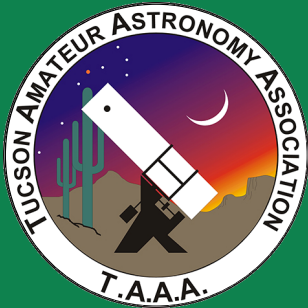


January 2021

Observing our Desert Skies
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TUCSON AMATEUR ASTRONOMY ASSOCIATION

Monthly Events Bulletin

General Meeting January 2021

The TAAA's January monthly meeting will be held online (Zoom) on Friday, January 8. We will have one presentation starting at 6:30 P.M. and open to the general public. Followed by a members only meeting at approximately 7:15 P.M.

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

Invited Lecture

Title: *Volcanism and Cryovolcanism in the Solar System: Examples from Earth, Mars, and Europa*

The main presentation will be followed by a Members-only meeting.

Second Lecture

Title: *Seasonal Night Sky*

Speaker:

Mary Turner (TAAA Chief Observer)

Vote

We will be voting on proposed Constitution and Bylaw changes. You must be a member and at the Zoom meeting to vote.

If you want to review the changes that will be voted on, click [here](#) or access from the Members Only area (MemberPlanet).

MEMBERS MUST REGISTER FOR THE ZOOM MEETING TO GET THE ZOOM LINK IN ORDER TO BE INCLUDED.

The Zoom registration link will be sent out shortly.

Joana Voigt received a B.S. and M.S. in Geological Sciences from the Free University Berlin, Germany in 2015 and 2017 respectively and an M.S. in Planetary Sciences from the University of Arizona in 2020. She is currently a Ph.D. candidate at UA's Lunar and Planetary Laboratory. A planetary geologist, she is primarily interested the eruption products on Earth, Mars, the Moon, to better understand the thermal dynamic evolution of planetary bodies.

Volcanism includes eruptions of silicate magma on terrestrial bodies, as well as in cryovolcanic (icy volcanic) deposits, which form on exceptionally cold outer solar system regions, where water can behave like magma. In Voigt's presentation, she will discuss examples of silicate volcanism on Earth and Mars, and evidence of cryovolcanism on Jupiter's moon Europa.

The 2014–2015 Holuhraun eruption produced the largest lava flow-field in Iceland in over two centuries. This eruption helps us understand the dynamics of large silicate lava flows on Earth and on other planetary bodies. Voigt will discuss the Icelandic Holuhraun eruption, and evidence of similar, geologically recent eruptions on Mars that suggest it may still be a volcanically active world. Voigt will also discuss the remains of a cryovolcanic eruption on Jupiter's moon Europa. She will explain how an impact-induced melting of its crust can generate small brine pockets that lead to a cryovolcanic eruption of salty water onto the surface. Such an eruption—triggered by an impact, not a deep interior process—is fundamentally different from traditional forms of silicate volcanism.

TAAA (Virtual) Star Parties

Below is a link to the Live Stream we did December 21st of the Great Conjunction of Jupiter and Saturn. This link is to our YouTube Channel. You can also view it on Facebook if desired under Videos. We had a record number of live participants of 550 at peak and averaging around 450+ for the duration. Not only from all over the U.S. but also all over the world. Glad the skies cooperated! [Conjunction Star Party](#)

Also, we got a good plug from KOLD Channel 13 on their 6 pm and 10 pm news. Below is the video from the 10 pm news if you want to check it out (Bernie already sent this around to some of you). [KOLD News Video](#)

The next Virtual Star Party is scheduled for February 12th from 7 - 9 pm (MST) streaming to the TAAA Facebook Page (weather permitting) [here](#).

Of course, in-person star parties are on hold until we get past the COVID restrictions.

