

# TAAA DESERT SKIES BULLETIN

Observing Our

Since



Desert Skies

1954

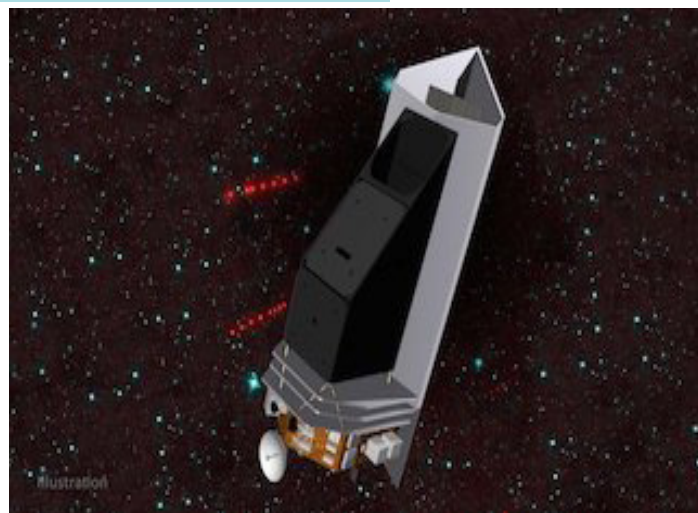
September 2021

**Membership Meeting**

[www.tucsonastronomy.org](http://www.tucsonastronomy.org)

September @ 6:30 pm - 9:00 pm

TAAA's next general member meeting will be held on Friday, September 3, 2021, and available online. The Main Presentation starts at 6:30PM and is open to the public. A Members Only Meeting will follow. Non-members may attend the Main 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: Title: "NEO Surveyor Mission: Why Does It Matter?"

**Presentation:** University of Arizona astronomer and professor Dr. Amy Mainzer will talk about the new NASA mission she is leading; the Near Earth Object (NEO) Surveyor mission. NEO Surveyor is an infrared space telescope designed to expand our ability to find, track, and characterize asteroids and comets that may pose a threat to Earth. Objects are considered NEOs if they come within 30 million miles of Earth's orbit. By identifying these objects when they are decades away, we will potentially be able to mitigate their danger by pushing them out of the way.

**Presenter:** Dr. Amy Mainzer serves as the Principal Investigator for NASA's Near-Earth Object Wide-field Infrared Survey Explorer (NEOWISE) mission, an Earth-orbiting satellite that uses infrared sensors to characterize asteroids and comets. She is also leading NASA's Near-Earth Object (NEO) Surveyor mission, currently in development, which will carry out a comprehensive survey of the most potentially hazardous NEOs. Dr. Mainzer is currently the Chair of the American Astronomical Society's Division for Planetary Sciences (DPS), the world's largest professional society of planetary scientists. She also serves as the Chair of NASA's Planetary Advisory Committee (PAC). She was the science consultant, co-executive producer, and on-camera host of the PBS Kids television show Ready Jet Go!, which aimed to teach basic physics, Earth science, and astronomy to children ages 3-8. She was in the 2016 documentary, "For the Love of Spock", directed by Adam Nimoy (Leonard Nimoy's son) and several episodes of the History Channel's "The Universe" series.

### August 2021

We are again lumbering along through August in the desert with more rains and, thus, more green than usual in our hot desert summer. We have had many cloudy days as well as some beautifully colorful desert sunsets. Some members have taken pleasure in watching recent progress in getting part of the exterior walls completed on the new CAC buildings.

Soft summer weeds a foot or so high are growing well at TIMPA and, as always, the gophers are working to contribute to the landscape. So, we are asking TIMPA visitors to be particularly careful to follow the ever-prudent policy of looking before you step (a great procedure for CAC, as well). Also, of course, summer rains may hamper travel on dirt, county roads, so you may wish to consider this in your planning to visit dark sky sites. Requests for star parties have increased as schools are opening, so check out the volunteer requests and remember to take masks.

