

**Reflections** The Newsletter of the Popular Astronomy Club ESTABLISHED 1936

#### **REFLECTIONS from the President**



Dale Hachtel

On October 14, the Quad Cities area was unfortunately under a 97% cloud cover. Because of the gloomy weather, most of us

missed seeing the partial eclipse of the sun which happened that day. I have heard from only one person who actually saw the eclipse through a brief break in the clouds.

Later that evening, however, 36 PAC members and guests gathered at the Riverfront Grille for our annual banquet. We enjoyed a very interesting and informative talk by Larry Bartoszek titled "The Connection Between the Periodic Table and Astronomy."

Larry's talk was technical enough to provide interesting information to amateur astronomers, and informative and enjoyable to make it understandable to anyone.

We plan to have Larry back for another program in the future. If you missed the banquet, the recording is available on PAC's YouTube channel.

Thanks very much to Larry, and thank you to the PAC members who helped make the annual banquet happen and to the Riverfront Grille for hosting the event. I certainly enjoyed myself, and I believe everyone there did as well.

The next PAC meeting will be on November 13, featuring Val Germann talking about some of the historical uses of astronomy during a presentation titled "Astronomy on the Santa Fe and Oregon Trails." We will finish the year at our meeting on December 11 with a review of the year and election of officers.

We already have several interesting programs planned for 2024, so now is the time to renew your membership if you have not already done so. You can renew at a meeting or observing event, or by mailing in your enrollment form. You'll find the form on page 18 of this issue of Reflections, or in the "Documents" section of PAC's website, <u>here</u>. Along with renewals, new members are always welcome.

With Saturn, Jupiter, Uranus, and Neptune now observable in the evening sky, and Venus greeting us in the morning sky, observing should be good for the remainder of this year. The coming year of 2024 will offer more observing opportunities, including another solar eclipse, and some interesting and informative programs. All good reasons to keep looking up!

#### November 2023

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Knit caps that come in several colors, and are perfect for chilly nights at the telescope, are available at the AL online store.

### Shopping solution: The AL online store

It's November, which means that the holiday shopping season is officially under way.

If you're looking for a gift for that amateur astronomer on your shopping list, may we suggest that you take a look at the online store run by the Astronomical League.

You'll find a wide variety of items at AL's online store, including clothing, books, calendars, observing manuals, sky charts, and more. If you can't decide, gift certificates are also available for purchase.

To assure that your gift arrives on time for delivery by Santa Claus on Christmas Eve, orders should be made no later than December 6.

This link will take you to the AL online store:

store.astroleague.org/.

Submissions to *Reflections* are always welcome! Send your photos, articles and other items to: levesque5562@att.net

### **ANNOUNCEMENTS / INFO**



### NCRAL Seasonal Messier Marathon Program

NCRAL's Seasonal Messier Marathon observing program is NOT designed to qualify observers for the Astronomical League's Messier Observing program; the two programs are unrelated and observing requirements are quite different. In the NCRAL program, the main requirement is to quickly observe and essentially check off items from one of four seasonal lists of Messier objects as noted in the section to follow.

NCRAL recognition will consist a suitable printed certificate and a 3/4inch enameled star pin (a different color for each season). There will be no direct cost to the membership for participating in the award program; the cost of the program (pins, certificates, mailers, postage) will be borne by the Region as a benefit of affiliation. Relevant program documents are linked below

NCRAL Seasonal Messier Marathon Rules

NCRAL SPRING Seasonal Messier List

NCRAL SUMMER Seasonal Messier List

NCRAL AUTUMN Seasonal Messier List

NCRAL WINTER Seasonal Messier List

### HOW'S THE WEATHER?

meteoblue weather & close to you



Popular Astronomy Club Officers



**PRESIDENT** - Dale Hachtel 1617 Elm Shore Drive, Port Byron IL, 61275 Phone: (614) 935-5748

VICE PRESIDENT – Dino Milani 2317 29 1/2 Street, Rock Island, IL, 61201 Phone: (309) 269-4735

SECRETARY - Paul Levesque 5002 26th Avenue A Court, Moline, IL 61265 Phone: (309) 236-1726