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PRESIDENT'S MESSAGE

A hallmark of 2020 has been our living in a state of unsureness and of adapting to changes over which we have limited control. Just as we all hoped that was changing, the month of December has been filled with even more developments as COVID case rates soared to new highs; an increasingly contagious strain of the virus began surfacing in some other countries; hospital space filled and hospital waiting rooms converted into patient rooms; and the welcome occurrence of not just one, but two vaccines, both of which seem to be quite effective. So, yet again, 2020 has proved to require resilience, adaptability and regular reviews of decision-making focusing on "what do we do now to adapt to the latest events?"

As always, TAAA is up to the challenges and is rallying through them. It appears that our new, TAAA Forum on Groups IO is working well; the TAAA virtual event for the December 21st conjunction was tremendous; and our various teams coordinating Zoom meetings, trainings, and communication supplied us with great support systems. Thanks to all of our TAAA Volunteers for the ongoing support and effort and to our TAAA members for the participation and adaptation that continues to help us all rally together through this prolonged crisis period.

The TAAA Board met on December 9, 2020, and some of the items discussed include:

1. A decision to establish a Technology Storage Committee, chaired by Ed Foley. This Committee will focus on development of storage areas/strategies and content management for various types of TAAA information.
2. Covid 19 policies were reviewed. In light of current prevalence of COVID Cases; and recent changes in COVID rules by the City of Tucson and Pima County as well as nationally; and perceived continuing liability issues, a decision was made to discontinue use of TIMPA and CAC, at least, until some of the recent regulations are lifted. Other TAAA COVID 19 policies continue. TAAA COVID 19 policies are reviewed each month at the regular Board meeting and thus, the December decisions will be reviewed at the January Board meeting.
3. Current events included a virtual event for the December 21st conjunction of Saturn and Jupiter.
4. A discussion was held regarding storage at CAC and possible member fees for storage of telescope items if CAC storage capacity can be increased. Member interest will be determined.

TAAA Trivia!

1. What are some historic December holiday activities for TAAA?
2. What is the most recent December holiday event in which TAAA has participated?

(Trivia answers are at the end of this document.)

Grand Canyon Star Party 2021

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 some time in January. At this time we expect to follow our regular schedule for organizing the event, but 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.

From the Editors

Your monthly TAAA Bulletin will be going through some changes over the next few months. First, we have two new editors: Ken Bertschy and David Rossetter. We want to thank John Christensen for his long-time commitment to putting out this publication. It is not an easy task to assemble all the information, massage it into a readable publication, and put it out to the membership month after month.

The biggest change you will see begins in February. We will combine The Notes From the President and the Bulletin into one publication. That will help declutter your inbox and centralize where club information comes from. We hope to provide more detailed club leadership, activities, and committee information as well. Feel free to provide us with your suggestions (or contributions!) by emailing us [here](#).

Observing Sites

Dear TAAA Members,

After having a talk with TAAA Board Members at our December 9, 2020 monthly meeting. It has been deemed prudent to **close both Timpa and CAC of all in person activities**. This is due to the City of Tucson, as well as Pima County implementing voluntary curfews of 10:00 pm and the rising number of COVID-19 cases growing in the Tucson area. We are sorry to have to do this again. We will be reevaluating the COVID-19 situation at each Board meeting until we feel we can reopen both Timpa and CAC. If you have any questions or concerns, please click on the email link for each site's director. You may also contact any board member.

Thank you, Ralph L. Means

Even when the observing sites open again, there will likely be special COVID procedures in place. Please contact the observatory directors for more information.

TIMPA

Contact Person: Ralph Means

Email: [fundamentals\[at\]tucsonastronomy.org](mailto:fundamentals[at]tucsonastronomy.org)

Email: Personal

Phone: 520-460-8770

[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.

We hope to see you there!

The TIMPA observing site is located a few miles beyond the Desert Museum. The CAC observing site is located in southeast Arizona near Sunsites, AZ, about 1.5 hours drive

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 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.

