

TAAA DESERT SKIES BULLETIN

Observing Our

Since



Desert Skies

1954

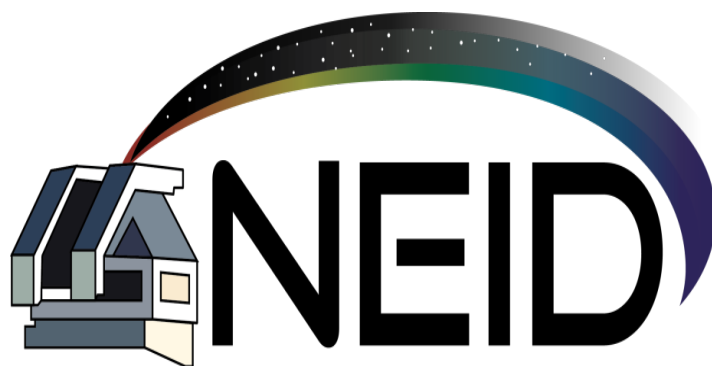
October 2021

www.tucsonastronomy.org

Membership Meeting

October 1 @ 6:30 pm - 9:00 pm

TAAA's next general member meeting will be held on Friday, October 1, 2021, and available online. The Main Presentation starts at 6:30 P.M. It will be followed by Mary Turner's popular Seasonal Night Sky Presentation and a Members Only Meeting. Non-members may attend the Main Presentation and Seasonal Night Sky Presentation via Facebook at <https://www.facebook.com/TucsonAstronomy/>. Members should attend the meeting via Zoom. The Zoom link will be sent to members via email before the meeting.



Main Presentation at 6:30 AZT

Title: Searching for Earth-Twin Exoplanets with the NEID Spectrometer

Presentation: Over the past three decades astronomers have discovered a menagerie of exoplanets around nearby stars, and it is now clear that planets form with a breadth of characteristics barely hinted at by the planets in our solar system. The goal of finding and characterizing rocky, Earth-like planets remains paramount, but until recently has been hampered by astronomical instruments lacking the sensitivity required to detect signals from these small bodies. A new class of spectroscopic instruments, including the NASA and NSF (National Science Foundation) funded NEID spectrometer at the 3.5 meter WIYN telescope on Kitt Peak, is now coming online, and for the first time will start probing nearby stars for Earth twins.

NEID is dedicated to high precision radial velocity (RV) observations of exoplanets. The RV (or Doppler) effect depends on a planet causing a tiny gravitational pull on the star it orbits, causing the star to "wobble" which can be noted as changes in its spectrum. In his talk, Dr. Chad Bender will describe the technology enabling these new searches, and what is to come over the next few years as astronomers push the limits of sensitivity lower and lower towards the goal of finding planets like our own.

Presenter: Dr. Chad Bender is an instrument builder and observational astronomer, studying how planets and planetary systems form and evolve. He has spent the past decade designing and building two extreme precision radial velocity (RV) spectrometers that are now in operation. Earlier this summer, his team completed construction of NEID, which is now the most precise RV spectrometer in the United States, and which has begun a survey of nearby Sun-like stars to search for Earth-like planets. Dr. Bender received his Ph.D. in 2006, and is currently an Associate Astronomer at the University of Arizona's Steward Observatory.

September 2021

As the following overview of the September 8 TAAA Board Meeting reflects, considerable TAAA activity occurred in August and September. Some of the results of the September Board meeting include:

1. COVID regulations were not changed. The Planning Committee for the first Friday Member Meetings has been getting together and experimenting with Zoom in the regular Steward Observatory Auditorium that we have previously used for the First Friday Member Meetings. Considerable progress was made in a lengthy session in working out the logistics of operating Zoom video both through the Zoom platform and jointly through the classroom video system. Success was achieved with all dimensions of operating the video systems. A second meeting was scheduled for specific attention to the audio systems.
2. A TAAA Committee was appointed to address fund-raising issues related to completion of the CAC Learning Center/Sleeping Rooms Project.
3. Four meetings were held at TIMPA over the month and many other conversations were pursued to work out safety issues at TIMPA. The grass was cut with future access to the TIMPA lawnmower approved, gopher holes removed with a future procedure developed for removal prior to each TIMPA event, and a new walking pathway to the bathroom was cleared. Further plans are in process. The TIMPA site was approved for paid star-parties in the future.
4. A contract was approved to be used for Member Pad Leases at CAC.
5. A potential contract was presented for review for Member Observatory Leases at CAC. The proposed document will be reviewed this month and come before the Board for consideration at the October meeting. In addition, a proposed schedule was

by Mae Smith

reviewed for beginning construction of Member Observatories at CAC with the first possible beginning date of construction being February 2022.