Prior to the August 11th Board of Directors Meeting, the Board had a training session with a retired attorney who presented some important considerations for functioning as a 501(c)(3) nonprofit organization. She also particularly reviewed some considerations in different uses of and programs

**by Mae Smith**

at our dark sky TIMPA and CAC sites, and reviewed implications of structuring the use of assets. Such information is very important to future functioning of and growth of TAAA.

After the training a Board meeting was held. At present, in spite of the rise in COVID cases, TAAA is allowing both TIMPA and CAC sites to be used, with members using at their own risk. We are taking standard mitigation methods as well as limiting sleeping in the RMO. TAAA's future hosting of paid Star Parties at CAC was approved.

A general structure for organizing documents regarding CAC has been developed and is being implemented. A TAAA Whistleblower Policy was approved. A TAAA Document Retention Policy was approved with the realization that structuring document retention is extremely complex and this will be an "in-process" activity for some time.

The Board approved seeking a legal opinion on aspects of the Member Observatory Project. If the project goes forward, the fees for the legal opinion will be charged to the Project. If the Project does not go forward, Bob Reynolds generously volunteered to donate the fees for the legal opinion.

### TAAA Trivia

If you have questions about or wish to discuss anything in the TAAA Trivia section, please contact Mae Smith at [ssmith@email.arizona.edu](mailto:ssmith@email.arizona.edu).

**What are TAAA's three most transformative decisions and what are the ramifications of each?**

Answers later in this Bulletin.

## School/Public Star Party Requests

### September Star Parties

**Friday September 10** — NW TUCSON (IN PERSON)

# Participants: 300; Grades K – 8;  
0 Scopes Needed (Filled)

**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;

0 Scopes needed (filled).

**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; 2 Additional Scopes Needed

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

12325 E Roger Road, 85749

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;

**0 Scopes Needed (filled).**

(EVENING OBSERVING). UA Lunar & Planetary

**by Jim Knoll**

**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.

**Saturday September 25** -- WEST TUCSON

# Participants: 400; Age/Grade Level: High School;

**0 Scopes Needed (FILLED)**

**Cooper Center for Environmental Learning**

5403 W Trails End Rd, 85745

Nearest Moon Phase: 3rd Quarter

Directions: West on Grant Rd, becomes Silverbell, becomes Ironwood Hills Drive which dead-ends at Camino De Oeste. Turn south. ALTERNATE: West on Speedway west of I-10. North on Camino De Oeste. Both paths: Turn west on Trails End Road and follow signs to “Cooper Center”.

Viewing Location: Open area near restroom facilities. Access the site from the dirt road at the east end of the main parking lot (near the dumpsters) -- see map link. Take this road through the camping facilities to the restroom location.

Setup: 6:30 pm. Start: 7 pm. End: 8:30 pm.

**Sunday September 26** -- CENTRAL TUCSON (IN PERSON)

# Participants: 100; All Ages;

**0 additional SOLAR Scope Needed (filled).**

(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. [Website:](#)

Times: TBD. (Probably late AM or early PM)

# Special Interests Groups

## Starry Messengers

by Terri Lappin

The next Starry Messengers SIG meeting will be held via Zoom on **Monday, September 20th at 7pm**. The Zoom link will be sent to all TAAA members via email.

We'll be discussing our meeting format this month. There is value to meeting in person. We often demonstrate activities, giving us a chance to try them out before presenting the material to the public. Zoom meetings are more convenient for some and allows distant members to participate. We'll have an open discussion about aspects of a hybrid meeting and how we want to move forward.

At this meeting, I will be showing our recently acquired Night Sky Network Toolkit called "Big Astronomy". This toolkit includes light pollution activities, a spectrum project using filters, a model of the Milky Way galaxy, and information about what it takes to succeed in professional astronomy research using really big telescopes.

The Tucson Festival of Books is planned for the weekend of March 12-13 on the UA campus, but there's no decision yet regarding the concurrent UA ScienceCity. The TAAA has participated in the ScienceCity event since 2013. Some years we have approached 5000 public contacts through our exhibit and solar viewing. Should the ScienceCity be held in person in 2022, we have decided to use materials that were planned for the cancelled 2021 ScienceCity event, though we likely will need to make some modifications for COVID related requirements the UA will likely put in place.

