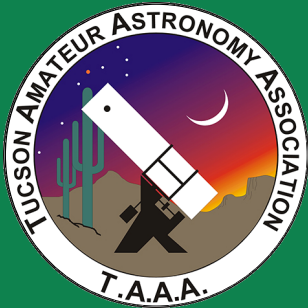


January 2020

Observing our Desert Skies
since 1954



www.tucsonastronomy.org

TUCSON AMATEUR ASTRONOMY ASSOCIATION

Monthly Events Bulletin

January 3rd General Meeting

Steward Observatory Lecture Hall, Room N210, UA Campus, 933 N Cherry Ave.

Introductory Presentation 6:30pm

*Seasonal Night Sky Objects
presented by
Mary Turner, PhD, TAAA Chief
Observer*

Mary Turner, TAAA's appointed Chief Observer, takes us on a tour of the winter night sky. Dr. Turner's use of astronomical data, images, and mythology will bring seasonal changes in the sky to life, as always in her popular quarterly talks.

Invited Lecture 7:30pm

*New Technologies to Search for
Exoplanets with Space
Telescopes Large and Small
presented by
Ewan Douglas, PhD,
Steward Observatory*

Ewan Douglas joined the University of Arizona Department of Astronomy and Steward Observatory in the Spring of 2019 as an assistant professor. His research focuses on space instrumentation, wavefront sensing and control, and high-contrast imaging of extrasolar planets and debris disks, and small spacecraft such as CubeSats. Dr. Douglas graduated from Tufts University with a Bachelors in Physics in 2008. He worked for a year at the Hanford Laser Interferometer Gravitational-wave Observatory before attending graduate school at Boston University, where he received a PhD from the Astronomy Department in 2016 followed by a postdoc in the MIT Space, Telecommunications, Astronomy, and Radiation Laboratory.

Dr. Douglas' talk will focus on his ongoing work in the University of Arizona's Space Astrophysics Lab (UASAL) to leverage low-cost spacecraft such as CubeSats, sounding rockets, and SmallSats, so that they efficiently and effectively, as well as relatively inexpensively, advance the technologies needed to image Earth-sized planets and asteroid belts around other stars. With Dr. Douglas' work in cutting edge technologies, and ability to simplify complicated topics, TAAA's first main presentation of 2020 promises to be interesting to all.

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Spring 2020 Astronomy Class

The Astronomy Fundamentals Special Interest Group (AFSIG) will offer its popular Introduction to the Fundamentals of Observational Astronomy class again this Spring. The dates are: March 21, March 28, and April 4, 2020.

This class is aimed at giving the beginning amateur astronomer a good start in the hobby including:

- Day 1 - some basics in observational astronomy and celestial objects
- Day 2 - introduction to the equipment used in amateur astronomy
- Day 3 - observing tools and techniques

The class is given over the three Saturdays and usually runs from 9:00 AM to 4:00 PM. After the last day, students and instructors will meet at TIMPA for a potluck supper and star party. The class is open to all TAAA members. Registration for the class is open now. There is no charge to take the class. To enroll, send an e-mail to

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

or contact J.D. Metzger or one of the AFSIG Committee members. There will be a sign-up sheet available at the January, February, and March TAAA General Meetings.

PRESIDENT'S MESSAGE

December proved to be an interesting and enjoyable month for TAAA. The November month had seemed exceptionally busy, but we started December by keeping up the pace. We rapidly progressed from a very late Thanksgiving into an eventful first week of December with #Giving Tuesday, December 3rd, our regular 6:30 and 7:30 Friday Member meetings, and a Saturday Holiday party with a silent auction, all happening within one week.

We were generously supported in our first #GivingTuesday campaign by having a parent take and provide to us a precious picture of her excited young son thoroughly enjoying one of the telescopes donated through TAAA's efforts to assist the Pima County Library. We can all be assured that that program is benefitting the public.

An intense training on Minor Policy was provided to Members attending the 6:30 Friday Member Meeting as we keep moving toward full implementation of the Minor Policy procedures in January 2020. The more serious aspects of that presentation were relieved by the wonderful perspectives and humor of Tim Hunter's 7:30 presentation including a variety of situations that can be encountered in operating remote telescopes doing imaging, particularly with 10 or more cables attached to telescopes moving in different directions, and with telescopes that need to be sent to places like Austria for repairs.