6. The four Domes at CAC have been priced for sale at \$250 each and are being shown to interested members.
7. Results were reported of a 501(c)3 legal opinion secured from a nonprofit attorney regarding specific aspects of the Member Observatory Project at CAC.

Further Information regarding Co-Convening First Friday Member Meetings. I want to confirm that the TAAA Board definitely intends to, at some point, conduct the Friday Member Meetings both on Zoom and in person. As mentioned above, we believe that video issues were solved prior to the last Board meeting. Jim Knoll and Terri Lappin have worked diligently since then and now believe that the audio problems of communicating both through Zoom and through the system existent in the auditorium are solved. All the settings in the systems were found, adjusted as needed, and a point was finally reached when they correctly worked when the system was last tested both in, and on campus outside, the room. Just to make sure, a further testing session is planned when persons at varied locations can jointly test it with us.

Even after zoom and in-person communications issues are solved regarding First Friday Member Meetings, there remain other COVID aspects to be addressed in the decision-making process. We need to follow whatever the current UArizona on-campus rules will be. Currently, there are some challenges. Masks correctly worn will be required at all times for all persons in the auditorium. If one person refuses to wear a mask correctly, we are instructed to follow University policy. That policy has been explained to

us as being: with anyone not following the required masking procedure throughout the meeting, we should immediately shut down the entire event and vacate everyone from the room (We are told that the University Attorneys have determined that, unlike public schools, the UA can legally mandate masks and enforce masking policies as they wish). Other factors include that there is now NO social distancing in any UA classrooms. Every seat may be filled and it may be filled during a series of events or classes throughout any one day. There also is a shortage of availability of custodial staff at the UA. We are informed that there is no cleaning or sanitation, at all, any time on Fridays (our meeting day) in the Stewart Auditorium. Thus, there could be numerous uses of the classroom at full capacity without any cleaning or sanitation on a Friday prior to us holding our meeting.

These are the variables that the Board is currently dealing with in trying to make the best decisions. If you have thoughts or wish to share perspectives, please email ssmith@email.arizona.edu.

Congratulations to our TIMPA GROUP!! In August, concerns were expressed to the Board regarding the weeds at TIMPA getting high, some gopher holes at TIMPA, and comments about a long-needed improved path between the parking area and the restrooms. The TIMPA GROUP rallied in support, making several trips to TIMPA and lots of telephone calls to investigate, problem-solve, and plan. The problem of having a lawn mower was finally solved by making an official request to the TIMPA Group that we share rental of the property with. As a result, use of the mower on the rental property was granted to TAAA. Work crews mowed, weeded, raked, moved blocks, and towed away bags of weed debris, all on some hot days! A new improved path to the restrooms was cleared (to be worked on further in the future), a new sign was installed, mowing accomplished, gopher holes filled. The group is still meeting and working on other plans for ongoing upkeep of the site. Because this group of people wanted the site to be available for the regular

scheduled events, they contributed a lot of intense effort. This is a true representation of the organization that TAAA is. TAAA Leaders and Members are working hard, overcoming many impacts of COVID, and finding ways to move forward. Consider what such efforts mean to all of us in TAAA and contribute when and how you can, including to the ongoing efforts of the TIMPA group.

Thanks to our Board: I most often intentionally focus thanks on the members and leaders of TAAA who make us so strong. However, I do want to recognize outstanding efforts of some of our Board Members in recent months. Most of our Board and two of our Leaders, this last week actively participated in an intense, mind-demanding, 4 hour training related to legal, financial, fund-raising aspects of functioning as an effective Board Member in a nonprofit 501(c)3 organization! This is in addition to two prior trainings this summer related to operating as a nonprofit. As TAAA has grown so much in terms of members and of assets and complexity, we find ourselves needing to learn, adapt and find appropriate directions and ways in which to move forward as a responsible organization managing such complexity. We have had (in recent months), with the applications to and approvals from free programs for nonprofits and, also, with the donations of Board Members, additionally been able to pursue professional trainings and consultations for individualized questions very important to TAAA so we could determine how to proceed totally in TAAA's best interest. And, as is evident from the report on Board activities in September, as one example, the Board has dealt with significant decisions enabling TAAA to function well and to proceed forward.