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".

Of course, all TAAA members are invited to the September 20th SMSIG meeting.

[Terri Lappin](#)   [SMSIG on the Web](#)

## **TAAA Ladies Night Out**

*by Terri Lappin*

# TAAA Ladies Night Out

Thursday, September 16  
6:30pm

Bottega Michelangelo  
420 W Magee Rd

(N side of Magee just W of Oracle )

Preview the menu at <https://www.bottegamichelangelo.com/menus>

RSVP [Susan](#)  
or 520-780-0136

## **Astronomy Fundamentals SIG**

*by Connor Justice*

The next meeting is **September 9 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 (ZOOM) meeting is **September 20 at 7:00pm**.  
Check out [AISIG On the Web](#) or contact [Greg Ruppel](#) for the latest information and Zoom links

Gregg and the AISIG folks are very active on the [TAAA groups.io](https://TAAAgroups.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.





## **M27 The Dumbbell Nebula by Randy Smith**

Lucky to get this in two short sessions with poor conditions (clouds and moon). See details in the astrobin technical card and description. I'm learning to use the C11 with the Starizona 6.3 reducer/corrector and off axis guiding. The extra light gathering of the C11 seems to make quite a difference from the C8.

<https://astrobin.in/j6k8ij/0/>



## **Jupiter, Europa and Ganymede by Gregg Ruppel**

Data acquired on 8/1/2021. C-11, FL 5400, ASI294MC @ 64 FPS (4 x 30sec AVIs), acquired with FireCapture, best 5800/7730 frames stacked in Autostakkert, wavelets in RS6, derotated in WinJuPos, post processing in PS6, color saturation in NIK Viveza.

[http://www.greggsastronomy.com/IMAGES/Jupiter\\_Europa\\_Ganymede\\_2021-08-01-0811\\_1-Ruppel.](http://www.greggsastronomy.com/IMAGES/Jupiter_Europa_Ganymede_2021-08-01-0811_1-Ruppel)

# 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, reservation 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 (person are welcome to bring folding chairs). Please note that persons 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. Persons 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 September Star Party Dates: September 4 (Saturday) and 9 (Friday).  
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 will have an article on the Chiricahua Astronomy Complex!

