

TAAA DESERT SKIES BULLETIN

Observing Our

Since



Desert Skies

1954

January 2023

www.tucsonastronomy.org

Membership Meeting

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

TAAA's next general member meeting will be held on **Friday, January 6, 2023**. The Main Presentation will start at 6:30 PM (AZT) followed by Mary Turner's popular **Seasonal Night Sky Presentation**.

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 online through our [Facebook page](#). (A recording will be available on [YouTube](#) a few days after the meeting)

Main Presentation at 6:30PM AZT

Title: HelioSwarm: A Future NASA Mission to Better Understand Space Plasmas.

Presentation: The vacuum of space is not empty but is filled with a gas hot enough to rip electrons away from atoms, producing a plasma; a material with charged particles consistently creating and responding to electromagnetic fields driven by collective particle motion. Such plasmas constitute more than 99% of the matter in the visible universe. Understanding how energy is injected into, transported through, and removed from these turbulent plasma systems represents one of the open questions in astrophysics and space science.

HelioSwarm, a mission recently selected by NASA to launch at the end of this decade, will employ a swarm of nine spacecraft, to gather multi-scale measurements and learn more about the dynamics of these systems. In this talk, Prof. Kristopher Klein will discuss what is known and unknown about plasma turbulence and how the HelioSwarm mission will address its unknowns.

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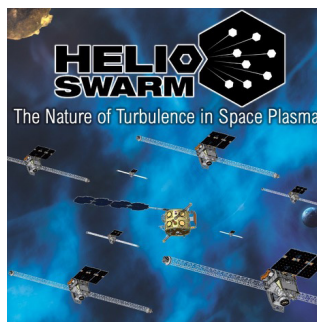
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These forthcoming measurements of near-Earth plasmas, both inside and outside of Earth's protective magnetic bubble, will finally reveal the physics controlling plasma turbulence both within our solar system

and throughout the universe.

Biography: Prof. Kristopher Klein studies fundamental processes that govern the dynamics of ionized gases in our solar system as well as more distant astrophysical bodies. He has a particular interest in how these systems become hot, specifically how energy is transported in chaotic, turbulent flows, attempting to answer these questions with a combination of numerical simulations and spacecraft measurements of the Sun's extended atmosphere as it collides with the Earth's magnetic field. He earned his PhD from the University of Iowa in 2013, followed by postdoctoral positions at the University of New Hampshire and the University of Michigan before joining the Lunar and Planetary Laboratory as an Assistant Professor in 2018.

Notes From The President

December 2022

December was a cool and beautiful month for those of us in Tucson. However, we have great sympathy for our members living in other states and those who were traveling that encountered extremely stressful situations. We hope that you and your families were able to recover well and are back to enjoying astronomy again, now or soon. Looking ahead at 2023, we are expecting an exciting and delightful year for TAAA. Please decide to keep engaged in 2023; to communicate your needs, interests and suggestions with TAAA members and leaders; and to join us whenever and however you can!

The TAAA Board met on December 14th. Some developments announced by the President included:

#1. Work on the Grand Canyon Star Party for 2023 has begun. The 2023 dates are June 10-17. Jim Knoll will be TAAA Director for the 2023 GCSP, and review of the post 2022 survey response is currently being integrated into the format for 2023.

#2. Currently the TAAA Executive Board is seeking a new insurance agent. The insurance underwriter has continued to work well; however, there have been consistent issues with agents and questions regarding accuracy of information. Thus, when a new agent is found, insurance decisions will be re-evaluated including those made recently.

#3. We are adding a new agenda item to the regular Board meeting called Board Action List. This item will review the implementation status of prior decisions made by the Board. An item will stay on the list until closure.

#4. The 16" telescope project at TIMPA is progressing well. The shipping company advised NOT to ship in December due to inflated prices. In addition to John Mead being assigned to manage the project for TAAA, the Minnesota Club assigned a specific representative to work with TAAA for as long as we need. A list of project areas to be dealt with as well as considerations and current status has been completed and various aspects such as storage, container, permit, flood-plain considerations, etc. are being addressed.

#5. Those of you who attended the December 2nd Member meeting experienced the unusual, reoccurring sound issues we had during that meeting.

by Mae Smith

As you realize, Zoom issues during Member Meetings are very unusual for TAAA as we have an active team that is highly diligent and committed to providing each of you with a meaningful and enjoyable meeting experience. The problems in December were attributable to some unusual changes within the meeting room that our team was unaware of. I would like to assure you that since that December meeting, every effort has been made to find, diagnose and figure out strategies for eliminating Zoom sound problems in future member meetings, including meeting with the University person who is in charge of controlling the Zoom in the room as well as additional efforts to eliminate such problems. We also are establishing a quiet five minutes within the meeting room prior to the meeting beginning which we hope will facilitate a restful entry to meetings in the future. Unfortunately, we were unable to eliminate the extra sound from the audio tape of the December meeting. Due diligence was spent on that project and we were hopeful we could make it work, but... Thanks to each of you who kept up the feedback during the meeting. It was helpful to know what problems were most prominent where. We appreciate your assistance and believe we have permanent, effective strategies.

The Board on December 14th decided: #1. to resume encouraging use of masks and sanitizer at TIMPA and CAC during the current high risk time. Also, the prior decision to take COVID off of the monthly Board agenda after the December meeting has been changed to continue the topic discussion each month until flu and COVID risk rates have adequately declined; #2. To ask NVRC to develop a formal proposal of suggestions for Board review after June 2023 of what should or should not exist regarding term limits for persons in the elected positions of Board members and NVRC Members; #3. CAC signage will be allowed to be printed based on the assumption that donors are making payments in good faith; #4. Some current links on the website will be fixed so that information is accurate and links operate; #5. The TAAA 990 (income tax report) could not yet be reviewed as the accountant still has not yet returned it to us; #6. TAAA forward-billing for member projects was approved; thus, estimated fees for CAC Member Pads and CAC Member Observatories will be collected prior to the year being paid for and adjustments to be made later.

President [Mae Smith](#)

Committee Reports

MemberPlanet

By [David Rossetter](#)

Membership Dues Rates Display Errors

I am working through some bugs (or are they features?) with MemberPlanet. Since we changed our membership dues rates, MemberPlanet sometimes will not show you the updated rates.