Whenever appropriate, we are also starting to conceptualize how to reach out to various leaders and members and increase our inclusiveness of them in this training, growth, knowledge and movement toward the future. Watch this space for future developments! And, If you have suggestions, please email me at ssmith@email.arizona.edu

School/Public Star Party Requests

by Jim Knoll

Below is a list of the **October Star Parties** that could still use some telescope help if you are available (all the others have sufficient scopes). Email: [Jim Knoll](mailto:Jim.Knoll@tucsonastronomy.org).

Saturday October 16 - WEST TUCSON

Participants: 100; Age/Grade Level: Grades 2-Adult

0 Solar Scopes Needed for daytime & 1 additional scope needed for evening (International Observe the Moon)

Boy Scouts of America -- Double V Ranch (SOLAR & EVENING); 3801 S Kinney Road

Solar FILLED: Setup: 8am Start 8:30am End: 12pm (Bob Rose scheduled).

Evening ONE ADDITIONAL SCOPE NEEDED: Setup: 5:30 pm Start Time: 6 pm End: 8:30 pm.

Nearest Moon Phase: Between First Quarter and Full. (Bob Rose scheduled)

Directions: Ajo Highway and Kinney Road. North .7 miles on Kinney Road to Ranch entrance on right.

Viewing Location: Ramada Grande.

Thursday November 4 — CENTRAL TUCSON

Myers/Ganoung Elementary School Math & Science Night

5000 E Andrew St.

Toolkit of your choice. Toolkits are listed at: <http://tucsonastronomy.org/community-services/teachers-corner/>.

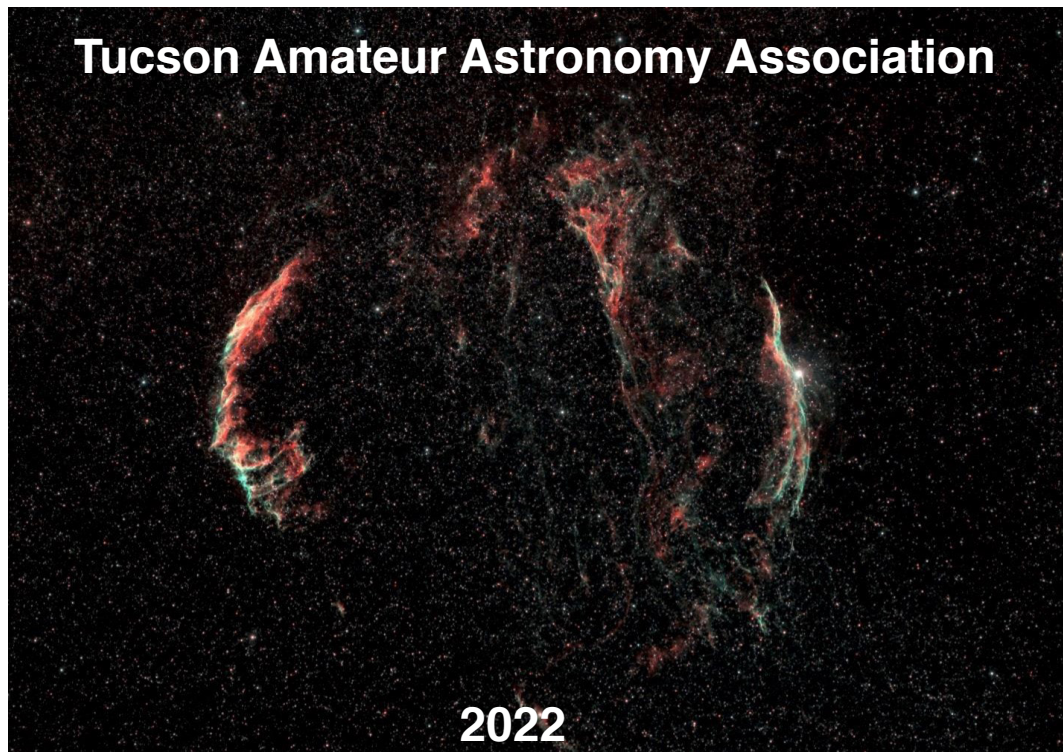
Tuesday November 30 — CENTRAL TUCSON

Erickson Elementary School Math & Science Night; 6750 E Stella Rd

Toolkit of your choice. Toolkits are listed at: <http://tucsonastronomy.org/community-services/teachers-corner/>.

