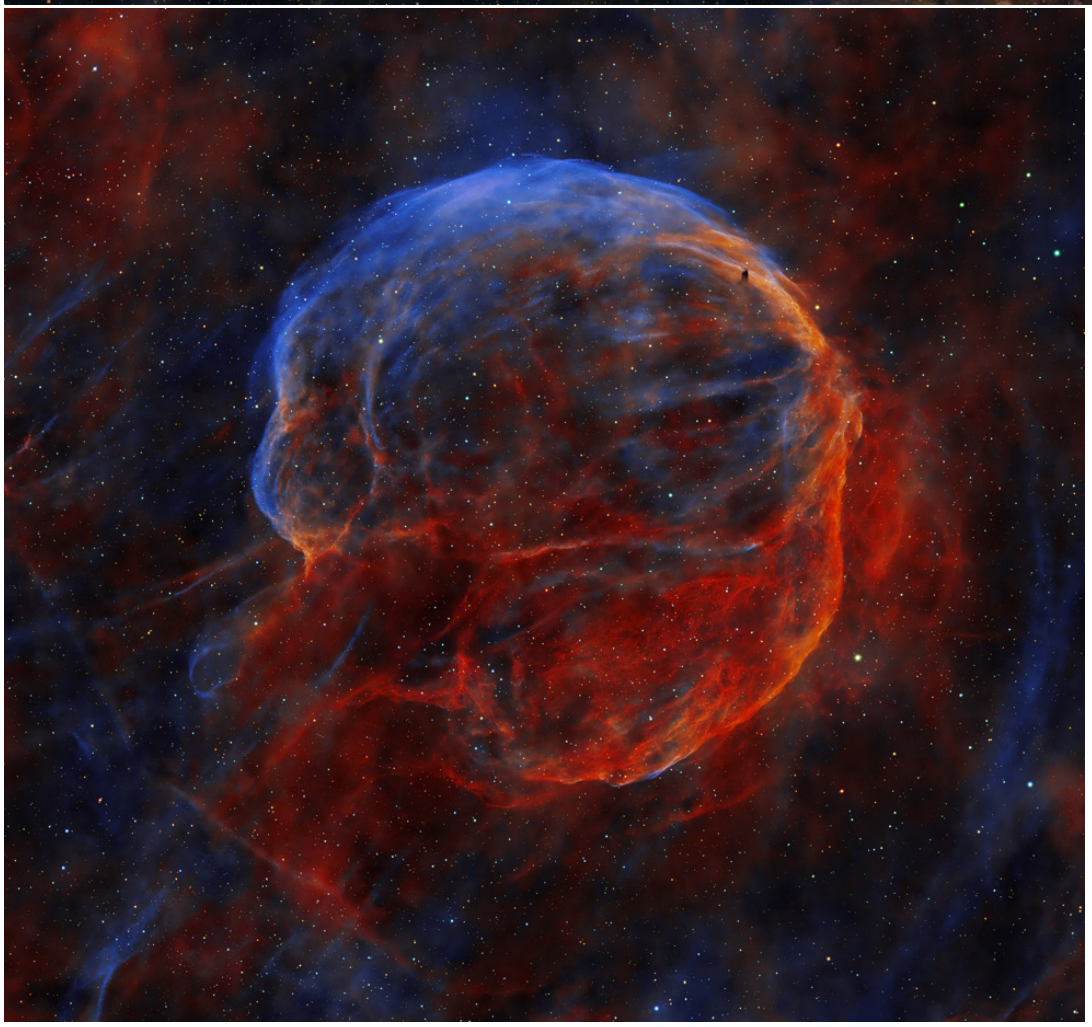






LDN 1147

Askar 151PHQ, ZWO ASI6200MM, 14.5 hrs, LRGB
Astrobin



Mike Mulcahy

LBN 576

Askar 151PHQ, ZWO ASI6200MM, 46.5 hrs, SHO Foraxx with RGB Stars.
Astrobin



Sh2-87 & 88

RASA 11" f/2.2, ZWO 4400 MC PRO, AP Mach2 unguided, UV/IR cut filter, 4.0 hr exposure.

Tom Eby

Sh2-122

RASA 11 f/2.2, ZWO 4400MC PRO AP Mach2, Baader UFS camera system, 3.8 hr exposure.

