

Membership Meeting

TAAA's next general member meeting will be held on Friday, August 6, 2021, and available online. The Main Presentation starts at 6:30 PM and is open to the public. A Members Only Meeting will follow. Non-members may attend the Main Presentation via Facebook at <u>https://www. facebook.com/TucsonAstronomy/</u>. 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: "Preparing for Artemis: Understanding the Moon's Most Important Resource."

Presentation: Dr. Casey Honniball, from Goddard Space Flight Center, is featured in this pre-recorded presentation about NASA's Artemis program given to the Night Sky Network in May 2021. NASA's Artemis program will land the first woman and first person of color on the Moon. Innovative technologies will allow the Artemis crew to explore more of the lunar surface than ever before. A sustainable presence on the lunar surface requires in-depth knowledge of the Moon's available resources. Perhaps the most important of these is water. In preparation for Artemis, the lunar water cycle is being studied to understand the source, transport, and retention of water across the Moon. Dr. Honniball will discuss how we study water on the Moon from Earth-based observatories and how water may be used in future Artemis missions.

www.tucsonastronomy.org

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

<image>

Presenter: Dr. Casey Honniball is a research fellow in the NASA Postdoctoral Program at NASA's Goddard Space Flight Center. Her current research focuses on characterizing water on the Moon and testing field portable instruments for use by astronauts during an extravehicular activity on planetary surfaces. She earned her Ph.D. in Earth and Planetary Science from the University of Hawaii in 2019. Recently Dr. Honniball and her team announced the direct detection of water molecules on a sunlit portion of the Moon using the airborne telescope SOFIA. Since then, she has made numerous media and outreach appearances to talk about lunar water.

July 2021

July has turned out not only to be a month of fires in Arizona but also of some rain. Neither of which has facilitated Astronomy, but we welcome the rain, anyway. July and August are typically our slowest TAAA months. But, we had a great monthly meeting and our other regular meetings have been occurring as well. Ladies Night Out had their first in-person meeting since early COVID. In addition, the Star Party schedule is picking up so Jim Knoll is again sending out requests for volunteers.

The TAAA Board took advantage of the slowness of summer to have some training from a CPA. Training focused on some fiduciary responsibilities relevant to Boards of 501(c)3 Nonprofit Organizations and some particular financial management considerations involving nonprofit accounting responsibilities and TAAA.

by Mae Smith

The Board also conducted a Board meeting in which it decided upon strategies for disposition of four TAAA domes that have been unused in Cochise County for several years. The Board also decided upon scheduling of two years of TAAA Holiday Parties for December 3, 2021 and December 11, 2022. (Of course, COVID conditions will be reviewed prior to final arrangements for the Holiday Parties.) There are two important volunteer positions that need to be filled; both of which provide service to our members. In addition, both of their contributions will be significant during our in-person First Friday Member meetings. One is the Membership Coordinator, who assists Members with membership questions and problems and can accept membership payments at in-person First Friday Member meetings. The second position is the Apparel Coordinator who can facilitate TAAA apparel orders sent by mail to the TAAA P.O.Box but who also takes in-person orders and can deliver apparel that has been ordered by members at the First Friday In-person Member Meetings.

TAAA Trivia: Pre-COVID TAAA Activities

TAAA Trivia: Some steps increasing technology in TAAA operations

1.a When were TAAA's financial records computerized and who was responsible for that effort?

1.b When were TAAA's financial records moved to Quick Books and who was responsible for that effort?

1.c When did TAAA have an early version of a website?

- 1.d When did TAAA develop its first version of the current website?
- 1.e When did TAAA develop its current online membership directory with Member Planet?

Answers later in this Bulletin

August Star Parties

Friday August 27 — VIRTUAL (ONLINE) Star Party (Live, weather permitting)
TAAA Facebook Page; # Participants: 200; All Ages 0 Scopes Needed. (Jim Knoll, Bernie Stinger, Rick Paul, Jim O'Connor scheduled).
Please share the event from the <u>TAAA Facebook Page</u> to your family and friends.
Start Time: 7:30 pm. End Time: 9:00 pm.

