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The sky is the limit for astronomy club

The Popular Astronomy Club has been part of this community since 1936, and we're pleased to report that we're still going strong.

PAC had a highly successful 2022, and we're looking forward to an even better year in 2023. Our members are continuing the mission our club has pursued from the time it was founded more than eight decades ago: to share the wonders of the night sky with as many people as possible and advance the cause of amateur astronomy within the Quad Cities and surrounding area.

The word "Popular" is right in our name, and that's because we believe that astronomy is for everyone. You don't need a telescope or a degree in science to join the club or participate in PAC-sponsored activities. All you need is an interest in astronomy and a desire to learn more about the stars, planets, galaxies and other fascinating objects found in the vast universe that we occupy.

From the start, PAC has held public outreach events designed to bring astronomy to where the people are. When the COVID-19 pandemic hit, we had to cancel or scale back many of those events.

As pandemic restrictions have eased, though, we were once again able to reach more people. By our count, 1,638 members of the public attended PAC outreach events in 2022. That's up from the 1,172 we counted in 2021; however, it's still short of past years, when total annual attendance at our events often exceeded 2,000.

Our 2022 numbers might have been better with more cooperation from the fickle Midwest weather. Four of our nine Niabi Zoo events, and seven other events scheduled for 2022, had to be canceled or postponed because of rain and/or cloudy skies.

As we have done in past years, and as will continue to do in 2023, PAC will hold monthly public observing events beginning at sunset at Niabi Zoo on the third Saturday of every month from March through November.

We try to accommodate requests for viewing sessions from organizations of all kinds: scouting and youth groups, churches and houses of worship, community groups, schools, libraries, museums, campgrounds, etc.

When we do go out, we often bring the PACMO, our mobile observatory that comes equipped with a high-powered telescope. What we observe through that scope can be projected onto a video screen, meaning that an entire group can see what's being viewed without having to use an eyepiece. Individual telescopes are also available at these events, and PAC members are on hand to explain what you're looking at and answer questions.

PAC members can also do indoor presentations, including those featuring hands-on activities for kids (and interested adults). We also have special equipment for observing the sun. A note of caution: Solar observing requires specialized equipment with filters that screen out harmful rays. Looking at the sun without proper protection will severely damage your eyesight or even render you blind.

PAC members and guests are invited to our regular meetings, usually held on the second Monday of the month at the Butterworth Center in Moline. If you can't be there in person, you can attend the meeting virtually via Zoom.

Our meetings often feature presentations by subject-matter experts, and the ability to connect to anyone, anywhere by Zoom has expanded the range of interesting individuals who've presented at our meetings.

The topics covered at our meetings in 2022 included the Mars Curiosity rover, how birds use stars to navigate during migrations, the history of the U.S. Naval Observatory, radio astronomy and observations from the James Webb Space Telescope. PAC members also

made presentations on various topics and displayed their own astronomical observations during our meetings.

Membership in PAC has its privileges. All PAC members are also enrolled as members in the nationwide Astronomical League and receive subscriptions to its “Reflector” magazine. New PAC members receive an official club T-shirt, and who doesn’t need another T-shirt? You don’t need a telescope to join PAC because the club has telescopes that members can borrow, along with advice on how to use them.

The cost of an individual membership in PAC is just \$30 and only \$10 for students. To sign up, and to learn more about PAC, visit our website, at www.popularastronomyclub.org. You can also find us on Facebook.

We can’t guarantee clear skies, but some of our public programs occur even if we can only talk about astronomy and look at previous images from past observing sessions.

Winter is actually a good time to go outside on a clear, dark night and gaze up at the night sky for naked eye observing without a telescope. Without spending time in the cold to set up and align a telescope, you can revisit some of the noted winter constellations.

In January, facing south to southeast in the evening, you can see the constellation Orion the Hunter. Several bright stars outline the shape of Orion, and the three stars in a row define Orion’s belt.

The upper left star in Orion is known as Betelgeuse, and the lower right star is called Rigel. Both are among the 10 brightest stars in the sky. Both are also supergiant stars much larger than our sun; however, they are much different from each other.

Look closely and you may notice that Rigel is bluish white in color, indicating it is very hot as stars go. Betelgeuse is a red supergiant, and many times larger than Rigel, but only about one-quarter as hot.

Following Orion’s belt to the left (or southeast), you soon come to Sirius, the brightest star in the sky. Sirius is also known as the “Dog Star” because of its location in the constellation Canis Major, the Greater Dog.

By going back to Orion’s belt, and following it about the same distance in the opposite direction from Sirius, you come to the bright star Aldebaran, in the constellation Taurus. You may notice some much dimmer stars around Aldebaran. This is the star cluster called the Hyades, which is actually behind Aldebaran.

Continuing away from Orion, again about the same distance, you come to another star cluster, the Pleiades. This is a cluster of newly forming stars. Most observers can see five to seven stars with the naked eye; observations with telescopes, though, show that there are over 1,000 stars in the cluster.

While viewing this area of the sky during January, be sure to notice the planet Mars in the area of the Pleiades and Hyades. It will appear somewhat brighter than the stars and also have a reddish color.

A special event for any stargazers to watch, if the weather cooperates, will occur between 11 p.m. and midnight Jan. 30. The moon will be seen as slightly larger than its half-moon phase and will pass next to Mars as a conjunction.

We hope to see you at one of our events in 2023, and maybe even with us as a new member. All are welcome. Meanwhile, hope for clear skies and keep looking up.

Dale Hachtel is president and Paul Levesque is secretary and editor of the Popular Astronomy Club.