



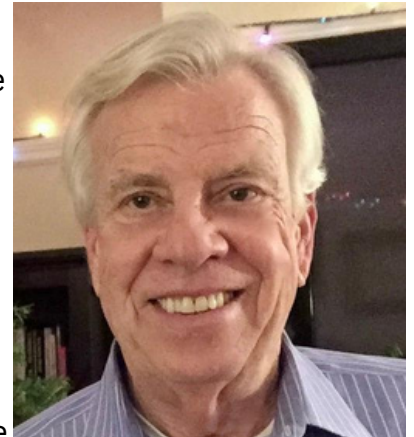
PAStimes

A Publication of the Phoenix Astronomical Society

Stu's Views • Stu Brackney, President PAS

Hi everyone. This time of the year is oh-so-busy, with many holiday events in our community, family gatherings, and of course your PAS is busy as well.

Our Star Tours group is out with their telescopes and meteorites presenting at various venues throughout the valley, in schools, the Desert Botanical Gardens, and many other events. If you are an experienced telescope user, you may want to contact our Star Tours Manager Andrew Stone at: startours@pasaz.org to learn how you can be involved. These are opportunities for you to share your talents and earn some money.



Did you know PAS has an inventory of donated telescopes? We are organizing these scopes and designing a loaner program for PAS members. Keep an eye open for announcements on how this program is going.

Now you have the chance to unleash your inner Perry White! The Phoenix Astronomical Society is seeking an editor for our newsletter. Assistance is available to get you up to speed. If interested, contact me for details.

PAS sponsored star parties are happening at the Apache Wash Trailhead. They are open to the public, so enjoy the longer nights and the cooler weather, bring a friend, and of course your family. To look at our year-long schedule of star parties, lectures, and other events, visit our website: www.pasaz.org. On the opening page there is a link titled: PAS Event Calendar and Registration Site. Click on that link to learn about our scheduled events.

Enjoy safe and fun holidays everyone and of course clear skies as you look up to learn and enjoy.

In This Issue

[Upcoming Events](#)

[January Lecture](#)

[November Lecture](#)

[December Outreach](#)

[Star Tours](#)

[Astronomy Images](#)

[What's in the Sky This Month](#)

[Helpful Astronomy Websites](#)

[Why You Should Join PAS](#)

January Upcoming Events

January 4th – Monthly Lecture Series

January 13th – Public Star Party

January 18th – Telescope Workshop 101 – What to Buy

January 18th – Telescope Workshop 201 – How to Operate

January 20th – Night Sky Training Session (NSTS)

For more information and to register for these events, go to the [PAS Event Calendar and Registration Site](#). It is important to register for all events. In case of event change or cancellation you will be notified via email.

January Lecture

The speaker for our meeting on Thursday, January 4, 2024, is Matthew Ota. The title of the presentation is: “Edward Emerson Barnard - 19th Century astronomer and The world's greatest observer and astrophotographer of his time”

Matthew Ota is a retired commercial sign designer and amateur astronomer based in the Sunland neighborhood of Phoenix, Arizona. From 2004 to 2008 he worked as a telescope operator at Mount Wilson Observatory above Los Angeles, California, first running the Telescopes In Education 24-inch Ota telescope, then the 16-inch Meade LX200 telescope, and finally worked as an operator and data analyst at the 60 Foot Solar Tower Telescope. From 2004 to 2008 he lectured on behalf of the Jet Propulsion Laboratory for the Cassini Huygens Program. He has over 20 years of experience doing astronomy outreach and astronomy lectures for the Telescopes In Education Foundation, NASA, and local astronomy clubs in the Los Angeles area. He served on the Board of Trustees of the Orange County Astronomers from 2003 to 2004.

For more details and to register for the meeting and presentation go to the PAS Event Calendar and Registration Site:

[PAS Event Calendar and Registration Site](#)

It is important to register for events. In case of changes you will be notified.

November 2, 2023, Presentation by Kai Staats by Paul Facuna

The title of Kai Staats presentation was “So you think you want to live on Mars?” He gave a very interesting and informative presentation on the construction work that he and his team did to renovate and upgrade the former Biosphere that is now owned and operated by the University of Arizona and named Biosphere 2. The facility is a hermetically sealed and pressurized Mars habitat analog designed to explore the complexity of humans living on Mars.

Presentation by Kai Staats (continued)

It has a half-acre indoor/outdoor Mars yard for testing extra-vehicle activities while in pressure suits. It has a working airlock, greenhouse, kitchen and living quarters. The green house can be used to test growing plants in simulated Martian sunlight and soil and growing plants hydroponically with Martian sunlight. The facility has already been used for testing by two, four-person, six-day missions in April and May of 2023. The facility cannot simulate the radiation that humans would be exposed to or the low gravity they would be living in. As Kai Staats pointed out, growing food and living on Mars will not be as easy as depicted in movies in general or in the movie The Martian.

