

February 2021

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TUCSON AMATEUR ASTRONOMY ASSOCIATION

# Monthly Events Bulletin

## February 5th General Meeting

The TAAA's February monthly meeting will be held online (Zoom) on Friday, February 5. The meeting will start at 6:30pm with the main public presentation. The secondary presentation is at approximately 7:15pm.

The Zoom link will be emailed to members prior to the meeting.

NON members may view the presentations on January 8 on Facebook at: <https://www.facebook.com/TucsonAstronomy/>

### Introductory Presentation

**6:30 pm –**

Astronomical League (AL)  
observing programs:  
**Douglas Smith**

**Douglas Smith** will present a general summary of the new Astronomical League (AL) observing programs and status of our club's AL membership and awards. The AL, comprised of over 240 amateur societies from across the USA, is dedicated to promoting the science of astronomy.

### CAC UPDATE

**7:15pm**

**Jim Knoll**

**Mike McDowell**

**Ed Foley**

**Jim Knoll, Mike McDowell and Ed Foley** will provide an update on Chiricahua Astronomy Complex, TAAA's dark-sky observing site about 100 miles SE of Tucson near the Chiricahua Mountains. The 16 acres, with incredibly dark skies, provide an opportunity for members to observe extremely faint and distant deep-sky objects. We have several large telescopes and observing pads for member use and are in the process of building a state-of-the-art Learning Center with classroom facilities and a building with sleeping rooms for overnight accommodations. This will allow us to provide first class astronomy education outreach to schools and youth groups throughout Southeastern Arizona and enhance our member observing experience. Join us for an update on this member benefit by Zoom or Facebook.

### Treasure's Report

**Mike McDowell**

Following the presentations, **Mike McDowell** will give a brief treasurer's report.

TAAA BoD Meeting  
Feb 10

AFSIG Meeting  
Feb 11

SMSIG Meeting  
March 15

AISIG Meeting  
Feb 15

### TAAA Virtual Star Party

Join Tucson Amateur Astronomy Association for a Virtual tour of the Night Sky on **February 12th from 7:00—9:00 PM**. We will explore planets, Nebulae, Star Clusters, Galaxies, and much more. The event will be streamed Live from our Facebook Page.

Facebook: <https://www.facebook.com/TucsonAstronomy/events/>

### Chiricahua National Monument International Dark Sky Application

The Chiricahua National Monument is submitting an application for IDA Dark-Sky status. Several of us will be submitting Letters of Support and you are welcome to do that as well if you have an experience at the park. Let [Jim Knoll](#) know offline and he will forward an example to help you. Additionally, they would like any photos of the park with dark skies. If you have photos showing the formations along with a dark sky imbedded and are willing to share and let them use for their application, let Jim know. You can send them to Jim, or he will give you the contact person at the park. They would like any letters/pictures, if possible, in the next week or two so they can submit the package as soon as possible. Let me know if you have any questions or need additional information.

## Notes from the President—Mae Smith

So far 2021 is proving to be a time of action: Arizona topped the world in COVID cases, the U.S. Capitol was attacked, a new President and Vice-President were inaugurated, vaccines are being administered to our local populations. TAAA is starting 2021 in a similar “action” model. Already in January, (1) the Board developed increased specificity in our COVID criteria policy for use of TIMPA and CAC; (2) planning meetings happened in January for the 2021 GCSP, the Regional Science Fair Virtual Judging, and a TAAA Virtual Astronomy Festival event; and (3) the TAAA Board agreed on a plan for pulling together and making readily accessible a large collection of written and virtual TAAA astronomy materials that previously have been located in many places and often only accessible to a few people. In TAAA, we are starting 2021 with energy and enthusiasm as well as commitment to active movement forward in positive directions while still doing what we can to protect our members. We encourage all of our members to continue to be wise in protecting yourselves, to patiently hang in there, and to continue to work with and support our dedicated TAAA leaders who have been doing such a great job of confronting the challenges before us.

TAAA Board Activities January 2021 include:

1. In response to member requests, a list of specific criteria to be met prior to re-opening CAC and TIMPA was approved and will be shared with Members. (See below for the full criteria.) The TAAA Board continues to review all COVID policies at each monthly Board meeting.
2. The Board was updated on the work of the Content Committee and reviewed possibilities for specific organization of online access to TAAA documents.

Decisions were made regarding public and private access to various documents and types of documents (including videos, images, recordings as well as written). TAAA Special Interest Groups will need to make decisions regarding which of their documents they want made available to the public, and which could only be accessed

by TAAA members and if any would be restricted to leaders only. The collection and posting of these documents is a large project and will take some time.