The Holiday Party was tremendous fun with lots of food and a very successful Silent Auction which it seemed that many people did not want to end and were still trying to get in their last bid at the 7:30 deadline. Thanks to the Foleys for again sharing their home with us and being great hosts. Our regular star parties and other volunteer activities also continued through the month.

TAAA Trivia!

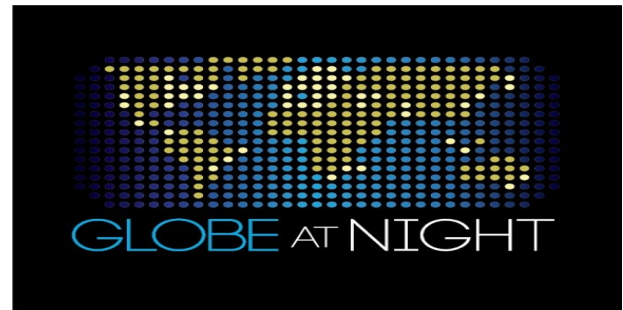
Trivia Question 1

I sometimes hear the name "Crawford" connected to TAAA. I am confused about whether the first name is David or Robert, and about why that is a significant name for TAAA.

Trivia Question 2

What TAAA member had an article published by the Astronomical Society of the Pacific on December 12, 2019?

(Trivia answers are at the bottom of page 3)



Current Campaign: Perseus, Taurus, Orion - January 16 to 25

Visit globeatnight.org

Announcements

- The January **Board of Directors Meeting** will be held on Wednesday, January 8th, at 6:30 PM in Room 312 of the UA College of Education. Any TAAA Member may arrange with Mae Smith to make a 5 minute presentation to the TAAA Board on any area of concern or regarding a suggestion that they have for the Board. In planning the schedule for the next Board meetings, the Board will consider that topic and decide about placing it on the Board Agenda for further consideration. Members wishing to make a 5-minute presentation to the Board should contact Mae Smith at ssmith@email.arizona.edu a week (the Wed,) prior to the meeting to get on the schedule. If you need further directions to the meeting, also contact Mae. **Note:** Since Banner/UMC is now charging fees for meeting rooms, TAAA Board meetings in 2020 have been scheduled in the UA College of Education.
- **Have you signed up for Member Planet?** This is where the TAAA Member's Only online information can be found. It's where you can learn about member's events, renew your membership online, renew magazine subscriptions, pay Astronomical League membership dues, and update your contact information. For information about accessing this information through Member Planet, send an email to [membership\[at\]tucsonastronomy.org](mailto:membership[at]tucsonastronomy.org).
- **Web comments, suggestions or problems**, contact our team at webteam@tucsonastronomy.org.
- **Monthly Bulletin** deadlines are the 15th of the preceding month. Email all submissions to [taaa-newsletter\[at\]tucsonastronomy.org](mailto:taaa-newsletter[at]tucsonastronomy.org)
- **Equipment Loaner program.** Contact Ralph Means at elc@tucsonastronomy.org, or 520 460-8770 or bookbuyer1769@gmail.com to check out a telescope, lenses or other equipment. You may try one type or size of telescope, return it, and try another one until you have tested all the scopes in our loaner program. Very helpful for choosing a first telescope or for moving to a new option.

Upcoming Activities This Month's Events

Key:	TAAA Members Only	For Organization	Public Events
General Meeting Mae Smith	Jan 3 (Fri) Steward Observatory 933 N Cherry 6:30 PM	Outreach Star Party NW Tucson Jim Knoll	Jan 23 (Thu) Rattlesnake Ridge Elementary 8500 N Continental Reserve Lp 6:00 PM
AFSIG Meeting (Beginners) Connor Justice	Jan 9 (Thu) Ward 6 Office - East Rm 3202 E 1st St 6:30 PM	Outreach Star Party NW Tucson Jim Knoll	Jan 23 (Thu) Mesa Verde Elementary 1661 W Sage St 6:00 PM
SIMSIG Meeting Terri Lappin	Jan 12 (Sun) Himmel Library 1035 N Treat Ave 1:00 PM	Outreach Star Party NW Tucson Jim Knoll	Jan 24 (Fri) Miller Elementary School 7570 N Thornydale Rd 6:00 PM
AISIG Meeting Tom Rolfsmeyer	Jan 13 (Mon) Total Wine and More 4370 N Oracle Rd 6:30 PM	CAC Star Party Mike McDowell	Jan 24/25 (Fri/Sat) CAC 9313 E Perseus Way Sunset
Outreach Star Party West Tucson Jim Knoll	Jan 17 (Fri) Cholla High School 2001 W Starr Pass Blvd 5:30 PM	TIMPA Star Party Connor Justice	Jan 25 (Sat) TIMPA 3250 N Reservation Rd Sunset
Outreach Star Party Downtown Tucson Jim Knoll	Jan 17 (Fri) Carrillo Elementary 440 S Main 5:30 PM	Public Star Party Far West Tucson Jim Knoll	Jan 25 (Sat) Ironwood Picnic Area 7300 Hal Gras Rd 6:00 PM
Public Star Party NE Tucson Jim Knoll	Jan 18 (Sat) Agua Caliente Park 12325 E Roger Rd 6:00 PM	Outreach Star Party SW Tucson Jim Knoll	Jan 28 (Tue) Vesey Elementary School 5005 S Butts Rd 6:00 PM
Ladies Night Out Susan O'Connor	Jan 23 (Thu) Chef Wang 365 E Grant Rd 6:30 PM	Outreach Star Party NW Tucson Jim Knoll	Jan 30 (Thu) Desert Willow Elementary 9400 E Esmond Loop 5:30 PM