When renewing, you may be directed to a dues history page that shows the previous dues rate for your membership level. This is a limitation of MemberPlanet. **If you select to renew at your current membership level, the correct dues will display when you check out.** As an alternative, you can click the “Go Back” button on the upper right of the page which will take you to a full membership level selection page with the correct dues schedule. You can change your membership level on this page, as well.

The only way for me to fix this issue is to update the membership level for each member individually (one at a time). That is a little more work than I am willing to do. Please follow the above procedures. The problem will go away after everyone has renewed over this year.

Information Technology

Wanted: Assistant Web Master

The Information Technology (IT) Committee is slowly organizing and tracking all the different technology assets and procedures the TAAA uses. One of the biggest IT chores is running the Web Site (www.tucsonastronomy.org). Ed Foley is our extremely capable Web Master. However, we are hoping to bring in some more talent to help manage all the details that come with his job. Therefore, we want to find an Assistant Web Master. The job hasn't been defined yet, but a candidate may participate in that process.

In addition, the IT Committee is looking for additional, tech savvy, members.

If you have IT and/or web skills and want to contribute to your organization, please contact our IT Committee Chair, [David Rossetter](#).

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. This month's meeting is:

Thursday, January 19, 6:30

P F Chang's

1805 E River Rd
(N side of River between 1st and Campbell)

Preview the menu at www.pfchangs.com

RSVP [Susan](#)



Starry Messengers Special Interest Group

Opening Minds to the Universe

The Starry Messengers SIG will meet in person on our regularly scheduled 2nd Monday of the month. We'll meet at the home of one of our members on Monday, January 9th at 7pm. Please contact Terri Lappin for the address where we will be meeting. We continue to discuss the progress of our activities for the March 4th & 5th Tucson Festival of Books/UA ScienceCity, and our own Tucson Astronomy Festival on April 29th at Brandi Fenton Memorial Park.

Four requests for astronomy toolkit activities are listed in the School/Public Star Party Requests section of this newsletter. They are on January 10th, 12th, 19th, and 24th. Upcoming events in February are on the 8th (tentatively) and the 15th. As you'll see, some events already have a volunteer signed up, but we prefer to have two volunteers. These outreach events are a unique way to interact with kids and adults, helping them to discover how the universe works. If this sounds intriguing, contact Terri Lappin to learn about the astronomy toolkit activities and/or to volunteer for the listed events.

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

Astronomy Fundamentals SIG

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

The next meeting is on **Thursday, January 12th at 6:30 pm - 8:00 pm**. Topics to be determined.

Contact [Conner Justice](#) 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, January 16th @ 7:00 pm** via ZOOM.

Email [Gregg Ruppel](#) for the ZOOM link or find it in the [TAAA Forum](#).

Topics: TBA

Check out [AISIG On the Web](#) or contact [Gregg Ruppel](#) for the latest information and Zoom links. Look for previous meetings on the [TAAA YouTube Channel](#). 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, check out the [TAAA Forum](#).

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 [Gregg Ruppel](#), 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 ([David Rossetter](#) – Bulletin Editor) or [Gregg](#) if you have any questions.