3. The TAAA Board voted to issue a letter of support for the application for Dark Sky Site approval for the Chiricahua National Monument.

### Criteria for easing of COVID-19 restrictions at CAC/ TIMPA

1. The Site directors will allow no more than half the pad site capacity to attend. In the case of CAC, no more than 5 public pad, and 5 member pad attendees.
2. Those who are more than 1 week from their second vaccination dose, may register for attendance at CAC/ TIMPA when they send a photo of their vaccination card to the CAC/TIMPA director. (COVID protocols in place.)
3. General members will be able to register for attendance at CAC/TIMPA, under the distancing and mask protocols, when AZ state daily infection rate has remained below 1000 per day in the state for 30 days (AZDHS.gov data dashboard). RMO at CAC remains closed.
4. General members will be able to register for attendance at CAC/TIMPA and not be required to wear masks or distance, when Cochise and Pima counties both remove their respective mask requirements.
5. The RMO and the Learning Center buildings will be open to members without COVID restrictions when AZ state daily infection rate has remained below 100 per day in the state for 30 days (AZDHS.gov data dashboard). Site attendance restrictions can be removed AND
6. The following must also be complied with: When sites are open, everyone using either site will be subject to the laws of the county and state they are in.

The TAAA Board continues to review all COVID policies at each monthly Board meeting.

## TAAA TRIVIA

- 1.a. How many years has the Grand Canyon Star Party (GCSP) existed?
- 1.b. What are the dates for the GCSP for 2021 and how can I find dates for future years?
- 1.c. What have been considerations in setting the dates for the GCSP and why are they different each year?
- 1.d. When is the SciTech Festival this year?
- 1.e. Generally, when is the Regional Science Fair and is TAAA Participating this year?
- 1.f. Generally, when is the Tucson Festival of Books and is it happening this year?
- 1.g. Is TAAA doing anything for Astronomy Day this year?
- 2.a. Which TAAA Member in December 2020 presented at the weekly STEM Community lunchtime meeting (a group of Arizona science educators who have met regularly on Zoom throughout the pandemic to advance their knowledge of and teaching in science education.) on the topic of, “Astronomy Bringing the Stars to You” to assist teachers in considering how to present information on astronomy in their current classroom situations?
- 2.b Which TAAA member gave a presentation on virtual techniques in astronomy education at the online Global Star Party, January 12, 2021?

**Trivia Answers are at the end the bulletin.**

## Special Interest Groups (SIG) and Committees

### Astronomy Fundamentals SIG (AFSIG)

**Online Meeting: February 11 (Thu) 6:30-8:00 PM**

Contact: [Connor Justice](#) for Zoom link and more information.

<http://tucsonastronomy.org/taaa-member-resources/special-interest-groups/astronomy-fundamentals-sig/>

### Ladies Night Out

For information regarding **Ladies Night Out** contact Terri Lappin at

[msig@tucsonastronomy.org](mailto:msig@tucsonastronomy.org)

### Grand Canyon Star Party

For those of you interested in the **Grand Canyon Star Party (GCSP)**, TAAA and the National Park Service are beginning to gear-up for the GCSP 2021, which currently is scheduled as an in-person event for June 5-13, 2021. TAAA has been coordinating with GCSP Ranger, Rader Lane, who has made sure that the free Mather campground space is allocated for a limited number of volunteers again this year (campground participants will be happy to know that NPS approved our request for extending our campground stay to include Friday June 4th, the evening prior to the event). GCSP past participants should begin receiving emails from TAAA regarding GCSP sometime in January. We will keep the membership informed about the event and will let you know of any changes as they develop. We will make sure to notify you of any deadline dates.

The contact for GCSP questions is [gcsp@tucsonastronomy.org](mailto:gcsp@tucsonastronomy.org).



Starry Messengers SIG-  
Opening Minds to the Universe

### Starry Messengers Outreach Goup

Our next meeting is on **March 15th** at 7:00PM. It will be a Zoom meeting. Please contact [Terri Lappin](#) the Zoom link or more information.

The SMSIG is planning a Virtual Astronomy Festival on April 17th. Over the next month we will be recording videos, both demonstrations and observing, that will be available through Facebook and later on our YouTube page. If you want to help with the technology required to do this, please contact [Terri Lappin](#). Your help is most appreciated.

### Astro-Imaging SIG (AISIG)

**Meeting: February 15 (Mon)**

**7:00 PM**

**Greg Ruppel**

\*A Pi-based Camera for Astrophotography\* - Matt Penn  
\*Imaging Terminology\* - More Mystery Presenters

Here is a link to the slides Doug Summers presented at the 12/7/2020 AISIG meeting. Great stuff in there...