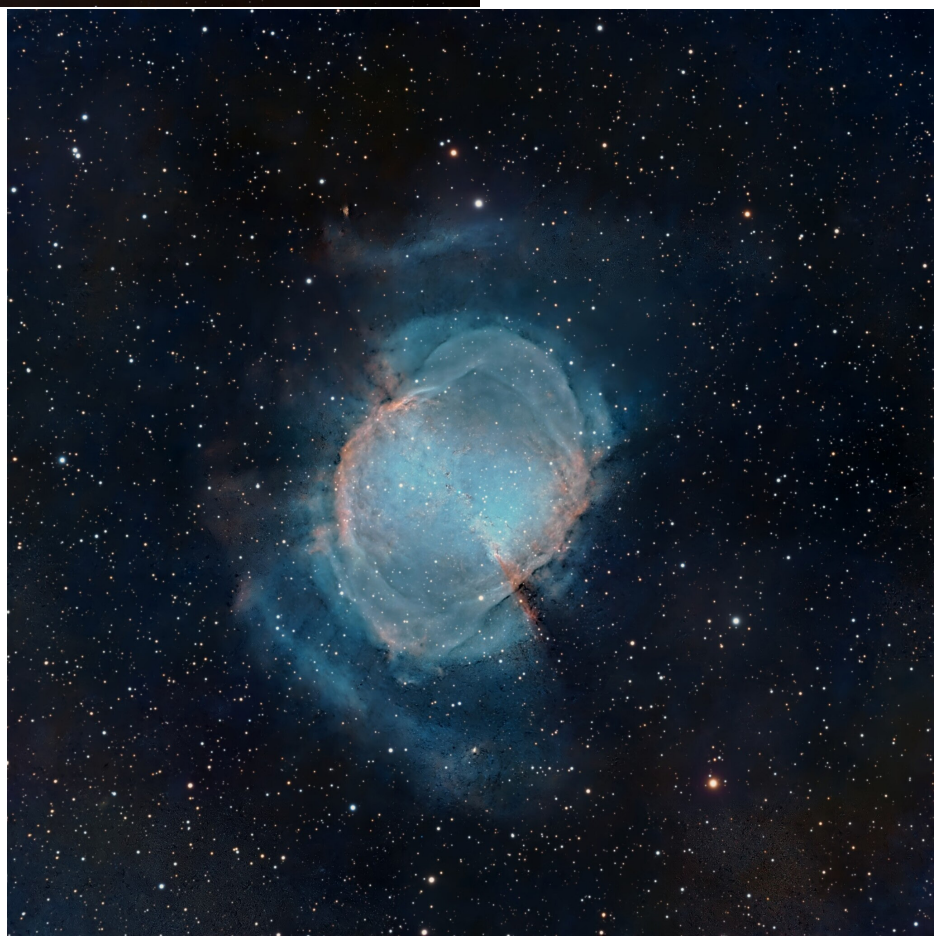




NGC 281

C8, Starizona reducer, 533MC PRO. About 4 hrs integration.

David Gale



M27

Taken at the Enchanted Skies Star Party.



M27

HOO image
Askar 60F telescope
ZWO ASI533MC PRO
Optolong L-Extreme
(70 2 minute subs) and
L-Synergy (20 2-minute
frames) filters.

Darrel Conway



M20

Askar 60F
ZWO ASI533MC PRO
Optolong L-Pro filter
100 x 60 sec.