**TREASURER** – Michael Haney 564 36th Avenue, East Moline, IL, 61244 Phone: (309) 755-7935

ALCOR – Roy E. Gustafson 11 Deer Run Road, Orion, IL, 61273 Phone: (309)526-3592

#### **DIRECTOR OF OBSERVATORIES** -

Rusty Case 2123 W. 16th Street, Davenport, IA, 52804 Phone: (563) 349-2444

PAST PRESIDENT - Alan Sheidler 3528 56th Street Court, Moline, IL, 61265 Phone: (309) 797-3120

#### **NEWSLETTER EDITOR -**

Paul Levesque Email: levesque5562@att.net Phone: (309) 236-1726

If you have questions or request, or want more information on PAC, send an e-mail to: <u>popularastronomy-</u> <u>club@gmail.com</u>

# PAC HOSTS ANNUAL BANQUET



The Popular Astronomy Club hosted its annual banquet on October 14 at the Riverfront Grille in Rock Island.

The Saturday evening event, held in lieu of the club's regular Monday night monthly meeting, attracted 36 club members and guests. Attendees enjoyed a buffet dinner, beverages and desserts, and got a chance to mix and mingle in a festive atmosphere.

In the room set aside for the banquet,

several tables were covered in door prizes, assuring that nearly everyone present came away with something. The main prizes included a telescope and binoculars, with many books and astronomical guides also awarded to lucky winners.

Larry Bartoszek made the keynote presentation at the banquet. A resident of Aurora, Illinois, Larry worked at Fermi National Accelerator Laboratory for more than 10 years and currently operates Bartoszek Engineering, a consulting firm specializing in creating mechanical designs for the nuclear and high-energy physics community.

The presentation was titled "The Connection Between the Periodic Table and Astronomy," and covered a wide range of topics showing how the elements we find on Earth originated from subatomic particles formed during the Big Bang that created the physical Universe.

Spectroscopy has shown us how elements were forged in stars at various stages, Larry said, and how they eventually spread throughout space to other celestial objects. Though we've yet to touch stars and objects outside our Solar System, he noted, modern instruments have shown us how to interpret the wealth of data received via starlight reaching Earth.

The "standard model" of the composition of the Universe and its basic structure re-Continued on Page 4

Following his presentation, Larry answered questions and then helped draw for door prizes.



# PAC banquet

*Continued from Page 3* mains incomplete, Larry said, in part to the mystery that still surround dark matter and dark energy and their percentage of all matter.

As most of universe consists of what we perceive as empty space, Larry said, so do the atoms that make up our bodies and everything we see around us, with the nucleus of the atom equivalent to a dust mote on the floor of cathedral when compared to the entire or-



PAC members mixed and mingled during the banquet and checked out tables filled with door prizes. PAC President Dale Hachtel presented Paul Levesque with the Member of the Year award (below).



bital shell where electrons and other particles are found.

Appropriately enough with Halloween approaching, Larry concluded his presentation with a slide stating, "You're a ghost driving a meat-coated skeleton made from stardust, so what do you have to be afraid of?" He then took questions, some of which could only be answered in the context of the theory of general relativity and how it impacts our understanding of gravity and other fundamental forces.

A recording of Larry's presentation at the banquet is available at the following link: <u>www.youtube.com/watch?v=c96Mu42TvOM</u>.

After the presentation, PAC President Dale Hachtel summarized some of the club's activities during 2023 and highlighted members whose membership dates back 30 years or longer. He also welcomed eight new members who've joined PAC this year.

Members who've earned recognition from the Astronomical League, and who were presented awards during the convention of the North Central Region of the Astronomical League in May, were also cited by Dale.

The PAC Member of the Year award was presented to Paul Levesque, who serves as club secretary and is also editor of *Refections*. Paul was honored for his high level of



participation in club activities and overall support of the club, and for creating an informative newsletter that serves as a forum for PAC and that earned an award as the best in NCRAL.

Thank you to everyone who helped put the banquet together, and to all whose dedication to amateur astronomy keeps PAC moving forward!

## PV teacher shares passion for astronomy

The following article was originally published in the Spartan Shield, the newsletter of Pleasant Valley High School. Here is a link to the original article: spartanshield.org/ianspangenberg

The notorious AP Physics – the class that Pleasant Valley students are warned about by their peers and teachers alike.

Considered one of the most challenging courses offered at PV, the first unit is famous for its consequent wave of students dropping the course. Why students still decide to persevere through such a treacherous physics track can be attributed to PV's infamously loved AP Physics teacher, Ian Spangenberg, known to students as "Mr. Spang," who always makes sure their hard work is recognized. Ian Spangenberg, who is a member of the Popular Astronomy Club, founded an astronomy club at Pleasant Valley High School.