[https://groups.io/g/taaaforum/files/AISIG%20Meeting%20Materials/Summers\\_Imaging\\_Workflow.pdf](https://groups.io/g/taaaforum/files/AISIG%20Meeting%20Materials/Summers_Imaging_Workflow.pdf)

The Astro Imaging SIG is looking for volunteers to discuss imaging terminology. Here's how it works - if you are interested, I will send you two imaging terms, you pick one and we have you present a 3-4 minute description of that term at an upcoming meeting.

### Nomination and Volunteer Resource Committee – NVRC

The club passed changes to the Constitution and Bylaws allowing much greater flexibility in conducting votes using on-line procedures while maintaining the option of traditional, in-person meeting voting. You can read the bylaws (if you are needing sleep) [here](#).

Speaking of votes, the annual election for members of the BOD and NVRC is coming up in May. The NVRC slate of nominees will be announced at the April meeting. If you are interested in running for an elected position, please contact the [NVRC](#) for more information. We will be sending out informational emails to the membership, shortly.

Speaking of information, if you get the chance, please go online to MemberPlanet (best from the TAAA's web site – [www.tucsonastronomy.org](http://www.tucsonastronomy.org) and the MEMBERS ONLY tab), and update your information. In addition to making sure

your contact information is correct, we want to learn more about you. There are optional fields to select your interests and volunteer skills. This will really help us out to ensure the TAAA is providing you with the best services. It also allows ways for you to offer your skills to the club if you so desire and share your interests with others.

### MemberPlanet

And speaking of MemberPlanet (funny how this all connects), I hope when you log on to the Members Only page (from the web site) you notice that we have cleaned up the interface a little. The information you are seeking is mostly found in the links list on the right (with explanations in the main text). Information on navigating your Member Profile is found toward the bottom of the page. Check it out! Please let me – your MemberPlanet Manager, [David Rossetter](#) - know of any suggestions or questions you have.

## ***Non-TAAA, Public Astronomy Events and Articles***

### **University of Arizona, Steward Observatory Lecture Series**

They have suspended the programs due to COVID. But, you can listen to recordings of past lectures at: <https://www.as.arizona.edu/public-evening-lecture-series-podcasts>

Also, lots more astronomy related goodness at the Steward Observatory web site:

<https://www.as.arizona.edu>. Included is this article:

#### **Interested in Eclipses?**

If you are, you may be interested in this recent article about a UArizona faculty member, Glenn Schneider, who has seen 35 eclipses. He shares a bit of history information related to eclipses and some comments about future eclipses.

<https://uatwork.arizona.edu/lqp/two-hours-moons-shadow-stories-eclipse-chaser>

### **With \$3M NASA Grant, UArizona Scientists Will Test Mars Exploration Drones in Iceland**

<https://news.arizona.edu/story/3m-nasa-grant-uarizona-scientists-will-test-mars-exploration-drones-iceland>

### **Lunar and Planetary Laboratory (LPL) events calendar (all events online):**

<https://www.lpl.arizona.edu/calendar/>

Lots more good LPL research information: <https://www.lpl.arizona.edu>

Have you checked out the **World Science Festival** programs? They record all their presentations and do many live lectures and Q & A's with Brian Greene hosting. All free!

<https://www.worldsciencefestival.com>

**Ardis Herrold**, who does tremendous amounts of astronomy outreach, shares the following:

#### **NESTA and Rubin Observatory presents "Hazardous Asteroids" Webinar**

Are you looking for a way to enhance your Solar System or Geologic Hazards unit? [Vera C. Rubin Observatory](#) is developing a series of free online astronomy investigations using real astronomical data that provide a rich and interactive experience for students. During this webinar you will learn more about how we search for potentially hazardous asteroids, and will explore our new *Hazardous Asteroids* investigation and related support materials. There will also be time to engage in discussions with your peers about how this investigation may be adapted to work in your classroom contexts and support your learning outcomes. This investigation has been designed for the NGSS but is applicable even if you do not teach the national standards. The primary audience is from advanced middle school through college introductory astronomy ("Astro 101") students. NESTA will provide certificates of participation to all who complete the workshop, upon request.

The Hazardous Asteroids webinar begins at 6:00 pm EST/ 3:00 pm PST on **Tuesday, February 9** and lasts for 2.5 hours. Portions of the session will be recorded for those who may have time conflicts, except for the time in breakout rooms.