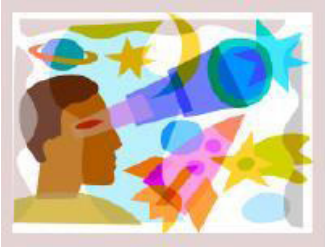
For the full list of October Star Parties, see the Astronomy Events Email or contact [Jim Knoll](mailto:Jim.Knoll@tucsonastronomy.org).

TAAA 2022 Calendar



The 2022 TAAA calendar will be available soon. The cost will be \$15 each
To pre-order your calendar, please contact: [Susan OConnor](mailto:Susan.OConnor@tucsonastronomy.org)

Special Interests Groups



Starry Messengers Special Interest Group

Opening Minds to the Universe

We still need to recruit additional volunteers for TAAA's outreach events. Our outreach activities span a wide range of astronomical topics. The TAAA has well over 100 separate activities. Volunteers can decide in which area they want to specialize. If you're interested in becoming a Starry Messenger and doing outreach activities with the public, please complete our Outreach Survey. Your responses will help us suggest activities that match your interests and skills. You can complete the survey at <https://forms.gle/7vFkrMWssrad3Gkw6>. The survey shouldn't take more than a few minutes to complete.

Our outreach program also needs behind the scenes support. We understand that not everyone wants to work directly with the public. There are many other ways you can still support the TAAA outreach program. In the past, we've needed to cut out several hundred construction paper circles for an activity. Maybe you can help gather information such as the cost of renting tables for our annual Astronomy Festival or identify a vendor for custom table runners. Perhaps you can help us distribute flyers for the Astronomy Festival to libraries and other public places. This type of support is so important to the success of our outreach events. If you're a behind the scenes type of person, please fill out the previously mentioned Outreach Survey and be sure to fill out the section called "Your skills and experience".

[Terri Lappin](#)

[SMSIG on the Web](#)

Astronomy Fundamentals SIG

by Connor Justice

The next meeting is **October 14 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 through the Members Only section of the TAAA web site.

Astro-Imaging SIG

by Gregg Ruppel

The next AISIG meeting is **Monday October 18 @ 7:00 pm** via ZOOM.

AISIG meetings going forward will be on the 3rd Monday of each month.

Check out [AISIG On the Web](#) or contact [Gregg Ruppel](#) for the latest information and Zoom links

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](#) web page.

TAAA Ladies Night Out

by Susan O'Conner

TAAA Ladies Night Out
Thursday, October 21
6:30pm

Shish Kabob House
5855 E Broadway
(N side of Broadway between Craycroft and Wilmot, opposite Park Mall)

<http://www.tucsonshishkebabhouse.com/>

TAAA Virtual Star Party Stargazing

October 29 @ 7:00 pm - 9:00 pm

Join the Tucson Amateur Astronomy Association and the San Diego Astronomy Association for a Virtual tour of the Night Sky. We will explore planets, Nebulae, Star Clusters, Galaxies, and much more.

The event will be streamed from our [TAAA Facebook Page](#).

Nominations and Volunteer Resource Committee

by David Rossetter

The NVRC met with the club's non-profit consultant this month. We addressed the NVRC operational strategies in light of the club's strategic planning initiatives. To say the least, we shared lots of great ideas which we will brainstorm at our next meeting in October.