Highlights from the Astro-Imaging SIG

Tom Eby

Jupiter and Io

8" CN212 Cass @f/18/Skyris cam/
ICCap/AstStak/Reg6/Winjupos

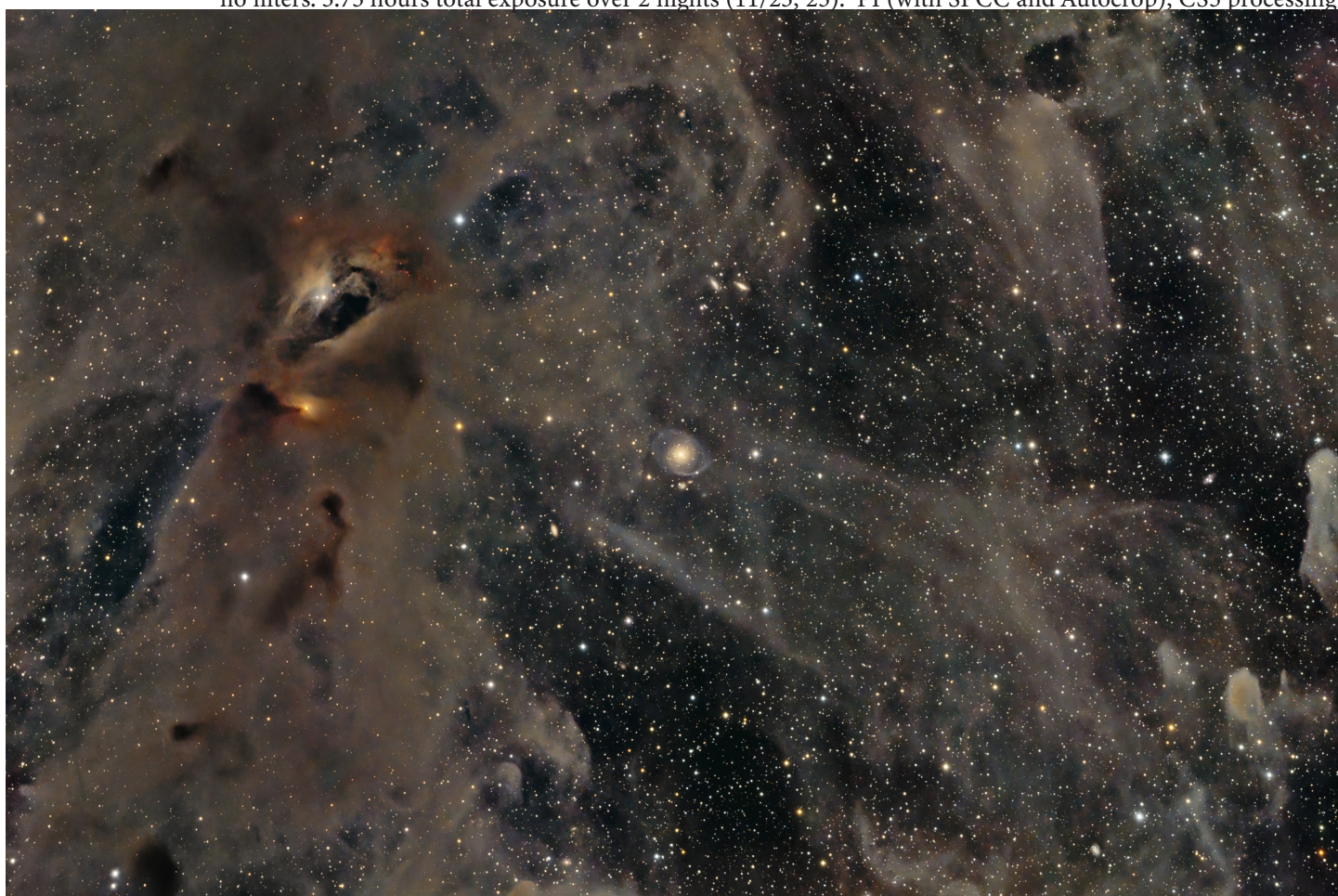


IC359

A complex of very heavy dark nebula and likely IFN as well, another part of the Taurus Molecular Cloud. At center is the 15th magnitude two-armed S0 type galaxy IC359, at 180 million LY distance.

It is known to have a yellow core and quite blue arms, here the arms appear to be slightly reddened by intervening dust.

RASA 11@f/2.2 / asi2600mc / CEM70es unguided
no filters. 3.75 hours total exposure over 2 nights (11/23, 25). PI (with SPCC and Autocrop), CS5 processing.





Mark Johnston

**M42/
Running Man
Nebulae**

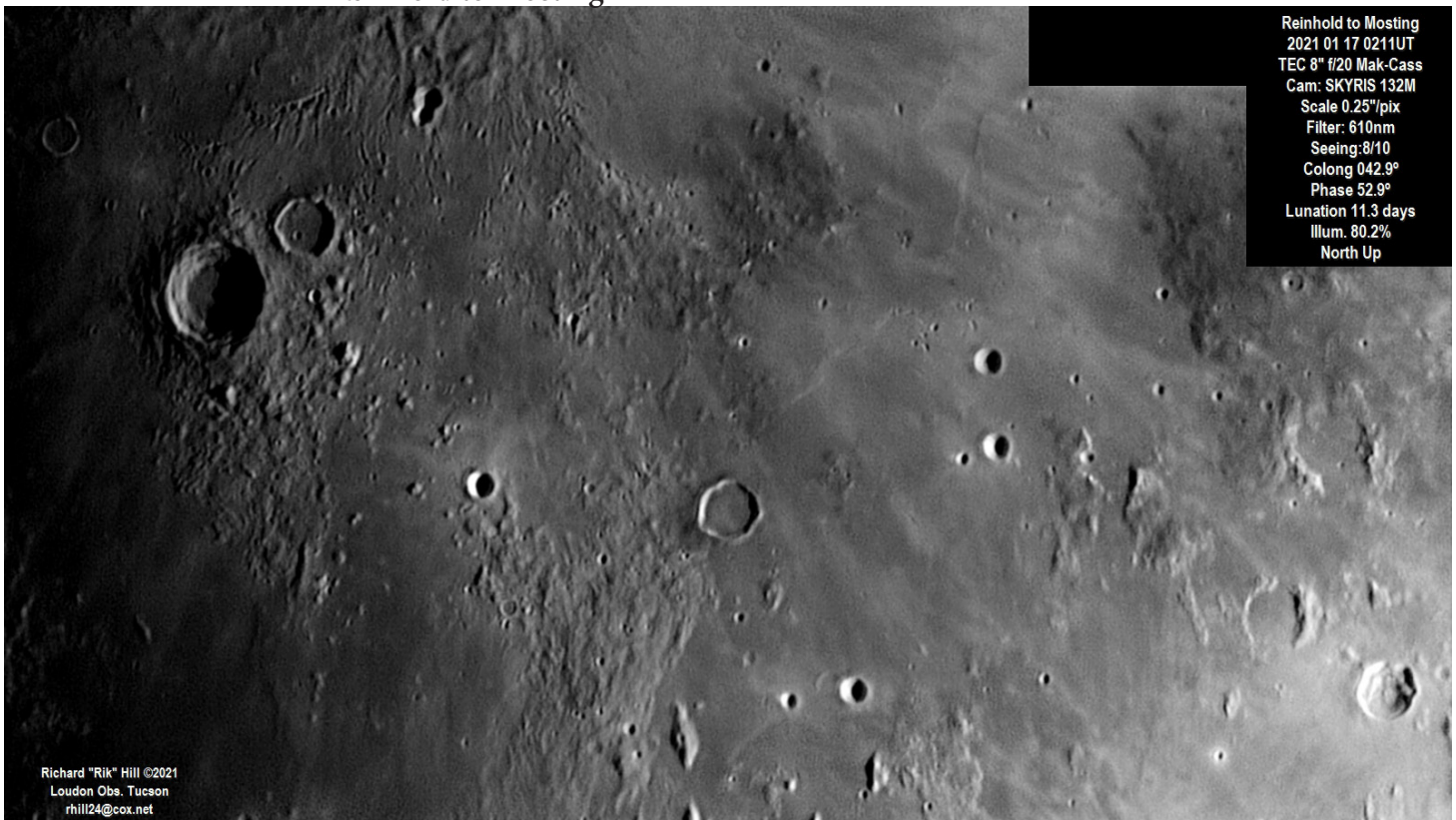
Celestron C9.25/
Hyperstar,
ZWO2600MC
Pro, 100 90-second
exposures
All stacking
and processing
in Affinity
photo, No filters or
calibration frames