M76

8h 37m
Astrobin

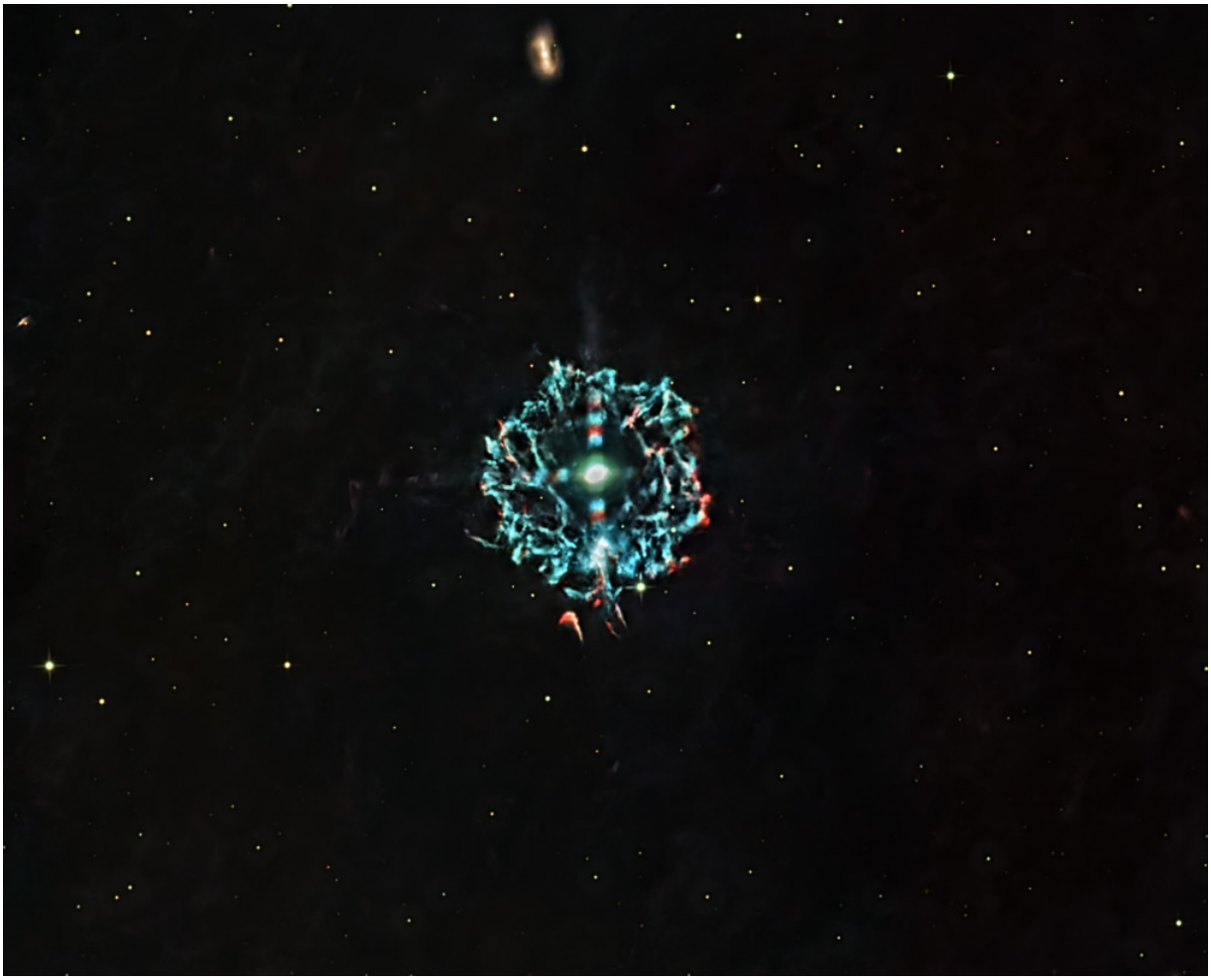
Sky-Watcher Quattro 250P / 10-S, ZWO ASI2600MM PRO, Sky-Watcher CQ350 PRO, Antlia 3nm Narrowband H-alpha, Antlia 3nm Narrowband Oxygen III, Antlia V-Pro Blue, Green, Red.

Randy Smith

NGC 281

6h 34m
Astrobin





NGC 6543 Cat's Eye Nebula

16h 3m (321 × 180s)
Astrobin

Sky-Watcher Quattro 200P, ZWO ASI2600MC PRO, Sky-Watcher Eq6-ri Pro, Optolong L-eXtreme 2"