The club is looking for a new Apparel Coordinator. They facilitate TAAA apparel orders sent by mail to the TAAA POBox, take in-person orders, and deliver ordered apparel to members at the First Friday In-person Member Meetings.

nvrc@tucsonastronomy.org

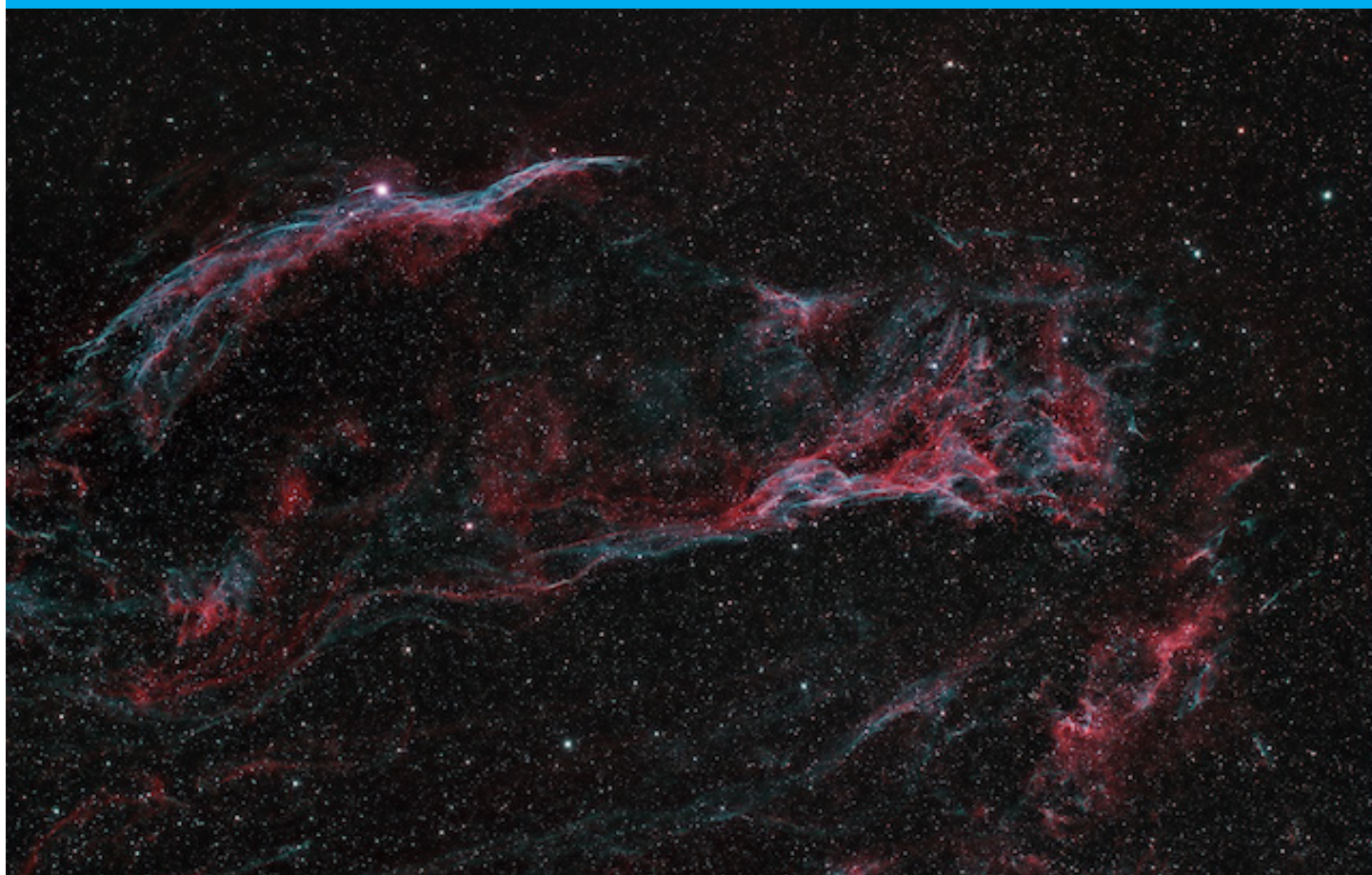
[David Rossetter](#) – Chair; John Christensen, Ken Bertschy, Allen Force

Notes From The Editors

We had another great month of submissions for this bulletin. Thanks to Jim Knoll and cohorts for the outreach reports. And Greg Ruppel for the amazing images from the Astro Imaging group. Many reports from other club and club-adjacent programs. I get more excited every month for our Desert Skies Bulletin and the club in general.

As much as I enjoy the task of editing the bulletin, I am not an expert at this. If anyone has suggestions or expertise, I welcome your input or help.

[David Rossetter](#) – Co-Editor; Ken Bertschy – Graphics; Terri Lappin - Proofreading; Greg Ruppel -Images



Veil Nebula by Randy Smith

NGC 908 by Alex Woronow

NGC 908 – A Recent Encounter of the Close Kind?