Vincent Goetz

Rosette Nebula - C11, Hyperstar, ZWO2600SC, Antila ALP-T, 100 subs, 45seconds

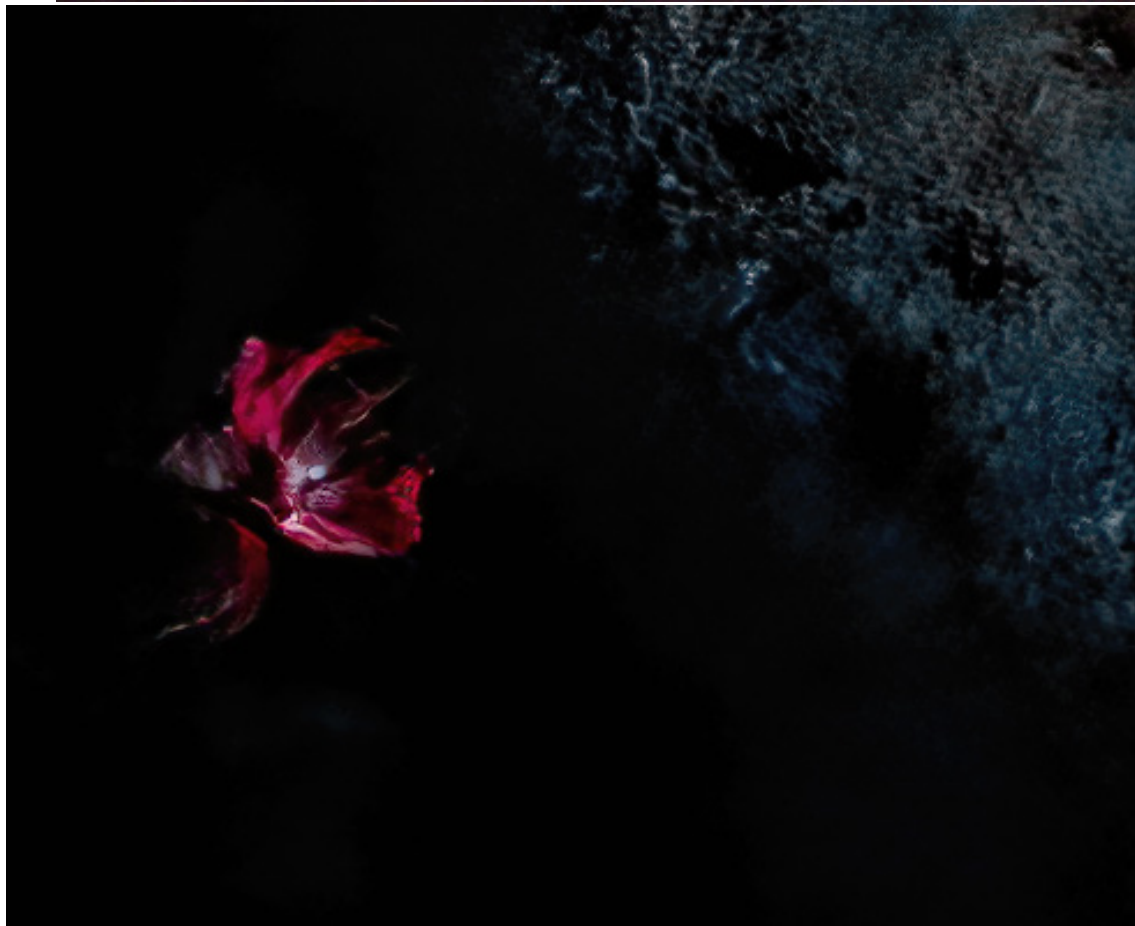
Reinhold to Mosting



Lunar Eclipse 11/8



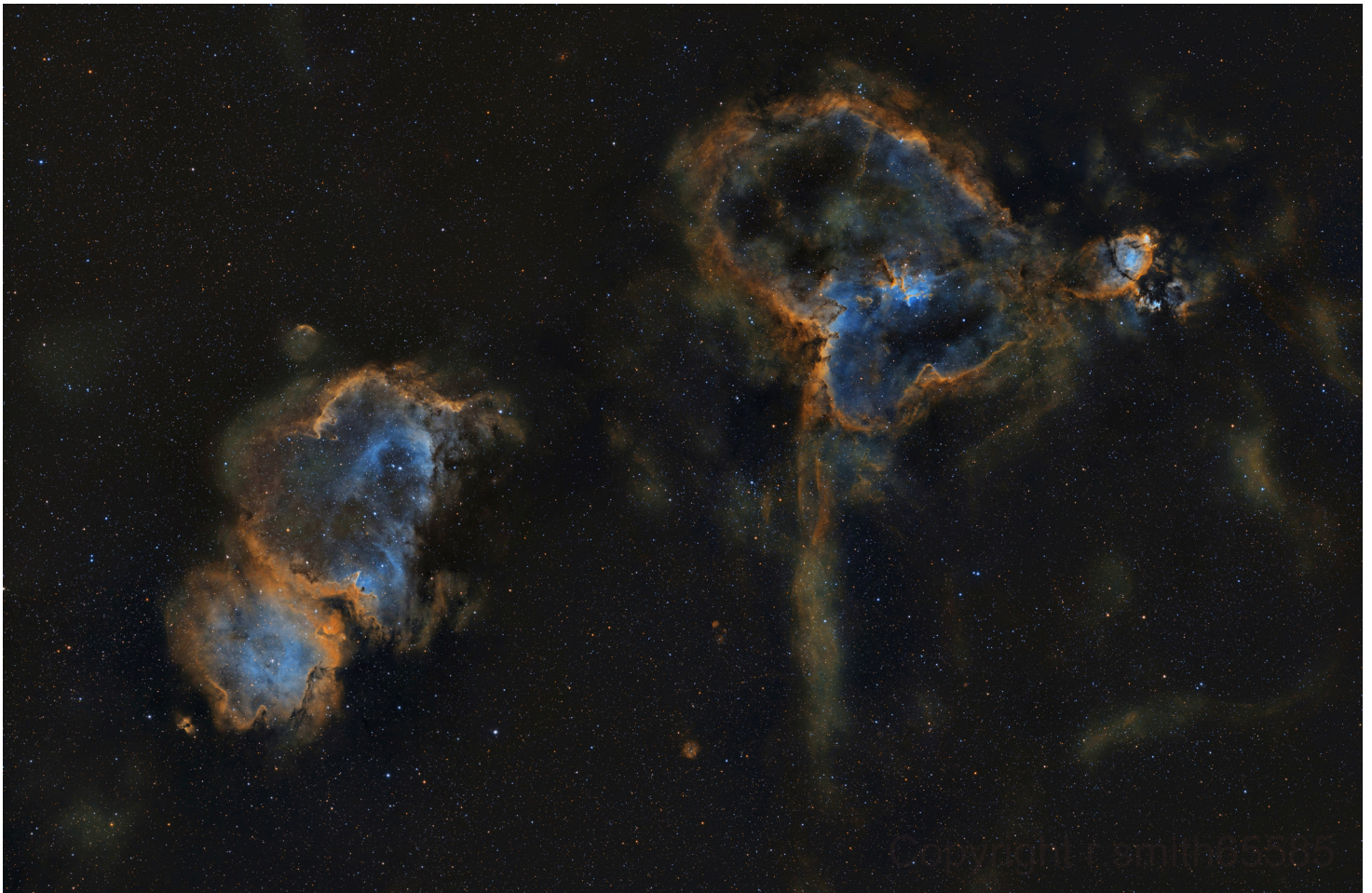
Allen Force NGC 7380 - Stack of 120 sec at 111 gain from an ASI183MC Pro, with an NBZ filter, in a C11 with Hyperstar.