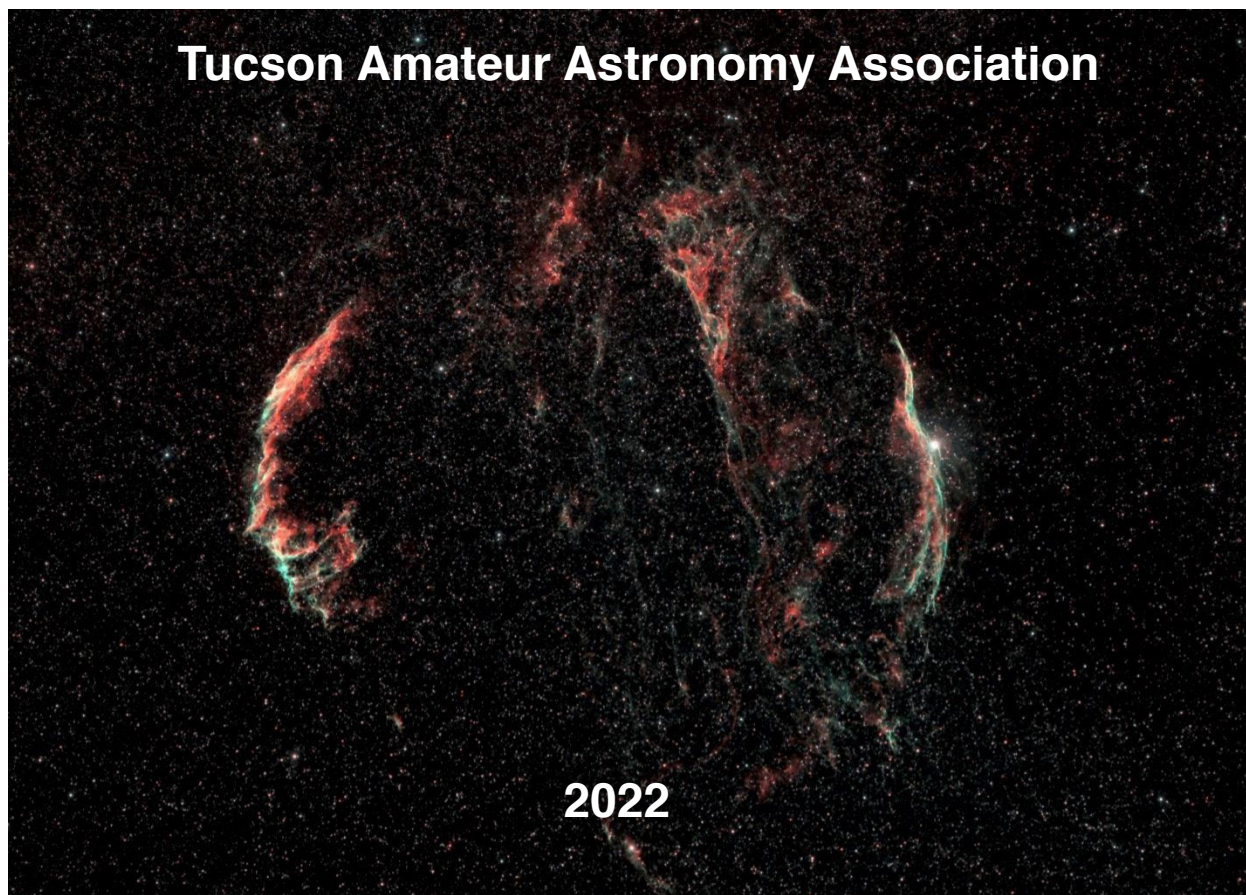
Beginning October 2021 we will offer a two-hour observing session to the public for a fee once per month. This will be on a trial basis. If you have family and friends visiting this might be something you want to schedule. Feel free to share on your Social Media. You can see the schedule and additional 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 webpage. September dates are 2 - 9 (New Moon 6th). October dates are September 30 - October 7 (New Moon 6th). All facilities are currently open, but the Board will review COVID status each month.

**Reservations:** We are implementing 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.



## 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](#)



Building at CAC continues during the monsoon. One building has been substantially sheathed and the sleeping room building is getting windows and doors ahead of it being enclosed. The Stinger Telescope Learning Pad is ready for TAAA to begin planning for the building of the telescope enclosures.

By Ed Foley



## TAAA Awarded Another Library Telescope



Valencia Library Dedication (November 2019)

TAAA has been awarded another Horkheimer Charitable Fund telescope from the Astronomical League (AL). Over the past four years, we have been participating in the AL Library Telescope program to provide Orion 4.5 inch Star Blast telescopes for Library patrons to check out and use. They have been a great success and are constantly checked out. One of our members, Todd Hansen has also donated one each year in memory of his late wife Lonny Baker. These next two will be scopes 7 & 8 for the Library system. We have telescopes at: The Joel D Valdez Main Library, Oro Valley, Miller-Golf Links, Valencia, Sam Lena South Tucson, and Kirk-Bear Canyon Library. We normally do a dedication ceremony and star party with the particular library when the telescope is put into the system and that will be announced in the monthly star party announcement email. If you want additional information, go to the TAAA Library Scope webpage at: <http://tucsonastronomy.org/community-services/libaryscope-program/>.

Jim Knoll

# Club Domes for Sale

The club owns some observatory domes. We have decided to sell them to members. All offers must include transporting them from their storage site.