November Outreach Events

The PAS outreach program had another busy month in November with six successful events:

Public Star Party

A good-sized group of people visited our Apache Wash Trailhead star party site on Saturday the 11th for our first public star party of the season. Nine PAS members attended with their telescopes and provided a wide variety of excellent views of our cosmos to their fellow members and the visiting public. The evening was spectacular with the first hint of the cooler temperatures ahead and was enjoyed by all.

Star Tours – Ritz-Carlton Dove Mountain

The Star Tours outreach program held an event for the Ritz-Carlton in Marana on the 15th. Ted Blank served as PAS's visual telescope operator for the event which included several hotel guests. Sky conditions were not ideal, but Ted was able to supplement views of both Jupiter and Saturn with a presentation on the James Webb Space Telescope.



Telescope Workshop 101 – What to Buy

November's 101 workshop on the 16th at PVCC was taught by Terri and William Finch and Bruce Wurst. We attracted two attendees who were looking for assistance with buying their first telescope.

Telescope Workshop 201 – How to Operate My Telescope

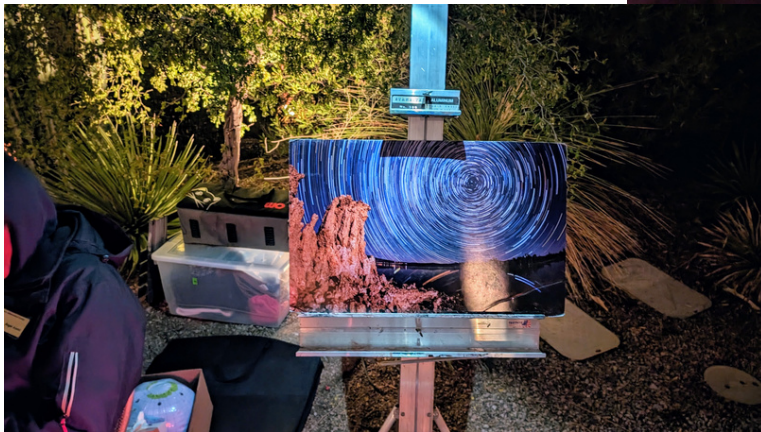
November's 201 workshop on the 16th at the Apache Wash Trailhead had to be cancelled this month due to very poor sky conditions with clouds and light rain.

Star Tours – Sunny Slope High School

The Star Tours outreach program held an event for Sunny Slope High School in Phoenix. Stu Brackney, Scott Adams, and Richard Sauerbrun served as PAS's telescope operators for the event.

Star Tours – Desert Botanical Garden

The Star Tours outreach program began a series of events for the Desert Botanical Garden in Phoenix. Andrew Stone, Mason Klenklen, and Pete Turner served as telescope operators and meteorite presenters for the first few days of this event.



Star Tours Outreach Program's roster of presenters for 2024

Mark Johnston
Ted Blank
Mason Klenklen
Mark Savan
Andrew Stone-Star Tour Manager
Richard Sauerbrun
Stu Brackney
Bruce Wurst
Roger Anzini
Peter Turner
Chris Ford
Tony Pistilli
Scott Adams
Damon Finell

These individuals have successfully met the qualifications to participate in Star Tours Events and receive compensation for their services. 🌟

Member Astro Images

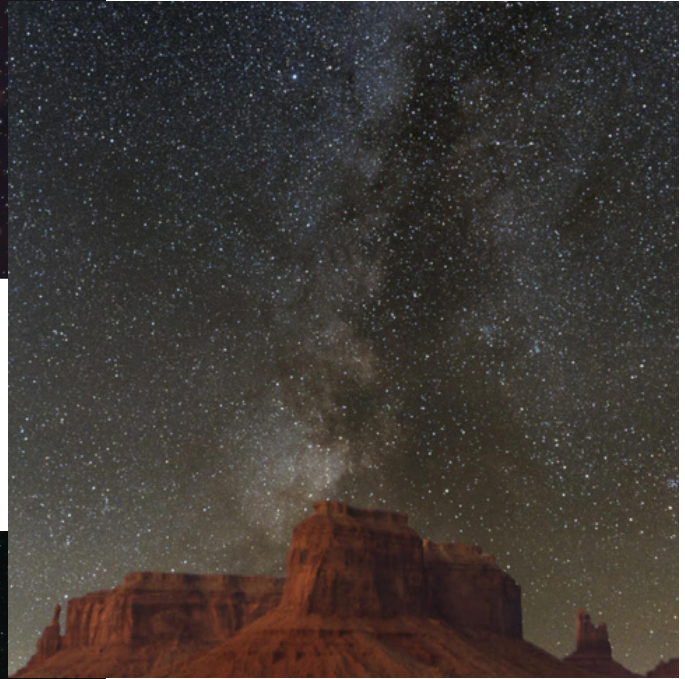


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and stephan's
quintet*

Mark Johnston

monument valley

Mark Savan



caldwell 11

Kris Mlak

ic 63

Mark Johnston



Small Telescope Targets for January

Each month we feature 7 good targets for small telescopes that should be visible in the evening.