Alex Woronow

Crab spider in M33

[Astrobin](#)



Randy Smith Heart and Soul Nebulae - C11 HyperStar 2600 MM Pro Baader SHO high speed filters, 12 hours integration time for all filters and panels all filters shot at 120 seconds. [Astrobin](#)



Alan Rockowitz

Bearclaw Nebula

This is through my 3nm narrowband Ha and OIII filters. I have about 8 hrs of Ha and 4hrs of OII combined with the magic of Pixelmith in Pixinsight.

Observing Sites

TIMPA

by Ralph Means

TIMPA (Tucson International Modelplex Park Association), Dark Sky site west of the Tucson Mountains.

[TIMPA on the Web](#)

TIMPA Star Party Dates this month: **January 20-21**

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.

[Reservation Form](#)

Any questions, please contact the TIMPA Director: [Ralph Means](#)

Chiricahua Astronomy Complex

by Jim Knoll

CAC Weekend Dates coming up (Friday/Saturday): **January 20-21 (New Moon , January 21)**

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 [CAC Reservations](#).

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.

Please consider helping with maintenance or other activities at CAC. As we further develop the site, it is important we continue to grow a list of volunteers. Let me know and I will add you for future notifications (no commitment, just a willingness to help).

CAC Director: [Jim Knoll](#)

[CAC on the Web](#)

Observing Sites Star Party Dates 2023

TIMPA

January 20-21
February 17-18
March 17-18
April 21-22
May 19-20
June 16-17

CAC

January 20-21 (New Moon 21)
February 17-18 (New Moon 20)
March 17-18 (New Moon 21)
April 21-22 (New Moon 19)
May 19-20 (New Moon 19)
June 16-17 (New Moon 17)

CAC Learning Center Construction Update - by Ed Foley

January 2023

The interim county inspection of the new buildings was completed early in December. This allowed the interior rock wool insulation to then be installed. The contractors followed that by hanging drywall on the walls and ceilings of each building. The drywall will be taped before Christmas. A work crew of TAAA volunteers will then paint the almost 2000 square feet of interior space just after Christmas. The painting has to be done prior to the electrical and plumbing fixtures being installed.



The buildings' water line connection to the existing water line valve was dug and the connection made. It will be tested by the county shortly. The septic line was dug and the piping will be installed and connected to our existing septic system before the end of the month.



Electrical wires were fastened down along their lengths to the electrical panel and breakers installed. During the electrical work, Electric Vehicle charging outlets were installed at each building. During the month a member with a Tesla was able to test this new feature. He was able to fully charge his car during his CAC weekend visit.



TAAA 2023 Wall Calendars

are now available at the general meetings. Only 12 left!

The cost is \$15 cash or check made out to TAAA.

If you are unable to attend the general meetings, please contact Susan OConnor to arrange for delivery.

Board of Directors Meetings

The TAAA Board meets the second Wednesday of every month at 6:30pm. Members are welcome to attend Board meetings. If you would like to attend a Board meeting, you may email Mae Smith to receive a Zoom link for that meeting. Please send your email to Mae the Monday or Tuesday (By 5:00pm) and you will receive an email with the link on either Tuesday evening or Wednesday. **ALL MEMBERS ARE WELCOME**, we are simply changing from sending this reminder through Member Planet to conservatively use our Member Planet email system. I am sorry if this is an inconvenience. If this does not work, let me know - we can make changes.
-Mae



2022 Holiday Party

The 2022 TAAA Holiday party was held at the home of the Foleys. This year's attendance topped 60 for the first time since the Foley's have been hosting the event in 2015. There was lots of food brought by members from salads to vegetarian chili, enchiladas, and plenty of holiday themed desserts. Capping the night was the Holiday Party Raffle of donated Items. There were eyepieces, astronomy themed jewelry, a 6 inch dobsonian telescope, a variety of books including some by TAAA member and author Michael Bakich which he later signed. Fun was had by all!



Practical Astronomy Workshop 1 – Star Hopping

Open for Enrollment

Place: TIMPA

Date/Time : Thursday, February 23, 2023, 5:30 PM until completed

Synopsis: This first workshop in practical astronomy 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.

If interested you can contact the instructor at the information listed below or sign up using the signup sheet that will be available at the January and February General Members meeting.

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



Instructor – email: Douglas Smith
Phone: 520-396-3233

Book Of the Month

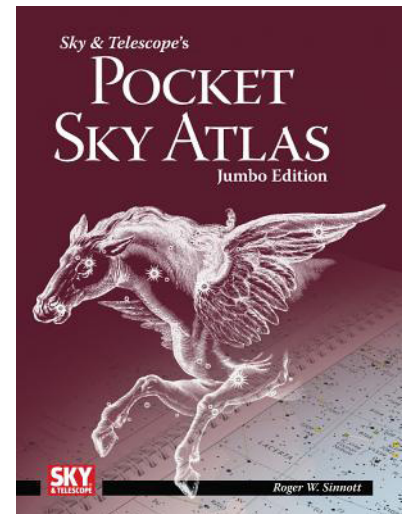
By Douglas Smith (TAAA Librarian)

By Douglas Smith (TAAA Librarian)

Book: Pocket Star Atlas – Jumbo Edition

This is a wonderful star atlas. It contains the same charts as in the well-known Pocket Star Atlas, except they are much larger and thus much easier to read. These charts are color coded using the same color scheme that is used in Will Tirion's Sky Atlas 2000. Easy to read under a red light. The charts are organized by RA. The book is spiral bound and hardcover which makes it very durable. The constellations are identified and their stick figures are drawn as well as the constellation boundaries. The deep sky objects are identified using the same scheme used in the Sky Atlas 2000.