For more details or questions, contact [Ardis Herrold](#):

To register, go to <https://ls.st/haw> Please register by **February 7**.

**If you are interested in Night Sky Art**, you may be interested in the following message to TAAA from Abbe Gore, [digitalmedia@tubacarts.org](mailto:digitalmedia@tubacarts.org) regarding **Starry Night Art Exhibit**:

"I am the new Digital Media Coordinator with The Tubac Center of the Arts, a non-profit gallery. We have an upcoming show and call to artists that I thought your organization might be interested in either to submit art/ photography or to come and see the show when it is up.

Starry Night Main Gallery: April 9 – May 23, 2021

This national juried exhibit will present works of art that celebrate the dark sky initiatives and the Tubac Dark Sky application. This exhibit partners with the Tubac Presidio Historic Park and the Tubac Heritage Alliance to create supporting Dark Sky events in Tubac. Juror: Catherine Nash & Robert Renfrow

Deadline to apply: March 4, 2021. Download the prospectus: <https://tubacarts.org/exhibit-submissions/>



## LOWELL OBSERVATORY PRESENTS 2ND ANNUAL I HEART PLUTO FESTIVAL

Flagstaff, AZ. – Lowell Observatory is pleased to present a celebration 91 years in the making: the 2nd Annual I Heart Pluto Festival. Retired NASA astronauts Nicole Stott and Ron Garan and New Horizons scientists Dr. Alan Stern and Dr. Will Grundy headline the event. This free, all-virtual celebration runs from February 13-18 and features a variety of talks, tours, an art show, and a ham radio event. The festival falls on the anniversary of Clyde Tombaugh's February 18, 1930 discovery of Pluto at Lowell Observatory.

Stott twice flew to the International Space Station (ISS) and also worked aboard the Aquarius undersea habitat. Garan is a retired test pilot and fighter pilot who also twice flew to the ISS and lived on the Aquarius. Both are accomplished artists, and on February 15 they will take part in an open discussion about how they combine the awe and wonder of their experiences to inspire people around the world.

Stern, who led the groundbreaking mission to Pluto that revealed the true nature of this tiny world, kicks off the celebration on February 13 with the presentation "Why Pluto is a Planet, the Embarrassment of the IAU, and Why They Had it Coming". Grundy is a planetary scientist at Lowell Observatory and will speak on February 16 about our current understanding of Pluto and its system of moons.

Clyde Tombaugh discovered Pluto on February 18, 1930, and since then scientists, artists, and the public have been enamored with this tiny world. Lowell Observatory created the I Heart Pluto Festival in 2020 to celebrate this scientific and cultural heritage. The event will be held around the discovery day anniversary each year, culminating in the 2030 centennial of Tombaugh's monumental find.

For complete I Heart Pluto Festival program details, including how to join the events, see <https://iheartpluto.org/>

## Observing Sites

The TAAA observing sites are currently closed for use by members due to COVID. Please see the "Notes from the President" column for more information and opening criteria.

### Tucson International Modelplex Park Association

#### TIMPA

**Contact Person:** Ralph Means

**Email:**

[TIMPA on the Web](#)

The AFSIG hosts the TIMPA star parties. An AFSIG representative will open the gate for an evening of viewing. The Gila Monster Observatory with its Meade 14" Schmidt-Cassegrain telescope will be open for your viewing pleasure. The TIMPA site features a large parking area and full restroom facilities. Be prepared for cool temperatures after sunset. Guests are welcome, accompanied by a TAAA member.

### Chiricahua Astronomy Complex

**Contact Person/RSVP to:** Jim Knoll

**Email:** [CAC on the Web](#)

Chiricahua Astronomy Complex (CAC) is the club's dark observing site, located in Cochise County approximately 100 miles southeast of the center of Tucson. The site includes concrete telescope pads with electricity, a roll-off roof observatory with a Celestron 14" telescope, a picnic Ramada, and a full bathroom facility with shower room. The new Reynolds-Mitchell Observatory (RMO) includes a 40" telescope and a large warm room. At an elevation of 4800 feet, be prepared for cooler temperatures. Try to arrive before sunset. Our use permit limits the number of attendees at any one time, so reservations and cancellations are required. If you would like to attend, you must contact CAC Director Jim Knoll. Reservations are on a first come – first serve basis. You need to reserve for both nights if observing both nights.