1. **NGC869/884 Double Cluster** The nicest pair of side-by-side open clusters in the sky. Visible to the naked eye from dark sites.
2. **Eta Persei** Nice blue/yellow binary star.
3. **M103** Just in time for Christmas, this open cluster looks much like a Christmas tree.
4. **NGC7789 Caroline's Rose** Discovered by Caroline Herschel, a beautiful star cluster than appears like looking into a rose.
5. **NGC457 Owl cluster** A star party favorite, this star cluster looks just like its name sake.
6. **NGC 891 Silver Sliver galaxy** Edge on galaxy with a conspicuous dust lane bisecting the top and bottom.
7. **Gamma Aries** Yellow/red binary star.

The January 25th full moon is often referred to as the Wolf Moon. This name is rooted in Native American and early Colonial American traditions, where wolves were heard more frequently howling in hunger during the winter months. The January full moon marks the first full moon of the year and showcases a bright and beautiful celestial display in the night sky. The cold winter air and the crisp ambiance add to the enchanting atmosphere, making it a captivating sight for stargazers and moon enthusiasts.



Helpful Astronomy Websites

by Mark Johnston

The following websites are great free resources to help you plan and enjoy your astronomy adventures

Astromart astromart.com/ This is one of the top two sites for buying and selling used astronomy gear, product reviews, and forums where you can discuss any aspect of astronomy with other enthusiasts. A small fee is required.

Astrometry.net <https://nova.astrometry.net/> This site will take any astronomy image you send it (galaxy, starfield, nebula, etc) and then tell you what it is and where it is in the sky.

Astronomy Tools astronomy.tools/calculators/field_of_view/ This site has a lot of capabilities but I use it primarily to figure out how a target (e.g. the Helix nebula) will look in my eyepiece or astronomy camera. You pick your scope, camera, eyepiece and target and the site does the rest.

Astrospheric www.astrospheric.com/ Probably the best short term astronomy weather forecasting tool, providing predictions of clouds, transparency and seeing.

Clear Sky Charts www.cleardarksky.com/ Excellent source of astronomy seeing conditions forecast. Also a great tool for finding observing sites with lower light pollution.

Cloudynights www.cloudynights.com/ This is one of the top two sites for buying and selling used astronomy gear, product reviews, and forums where you can discuss any aspect of astronomy with other enthusiasts. Free.

Dark site finder darksitefinder.com/map/ Great website for finding a dark observing location.

Heavens above heavens-above.com/ Top site for predicting naked eye observations of satellites. See when the ISS is visible in your neighborhood!

Jupiter transits shallowsky.com/jupiter/ For anyone with a small telescope, this is a great site. You can find out when the Great Red Spot and Jupiter's satellite transits are visible.

Solar Dynamic Observatory (SDO) <https://sdo.gsfc.nasa.gov/data/> Find out how the Sun looks right now, at various wavelengths. If you own a solar telescope, this site coupled with Astrospheric is all you need to plan fabulous solar observing!

Telescopius telescopius.com/ This site is very helpful in planning an observing evening. It will tell you when any particular target is rising and setting and when is the best time to observe it. This allows you to sequence your observing in a planned manner.



Why You Should Join PAS

By Stu Brackney, President PAS

Besides the fun of meeting so many different people who enjoy learning about the cosmos, your annual fee of \$30.00 goes toward:

- helping to fund student scholarships at Paradise Valley Community College
- providing materials that we distribute at our school events, public star parties and monthly meetings
- acquiring insurance for conducting all these events
- upgrading software that allows us to have efficient website management

AND our members have an abundance of resources and expertise that we can share and explore together. If you are not already a member, we invite you to join us in this exciting journey to enhance our knowledge of the skies!

As your journey in astronomy continues, as a member, you will have the opportunity to contribute to outreach activities with your telescope and help us educate and entertain the public. Once you become proficient, you can apply to join our Star Tours program where participants are compensated for doing paid events for corporations, government agencies and schools.

We hope, as a member or future member, that you are aware of all the above information that allows us to make a difference in the lives of others as they learn and discover more about our universe!

Hello PAS members,

I hope this message finds you orbiting in good spirits! I'm over the moon to announce that I've landed the cosmic role of your new editor for 2024. Buckle up as we embark on an astronomical adventure together!

Our shared passion for Astronomy is the gravitational pull that keeps us together as a stellar group. I'm committed to making our newsletter shine like a supernova with fresh perspectives, creativity, and a sprinkle of stardust.

Feel free to shoot me an email at editor@pasaz.org with your celestial thoughts, and suggestions, or just to send intergalactic greetings. Here's to a year filled with cosmic inspiration, collaboration, and out-of-this-world stories!

May your skies be clear and your telescopes be focused!

Richard Meyers- Newsletter Editor