My only issue is the charts are not laminated. They are made of a pretty durable paper that should hold up well. This star atlas is quite well suited for not only novices, but advanced amateur astronomers as well. I highly recommend this star atlas as a good edition to any amateur's inventory. Currently sells for around \$40.



by Jim Knoll & Bernie Stinger

Connecting Astronomy with the Public – January 2023 by Jim Knoll & Bernie Stinger

We have reached the end of another exciting and very busy year of our Outreach programs. December has traditionally been a quieter month for school events. We had 2 school, 4 public, and 1 non-profit for a total of 7 events. Weather this time of year, although cooler, typically is pretty good. For the younger kids, it is nice to be able to start earlier in the evening with an early sunset. January normally is still pretty slow (10 events scheduled) but can quickly ramp up in February, March, and April as the schools start culminating their science projects and events.



December came in like a Lion for the Tucson Stargazing Adventures paid events. We typically come out high on any google searches for astronomy events in Tucson so this year we have had more small family events. December totaled 12 events, 7 of these at resorts, 3 small group/private events at the Chiricahua Astronomy Complex and TIMPA, and 2 family gatherings. The small group events are my favorite as you can spend more time talking about the objects, the night sky, and astronomy in general.



We have been fortunate having Saturn and Jupiter in the night sky. These two gems elicit quite the responses from kids and parents. And who knows, you are likely to inspire a young person to get involved in science!

Thank you to all our volunteers that help with our Outreach mission and make it possible. We love to include pictures of events, so please try to take some when you can. Just remember, for any youth, try to take pictures without showing their faces.

Let us know if you want to get involved with any of our outreach programs. You can respond to Bernie's monthly volunteer request for school & public programs and let him know or send either of us an email. Feeling the joy of sharing our wonderful hobby with the public is extremely rewarding, and you will learn more about the objects you are showing as well!

Bernie Stinger: astronomy-events@tucsonastronomy.org, Star Party Manager

Jim Knoll: stargazing@tucsonastronomy.org, Tucson Stargazing Adventures

School/Public Star Party Requests

by Bernie Stinger

Thank you for volunteering your time and talents for our extremely important outreach mission. **Below is the updated list for January, 2023.** January is typically a quieter month for Star Parties but still appreciate any help you can provide. 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 December 23rd. ***Starred events** and **bolded telescope references** still have need for volunteers.

There is one new event on Jan. 19th.

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

Thank you,
Bernie Stinger –
TAAA Public/School/Non-Profit Star Party Manager

***Tuesday – January 10 -- NORTHEAST TUCSON**

Cub Scouts @ Fruchthendler Elementary

7470 E. Cloud Rd.

Age/Grade Level: K-5

Participants: 80

0 Scopes Needed + 1 NSN Toolkit Operator Needed

Setup Time: 5:15pm Start Time: 6:00pm End Time: 8:00pm

Nearest Moon Phase: 4 days past Full

Directions: Driving east down Tanque Verde, turn left onto Sabino Canyon Rd.

Drive 1.3 miles down Sabino Canyon and take a right onto Cloud Rd.

Drive 0.5 miles down Cloud and take a right onto Lodge.

Viewing Location: Basket courts behind the school.

Wednesday – January 11 -- WEST TUCSON

Cooper Center for Environmental Learning

5403 W Trails End Rd

Age/Grade Level: Grade 4

Participants: 55

0 Scopes Needed (filled)

Setup Time: 6:15 pm. Start Time: 7:00 pm. End Time: 8:30 pm.

Nearest Moon Phase: 5 days past Full

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).

School/Public Star Parties Continued

***Thursday – January 12 – EAST TUCSON**

Booth–Fickett Math/Science K–8

450 S. Montego Dr.

Age/Grade Level: K–8; # Participants: 100

2 Additional Scopes Needed + 0 NSN Toolkit (Hermes)

Setup Time: 5:45pm. Start Time: 6:30pm. End Time: 8:30pm.

Nearest Moon Phase: 3rd Quarter

Directions: South on Kolb past Broadway. Approx 1/4 mile.

Turn left on E. Calle Arturo. School is on the right.

Viewing Location: Field behind school.

Saturday – January 14 -- FAR WEST TUCSON

Pima County Natural Resources Parks and Recreation (NRPR) – Tucson Mountain Park Ironwood Picnic Area

7300 W Hal Gras Road,

Age/Grade Level: All Ages; # Participants: 50 – 60

0 scopes needed (filled)

Setup Time: 5:45 pm. Start Time: 6:30 pm. End Time: 8:30 pm.

Nearest Moon Phase: 3rd Quarter

Directions: On Kinney Road, 1.5 miles south of Gates Pass Road or 3.8 miles north of Ajo Way.

Viewing Location: Right side of road (parking pullout) near the 2nd restroom facilities (right side of road) at the Ironwood Picnic area (~3/4 of way into picnic area or approximately .6 miles

Thursday – January 19 -- NORTHWEST TUCSON

Mesa Verde Elementary

1661 W Sage St

Age/Grade Level: K–5; # Participants: 150

0 Scopes Needed + 0 NSN Toolkit (Hermes)

Setup Time: 4:30 pm. Start Time: 5:00 pm. End Time: 6:30 pm.

Directions: From Ina Rd. go North on La Canada Dr. past Magee Rd to W. Sage St.

Left on Sage St. School will be on the left side of street about 1/5 mile.

*** (NEW) Thursday – January 19 – NEAR BENSON AZ**

Pomerene Elementary School

1396 N Old Pomerene Rd, Pomerene AZ

Age/Grade Level: K–8; # Participants: 125

2 Scopes Needed

Setup Time: 5:45 pm. Start Time: 6:30 pm. End Time: 8:30 pm.