OTA:.....CDK17

Camera:.....SBIG STXL11002 with AOX and FW8G (0.63 arsec/pxl)

Observatory:.... Heaven's Mirror, Chile

EXPOSURES:

...R.....11 x 1200 sec.

...B.....16 x 1200

...G.....11 x 1200

...L.....17 x 1800

Total exposure 22.3 hours

Image Width: 22 arc-minutes

The long axis of NGC 908 is only 6 arc-minutes

Processed by Alex Woronow (2020) using PixInsight, Topaz, SWT =11.0pt

<https://astrob.in/f2xwqq/0/>





M17 by Tom Eby; 34x 2min RASA8 @ f/2. asi2600, APT/unguided CEM70ec/PI EZ Suite/CS5 darks/



The Ghost Nebula

by Casey Good

Telescopes: Planewave CDK14
 Camera: FLI Proline 16803
 Mount: Paramount ME II
 Guiding camera: Starlight Xpress
 Lodestar Autoguider X2
 Software: Stark Labs PHD guiding
 PHD 2 - PixInsight - Sequence
 Generator Pro
 Date: Sept. 11, 2021
 Frames:
 B: 31x300" (2h 35') bin 1x1
 G: 22x300" (1h 50') bin 1x1
 L: 25x1200" (8h 20') bin 1x1
 R: 24x300" (2h) bin 1x1
 Integration: 14h 45'

<https://astrob.in/0m7ywn/0/>



Crescent Nebula and Soap Bubble Nebula by Alan Rockowitz

PN G75.5+1.7 from my backyard using my C-11 with a Hyperstar, a ZWO ASI 2600MM camera, and an Optolong Ha filter <https://astrob.in/uvetpu/0/>

Observing Sites

CAC & TIMPA are open at full capacity (all pads are open).

The COVID Rules are posted on the TAAA Website (<http://tucsonastronomy.org>) under the respective Observing Site (TAAA Resources, Observing Sites) and contain additional information.

Remember, reservations are required!

TIMPA

by Ralph Means

TIMPA (Tucson International Modelplex Park Association), Dark Sky site west of the Tucson Mountains.
[TIMPA on the Web](#)

Location: The TIMPA observing site is located a few miles beyond the Desert Museum. 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.

TIMPA Star Party Dates this month: October 2 (Saturday), October 8 (Friday), and October 30 (Saturday). Please contact the TIMPA Director to make a reservation: [Ralph Means](#)

Chirichaua Astronomy Complex

by Jim Knoll

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** (see below).

The October Astronomy magazine includes an article on the Chiricahua Astronomy Complex!

Beginning October 2021 we will offer a two-hour observing session to the public for a fee once per month. This will be on a trial basis. If you have family and friends visiting this might be something you want to schedule. Feel free to share on your Social Media. You can see the schedule and additional details on the TAAA Website at: <http://tucsonastronomy.org/community-services/tucson-stargazing-adventures/>.

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. **October dates are September 30 - October 7** (New Moon 6th). **November weekend dates** are the 5th and 6th (New Moon 4th). Hosted personnel are generally on site a few days before and after these dates. All facilities are currently open, but the Board will review COVID status each month.

Reservations: There is a [reservation form](#) on the website for all CAC reservations. Click [here](#) or click on the TAAA Web Site (<https://tucsonastronomy.org>), then the TAAA Resources tab, CHIRICAHUA ASTRONOMY COMPLEX (CAC) tab, CAC DARK SITE RESERVATIONS tab, and complete the form to make a reservation. Please start using it to make your reservation. After the initial reservation then we can coordinate any changes via email.

More CAC News!

We are ready to move into the next construction phase at CAC (Chiricahua Astronomy Complex) and could really use some member expertise and assistance in the below area. If you can help, please email [Jim Knoll](mailto:jim.knoll@chiricahuaastro.com).

Internet / Information Technology Help. We need to finalize the design and integration to extend the internet to the new buildings and to other portions of CAC (hardwired/WIFI, infrastructure, etc). Any Information Technology / Internet expertise or help would be appreciated. We will meet via Zoom to discuss options beginning in October.

THANK YOU!!