### Answers to Trivia:

- 1.a. The 2021 Grand Canyon Star Party (GCSP) will be the 31<sup>st</sup>. GCSPs 1 through 29 were in person; the 30<sup>th</sup>, 2020, was virtual; we are unsure what will happen in 2021.
- 1.b. The GCSP dates for 2021 are June 5-12. Dates for future years through 2026 are on the TAAA website at [Tucsonastronomy.org](http://Tucsonastronomy.org).
- 1.c. There have been several considerations in setting the dates for the GCSP. The dates are between but not too close to two holidays, Memorial Day and July 4<sup>th</sup>, so as not to interfere with the park having other holiday activities. June was partially chosen so that many children would be out of school and also it is a popular time for travel from other countries to the U.S. Dates differ each year to attempt to fit in with the lunar schedule. Dates are agreed upon between TAAA and the National Park Service.
- 1.d. The Arizona SciTech Festival will be occurring this year virtually throughout the month of February with, as always, an overwhelming number of events. For details check their website.
- 1.e. When is the Regional Science Fair and is TAAA Participating this year? The Regional Science Fair in Tucson will be virtual with student project dates in February and judging of projects in early March. TAAA normally gives three awards for best astronomy projects and will be participating this year.
- 1.f. Generally, when is the Tucson Festival of Books and it is happening this year? The Tucson Festival of Books normally is planned in middle or late March in conjunction with UArizona Spring Break. TFOB is virtual this year. The UA ScienceCity, which normally runs concurrently with TFOB, has been cancelled.
- 1.g. TAAA typically holds a day and evening of astronomy education activities in a park in April for Astronomy Day (We used to do May, but it seems too hot, and April works better.) This year TAAA is working on a plan for virtual activities for Astronomy Day.
- 2a. Jim Knoll gave the presentation on "Astronomy Bringing the Stars to You" at the STEM Community Lunchtime Meeting.
- 2b. Terri Lappin conducted the presentation and demonstration on "Astronomy Virtual Techniques" at the Virtual Global Star Party.

# STARIZONA

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## Astronomical League Observing Programs

### What's Up list for February 2021 – March 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 February and March for the more common observing programs.

#### Constellation Hunter Program – Northern Sky

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

Auriga  
Camelopardis  
Cancer  
Canis Minor  
Gemini  
Lynx  
Monoceros  
Orion  
Taurus

#### Messier Observing Program

The following Messier Objects are well placed for observation during February and March (listed in ascending RA):

M79, M38, M1, M42, M43, M36, M78, M37, M35, M41, M50, M47, M46, M93

#### Urban Observing Program

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

NGC 1807, NGC 1817, M38, M36, M42, NGC 1981, M37, M35, NGC 2169, NGC 2232, NGC 2244, NGC 2264, NGC 2281, M41, NGC 2301, M50, NGC 2392

The following Double Stars are well placed for observation during February and March:

Trapezium, Beta Monoceros

### Lunar and Binocular Lunar Observing Program

The following is a list of the dates for the lunar phase when observations should be made during February and March:

New Moon: February 11, March 13  
40 Hours waxing: February 13, March 15  
72 hours waxing: February 15, March 16  
4 days old: February 16, March 17  
7 days old: February 19, March 21  
10 days old: February 22, March 24  
Full (14 days old): February 26, March 28  
Gibbous: February 4, March 6  
72 hours waning: February 8, March 10  
40 hours waning: February 9, March 11

### Solar System Observing Program

The following list describes the various solar system objects and their visibility during February and March:

Mercury becomes an early morning object in early February, reaching greatest elongation on March 6.

Venus is an early morning object moving towards the Sun. It reappears as an evening object on March 28.

Jupiter and Saturn are early morning objects in February and March.

Mars is well placed for observation during February and March, but setting earlier each day..

Uranus is not too far behind Mars. Still visible in the evening sky.

Neptune goes behind Sun in mid-March. Reemerges as an early morning object in late March.

## From the Editors...

Ken Bertschy and I (David Rosseter) are the new monthly Events Bulletin editors. The main purpose of the Bulletin is to communicate TAAA events to the membership. We also want it to be a central source of information about services and activities available to the membership. You should see improvements each month as we move past "survival mode".

If you have information to share, please send it to us at the email links below. We are trying to put together a schedule so the Bulletin gets out to you well before the beginning of each month. Here is what we are planning (yes, we are already behind this month): On the 18th of the month I will send out a request for articles to regular contributors. The deadline for submissions will be 21st. That gives us four days to gather together the information, write articles, format the bulletin, proof-read and publish (online only) five days before the end of the month. We'll see how that goes. Of course, we welcome feedback on the process as well as the bulletin.

Looking forward to this challenge!

[David Rosseter](#)

[Ken Bertschy](#)

We hope to have a common [@tusconastronomy.org](mailto:@tusconastronomy.org) email shortly.