Astronomical Events in Our Community

Below is a list of astronomy presentations in the Tucson area, mostly on the UA campus. For more information, visit the websites listed. Take advantage of these opportunities. Miss an event? Many lectures are available on the web. Visit the listed website to find out.

Date/Time	Speaker	Title	Location	Information
Jan 13 7:30PM	Dr. Thomas Beatty Steward Observatory	<i>Once You've Discovered Another "Earth", What comes next?</i>	Steward Observatory Lecture Hall N210	http://www.as.arizona.edu/public-evening-lecture-series
Jan 21 (TUE) 7:30PM	TBA	<i>LSST Dark Energy Science</i>	Steward Observatory Lecture Hall N210	http://www.as.arizona.edu/public-evening-lecture-series

Trivia Answers!

Trivia Question 1: TAAA has been fortunate enough to have had two members with the last name of Crawford who have made significant contributions to astronomy in different ways. 1.a. Some of you may be aware that in 1988 two TAAA members, Tim Hunter and David Crawford, had a dream of protecting the legacy of starry skies. They worked together to found an entirely separate organization, the International Dark Sky Association (IDA). Since then, IDA has become the foremost advocate and authority in the world for night sky protection, and still has its home-office in Tucson. 1.b. An entirely separate event happened in 2007 when TAAA was looking for a piece of land to fulfill its dream of a dark-sky site. At that point, Bill Lofquist, Robert Crawford and others worked to find and explore the land in Cochise County where CAC is now located. Robert Crawford, John Kalas, Sam Rua and Erich Karkoska formed the Perseus Group, which purchased the land and then donated the octagonal center portion of the site to TAAA for CAC. 1.c. As far as I know, David Crawford and Robert Crawford are not related.

Trivia Question 2: On December 16, 2019, The Astronomical Association of the Pacific published an article entitled, "Acceleration of Coronal Mass Ejection Plasma in the Low Corona as Measured by the Citizen CATE Experiment." Matthew J (Matt) Penn, TAAA Member, was the first author of the article. Matt developed and ran the Continental-America Telescopic Eclipse (CATE) Experiment. The project used citizen scientists to collect data at different locations during the Solar Eclipse of August 21, 2017. Matt is interested in continuing to use youth as citizen scientists in the meaningful collection of astronomical data and in working with TAAA in that process.

Special Interest Group (SIG) Activities

Astronomy Fundamentals SIG (AFSIG)

Meeting: January 9 (Thu) 6:30 PM

Ward 6 Office—East Room
3202 E 1st Street (off of Country Club and Speedway)
Contact: Connor Justice
Group Email: [fundamentals\[at\]tucsonastronomy.org](mailto:fundamentals[at]tucsonastronomy.org)
Leader Email: [Elliot.c.justice\[at\]gmail.com](mailto:Elliot.c.justice[at]gmail.com)

Come join us for a presentation from the fundamentals of amateur astronomy. Doug Smith will be giving the main topic on Telescope Maintenance. The constellation off the month has not yet been determined.