"The part of the course I really like is when the last day comes – when we learn the last formula – and it's all worth it," Spangenberg said about the reward for the course's challenging concepts.

He believes the challenge to be the keystone of the learning process in his classroom. Not only do students walk out with extensive knowledge of physics, but also with enhanced problem-solving and test-taking skills, and greater overall confidence in their abilities.

The next greatest reward gained by students in the class is Spangenberg's personality and teaching style. "I don't really know what I do," Spangenberg said. "I just stand here and talk about my favorite things, and students like it." And for many students, that is the reason the class is so fun – because they can tell he's talking about his favorite things.

"He makes up so many jokes and talks about how cool science is and you can't help but agree with him. It's one of his favorite things. Many people would find it boring, but when he talks about them, it sounds so interesting," explained senior Sammy Kruse, who chose to spend another year with Spangenberg in AP Physics 2.

Every year, dozens of students like Kruse can't help but be exposed to Spangenberg's contagiously amusing love for the world of physics and what Kruse describes as a "fun, relaxed, yet hard-working environment."

With such an impactful way of teaching, it's almost surprising that Spangenberg didn't initially want to become a teacher. After deciding to major in physics and astronomy, Spangenberg worked for three years as a paid intern at the University of Iowa's Department of Physics and Astronomy, researching X-ray photometry and spectroscopy.

Spectroscopy refers to the analysis of the light emissions from astronomical bodies and phenomena. Spangenberg was involved in the testing of the X-ray camera which would be mounted onto a rocket to capture images in space.

Although he found the experience amazing, he couldn't help but sense something was missing. He loved being part of a team that launched rockets into space, but for most of the

Continued on Page 6

## Ian Spangenberg

#### **Continued from Page 5**

year he and his supervisors would sit behind a screen for daily research procedures.

It just wasn't as engaging as he'd hoped. Since he enjoyed being a tutor on his own time, he enrolled in the school of teaching.

His expertise finds him teaching collegelevel physics and, during the 2022-2023 school year, astronomy. That was the first year the school offered the dual-credit astronomy course, but Spangenberg was unfortunately not available to teach it this year, due to school growth causing an increase in AP Physics students. However, he believes the minor setback to be a good thing, as it attests to students' interest in taking AP Physics.

PV Astronomy welcomed Scott Community College's Dr. Robert Gregory to teach the course this school year, as over a dozen students wished to take it. The course, available to seniors or those who have taken AP Physics 1, is the result of Spangenberg's long journey to bring astronomy to Pleasant Valley High School.

"It started when kids would come to me after AP Physics and just ask me questions about astronomy. I loved to answer those questions; it's one of my favorite things to do," recounted Spangenberg.

As students' curiosity over astronomy continued, he decided to make it a club. Thus began Pleasant Valley's Astronomy Club, a space for anyone interested in learning the answers to the universe's most enthralling questions.

The club also gets the chance to engage with local astronomy clubs through "astronomy nights," monthly observations through telescopes at Niabi Zoo or St. Ambrose University's Menke Observatory.

"Bringing students out to these events," Spangenberg exclaimed, "is awesome." Given his amusing teaching style, it is no surprise that students are so excited to spend their Saturday nights looking through a telescope and learning about space.

At its peak, the club hosted over 60 students sprawled across desks and lab tables in Spangenberg's room. Though numbers have dwindled since the pandemic, he's excited this year to see many non-physics students attending the club as well, promising growth for his beloved club among new generations of Spartans.

Spangenberg's overwhelming impact on students and strong passion for what he teaches have set him apart as a deeply influential figure for Pleasant Valley students. He gives credit to the college professor who so engagingly opened his eyes to the world of physics, saying, "It only takes one teacher."

Through enthralling lectures, a positive environment and incredible attention and care for his students, Spangenberg has become that "one teacher" for countless PV students.

"In my first year of AP Physics, Spang showed an episode of 'Forensic Files' that used physics to solve a problem," Kruse explained. "I told Spang after class that I loved the show and thought it was super cool.

"That night I got an email from him telling me that he got in touch with a college visiting PV that had a great forensics program. While I don't plan on going to that particular school, the visit made me realize that this is the career for me. I owe that to Spang."