Directions: From I-10 take Exit 306, go North, then bending West, for 3 miles until you reach the post office. Turn left and on the right side is the school.

Viewing location: School playground.

***Saturday – January 21 – (NORTHEAST TUCSON)**

Pima County Natural Resources Parks & Recreation (NRPR) @ Agua Caliente Park

Agua Caliente Park is located at 12325 E Roger Rd.

Age Group: All Ages; Estimated # Participants: 50 – 75

3 Additional Scopes needed

Setup Time: 5:45 pm Start Time: 6:30 pm End Time: 8:30 pm

Nearest Moon Phase: NEW

Directions: Tanque Verde Road east past Houghton to Soldier Trail. Go about two miles north to Roger Rd. Turn east for about 1/2 mile to the Park on the left (north).

Viewing Location: Parking Lot Bus Lane area (north end of parking lot). Will need to spread out to facilitate social distancing.

School/Public Star Parties Continued

Tuesday January 24 – STEWARD OBSERVATORY

Mission View Elementary @ Steward Observatory/ Ray White Observatory

933 N. Cherry Avenue

Age/Grade Level: Grade 5; # Participants: 50 + parents

0 Scopes Needed (filled)

Setup Time: 5:15 pm. Start Time: 6:00 pm. End Time: 8:00 pm.

Nearest Moon Phase: NEW

Directions: Steward Observatory, UofA Campus

Viewing Location: Roof of Steward Observatory building

***Tuesday January 24 – ORO VALLEY**

Wilson Elementary K-8

2330 W. Glover Road, Oro Valley

Age/Grade Level: K-8

Participants: 500 (questionable)

1 Additional Scope Needed – 1 NSN Toolkit operator Needed

Toolkit Setup Time (indoors): 4:30 pm. Start Time: 5:00 pm. End Time: 7:30 pm.

Scope Setup Time: 5:30 pm. Start Time: 6:00 pm. End Time: 7:30 pm.

Nearest Moon Phase: 3 days past New

Directions: From the intersection of La Cholla and Glover head west on Glover. Wilson is less than half a mile on the right hand side of the road.

Scope Viewing Location: Courtyard behind School

Friday January 27 -- CENTRAL TUCSON

Carrillo Magnet

440 S. Main Ave

Age/Grade Level: K-5

Participants: 75

0 Scopes Needed (filled)

Setup Time: 5:15 pm. Start Time: 6:00 pm. End Time: 8:00 pm.

Nearest Moon Phase: 1st Quarter

Directions: Near downtown Tucson. South from Broadway to Cushing St. Turn right on Cushing, turn left on Main Ave.

School is on right side of street. Access gates on the backside of the building.

Viewing Location: Playground

Tuesday – January 31 – NORTHEAST TUCSON

Whitmore Elementary

5330 E Glenn St.

Age/Grade Level: K-5

Participants: 100

0 Scopes Needed (filled)

Setup Time: 5:45 pm. Start Time: 6:30 pm. End Time: 8:00 pm.

Nearest Moon Phase: 1st Quarter

Directions: West on Glenn from Craycroft. North Side of the street. 2nd entrance to the school. There is a fence to the playground.

Viewing Location: Playground behind school

by Doug Smith

What's Up list for January 2023 - February 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 January and February for the more common observing programs.

Constellation Hunter Program – Northern Skies

The following constellations are well placed for observing for January and February:

Auriga, Camelopardis, Canis Minor, Gemini, Lynx, Monoceros, Orion, Perseus, Taurus

Messier Observing Program

Prime time for the winter Milky Way. The following Messier Objects are well placed for observation during January and February (listed in ascending RA): M45, M79, M38, M1, M42, M43, M36, M78, M37.

Lunar and Binocular Observing Program

The following is a list of the dates for the lunar phase for observations during January and February:

New Moon: January 21, February 20
40 Hours waxing: January 23, February 22
72 hours waxing: January 24, February 23
4 days old: January 25, February 24
7 days old: January 28, February 27
10 days old: January 2, January 31
Full (14 days old): January 6, February 5
Gibbous: January 14, February 13
72 hours waning: January 18, February 17
40 hours waning: January 19, February 18

Solar System Observing Program

The following list describes the various solar system objects and their visibility in January and February:

Mercury is an early morning object during January and February. Greatest elongation is on January 25.

Venus is an early evening object during January and February. It sets a little later and gets brighter each day. On Jan 1 it sets about 1 hour after sunset. By the end of February it sets about 2 hours after sunset.

Mars is well placed in the southern sky at sunset during January and February. It stays up most of the night, not setting until a couple of hours before sunrise.

Jupiter sets earlier each night during January and February. It is well up in the SW sky at sunset. At the start of January it sets around 10:30. By the end of February it sets around 7 PM.

Saturn is almost lost in evening twilight during January. On January 1 it sets around 8 PM. By the end of January it sets around 6 PM. It becomes an early morning object in late February.

Uranus is well placed for evening viewing. It is located about 20 degrees to the West of Mars.

Neptune is well placed for evening viewing. It is around 15 degrees East of Mars.

Urban Observing Program

The following deep sky objects are well placed for observing during January and February:

Tr 3, Stock 23, Mel 20, NGC 1342, M45, Hyades, NGC 1647, NGC 1807, NGC 1817, M38, M36, M42, NGC 1981, M37

The following **Double Star** is well placed during January and February: Trapezium

The following **Variable Star** is well placed for observation during January and February: Algol



Steward Observatory Public Evening Lecture Series

Lavinia Steward made her historic contribution of \$60,000 to the University of Arizona “...TO BUY TELESCOPE OF HUGE SIZE,” on October 18, 1916. However, the United States entry into World War I delayed the construction of the Steward Telescope and its 36-inch mirror. That original Steward Telescope was finally used for the first time on July 17, 1922. It would take another 9 months before the Steward Observatory and Telescope would be formally and officially dedicated on April 23, 1923.

The Telescope, however, was ready to be used before the official dedication date and Prof. Andrew Ellicott Douglass, the first Director of Steward Observatory, did not leave the telescope idle. He invited members of the campus and Tucson communities to view the wonders of the night sky through this new, large (for the time) telescope. The date was September 28, 1922, and the Steward Observatory Public Evenings were born.