The AFSIG is looking for people to present future "Constellation of the Month", whether it is an old favorite or a constellation you would like to learn more about. Also, do you have a topic that would help us become better or more knowledgeable observers? Present it at the AFSIG. Let Connor know, so we can schedule you in. Is there a topic you would like to hear about or do you to present but need help finding a topic? Shoot us an email at [fundamentals\[at\]tucsonastronomy.org](mailto:fundamentals[at]tucsonastronomy.org)

The Astronomy Fundamentals Special Interest Group, is for all TAAA members who want to learn about and share the multiple aspects of the hobby. It is not just for beginners or new members, though, of course, it is one of the best way for them to learn about the club and hobby. Please come and share in the fun, whether to learn something new or share some hard won knowledge.

Room: The AFSIG meeting will be held in the east room of the Ward 6 Building which is located across the road from the Walgreens. Please enter through the door on the back side of the building. The front door is required to be locked during off hours.

Parking: Parking is available along the curb of the building and on the backside of the building. Parking is also available at the Walgreens store across the street from the office.

Astro-Imaging SIG (AISIG)

Meeting: January 13 (Mon) 6:30 PM

Location: Total Wine and More (4370 N Oracle)
Contact: Tom Rolfsmeyer
Group email: [astro-photo\[at\]tucsonastronomy.org](mailto:astro-photo[at]tucsonastronomy.org)
Leader email: mrolf@earthlink.net

This month's topic will be Using Noel Carboni's Astronomy tools and ExCalibrator to Process Your Images. If you are interested in astro-imaging, in being involved in planning, or in learning about it, please participate in these meetings.

TAAA Astro Imaging SIG (AISIG) Meetings usually occur on the 3rd or 4th Tuesday of the month, but the date and time may vary (please check the Events Calendar). We meet at Total Wine and More, 4370 N. Oracle Rd. If you are just getting into imaging the night sky or a veteran astroimager, AISIG is the group to ask questions, share your expertise and present your latest efforts. Best of all, the group decides what topics to address at upcoming meetings.



Starry Messengers SIG-
Opening Minds to the Universe

Meeting: January 12 (Sun) 1:00 PM

Himmel Library
1035 N Treat Ave (SE of Tucson Blvd and Speedway)
Contact: Terri Lappin
Phone: 520-977-1290
Email: smmsg@tucsonastronomy.org

This year's theme for the TAAA exhibit at the Tucson Festival of Books/UA ScienceCity is the search for life in the solar system. We're planning two kid-friendly projects that highlight the Mars 2020 Rover mission scheduled for launch this summer. One activity involves using a remote controlled rover to pick up "Martian Samples". The other activity will involve testing samples of "Martian Soil" for signs of life.

We will meet this Sunday, January 12th, to work out some of the details of these projects. We will practice the activities, discuss any needed improvements, and will consider what information we want to get across to the kids as they do the activities. Part of our display will explain the 2020 Rover Mission and NASA's more general search for life, so we'll look at what information we want to include, understanding this would be geared more towards older youth and adults.

TAAA Ladies Night Out

Thursday, January 23

Great Conversation! 6:30 pm Delicious Food!

Chef Wang

365 E Grant Rd

(S Side of Grant between 6th and 4th Avenues)

Preview the menu at www.chefwangaz.com

RSVP Susan

cyzeh@aol.com

STARIZONA
ADVENTURES IN ASTRONOMY AND NATURE

5757 N. Oracle Rd.
Tucson, AZ 85704

www.starizona.com
292-5010

Member Star Parties

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 from Tucson. Maps to both sites can be found on the TAAA website. Locked gates protect both sites. Call or email the contact person to learn when the gate will be unlocked.

TIMPA

Jan 25 & 31 (Sat & Fri)

Contact Person: Ralph Means

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

Email: bookbuyer1769@gmail.com

Phone: 520-460-8770

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!

Chiricahua Astronomy Complex

Jan 24 & 25 (Fri & Sat)

Contact Person/RSVP to: Mike McDowell

Email: [cac-director\[at\]tucsonastronomy.org](mailto:cac-director[at]tucsonastronomy.org)

Phone: 206-356-6624

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 Mike McDowell. Reservations are on a first come – first serve basis. You need to reserve for both nights if observing both nights.

Astronomical League Observing Programs

The Astronomical League Observing Programs are designed to provide direction for your observing, teaching you skills useful for the full enjoyment of our hobby. Each program has a set of requirements. Upon completion of the requirements, you qualify for a certificate and are awarded a pin. This program is only for those who are members of the Astronomical League.