Spangenberg's teaching transcends the boundaries of physics and astronomy, touching the hearts and minds of students of all interests. Like the ever-expanding universe, PV students' passion for physics and astronomy will only keep growing, reaching new stars and galaxies, all thanks to "Spang."

> Margil Sanchez Carmona Spartan Shield

# **Des Moines Astronomical Society** *An active club engaged with the public*

As part of my continuing effort to learn more about amateur astronomy clubs in the North Central Region of the Astronomical League, I (Al Sheidler) visited the Des Moines Astronomical Society at their business meeting and public observing session on October 7.

The event was held at Ashton Observatory, which is located at Ashton-Wildwood Park in Mingo, about 25 miles northeast of Des Moines in Jasper County.

DMAS was founded in 1970 to foster interest in the night sky and advance education about astronomy in the community. The Ashton Observatory's original twin-dome building was built in 1983 and is a collaborative effort between Jasper County and DMAS.

In 2002, a large meeting space / classroom was added to the twin dome structure. This meeting room was destroyed by the August 2020 derecho which generated hurricane-force winds that left a path of destruction across Iowa.

The room was rebuilt last year, creating a facility offers spacious seating and has recently hosted public lectures for groups as large as 67.

DMAS provides public observing sessions every Saturday night, weather permitting, from April through October. The club also rents the facility to the public for special events, such as weddings. They told me they have one or two special events nearly every week.

The observatory's twin domes house two permanently mounted telescopes: A 16-inch Newtonian and a 1-inch Meade LX200 on a computer-controlled equatorial mount. A third, smaller dome located just south of the twin domes currently houses a 6-inch Schmidt Casse-grain telescope.

All three observatories were in operation for the public observing session during my visit, and the weather cooperated well enough to provide views of Saturn, Mizar and other objects.



DMAS operates a twin-dome observatory and a third smaller observatory in a dark sky site outside of Des Moines. The club hosts public observing sessions every Saturday night from April through October.



The club is also developing a radio telescope which they plan to use to map the Milky Way at the hydrogen 21-centimeter line (1420 MHz radio frequency).

The plan for this evening was to have a *Continued on Page 8* 





### **Des Moines Astronomical Society**

#### Continued from Page 7

short business meeting at 6:30 p.m., followed by a 40th anniversary celebration for club members at 7 p.m. and then by a public observing session beginning at about 7:30.



There were approximately 15 members in attendance at the business meeting and perhaps double that number there for the celebration.

A number of visitors showed up for the observing session; nearly 60 people were present, including visitors and club members. I'd call this a highly successful event.

DMAS currently has approximately 60 members. They appear to have excellent financial support, and also have a great relationship with Jasper County, which enables them to use an excellent dark sky site at Aston-Wildwood Park for their observatory. The Maytag family of home appliance fame has been a strong supporter of DMAS over the years.



DMAS ALCOR Jim VandeBerg (above) is shown with the 16inch Newtonian telescope in the east dome of the Ashton Observatory; east dome; club president Norm Van Klompenburg is shown with the 14-inch Meade LX200 in the west dome.

DMAS has hosted NCRAL conventions and hosted the Astronomical League convention in 2008. Club members are very knowledgeable and conversant with the observatory telescopes and equipment.

In terms of communication, DMAS publishes a newsletter called the *Starlight Journal*. They have a public website and a presence on Facebook presence, and appear to be getting the word out to the public about their programs. Overall, this club is very active and engaged with the public.

The Des Moines area has a large population base with a good public education system, universities, John Deere facilities, and other industries. This offers a huge opportunity for public engagement.

If DMAS leadership and membership can encourage younger folks to join and assume leadership roles, I see a great future for this club and for amateur astronomy in the Des Moines area. To learn more, visit the Des Moines Astronomical Society's website: <u>dmastronomy.com</u>.

**Al Sheidler** 

NOTE: Al serves as NCRAL chair and is visiting clubs in the North Central region.



October 23 was Astronomy Night for Cub Scout Pack 123 in Orion, and PAC supported this event by setting up five telescopes for the Scouts and their family members. Rolando Gamino, Dino Milani, Dale Hachtel and Al Sheidler were there to support this outreach event.

### November a month of transition in the sky

November will be an interesting time of transition in the sky.