GATEWAY TO THE GALAXY PROJECT UPDATE - by Ed Foley

Despite ongoing material supply shortages, fissures closing roads in north part of the county, and monsoon rains, the Night Sky Learning Center at our Chiricahua Astronomy Complex has continued to see progress. Windows and doors for both buildings were installed this month. With those installations complete, the contractor was able to enclose the two buildings. The next step is interior walls and the remaining interior build out of sleeping rooms, bathrooms, a kitchenette and the classroom.

On the Stinger Pad, the rails for the telescope enclosures were leveled and the steel rails laid in place. The initial cuts to the telescope pier height was made. As soon as the enclosures are completed, we will mount a 9.25 inch Celestron SCT, an 11 inch Celestron SCT, a 12 inch Meade SCT and an 18 inch Obsession Dobsonian on the pad.



Connecting Astronomy with the Public

by Jim Knoll

Several TAAA Members have recently supported large public outreach events throughout the country, sharing the wonders of astronomy with the public.

Joshua Tree National Park Night Sky Festival. Jim & Susan Knoll, and Jim O'Connor spent the weekend of September 4 & 5, 2021 participating in the annual Joshua Tree Night Sky Festival held at the "Sky's The Limit" facility. The National Park distributed 450 tickets for the main event September 4th. The skies cooperated all weekend and were very dark. There were about 15-20 telescopes set up around the facility. We also had a smaller group at the nearby campground on September 5th. All participants were very enthusiastic to explore the Universe.



Jim Knoll with telescope, Snoopy, and the Bear



Jim O'Connor with his telescope set up



Event location at The Sky's the Limit facility



The "Joshua Tree"



This same Labor Day Weekend proved to be a real winner at Theodore Roosevelt National Park in North Dakota for Bernie Stinger and John & Brenda Nejedlo. We participated in the Dakota Nights Astronomy Festival held every year at this time, starting on Friday night and continuing through the weekend with a finish on Sunday evening with a final star party. The star parties are held at the Peaceful Valley Ranch house about a half mile further down the road from the Park's campground. The ranch has a large parking lot and half of it is blocked off by campers to leave a dark space to set up our scopes. Each evening around 20 telescopes set up in the lot with amateurs from all over the upper Midwest and beyond. John & Brenda are the star party hosts and this year Brenda did all of the organizing for the event.

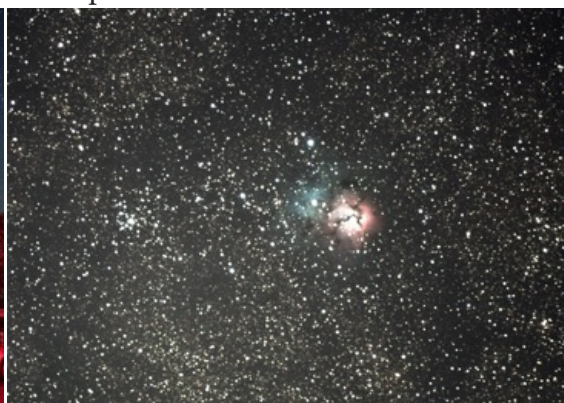
As well as the evening star parties there are guest speakers giving talks at the small amphitheater in the campground and on Saturday and Sunday solar viewing in the small town of Medora located just outside of the entrance to the park. There are also numerous festivities coordinated in the town at the same time.

The star party location is nestled in a small scenic valley with colorful bluffs on all sides that afford us very dark skies in all directions. I would place it from 2 to 2.5 on the Bortle scale, almost as dark as the sky at CAC. This year we had clear skies all three nights with only Friday night starting out cloudy but cleared later as the evening progressed. On a typical night we have around 200 to 250 attendees most coming from the campground, Madora or Dickinson; the next largest town to the East. – **Bernie Stinger**

(Photos by Bernie Stinger unless otherwise noted.)



Dakota Nights Telescope Field



M21 & Trifid Nebula from Dakota Nights

Brenda Nejedlo at the Laser (photo by Vincent Ledvina)

The weekend of September 11th, TAAA supported the semi-annual **Oracle State Park (OSP) astronomy event** with over 150 attendees. This was the first in-person event at OSP in 18 months. Volunteers had to look around the clouds some, but they still managed to get in some great observing of planets and other deep-sky objects. Thanks to Mike Weasner and Dave Smith for the pictures. TAAA members participating included: Don Cain, Richard Spitzer, Tim Lawler, Sam Miller, Ben Eisenstein, and Mike Weasner.