September Star Parties

Friday September 10 — NW TUCSON (IN PERSON)
Participants: 300; Grades K – 8; 3 Scopes Needed. Quest for Education and Arts
7570 N Paseo Del Norte
Nearest Moon Phase: First Quarter
Directions: Oracle & Ina. West on Ina to Paseo Del
Norte. North to facility on right after Tohono Chul
Park.

Viewing Location: TBD.

Setup: 6:15 pm. Start: 7 pm. End: 8 pm.

Saturday September 11 — ORACLE (IN PERSON)

Participants: 100; All Ages; 3 Scopes Required. Oracle State Park

3820 E Wildlife Dr, Oracle, 85623

Nearest Moon Phase: First Quarter.

Directions: Highway 77 (Oracle Road) north from Tucson. Follow signs to Oracle State Park Viewing Location: Sidewalk along the Kannally Ranch House parking lot and on the Ranch House upper patio. Some manual movement of equipment may be required due to exact observing location. Setup: 6 pm. Start: 7 pm. End: 9:00 pm.

Saturday September 11 -- NORTHEAST TUCSON (IN PERSON)

Participants: 50; All Ages; 3 additional Scopes Needed (Jim Knoll scheduled).
Pima County Natural Resources Parks & Recreation (NRPR) - Agua Caliente Park
12325 E Roger Road, 85749

by Jim Knoll

Nearest Moon Phase: First Quarter

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 Lanes (north end of parking lot).

Setup: 6:15 pm. Start: 7 pm. End: 9 pm.

Friday September 24 -- CENTRAL TUCSON (IN PERSON)

Participants: 100; All Ages; 3 Scopes Needed. (EVENING OBSERVING). UA Lunar & Planetary Lab "The Art of Planetary Science", University of Arizona Mall

1629 E University Ave., 85721

Nearest Moon Phase: Third Quarter

Directions: Campbell/Speedway. South on Campbell. Right/West on University to LPL (Kuiper Sciences Building).

Viewing Location: UA Mall south of LPL/Kuiper Sciences Building. Unload vehicle then park elsewhere.

Activity: The Art of Planetary Science. Website: https://www.lpl.arizona.edu/art/taps-2021 Setup: 6:00 pm. Start: 7 pm. End: 9 pm.

Sunday September 26 -- CENTRAL TUCSON (IN PERSON)

Participants: 100; All Ages; 1 additional SOLAR Scope Needed (Jim Knoll scheduled)

(SOLAR OBSERVING). UA Lunar & Planetary Lab "The Art of Planetary Science", University of Arizona Mall

1629 E University Ave., 85721

Nearest Moon Phase: Third Quarter

Directions: Campbell/Speedway. South on Campbell. Right/West on University to LPL (Kuiper Sciences Building).

Viewing Location: UA Mall south of LPL/Kuiper Sciences Building. Unload vehicle then park elsewhere.

Activity: The Art of Planetary Science. <u>Website:</u> Times: TBD. (Probably late AM or early PM)

Starry Messengers

by Terri Lappin

The Starry Messengers SIG needs to recruit volunteers for TAAA's outreach events. The skills needed vary widely! You may be able to help and not know it. For example, sometimes we need help cutting out construction paper circles for an activity. Sometimes we need to put together a PowerPoint slide program or present an existing slide program to a group of individuals. Sometimes we need people to man our table at an event. Can you help us out?

We've developed some questions to gather information about TAAA members who are interested in helping with outreach activities. Please take a few minutes to complete the survey. This is a Google Form created by Terri Lappin. You will be required to provide your name and answer two yes/no questions. All other questions are optional. Here's the <u>link</u> to the survey questions.