TAAA Special Interest Groups

AFSIG Astronomy Fundamentals

Next online meeting: January 14, 2021 @ 6:30pm-8:00pm

For the Zoom link and information regarding **Astronomy Fundamentals (AFSIG)** contact Conner Justice at

fundamentals@tucsonastronomy.org

<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

smsig@tucsonastronomy.org

SMSIG

For Information regarding **Starry Messengers (SIMSIG)** contact contact Terri Lappin at

smsig@tucsonastronomy.org

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

AISIG Astro-Imaging

The next AISIG meeting will be Monday, January 11 at 7:00 pm.

Topics:

Wait! Weight Before You Subframe Integrate!

Use Subframe Weighting Tool to improve your DSO-image quality - Alex Woronow

Imaging Terminology - Mystery Presenters Contact Gregg Ruppel for the Zoom link:

ruppel0709@gmail.com

For Zoom link and information regarding the **Astro-Imaging (AISIG)** meetings contact contact Tom Rolfsmeier at

astro-photo@tucsonastronomy.org

Astronomical League Observing Programs

What's Up list for December 2020 – January 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 December and January for the more common observing programs.

Constellation Hunter Program – Northern Sky

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

Andromeda
Aries
Auriga
Cassiopeia
Orion
Perseus
Pisces
Taurus
Triangulum

Lunar and Binocular Lunar Observing Program

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

New Moon: December 15, January 13
40 Hours waxing: December 17, January 15
72 hours waxing: December 18, January 16
4 days old: December 19, January 17
7 days old: December 22, January 20
10 days old: December 25, January 23
Full (14 days old): December 29, January 28
Gibbous: December 8, January 5
72 hours waning: December 11, January 10
40 hours waning: December 12, January 11

Messier Observing Program

The summer Milky Way is setting early. The winter Milky Way is not rising until late. Now we are looking away from Milky Way so objects are more sparse.

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

M103, M33, M74, M76, M34, M77, M45

Solar System Observing Program

The following list describes the various solar system objects and their visibility during December and January:

Mercury is an early evening object in December moving back towards Sun in January.

Venus emerges from behind the Sun in December getting brighter in January.

Jupiter and Saturn set earlier and earlier in December. On December 12 they are within 1 degree of each other.

Mars is well placed for observation during December and January.

Uranus is not too far behind Mars.

Neptune is still well placed, about halfway between Saturn and Mars.

Urban Observing Program

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

NGC457, NGC663, Cr 463, NGC 752, Stock 2, NGC 869, NGC 884, Tr 2, M77, Tr 3, Stock 23, Mel 20, NGC 1342, M45

The following Double Stars are well placed for observation during August and September:

Gamma Aries, Gamma Andromeda

TAAA Trivia Answers:

1. What are some historic December holiday activities for TAAA? One, of course, is the Holiday Pot-luck Celebration that we generally hold at a member's home. Bill and Mary Lofquist provided their home for a number of years and in recent years Ed and Janet Foley have shared their home with us. We hope to resume this in-person activity in December 2021. A second tradition is to have a sale of astronomy items/equipment at significantly reduced prices for members. In recent years we have been conducting the sale at the Holiday Celebration. This year we have items for the sale but are delaying until after the COVID crisis has passed. A third tradition is the viewing of Kitt Peak from Mount Lemmon that Dean Ketelsen created and has coordinated in non-COVID times. Information from Dean Ketelsen follows: "The solstice marks the occasion to observe the annual alignment of the setting sun behind the silhouette of Kitt Peak National Observatory, 60 miles distant from our observing spot on the Mount Lemmon highway. Several club members have made a sport out of watching/recording the spectacle. My best effort, prepared, but not used for the APOD folks, can be viewed at:

<https://www.youtube.com/watch?v=o-1H5o0NRwk&feature=youtu.be>

2: What is the most recent holiday event in which TAAA has participated?

The most recent is the December 21, 2020 conjunction which Jim Knoll, Bernie Stinger and Rick Paul did an excellent recording of YouTube. The event at the time drew 550 Facebook participants and the recording will be reviewed by many others. See the recording at <https://youtu.be/x-ADBnQqsAs>