## Trailer-Mounted Dome (2 available)



### Description:

1. Fiberglass construction with side door
2. Rotatable
3. 10' diameter - length x 8' wide (flattened sides)
4. Wide retractable slit 7' wide, retracts up & over past zenith with crank
5. Lower removable panel
6. Currently located at 13651 S. Supernova Pl., Pearce, AZ 85625, buyer is responsible for transportation of dome to their location

### Applications:

1. May be left on trailer with wheels removed and trailer box ground-mounted
2. Dome may be removed from trailer and ground-mounted . Frank Lopez at Stellar-Vision has installed these domes in residential backyards in Tucson.



## Ground-Mounted Dome (2 available)

### Description

1. Heavy fiberglass construction with entry hatch, hatch cover included
2. Rotatable
3. 9.5' outside diameter, 9' inside diameter
4. Clamshell design, half the dome opens to zenith with crank
5. Currently located at 13651 S. Supernova Pl., Pearce, AZ 85625

### Application:

1. Suggest mounting dome on two courses (or more) of concrete block stem wall for interior height clearance

For More Information: Contact: [Conrad Stolarski](#)

**Persons receiving a dome are responsible for removing the dome (and trailer, if applicable) from its present site.**

## A TIME REMEMBERED by Ed Foley

Over the decades TAAA has followed its mission, it has developed a strong base of current and former members who have delighted in their time with the organization. Many look fondly on their time with the organization, the satisfaction of sharing the sky with the public, and the camaraderie developed with others who share the same passion.

One such member was David Carlos Byars. David was a TAAA member for 12 years from 1999 until 2011, when he left Arizona for California. Although he left TAAA, his time with the organization was not forgotten. David passed away earlier this year, last living in Angels Camp, CA. As a testament to his fondness for TAAA and to aid those who continued to follow TAAA's educational mission, he left a planned legacy gift of \$2000 to his beloved TAAA.

## Committee Reports

### *Nominations and Volunteer Resource Committee*

*by David Rossetter*

It looks like we have a new Membership Manager (actually, two working as a team). We'll provide more details next month.

The NVRC is now 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](mailto:nvrc@tucsonastronomy.org)

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

### *Notes From The Editors*

We received a terrific number of useful submissions for the Desert Skies Bulletin this month. Thank you to everybody for your efforts. It appears that the bulletin is back to becoming the primary medium to communicate non-time critical club and local astronomy information.

Dr. Amy Mainzer is our speaker in September. If you are not familiar with her she is a “rock star” (literally) in the astronomy field. Be sure to attend the club's Zoom meeting on September 3rd. All information is on the opening page of the bulletin.

[David Rossetter](#) – Co-Editor

Ken Bertschy – Co-Editor



## **What's Up list for September 2021 – October 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 September and October for the more common observing programs.

### **Constellation Hunter Program – Northern Sky**

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

Aquarius, Aquila, Cepheus, Cygnus, Delphinus, Equuleus, Lacerta, Lyra, Pegasus, Sagitta, Vulpecula

### **Messier Observing Program**

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

M56, M55, M71, M27, M75, M29, M72, M73, M15, M2, M39, M30

### **Lunar and Binocular Lunar Observing Program**

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

New Moon:	September 7, October 6
40 Hours waxing:	September 9, October 8
72 hours waxing:	September 10, October 9
4 days old:	September 11, October 10
7 days old:	September 13, October 12
10 days old:	September 16, October 15
Full (14 days old):	September 20, October 20
Gibbous:	September 29, October 28
72 hours waning:	September 3, October 3
40 hours waning:	September 4, October 4

### **Solar System Observing Program**

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

Mercury is an evening object during September becoming a morning object by October 10.

Venus is an evening object during September and October.

Mars is very low in the evening sky. Probably lost in the twilight during September. Become a morning object during October, in the dawn twilight.

Jupiter and Saturn are evening objects, rising earlier each day. Well placed for observation.

Uranus is a late evening object in, rising earlier each day, now rising before midnight.

Neptune is well placed for observation, to the East of Jupiter and Saturn.