John Tsantes

Sh2-170

Optolong L-Synergy SII/OIII 7nm 2", 16h (240 × 240s).
Astrobin

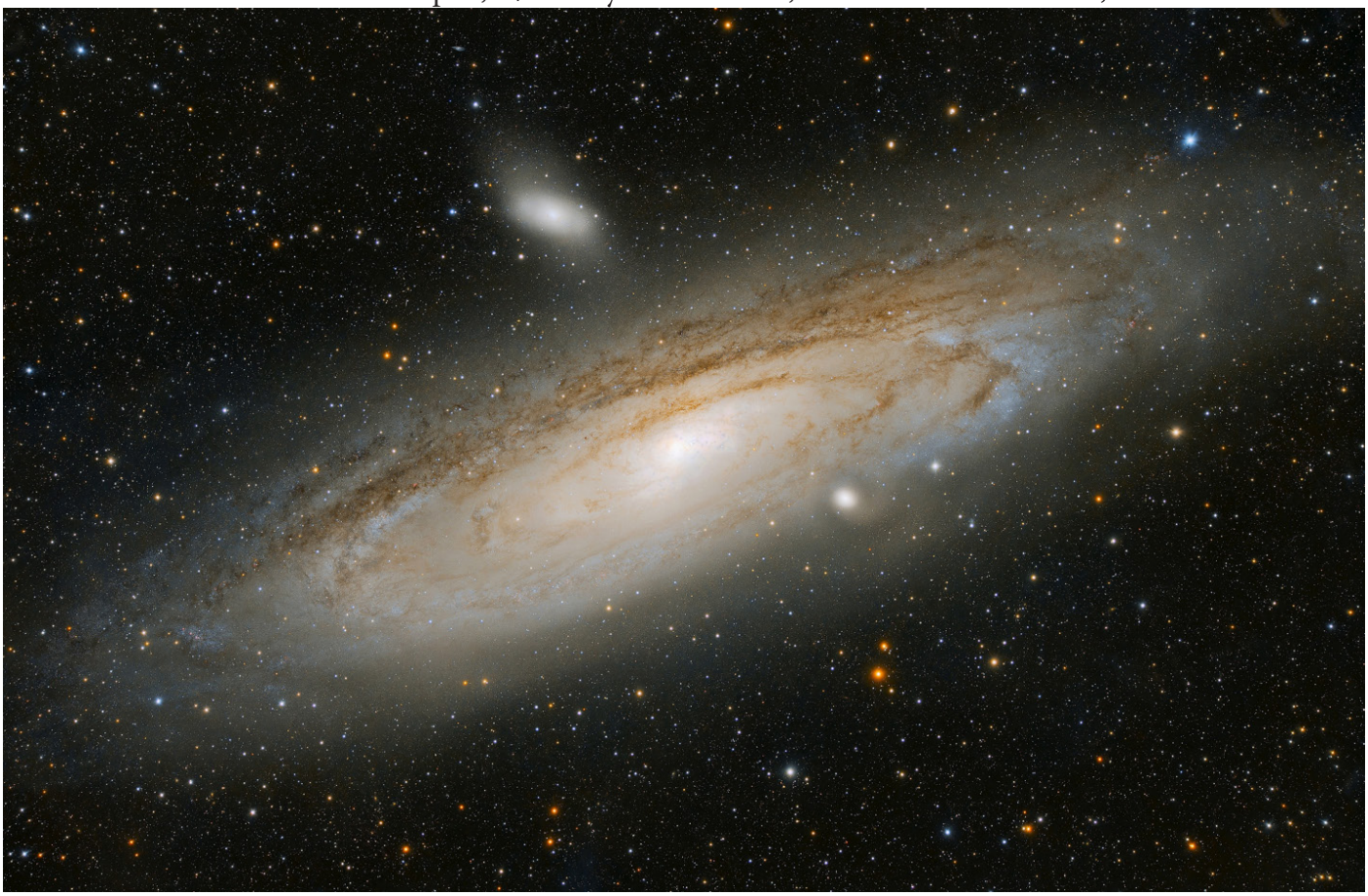




M16 - Astro-Tech AT152EDT triplet refractor, WO 0.8x field flattener; ZWOASI6200MC Pro; 78 x 4 min.

Paul Lorenz

M31 - Astro-Tech AT115EDT triplet, w/Svbony 0.8x flattener; ZWOASI6200MC PRO; 94 x 3 min.



by Doug Smith

Observing Programs - What's Up in November - December 2026

Many of the Astronomical League observing programs can be done from our backyards. The following objects are visible in October and November for the common observing programs.

Constellation Hunter Program Northern Sky - The following constellations are well-placed for observing for November and December:

Andromeda, Aquarius, Aries, Cassiopeia, Cepheus, Lacerta, Pegasus, Pisces, Triangulum

Messier Observing Program - The summer Milky Way is setting early. The winter Milky Way is not rising until late. Now we are looking away from the Milky Way, so objects are sparse. The following Messier Objects are well placed for observation during November and December (listed in ascending RA):

M52, M110, M31, M32, M103, M33, M74, M76

Lunar and Binocular Observing Program

Here is a list of dates for lunar phases in October and November:

New Moon: November 9, December 9
40 Hours waxing: November 11, December 11
72 hours waxing: November 12, December 12
4 days old: November 13, December 13
7 days old: November 17, December 17
10 days old: November 20, December 20
Full (14 days old): November 24, Dec. 24
Gibbous: November 1, December 1, Dec. 30
72 hours waning: November 6, December 6
40 hours waning: November 7, December 7

Solar System Observing Program

The following describes the planets and their visibility during November and December:

Mercury is an early morning object during this period. It reaches greatest brightness on November 24 with greatest elongation just a couple of days earlier.