Relaxing participants at the Kanally Ranch House



Gathering at the Telescopes



Mike Weasner & Don Cain



Richard Spitzer at the scope



Darkness Descends with a First Quarter Moon & Venus

We have a lot of outreach star party events coming up with more and more being scheduled. Watch for the monthly Star Party request and jump in if you want to share the wonders of our universe. We would love to have your help with telescopes or one of the many Toolkits that explain different astronomy concepts.

What's Up list for October 2021 – November 2021

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

Constellation Hunter Program – Northern Sky

The following constellations are well placed for observing for October and November:

Andromeda, Aquarius, Aries, Cassiopeia, Cepheus, Cygnus, Delphinus, Equuleus,
Lacerta, Pegasus, Pisces, Triangulum

Messier Observing Program

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

Lunar and Binocular Lunar Observing Program

The following are the dates for the lunar phase when observations should be made in October and November:

New Moon:	October 6, November 4
40 Hours waxing:	October 8, November 6
72 hours waxing:	October 9, November 7
4 days old:	October 10, November 8
7 days old:	October 12, November 11
10 days old:	October 15, November 15
Full (14 days old):	October 20, November 19
Gibbous:	October 28, November 27
72 hours waning:	October 3, November 1
40 hours waning:	October 4, November 2

Solar System Observing Program

The following list describes the various solar system objects and their visibility during October and November:

Mercury is an early morning object during October and November.

Venus is an evening object during October and November.

Mars is very low in the morning sky during October and November.

Jupiter and Saturn are evening objects during October and November, setting earlier each day, but still well placed for observation.

Uranus is a late evening object in October and November, rising earlier each day. It reaches opposition 1st week of November.

Neptune is well placed for observation, about 25 degrees to the East of Jupiter.

Urban Observing Program

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

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

The following Double Stars are well placed for observation during October and November:

Delta Cepheus



Steward Observatory Public Evening Lecture Series

The 2021/2022 Evening Lecture Series has begun. Since September 1922, Steward Observatory has been hosting public evening lectures in astronomy. The lectures begin at 7:30 p.m. MST and will be held in Steward Observatory Room N210 on the University of Arizona campus. All of the lectures are free of charge and open to the general public. For more information, contact Dr. Thomas Fleming at 621-5049 or

taf@email.arizona.edu.

[Lecture information page](#).

Fall 2021 Lectures

For Fall 2021, if you attend the lecture in person, we ask that you wear a face mask while you are inside Room N210. Face masks will be available in the room should you need one.

Should you not wish to attend in person, you can watch the lecture LIVE on ZOOM at:

<https://arizona.zoom.us/my/astn305>

October 11	Dr. Marcia Rieke, Regents Professor	Steward Observatory
	<i>The Biggest Telescope in Space -- JWST, How We Built It</i>	
October 25	Dr. Christina Williams, Dr. Everett Schlawin	Steward Observatory
	<i>How JWST Will Give Us the Ingredients of New Worlds</i>	
November 8	Dr. Andras Gaspar, Dr. Stacey Alberts	Steward Observatory
November 22	TBA	
December 6	Dr. Jinyi Yang, Dr. Feige Wang	Steward Observatory
	Peering into the Early Universe with JWST: the Most Distant Quasars and Their Environment	

Rubin Observatory Astronomy Investigations



If you are a teacher who works with middle school through “Astro 101” college students, Rubin Observatory invites you to apply to pilot test one of the new interactive online astronomy investigations. Testing runs until Dec. 17, 2021. For more information or to apply, go to: <https://ls.st/ptapp>

We are also looking for color-impaired persons to help us test our “Coloring the Universe” investigation. (You need not be a teacher). If interested, please contact TAAA member, Ardis Herrold, Rubin Observatory Education Specialist, aherrold@lsst.org.

Finally, The Rubin Observatory Education and Public Outreach Team needs your help! We are creating some short videos, for a public audience, that explain how Rubin Observatory works and the scientific advances it will make possible. Would you be willing to watch two of these videos and fill out a survey to give us your feedback? The entire process should take less than 20 minutes of your time, and it will help us as we continue to refine these videos and produce new ones. If you'd like to help, please fill out your contact information on [this form](#) by October 12, 2021 so we can send you the survey and a link to the videos.