Upon completing the requirements for a program, submit your observations to the TAAA ALCOR. Our ALCOR will review them and then forward them onto the appropriate program coordinator for further review. If they are complete you will be awarded your certificate and pin at one of our meetings.

For more information, ask our ALCOR or visit <http://www.astroleague.org/observing.html>



Our ALCOR is Doug Smith

Beginner Programs

- ◆ Binocular Double Star Program
- ◆ Binocular Messier Program
- ◆ Constellation Hunter Program
- ◆ Dark Sky Advocate Award
- ◆ Deep Sky Binocular Observing Program
- ◆ Galileo Observing Program
- ◆ Lunar Observing Program
- ◆ Messier Observing Program
- ◆ Meteor Observing Program
- ◆ Outreach Observing Award
- ◆ Sketching Observing Award
- ◆ Sky Puppy Program
- ◆ Solar System Observing Program
- ◆ Southern Skies Binocular Program
- ◆ Universe Sampler Program

Intermediate Programs

- ◆ Advanced Binocular Double Star Observing Program
- ◆ Asteroid Observing Program
- ◆ Caldwell Observing Program
- ◆ Carbon Star Observing Program
- ◆ Comet Observing Program
- ◆ Double Star Observing Program
- ◆ Earth Orbiting Satellite Observing Program (EOSOC)
- ◆ Globular Cluster Observing Program
- ◆ Lunar II Observing Program
- ◆ Open Cluster Observing Program
- ◆ Planetary Transit Special Observing Award
- ◆ Southern Skies Telescope Observing Program
- ◆ Sunspotters Observing Program
- ◆ Stellar Evolution Observing Program
- ◆ Two in the View Observing Program

Advanced

- ◆ Advanced Binocular Program
- ◆ Analemma Observing Program
- ◆ Arp Peculiar Galaxies Northern Observing Program
- ◆ Asterism Observing Program
- ◆ Bright Nebula Observing Program
- ◆ Dark Nebula Observing Program
- ◆ Galaxy Groups and Clusters Observing Program
- ◆ Herschel 400 Observing Program
- ◆ Herschel II Observing Program
- ◆ Hydrogen Alpha Solar Observing Program
- ◆ NEO Observing Program
- ◆ Occultation Observing Program
- ◆ Planetary Nebula Program Observing Program
- ◆ Radio Astronomy Observing Program
- ◆ Variable Star Observing Program
- ...and more including the Master

TAAA Outreach Events

Members are asked to support these outreach events. Details and maps can be obtained by logging into your Member Planet account. Sign up at a meeting, respond to Jim Knoll's email requests, or pick up the phone. Signing up is important so you can be contacted in case of cancellation. Contact Jim at school-sp-volunteers@tucsonastronomy.org or 520-241-3113. If interested in being an Astronomy Guide and presenting projects from the Night Sky Network Outreach Toolkits, contact Terri Lappin at msig@tucsonastronomy.org.

Carrillo Elementary School Star Party

Jan 17 (Fri) **Set-up: 5:30 PM**
Downtown Tucson **Observing: 6:00 PM to 8:00 PM**
Leader: Jim Knoll **Volunteers Needed: 3**
Cross Streets: Broadway/Stone

Carrillo Elementary School is having a star party for 80 kindergarten students. The school is located at 440 S Main Ave, south of the Convention Center. Go south on Stone, right on Cushing Street (next to Police Department). West to stop sign (Main Ave). Left on Main past El Minuto restaurant on the corner. The school is on the right. Set up on the playground on the south end of the school. **Three volunteers with scopes are needed for this event.**

Cholla High School Star Party

Jan 17 (Fri) **Set-up: 5:30 PM**
West Tucson **Observing: 6:00 PM to 8:00 PM**
Leader: Jim Knoll **Volunteers Needed: 3**
Cross Streets: 22nd St/I-10

Cholla High School is having a star party for about 50 students. Cholla High School is located at 2001 W Starr Pass Blvd. From 22nd St and I-10 go west on 22nd until it becomes Starr Pass Blvd. Continue west to La Cholla Blvd. Turn into student parking lot (first one you come to) on the NE corner of the complex. Setup in the amphitheater. **Three volunteers with scopes are needed for this event.**

Agua Caliente Park Public Star Party

Jan 18 (Sat) **Set-up: 5:30 PM**
NE Tucson **Observing: 6:00 PM to 8:00 PM**
Leader: Jim Knoll **Volunteers Needed: 5**
Cross Streets: Roger/Soldier Trail