### **Urban Observing Program**

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

Cr 399, NGC 6818, NGC 6826, M27, NGC 6910, NGC 6934, NGC 6940, NGC 7009, M15, M2, M39, NGC 7160

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

Beta Cygnus, Gamma Delphinus

## **Three Transformative TAAA Decisions and their ramifications.**

**What are the three most powerful, impactful long-term decisions that TAAA has made to date?**

**Answer:**

**The first decision:** In 1954 a handful of people interested in astronomy education came together and decided to form an organization that pursued sharing the sky; an organization focused on astronomy education, and that involved itself in activities that made contributions to society through astronomy and citizen science pursuits. So, an organization was formed that was grounded in the values of contributing to society and fostering astronomy education. Activities in the first three years included: star parties, developing a library, forming a relationship with Sky and Telescope Magazine and with the University of Arizona Steward Observatory; presentations and films shared with members and with members of the community including Boy Scouts, Boy's Ranch, P.T.A., Air Force Reserves, Steward Observatory Public Night Events; meetings open to employees at Hughes and University of Arizona and the public. In the first three years some community efforts included promotion of efforts toward developing a local planetarium, the formation of junior and subsidiary groups, a time-consuming commitment to the Tucson Moonwatch Program "which was the second station in the world to observe Sputnik and was in the top ten stations for Smithsonian in the number of observations per month."

**Ramification:** TAAA was established with a science education/ public service mission.

**The second decision:** To formalize TAAA's functioning as, and permanent commitment to, being and operating as a public charitable organization dedicated to science education. For years after its formation, TAAA had continued its public service activities and positively discussed a wish to formalize itself and incorporate as a nonprofit organization. Finally, in 1985, TAAA took action: the application paperwork to officially become a non-profit organization was obtained from the Secretary of State's Office, completed, and filed, ending with recording the new tax status with the Internal Revenue Service. In February 1987, TAAA was formally approved with a Nonprofit Tax Code Designation of 501(c)(3). Thus, after 33 years of continued dedication to astronomy education, scientific inquiry, and citizen science pursuits, TAAA took the necessary steps to formalize its long-term commitment to operate as a public service organization. At that point TAAA continued its "very active program of star parties, educational programs, and outreach activities."

**Ramification:** TAAA formalized and legally committed to meeting the public service requirements and laws regulating 501(c)(3) organizations. This allowed TAAA to receive donations for which people could receive a tax deduction and allowed TAAA to operate with reduced tax benefits. It additionally created legal obligations for TAAA to serve the public and, also, to serve as a manager, only, rather than as an owner, of its assets.)

**The third decision:** When TAAA became a non-profit organization, TAAA owned no real property and over time, "it become apparent that TAAA would benefit from having its own observing site" so in 1987, "a TAAA Land Fund was established." A final site was not established until 2007, after TAAA leadership established an active, committed effort to find and obtain an appropriate location. The specific site was identified (and tested for darkness) and the Perseus Group purchased and donated the land that is now CAC to TAAA.

**Ramification:** TAAA owns a wonderful dark sky site that is required to be organized, developed, and operated consistent with TAAA's 501(c)(3) public service/charitable commitments. Thus, strict IRS regulations must be followed to meet TAAA's legal obligations to the public, in managing CAC and in its general operations.)

Quotes were obtained from the TAAA publication, "Our Past Presidents' Recall. T.A.A.A. 1954-2004, the First 50 Years."



From Sue Abramson:

The Interstellar Research Group's 7th Interstellar Symposium is in Tucson this year at the UA Marriot.

The dates of conference are September 24-27. The opening reception is Thursday, September 23 at 6PM. The event ends at 8PM on Mon, Sep 27, 2021.

They need volunteer help. You only have to volunteer 4 hours to get a free pass to the talks. If anyone is interested, [let me know directly](#), I will keep a list and put you in touch when they are ready. Check out the event:

<https://irg.space>

[Agenda](#)

[Keynote Speakers](#)

[Facebook Page](#)

[Registration](#)

# 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 but you must register. All are invited to attend. The event is also live streamed.

Information [On The Web](#)



## Public Evening Lecture Series Podcasts

The 2021/2022 Evening Lecture Series begins in September. They have not yet published the schedule. But you can find out as soon as they publish here:

<https://www.as.arizona.edu/public-evening-lecture-series-podcasts>.