Along with the change in seasons, the bright stars of winter will start to make their appearance in the eastern sky. They will be led by Aldebaran, the brightest star in the "V" shaped face of Taurus (the Bull), and to its upper left Capella, the brightest star in the five-sided Auriga (the Charioteer).

These stars will rise at about 8 p.m. Daylight Time as November begins and at about 5 p.m. Standard Time at the end of the month. Meanwhile, the Summer Triangle of bright Vega in Lyra (the Harp), Deneb in Cygnus (the Swan), and Altair in Aquilla (the Eagle) will start November high in the western sky, but will move lower during the month. Also, the Big Dipper will be reaching its lowest point in the northern sky.

The planets also will be interesting. Brilliant Venus will be unmistakable, fairly high in the eastern pre-dawn sky. It will be very close to the crescent Moon on the morning of November 9.

This pairing should not be missed, and since the Sun will not rise until about 6:45, you won't have to get up very early to see it. If you do get up when the sky is still dark, the pair will be midway between the bright stars Regulus in Leo (the Lion) to the west and Spica in Virgo (the Maiden) to the east.

In the evening sky, Mercury will make an appearance low in the southwestern sky during the second half of the month. It will move higher in the sky each day until it reaches its high point during the first days of December.

Bright Saturn will be in the southern sky, but move into the southwestern sky during the month as it starts to be left behind by faster orbiting Earth. It will set at about 1 a.m. Daylight Time early in the month and at about 10 p.m. Standard Time by the end of November. Very bright Jupiter will be in the southeastern sky and will move very slowly in retrograde, or western, motion when compared to the background brighter stars in Aries (the Ram).

This motion is so slow that it can only be seen after several days or weeks. However, an-



Ancient astrologers used accurate devices to measure the movement of the planets.

cient astrologers used very accurate devices to precisely measure the movement of the planets.

They also used surprisingly accurate charts, so they did not even need to look at the sky to know what the planets were doing. That is probably how the astrologers, or Magi, on their way to Bethlehem could have known that Jupiter had ended its retrograde motion and stopped in the sky (Matthew 2:9).

Jupiter was called the "King Star" because of its brightness and its stately motion across the sky. As such, it was involved with the activities of kings.

For example, when Octavian, who ruled Rome as Caesar Augustus, learned that Julius Caesar had been assassinated, he immediately went to his astrologer to learn what his horoscope, and especially the position of Jupiter, foretold about his future. Likewise, according to the theory of Michael Molnar, when the Magi saw that Jupiter had stopped *Continued on Page 10* 

# November sky

#### **Continued from Page 9**

and was most powerful in Aries, the sign for Judea, it would have confirmed to them that a king of the Jews had been born.

Some observing highlights for November:

**November 5**: Daylight Saving Time ends at 2 a.m. local time. Stargazers rejoice that darkness now comes an hour earlier.

**November 9**: The Moon and brilliant Venus will be almost touching in the predawn



sky after they rise at about 3 a.m. **November 19**: The Moon will form a large triangle with Saturn

**Don't forget to 'fall back'** to its upper left, on November 5.

and Fomalhaut, the brightest star In Piscis Austrinus (the Southern Fish) ,to its lower left.

**November 20**: The Moon will have moved in its orbit and will be much closer to Saturn.

**November 24**: The Moon will be to the right of bright Jupiter. It will move it its orbit and be farther to Jupiter's left on the 25th.

**November 27**: The full Moon will be above Aldebaran.

**November 28**: The Moon will be far to the lower right of Capella.

**November 30**: Mercury will be at nearly its highest point very low in the southwestern sky. Look about 30 to 40 minutes after sunset. Binoculars will help.

David Voigts, Black Hawk Astronomy Club

### Kalamazoo 'Eclipse Series' begins in November

The path of a total solar eclipse will cross the United States on April 8, 2024, and you can get ready for this much-anticipated event by viewing a series of live online presentations produced by an amateur astronomy group based in Michigan.

The first "Eclipse Series" presentation by the Kalamazoo Astronomical Society will be streamed via Zoom on November 3. Eight presentations are scheduled through March; all are free and open to the public, though you are asked to register in advance.

The November 3 presentation is titled "Sun Moon Earth: Solar Eclipses from Omens to Awe." Dr. Tyler Nordgren, a professional astronomer and artist who works with the National Park Service on science and astronomy education, will lead the presentation,

Alan Dyer will lead a presentation on photographing eclipses.

which will discuss how and why eclipses happen and how they've allowed us to measure our world and explore human nature.