Venus is an early morning object for the remainder of 2026. On November 1 it rises about one hour before the Sun. But, by late November it is rising two hours before the Sun and getting very bright. It reaches greatest brightness around November 28.

Mars is still an early morning object. On November 1 it rises around midnight. By the end of the year it is rising around 9:30 PM.

Jupiter is a late evening object. On November 1 it rises around midnight. By the end of the year it is rising around 8:30 PM.

Saturn is still well placed for early evening observation during November and December. It transits around 9:30 PM on November 1 and around 6 PM on December 31.

Uranus is well placed for evening observation during November and December. It transits around 1 AM on November 1 and around 9 PM on December 31. It reaches opposition on November 24.

Neptune is well placed for evening observation during November and December. Its relatively close to Saturn during this period. It transits just about 30 minutes before Saturn during these two months.

Urban Observing Program

The following **deep sky objects** are well placed during November and December:

NGC 7662, NGC 7789, NGC129, M32, M31, NGC457, NGC663, Cr 463, NGC 752

The following **double stars** are well placed for observation during November and December:

Eta Cassiopeiae, Gamma Arietis

TAAA Astronomy Equipment For Sale

TAAA has an assortment of astronomy-related equipment for sale. This equipment is available for members only at this time. We have suggested prices for all equipment and telescopes but prices are negotiable!

All the listed telescopes come with eyepieces, finders and other accessories.




Dobsonians – We have 2 large dobs
Homemade 13" and 12" Skywatcher



Celestron 6 w/ NexStar
This is a great starter scope!



Meade 5" ETX Maksutov with AutoStar



Celestron 11 with NexStar



Meade 10" LX200 w/ AutoStar



Celestron 8s with NexStar
We have two C8's.





Maksutov Optical Tubes



25x100 Binoculars in case

TAAA Astronomy Equipment For Sale (continued)





Celestron 5” Omni XLT



We have numerous **tripods**.

Several full aperture **white light solar filters**. Most are ‘film type’. (variety of sizes and types)





EYEPIECE CLEARANCE SALE!!!

50+ eyepieces and filters for sale at rock bottom prices! We have a wide variety of eyepieces, mostly 1.25”, including illuminated reticle eyepieces and laser collimators. We also have a variety of filters in both 2” and 1.25” size.

Adjustable Observing Chairs (2)



We also have an assortment of other items available at this time including: finders (various sizes), finder rings, 7x50 binoculars, focusers, telescope rings of various sizes, mirror blanks of many sizes, finished mirrors, mounted or unmounted, and much more!

If you want to keep an eye out for any desired equipment or telescopes let me know and I will put your request on my ‘shopping list’! If the item comes in you will get first call.

To make inquiries about what is available or to express a desire to purchase one of listed items please contact: Douglas Smith at dsmith217@cox.net 520-396-3233.

Member Equipment for Sale

Don't forget, you can advertise the sale of your excess equipment in the TAAA Desert Skies Bulletin for free!

- All advertisements are for member-owned equipment. Members may not place ads for non-members.
- Advertisements are for one month. If you would like to run the ad for a longer period you must resubmit the ad each month.
- If you would like to show the item as sold in a following issue, you must send the sold notice to the editor.
- Each member may submit up to two ads per month.
- There are no formal ad restrictions. Please keep them brief. A small photo or two may be submitted. The editor has total discretion as to the formatting of the ads.

Buyers: The TAAA does not assume responsibility for the products sold or offered. It is the responsibility of individuals who posted the ad to reply to your message and confirm the legitimacy. There are risks which you assume when dealing with people who might be acting under false pretenses; all these risks are borne by you. The TAAA does not control the products offered by and to members. But please, let's all be honest with each other!

Public Astronomy Events

DEPARTMENT OF ASTRONOMY AND STEWARD OBSERVATORY

Public Evening Lecture Series
Fall 2026

Public Evening Lectures will begin at 7:30 PM in Steward Observatory Room N210.