We are supporting a public star party at Aqua Caliente Park. About 70 people attend these regularly scheduled star parties at the Agua Caliente Park. The park is located at 12325 E Roger Road. This is near Soldier Trail. Setup will be at the bus lanes at the north end of parking lot. **Three more volunteers with scopes are needed for this event.**

Rattlesnake Ridge Elementary Star Party

Jan 23 (Thu) **Set-up: 5:30 PM**
NW Tucson (Marana) **Observing: 6:00 PM to 7:00 PM**
NSN Toolkit: 5:00 PM to 7:00 PM
Leader: Jim Knoll **Volunteers Needed: 5**
Cross Streets: Ina/Silverbell

Rattlesnake Ridge Elementary is having a star party and NSN Toolkit demonstration for 200 students. The school is located at 8500 N Continental Reserve Loop. From Ina and Silverbell go north on Silverbell past Cortaro & Wade. Turn left on the SECOND Continental Reserve Loop road. The school will be on the left. Reminder: Ina/I-10 closed. Access Silverbell from Sunset/I10 or Ruthrauff Rd (south of Ina) or Cortaro (north of Ina) Observing will be on the playground. **Four volunteers with scopes and an NSN Toolkit volunteer are needed for this event.**

TAAA Outreach Events (Cont.)

Potential Contacts This Month: 1100

Volunteers Needed This Month: 29

Mesa Verde Elementary School Star Party

Jan 23 (Thu) **Set-up: 5:30 PM**
NW Tucson **Observing: 6:00 PM to 7:30 PM**
Leader: Jim Knoll **Volunteers Needed: 4**
Cross Streets: Ina/La Canada

Mesa Verde Elementary School is having a star party for 200 students. The school is located at 1661 W Sage St. Go north on La Canada, past Magee to Sage St. and turn left. Set up on intermediate field or courtyard. **Four volunteers with scopes are needed for this event.**

Miller Elementary School Star Party

Jan 24 (Fri) **Set-up: 5:30 PM**
SW Tucson **Observing: 6:00 PM to 7:30 PM**
Leader: Jim Knoll **Volunteers Needed: 2**
Cross Streets: Camino de la Tierra/Valencia

Miller Elementary School is having a star party for 60 students and family members. The school is located at 6900 S Camino de la Tierra Road. Go west on Valencia from I-19 seven traffic lights and turn left onto Camino de la Tierra. Circle K and Quik Trip are on the three corners. Go south on Camino de la Tierra about 1/2 mile. Miller is on the left. Set up on the basketball courts. **Two volunteers with scopes are needed for this event.**

Ironwood Picnic Area Public Star Party

Jan 25 (Sat) **Set-up: 5:30 PM**
Far West Tucson **Observing: 6:00 PM to 8:00 PM**
Leader: Jim Knoll **Volunteers Needed: 3**
Cross Streets: Kinney/Gates Pass

We are supporting a public star party at the Ironwood Picnic Area in Tucson Mountain Park. About 50 people attend these regularly scheduled star parties at the Ironwood Picnic Area. This is located at 7300 West Hal Gras Rd, which is off Kinney Road just south of Old Tucson Studios. Setup will be near the restroom facilities, about 3/4 of the way in from Kinney Road. **One more volunteer with scope is needed for this event.**

Vesey Elementary School Star Party

Jan 28 (Tue) **Set-up: 5:30 PM**
Far West Tucson **Observing: 6:00 PM to 7:30 PM**
Leader: Jim Knoll **Volunteers Needed: 4**
Cross Streets: Irvington/Butts

Vesey Elementary School is having a star party for 150 students. The school is located at 5005 S Butts Rd. Take Irvington West from I-19. Go about 5.5 miles and turn south onto Butts Road. The school will be located on the E side of the street. Set up behind the cafeteria between the school and Vesey Park. **Four volunteers with scopes are needed for this event.**

Desert Willow Elementary School Star Party

Jan 30 (Thu) **Set-up: 5:00 PM**
SE Tucson **Observing: 5:30 PM to 7:00 PM**
Leader: Jim Knoll **Volunteers Needed: 3**
Cross Streets: Houghton/Rita Rd

Vesey Elementary School is having a star party for 50 students. The school is located at 9500 E Esmond Loop. Go west on Rita Rd. and turn left on Esmond Loop. The school will be on the left (south). Set up on the field. **Three volunteers with scopes are needed for this event.**