A presentation on November 17, titled "How to Photograph the Eclipse," will be led by Alan Dyer, an astrophotographer who co-authored the popular book "The Backyard Astronomer's Guide." During the presentation, Dyer will demonstrate simple and complex techniques that can be used to capture great images of the eclipse while still allowing you to view it.

A follow-up presentation by Dyer, titled "How to Process Eclipse Images," will be held on December 15, and will show astrophotographers how to get the most of their eclipse images and how to process and assemble time-lapse sequences.

For more on these and future presentations, and to register, go the Kalamazoo Astronomical Society website, at this link: <u>Eclipse Presentations</u>.

# November: A good month to view Uranus

You might be familiar with Saturn as the Solar System's ringed planet, with an enormous amount of dust and ice chunks circling this gas giant. But Uranus, the next planet out from the Sun, hosts an impressive ring system as well.

The seventh planet was the first discovered telescopically instead of with unaided eyes. Astronomer extraordinaire William Herschel is credited with discovering Uranus on March 13, 1781. In 1977, after nearly two centuries had passed, an infrared telescope aboard a military cargo aircraft revealed that the planet had rings.

Since that discovery, multiple observatories have revealed more details of Uranus and its ring system. Most recently, NASA's James Webb Space Telescope captured the planet and its rings in detail.

Some of the planet's atmospheric features are visible in images taken by the JWST. Even with advanced imaging, much of Uranus remains a mystery, including why it orbits the Sun on its side.

Only one spacecraft has ever visited this planet: NASA's Voyager 2, which flew by the distant planet in the mid-1980s. (Click <u>here</u> to learn more about this mission.)

Planetary scientists are hoping to change that soon, though. A report released last year by the National Academies of Sciences, Engineering, and Medicine recommended that Uranus be the focus of the next big planetary science spacecraft mission. Such a large-scale mission would gain insight into this icy giant





The James Webb Space Telescope captured this image of Uranus, which clearly shows the planet's rings, by combining 12 minutes of exposure using two filters.

and the next planet out, Neptune.

If you want to catch a view of Uranus with your own eyes, now is prime time to view it. This ice giant planet lies perfectly positioned in mid-November, at so-called "opposition," when its position in its orbit places it on the other side of the Sun from Earth. In that location, sunlight reflects off Uranus' icy atmosphere; that's when the planet appears at its brightest.

To find Uranus, look overhead just after midnight on November 13. Uranus will lie about halfway between the brilliant planet Jupiter and the diffuse glow of the Pleiades star cluster in Taurus.

While Uranus may look like a bright blinking star in the night sky, its blue-green hue gives aways its identity. Binoculars or a telescope will improve the view.

For more about this oddball planet, visit NASA's <u>Uranus</u> page.

#### Liz Kruesi

This article is courtesy of NASA's Night Sky Network program, which supports astronomy clubs and is dedicated to outreach. Visit <u>night-</u> <u>sky.jpl.nasa.gov</u> to learn more.

# MEMBER OBSERVATIONS & CLUB ACTIVITIES



PAC members gathered at Paul Castle Observatory on September 29 to try out the club's H-Alpha telescope by doing some solar observing on a clear day. These images were the result. As the Sun went down, the grille came out for a picnic dinner, followed by an observing session that was impeded by a bright Moon but still allowed good views of the visible planets. The group included Al Sheidler, Eva Davison, Gary Nordick, Megan Warren, Chris Nordick, Steve Sinksen, Dan Cusack, Dale Hachtel and Jim Rutenbeck (not in picture).

PAC led another 'Project Next Generation' event at Moline Public Library the on October 4. Attendance was light but those who came showed a great deal of interest in learning more about the night sky. After a brief indoor presentation led by Dale Hachtel, the group went outside to the parking lot for some observing. Despite a high level of artificial light, views of Saturn, Neptune, some star clusters and other objects were available. Along with Dale, Al and Sara Sheidler and Dino Milani were at the event with their telescopes.









In response to a request from the Illowa Council of the Boy Scouts, PAC has agreed to help bring the observatory at the council's camp site at Loud Thunder Forest Preserve into working order. On October 5, PAC members Rusty Case, Dale Hachtel, Rob McDonald, Dino Milani and Al Sheidler met at the obser-

vatory with Illowa Council CEO Jonathan Cartner and camp leaders Ryan Dawson and Scott Johnson. They examined the observatory and its Celestron telescope and concluded they were in good condition but in need of cleaning, maintenance and repairs. The goal is to have the observatory fully operational by the time Scout outdoor programs resume next spring.