Nov 2	Dr. Tim Eifler Steward Observatory	The Nancy Grace Roman Space Telescope, NASA's next Astrophysics Flagship Telescope - Launch and Science
Nov 16	Dr. Zarah Brown Lunar & Planetary Laboratory	Saturn's Rings: Ancient Icon or Cosmic Nepo Baby?

Fall Evening Lecture Page Watch Each Lecture on Zoom Here

COLLEGE OF SCIENCE
LUNAR & PLANETARY LABORATORY

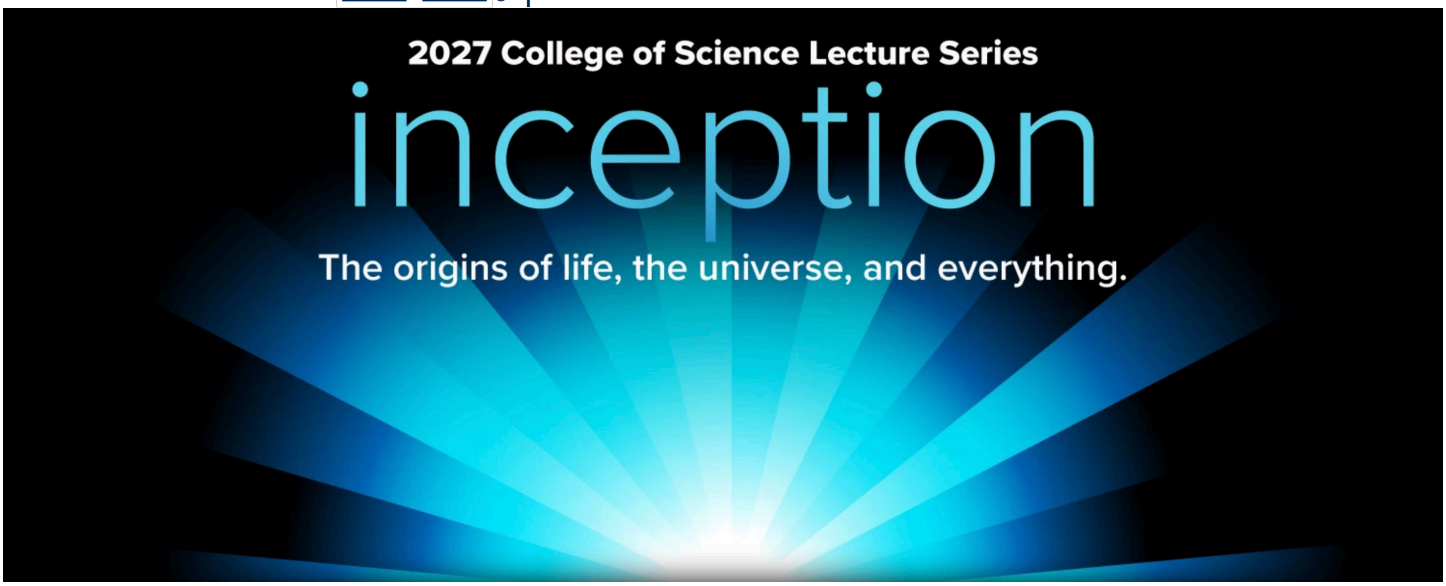
2026 LPL Evening Lecture Series

Lectures at the Kuiper Space Sciences, Room 308 and Zoom; 7-8 PM

Nov. 4, 2026 **Dr. Dante Lauretta** Regents Professor, Department of Planetary Sciences
Director, Arizona Astrobiology Center
University of Arizona

Bennu's Ancient Waters: Asteroid Samples and the Chemical Origins of Life

College of Science



The 2027 University of Arizona College of Science Lecture Series, **Inception: The Origins of Life, the Universe, and Everything**, will take audiences on a journey to the beginning of time, exploring the extraordinary scientific stories that have shaped our planet, our universe, and our place within them.

From the emergence of life and the evolution of a living planet, to the geological forces that have shaped Earth and the ancient ingredients preserved in asteroids, to the creation of the elements that make stars, planets and life possible, each lecture explores a different chapter in the story of where we come from.

Together, these talks reveal the remarkable connections between the origins of life, Earth and the cosmos, inviting us to look backward through time to better understand the world we inhabit today.