They also have “podcasts” of previous lectures.





COLLEGE OF SCIENCE

## **LUNAR & PLANETARY LABORATORY**

LPL Colloquium: Tuesday, August 31, 2021 - 3:45pm, via Zoom

### **There and Back Again: Why the CR Chondrites are an Invaluable Window into the Early Solar System**

Dr. Devin Schrader

Interim Director, Center for Meteorite Studies

Arizona State University

<https://www.lpl.arizona.edu/calendar/lpl-colloquium-dr-devin-schrader>

LPL Colloquium: Tuesday, September 7, 2021 - 3:45pm, via Zoom

### **Seismology by Remote Sensing: Laser Doppler Vibrometry**

Dr. Paul Sava

Professor and Department Head, Geophysics

Colorado School of Mines

<https://www.lpl.arizona.edu/calendar/lpl-colloquium-dr-paul-sava>

CENTER FOR

**ASTROPHYSICS**

HARVARD & SMITHSONIAN

### **New Vistas in Astronomy Lecture Series: Imaging a Black Hole**

September 30, 2021, 7:00pm - 8:00pm via Zoom

<https://www.cfa.harvard.edu/calendar/event/9256/>

# Skyward

By David H Levy

September, 2021

Astronline

During the last almost two years I have been busier than ever, meeting many new people, giving lectures, quoting poetry, and advocating observing the night sky.

And Wendee and I have barely left home.

Obviously, I have not been able to give lectures in person since the Covid 19 pandemic began. On the home front for me, our local Tucson Amateur Astronomy Association meets the first Friday of every month online over the Zoom cloud. (see [www.tucsonastronomy.org](http://www.tucsonastronomy.org)) But almost every day, I reconnect with friends in astronomy clubs around the world. On Tuesdays, I am a part of Scott Roberts' weekly Global Star Party. (For more about this, visit <https://explorescientificusa.com/products/explore-alliance-global-star-party>) Scott has now had more than 60 of these wonderful events, and I enjoy each one. On Wednesdays and Saturdays, I am part of the Montreal Centre of the Royal Astronomical Society of Canada, where I meet people I've known for years, especially Carl, one of my best friends since we were teenagers in 1964. As a graduate student at Queen's University in the 1970s, I also was active with the RASC's Kingston Centre. I have also reconnected with the Denver Astronomical Society, a group I joined in 1963 when I was a patient at the Jewish National Home for Asthmatic Children. That experience was precious back then, and it is even more delightful now!

One of the groups, the Warren Astronomical Society in Michigan, does not use Zoom. Instead, they have WebEx, which is just as simple to use. I have even participated in sessions sponsored by Kansas City's Linda Hall Library, one of the largest science libraries in the world.

Not all of the online sessions are related to astronomy. Our local synagogue has a weekly Torah study session, and Wendee and I are regulars there. They also graciously listen to my poetry quotations, which range from Shakespeare to Chaucer, to this ancient one (from 1556) from Robert Recorde's *The Castle of Knowledge*:

If Reasons reach transcend the Skie,  
Why should it then to earth be bound?  
The wit is wronged and led awrie,  
If mind be married to the ground.

When the sessions drag on, as they sometimes do, I can get fatigued since I am not as young as I was in 1963 or 1979. But it is worth the effort, and I sincerely hope that the Zoom/WebEx experience will outlive the pandemic when it finally ends. Seeing friends so often like this is wonderful. And on some occasions, I have joined online meetings from a remote site in southeastern Arizona.

Sometimes, my quote tradition is something from scripture, like this gem from the Book of Isaiah:

Thou stretchest out the heavens as a curtain,  
And spreadeth them out as a tent to dwell in.

My goodness—I never realized how a few words from the Bible could affect me as much as these do. They describe my experience perfectly—outside, I am peering at the curtain of the night sky. Moreover, the observatory out of which I look at the sky, or the observing pad upon which I stand, is the cosmic tent in which I dwell.



David Levy in his Jarnac Observatory. Photograph by Wendee Wallach-Levy