The next meeting of the Starry Messengers is Monday, September 20th. We may opt for an in-person meeting instead of Zoom (depending on COVID conditions). Details will be in the September bulletin. We hope you can join us. For more information about Starry Messengers SIG or the Night Sky Network Toolkit Program, contact <u>Terri Lappin</u>. <u>SMSIG on the Web</u>



Gregg and the AISIG folks are very active on the <u>TAAA groups.io</u> forum. Check out all the helpful advice and amazing images, there. For more information or instructions on how to join the forum, check out the <u>TAAA</u> Forum web page.

July Highlights from the Astro-Imaging SIG



IC 5070 - The Pelican Nebula

IC 5070 Pelican and Vicinity; A 3-Scope Synthesis Scopes used: AP175 (DSW) HSO; RCOS 14.5 (DSW) HSO; DreamScope 16 (ATOE) LHRGB Total exposure: 52.7 hours Image width: almost 1 degree Tools: PixInsight, Topaz, Skylum, ACDSee, SWT The different scopes had quite different image sizes, so they were nested in this image. The most expansive images, from the DreamScope, formed the base for the nesting, and the RCOS had the greatest resolution and narrowest image.

The narrowband images were mapped into the corresponding RGB images, with an estimated amount of hydrogen beta also added to the blue image. The composite image received a photometric color calibration. Stars were removed before additional minor color adjustments of the nebula, sharpening the L image and preliminary noise reduction. After introducing the adjusted L into the adjusted HSORGB and replacing the stars, a final noise reduction and downsampling yielded this

https://www.astrobin.com/full/ef0s1z/0/

M₁₆ in narrow band

By Casey Good

Credit/Copyright - Casey Good/ Steve Timmons

Image details Imaging System: Planewave CDK14, Paramount ME2, FLI 16803/Chroma filters Exposure - SHO, 62 hours; Processing - Pixinsight Location/Date - Fort Davis, Texas / June 2021 https://www.good-astronomy.com/nebula?pgid=j7a1tk30-73404378-e6ed-4553-b2a6-7edaaae12bf4

Observing Sites

Effective May 1, 2021, CAC & TIMPA will be open at full capacity (all pads are open).

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

TIMPA

by Ralph Means

by Jim Knoll

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

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

TIMPA July Star Party Dates: August 7 and 13th.

Please contact the TIMPA Director to **make a reservation**: <u>Ralph Means</u>

Chirichaua Astronomy Complex

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). Reservations are on a first come – first serve basis.

Special Observing Session: The *Perseid Meteor Shower* peaks the afternoon of August 12th. We will host an observing session the evening of **August 11** into the morning of **August 12** at CAC. Best viewing will be after midnight the morning of August 12. Complete a reservation request for that evening if you want to attend. Bring a comfortable chair (reclining recommended), a pair of binoculars (or just your eyes), and some snacks & drinks (non-alcoholic). Telescopes optional. Great opportunity to visit CAC if you have not yet been out or it has been awhile. Come before dark and tour the site. Of course, this will be WEATHER PERMITTING (depending on the Monsoon) and will be evaluated that afternoon to determine visibility with an email update sent out to members attending.

CAC on the Web

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 webpage. August dates are 5-12 (New Moon 8th). September dates are 2 - 9 (New Moon 6th). All facilities are open.

Reservations: We are implementing a <u>reservation form</u> on the website for all CAC reservations. Click <u>here</u> or click on the TAAA Web Site (<u>https://tucsonastronomy.org</u>), 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.

CAC Director: Jim Knoll

TAAA 2022 Calendar

There is still time to submit images for the 2022 TAAA calendar.

Images of deep sky and solar system object need not be recent. Post processing is optional. We can also use "landscape" photos - pictures of astronomical objects against local terrain.

And we welcome pictures of club events. Susan OConnor

Public Astronomy Events



From Sue Abramson:

I attend the monthly AZ Space Business group out of UA, run by Stephen Fleming.He is organizing the 7th Interstellar Symposium in Tucson this year at the UA Marriot.