Lectures are free and open to the public, Tuesdays at 7:00 PM at Centennial Hall (1020 E. University Blvd). Stay tuned on how to RSVP and obtain free tickets.

January 19, 2027 Dr. Scott Saleska
"Endless Forms Most Beautiful:" From Microbes to Forests and the Making of a Living Planet

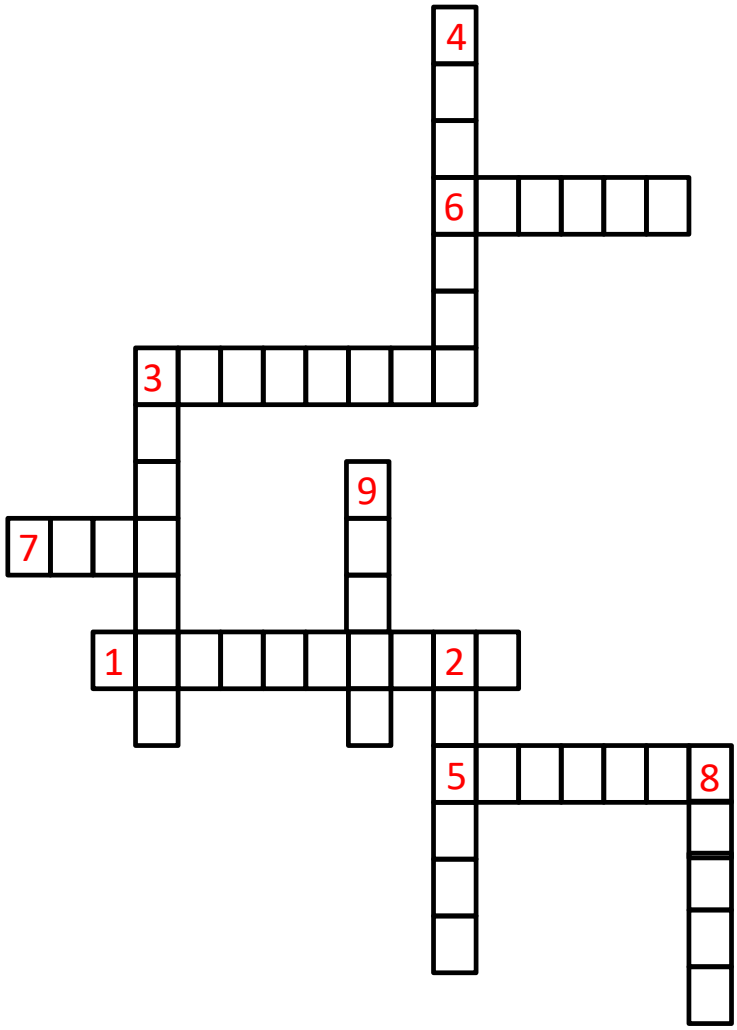
January 26, 2027 Dr. Barbara Carrapa
Plate Tectonics and Life on Earth: From Volcanoes to Whales and Capybaras

February 9, 2027 Dr. Dante Lauretta
Asteroid Bennu: From Stardust to the Origins of Life

February 16, 2027 Dr. Brian Schmidt
From the Big Bang Until the End of Time: Element Creation and Cosmic Epoch of Earths

More Information

November Crossword Puzzle – Names of Bright Stars



November Crossword Puzzle – Names of Bright Stars

Across:

1. - Title character in a funny Tim Burton movie, don't say the name 3 times or bad things happen. Starring Geena Davis, Alec Baldwin and Michael Keaton.
3. - Alpha Bootes.
5. - Bright star in the handle of the sickle.
6. - Southernmost star in the summer triangle.
7. - The brightest star visible in the summer sky.

Down:

2. - Brightest star visible from Tucson.
3. - Bright red star in Scorpius.
4. - The pole star.
8. - Alpha Virgo.
9. - Brightest star in the swan.

Skyward

By Dr. David H. Levy
November 2026

Encore

By Doveed

Thirty-two summers ago, the most important event in my academic life took place when Comet Shoemaker-Levy 9 collided with Jupiter in what turned out to be one of the most spectacular collisions our civilization has ever witnessed. It was the second most important event in my entire life; the first one, by the way, was meeting and marrying Wendee. I have written about this comet and this event many times, and until now I believed that the discovery adventure was complete.

It wasn't.