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: <https://arizona.zoom.us/j/4470189357>**

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 [Evening Lecture Series page](#). You can click [here](#) to stream podcasts of previous **Public Evening Lectures**.

Jan. 16	Dr. Thomas Fleming Dr. Buell Jannuzi Director Steward Observatory	100 Years of Steward Observatory Encore Presentation
Jan. 30	Dr. Catherine Fielder Steward Observatory	An Alien’s-eye View of the Milky Way
Feb. 13	Dr. Vasileios Paschalidis Steward Observatory	The Physics of Popular Culture Science Fiction: from “Contact” to “Interstellar” and Beyond
Feb. 27	Dr. Melissa Brucker Lunar & Planetary Laboratory	The First 40 Years of SPACEWATCH: Asteroids, Planetary Defense, and the Steward Observatory 36-Inch Telescope
Mar. 13	Dr. Kate Alexander Steward Observatory	The Messy Eating Habits of Snacking Black Holes
Mar. 27	Dr. Emma Beasor, Bok Fellow Steward Observatory	How do Massive Stars Live and Die?
Apr. 10	Dr. Everett Schlawin Steward Observatory	JWST’s First Stares at Planets that Peek in Front and Behind their Stars
Apr. 24	Dr. Christopher Impey Distinguished Professor Steward Observatory	Worlds Without End: Exoplanets and the Search for Life Beyond Earth Book-signing for Prof. Impey’s new book Worlds Without End after the lecture



College of Science

Myth Busting Science | Lecture Series

The College of Science is excited to announce Myth Busting Science as the topic of our 2023 Lecture Series (beginning on February 1st). Join us inside Centennial Hall beginning February 1 for enlightening presentations by four renowned University of Arizona faculty as they debunk common misconceptions in society and apply state-of-the-art scientific methods to solving critical problems.

February 1, 2023	Lee Ryan	Precision Aging: Busting the one-size-fits-all myth
February 8, 2023	Eduardo Blanco	Are computers as smart as you think?
February 15, 2023	Jessica Tierney	Climate is always changing. So why is climate change a problem?
March 1, 2023	Michael Worobey	Origins of the Covid-19 Pandemic: Facts and Fallacies

Check [here](#) for speaker information, dates, and more in the coming weeks.



COLLEGE OF SCIENCE

**LUNAR & PLANETARY
LABORATORY**

LPL Colloquia

Click links for more information

[Tuesday, January 17, 2023 - 3:45pm](#) Dr. Joellen Russell Via Zoom
University Distinguished Professor
U of A, Dept. of Geosciences

[Tuesday, February 7, 2023 - 3:45pm](#) Dr. Stéphane Mazevet Via Zoom
Director Côte d'Azur Observatory

[Tuesday, February 21, 2023 - 3:45pm](#) Dr. Xi Zhang Via Zoom and Kuiper 308
Associate Professor, Earth and Planetary Sciences
University of California, Santa Cruz

TAPS 2023: Big Worlds, Small Worlds

To be held in the Kuiper Space Science Building, located at:
1629 E. University Blvd., Tucson, AZ 85721

Gallery Hours:

Friday (2/17) 5:00 - 9:00 pm

Saturday (2/18) 1:00 - 5:00 pm

Sunday (2/19) 1:00 - 5:00 pm

For more information, [click here](#).



Skyward

By Dr. David H. Levy
January 2023

Carl Jorgensen and his eldest daughter, Christine in front of the old Isabel K. Williamson observatory. By David H. Levy.



*“When sorrows come, they come not single spies,
But in battalions.” (Hamlet 4.5.76-77)*

This column begins with a delightful quotation from Hamlet, where King Claudius reflects on the deaths of Hamlet’s father, Polonius, and the madness of Ophelia. In this lonely period of my own life, the one constant I have is being able to continue doing the stargazing that I love so much. In recent months, the losses of Don Machholz, Constantine Papacosmas, and Wendee have tested the strength of observing the night sky as never before. But I must add to this the passing of my closest friend from my youth, Carl Jorgensen, on October 18. Of these four transitions that occurred late this year two of them—Don and Carl, both died from Covid. This is strong evidence that we are nowhere near being done with this dreadful illness.

Our lifelong friendship began in November of 1963. I had just returned from a 14-month stay at the Jewish National Home for Asthmatic Children in Denver. At the observatory of the Royal Astronomical Society of Canada in Montreal, Isabel Williamson introduced “young Carl Jorgensen” to “young David Levy” and our friendship never wavered over 59 stargazing years after that.

We both especially enjoyed observing shooting stars. In the late summer of 1965 Carl and I were counting Perseid meteors (that all seemed to radiate from the constellation of Perseus) when Carl began to sing to himself the lyrics of a newly released song. Carl went on and on under that clear sky. “Carl,” I asked, “what are you singing?”

“Bob Dylan’s new song, ‘Like a Rolling Stone.’”

“How long is this song supposed to last?”

“About six minutes.”

“Carl, you’ve been singing it for over half an hour.” By the next time Carl and I met for observing, I had become a staunch Dylan fan as well.

In March 1976, those of us who liked comets were still reeling from the failure of Comet Kohoutek to live up to expectations. Another comet, found by Richard M. West, was supposed to be in the predawn sky, and Carl drove me out to see it. As we drove into a darker sky south of Montreal, I looked out past Carl’s window and saw a magnificent comet rising in the east. Carl reacted to my exclamation: “OK, we’ll find a spot, set up the telescope, and try to find it.”

“Carl, just look to your left!” Carl glanced out his window, and nearly drove the car off the road. What an unforgettable morning that was.

Carl enjoyed a lifelong interest in double stars. His favorite (and mine) was a beautiful triple star in the constellation of Cepheus. Known as Struve 2816, it is a magnificent triple sun. It is easy to find and wonderful to watch.

It is particularly evocative now. “Doubt that the stars doth shine,” Hamlet might have complained, but I think that even he would enjoy being with Carl to enjoy the sight of that lovely star.

Dr. David Levy is a long-time member and former President of the TAA. 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.