Some of our members might be interested in attending, BUT HE IS ALSO LOOKING FOR VOLUNTEERS, manning the tables and possibly other things. I plan to be there helping.

The dates of conference are September 25-27, but needs help the day before, setting up: Fri, Sep 24, 2021, 6:00 PM – Mon, Sep 27, 2021, 12:00 PM MST

IF ANYONE INTERESTED, <u>LET ME KNOW DIRECTLY</u>, I WILL KEEP LIST AND PUT YOU IN TOUCH WITH HIM WHEN HE IS READY.

<u>Facebook Page</u> (Web Page not working as of this publication) <u>Registration</u>

2021 NIAC Symposium September 21-23, 2021 – Tucson, AZ (planned)

THE NASA INNOVATIVE ADVANCED CONCEPTS (NIAC) Program is proud to announce its 2021 Symposium! This event is free and open to the public. All are invited to attend. Information <u>On The Web</u>

by Doug Smith What's Up list for August 2021 – September 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 August and September for the more common observing programs.

Constellation Hunter Program – Northern Sky

The following constellations are well placed for observing for August and September: Aquila, Cygnus, Delphinus, Equuleus, Hercules, Lyra, Sagitta, Serpens Caput, Serpens Cauda, Vulpecula

Messier Observing Program

The following Messier Objects are well placed for observation during August and September (listed in ascending RA): Sagittarius is in prime location!

M62, M19, M92, M9, M14, M6, M7, M23, M20, M8, M21, M24, M16, M18, M17, M28, M69, M25, M22, M70, M26, M11, M57, M54, M56, M55, M71, M27

Lunar and Binocular Lunar Observing Program

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

New Moon:	August 10, September 7
40 Hours waxing:	August 12, September 9
72 hours waxing:	August 13, September 10
4 days old:	August 14, September 11
7 days old:	August 17, September 13
10 days old:	August 19, September 16
Full (14 days old):	August 24, September 20
Gibbous: August 1,	August 31,September 29
72 hours waning:	August 7, September 3
40 hours waning:	August 8, September 4

Solar System Observing Program

The following list describes the various solar system objects and their visibility during August and September: Mercury is an evening object during August and September.

Venus is an evening object during August and September.

Mars is very low in the evening sky (and getting lower each day) during August and September. Setting during evening twilite.

Jupiter and Saturn are evening objects during August and September, rising earlier each day.

Uranus is a late evening object in August and September, rising earlier each day, now rising before midnite. Neptune is well placed for observation, between Jupiter and Saturn.

Urban Observing Program

The following deep sky objects are well placed for observing during August and September: M62, M92, M6, IC 4665, M7, NGC 6520, M8, M17, NGC 6633, M22, IC 4756, M11, NGC 6709, M57, Cr 399, NGC 6818, NGC 6826, M27

The following Double Stars are well placed for observation during August and September: Epsilon Lyra, Beta Cygnus

Trivia Answers

by Mae Smith

1.a. When were TAAA's financial records computerized and who was responsible for that effort? Gary Rosenbaum did the first computerization of TAAA financial records during Terri Lappin's Presidency from 1995-1998.

1.b When were TAAA's financial records moved to more advanced Quick Books and who was responsible for that effort?

TAAA President Bob Gilroy moved all TAAA's financial records to a more advanced Quick Books program early in his Presidency in 2013.

1.c When did TAAA have an early version of a website?

There was an early version of a TAAA website in 2010. It was limited in size and pictures. 1.d When did TAAA develop its first version of the current website?

The first version of the Current TAAA website with 6 major sections and plenty of pictures was developed in 2014/15 under the direction of Bob Gilroy who completed his TAAA Presidency in 2015 and Diane Neufeldt. Diane was a TAAA Member who was employed in her own business developing websites. She generously developed a new one for TAAA for free.