In November of that same year, 1994, Richard Thompson, then a geology student at the University of Arizona, was exploring the ancient rock structures in the Whetstone Mountains in southeast Arizona just 19 miles from where I now live. Like most intelligent children, Rich had developed an interest in dinosaurs as a child, and that curiosity was seriously strengthened by his reading of Michael Chrichton's novel Jurassic Park, which brought the world of dinosaurs to life for him. He began a program of exploration in the Whetstone Mountains, ascending up desperately steep and dangerous rises in search of fossils. He stumbled across some, and a lot of petrified wood. Noting that there seemed to be few large fossils there, he was impressed by the abundance of cretaceous sedimentary rocks in these rugged crags.

On that autumn day Rich sighted some bone chips along the side of a steep ridge. Some of these were uncommonly large. Finding more of these chips that day grew the excitement within him as he continued his hike. Eventually he reached a very rough area close to the top of the ridge. No more bone chips. At the top of the ridge he found a sandstone bluff. Over the course of Earth's geologic history since the late Cretaceous period some ninety million years ago, uplift caused layers of rock to be distorted so vastly that they became nearly vertical. The exposed layers made it nearly impossible to allow searches for more bone chips. Rich turned his head towards the right, and he suddenly encountered a large fraction of a pelvis, larger than his head. Near the pelvis, Rich saw three large ribs, and to the right of the pelvis he saw more large bone fragments. He yelled towards a colleague who was with him, "This is a megafind!"

It didn't take long before he and others at the University of Arizona's Geology department and the Desert Museum settled on the evidence that Rich had discovered a new species of big Cretaceous dinosaur. The specimen was about 27 feet high and 49 feet long. Eventually the genus name Sonorasaurus was officially adopted, and the particular specimen was given the species name Sonorasaurus Thompsoni in honor of the geologist who discovered it.

There is more. Jax Weldon, of Phoenix, was younger than 11 years old when he launched a campaign to have his home state of Arizona have a state dinosaur. He reasoned that Sonorasaurus Thompsoni, whose only specimen was discovered in Arizona, would help the state's tourist industry if it could become Arizona's state dinosaur. In September 2017, Augustynolophus was declared the official state dinosaur of neighboring California. He believed that to remain competitive with California as a tourist lure, Arizona needed a state dinosaur as well, to remain viable with California, and that Richard Thompson's dinosaur would be an ideal candidate. With

bipartisan support, then Governor Doug Ducey signed a bill declaring Sonorasaurus the state dinosaur on April 10, 2018.

Rich's find turned his life around. He studied mineralogy at the University of Arizona, lectured there for a large number of years, and after completing a postdoc, worked as a liaison with Congressman Raúl Grijalva in Washington.

On October 3, 2026, Rich and I drove the difficult terrain that ended with a hike up the steep and forbidding hills. The closer we got to the quarry, the eons and geologic periods faded away and we were standing in the ancient topography of Earth's Cretaceous period. We did stumble across some interesting samples of petrified wood. Because I grew a little dizzy, I did not make it to the quarry that day but I did witness the magnificent Arizona scenery that surrounds the discovery site. I imagined seeing Sonorasaurus dinosaurs stalking about, munching on the branches of the trees, and describing their history in brilliant lectures, poetry, and mathematical equations. Although Sonorasaurus resembles the famous Brontosaurus, that classic dinosaur did not survive the end of the Jurassic period. Sonorasaurus was a Cretaceous animal that died out about 92 million years ago, not quite as large as Brontosaurus but big enough, about 26 million years before the Cretaceous-Paleogene extinction event.

One final thought: although the likely Chicxulub impact crater was not discovered until the early 1990s, literary artists speculated about it much earlier. A famous line from Alfred Tennyson's masterpiece In Memoriam, published in 1850, described the organic evolution of humanity that survived mass extinctions.

> But trust that those we call the dead,
> Are breathers of an ampler day
> For ever nobler ends. They say,
> The solid earth whereon we tread
>
> In tracts of fluent heat began,
> And grew to seeming-random forms,
> The seeming prey of cyclic storms,
> Till at the last arose the man;

In six magic words, Tennyson introduces the concept of "The seeming prey of cyclic storms" occurung over millions of years, but at the same time, in a big hurry, over a few seconds. Congratulations, Richard Thompson, for adding new and original knowledge about the evolution of our world, and bringing your dinosaur, probably the only specimen discovered so far, to life.



Interesting and exciting topography surrounds the quarry site in the Whetstone mountains.

Photograph by Doveed.



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