1.e When did TAAA develop its current online membership directory with Member Planet?

The TAAA membership directory through Member Planet was developed in 2014-15 in Bob Gilroy's Presidency by Diane Neufeldt. Diane was unfamiliar with Member Planet and had to learn from scratch how to operate and use the Member Planet System, which is used by many other member organizations. The system also allows TAAA leaders to send bulk emails to all members or groups of members. Make sure to fill out your member page with information about yourself that you would like to be available to other members.

Committee Reports

Nominations and Volunteer Resource Committee

by David Rossetter

The NVRC is looking for a new Membership Manager. This person will be involved in redefining the position as it moves more online. However, the job still entails picking up mail, depositing checks, signing up new and renewal members and answering membership questions at in-person meetings once they start up again. Please contact the committee if you are interested.

nvrc@tucsonastronomy.org

David Rossetter - Chair, John Christensen, Ken Bertschy, Allen Force

Notes From The Editors

If you have a Desert Skies Bulletin contribution, please send it to Co-Editor, David Rossetter. We would love inperson reports of club events, non-club events, and other creative articles. If you have astro-images you would like to share, we would appreciate it if you would coordinate with the Astro-Imaging SIG. The montly deadline for submissions is the 24th.

<u>David Rossetter</u> – Co-Editor Ken Bertschy – Co-Editor

Skyward

By David H Levy

August, 2021

Rebirth of an Observatory

"How would you like to go to prison?" was one of the first things that Frank Lopez asked me. My stunned expression prompted Frank to clarify: "The Federal prison off Wilmot Road has an astronomy club." That was enough: we enjoyed two wonderful evenings down there, and even showed Orion to the group using one of my favorite telescopes.

I dealt with Frank once again in the last few months, as our Jarnac Observatory's Shaar house, the major observatory building in my back yard, threatened to collapse earlier this year. The Shaar name is from the Hebrew word for "gate" or "opening" and I use the name because the structure resembles a miniature version of our Shaar Hashomayim synagogue in Montreal. The observatory is as much a temple for me as the Shaar was.

Frank brings a lifetime of experience to the observatories he builds and repairs. He came up with a plan that would restore my building with a brand new sliding roof. Working occasionally with assistants but mostly alone, the construction took several months, virtually all last winter and spring. (Actually, my sliding roof is the entire top half of the building.) During this time, I learned a lot about Frank's work ethic. He does not rush things. He takes his time and works steadily for three days a week with construction and maintenance; the rest of his time he manages his "Stellar Vision" astronomy store in Tucson. I learned that he built most of the observatory complex for Dr. Tim Hunter's Grasslands observatory southeast of Tucson near Sonoita, and a large observatory structure for David Rossetter's 25-inch Dobsonian northeast of the city center. Throughout most of southern Arizona, Frank's Stellar Vision observatory business is really the best game in town. He knows what he is doing and brings his decades of experience to each project. Frank builds observatories with energy, strength, and even humor. (https://stellarvisiontucson.com) These structures do a lot more than house telescopes over many years. They store the memories of a thousand and one nights under the stars. They offer stories of terrible nights when a telescope fell off its mount, of only slightly less frustrating nights when cameras failed to work. They protect their telescopes from the winds and the rains that Arizona occasionally goes through. But mostly they protect memories of precious nights under the stars. Finally, I like to imagine that long after I have closed up and gone to bed, the telescopes talk to one another about what they have seen, and what they have yet to see.

One recent evening after a big monsoon storm after the Shaar was finally completed, I went out and discovered that the telescopes inside were safe and dry. On a drier night I went out, opened its big roof, and stared at the stars. I felt as though I was starting my love of the night sky all over again.

The picture was taken on July 18, 2021 by Wendee Wallach-Levy. The observatory is in the foreground, and the Shoemaker-Levy dome is off to the left.