A partial solar eclipse was visible did occur in the Quad Cities area on October 14, but the view was blocked by thick clouds. Despite the gloomy forecast, the Quad Cities Astronomical Society went ahead with public events at the Rogalski Center at St. Ambrose University and the Coffee Hound at the BettPlex in Bettendorf. At St. Ambrose, Dr. Robert Mitchell gave a hands-on telescope demonstration to two eager boys, and later watched a live feed of the annual eclipse happening in clear skies in New Mexico; joining him were lan Spangenberg, his wife, Rachel, and young sun, Ronan. QCAS members are shown at the Coffee Hound vainly hoping for a break in the clouds. Better luck was had by the Holt family, who were camping in Rocky Mountain National Park in Colorado and captured these eclipse images.



PAC's public observing session at Niabi Zoo on October 21 drew about 25 visitors, despite partly cloudy skies. Attendees included kids who had never looked through a telescope before and someone who brought along a scope purchased at a yard sale for \$10. The objects observed included Jupiter and Saturn, shown in these images captured that night. PAC members Rolando Gamino, Dan Cusack, Pam Kollar, Megan Warren, Eva Davison, Dale Hachtel, Dino Milani and Al Sheidler were there; Ken Boquist (not in photo) also brought his telescope. Robert Gregory, a professor at Scott Community College, brought the school's recently acquired Meade LX600.

# MEMBER OBSERVATIONS & CLUB ACTIVITIES







We're proud to present these images captured recently by Byron Davies during September. Shown are (top, from left) NGC 7380 (Wizard Nebula); NGC 7635 (Bubble Nebula); NGC 7293 (Helix Nebula); (bottom left) M33 (Triangulum Galaxy); SH2-158 (Northern Lagoon Nebula); and a nice shot of the Moon at its half phase. Thanks for sharing these, Byron!



Al Sheidler, Rob McDonald and Rolando Gamino were joined by some visitors (including a canine friend) on October 20 for an observing session at Castle Observatory. Al and Rolando set up telescopes in pursuit of the fall Messier Marathon. Shown are some of the images they captured, including (top, from left) M3 and a photo containing M31, M32, and M110; (bottom, from left) M27 and M56.



November 2023

### Moving from Montreal

As a youngster growing up in Montreal, Canada, in the early 1950s, I was impressed by the seeming simplicity of Montreal's weather. It appeared to me as though there were just two kinds of weather: In wintertime a grey sky, and in summertime, a blue sky.

I wasn't completely wrong about this. In 1961, while trying to run a small astronomy club for young people, I counted an unbroken string of cloudy Friday nights that lasted for months. And sure enough, when the weather began to moderate the following spring, we were treated to, at last, a clear night.

As I grew older, my thoughts turned to finding a different locale where the sky would be clear more often. In September 1979, I packed my bags and telescopes and headed for the American Southwest.

I was rewarded immediately. My first autumn here was punctuated by a virtually unbroken string of more than 50 clear nights in a row.

There was a specific reason for my wanting more clear nights. In the fall of 1965. I was planning a search program for comets, and it began on December 17 of that year, just before midnight. I used the largest telescope I had at the time, the 8-inch reflector I had named Pegasus.

Less than a year later, Isabel K. Williamson, director of observations of the Royal Astronomical Society of Canada's Montreal Centre, wrote this in the November 1966 issue of the center's newsletter: "The increase in the number of observations over the previous year can be attributed to David Levy who has made the search for and observation of comets and novae his main astronomical project. In addition to patrolling assigned areas, he has made a total of 360 observations of the dome, the twilight horizon and the sky in the sun's vicinity, and on 33 nights spent a total of 48 hours at the eyepiece of his telescope, sweeping the sky for comets."

Miss Williamson's words from all those years ago remain among the highest compliments I have received from anyone. And I still use Pegasus for some of my comet hunting, including the evening of October 11, 1987, when I found my third comet, 1987 T1.

In fact, to celebrate the completion of this article, I went outdoors and used Pegasus for a short comet search.

I may have been right about my childhood weather forecast. Southern Arizona offers many more clear nights than the frequently cloudy sky over Montreal. And from the Chiricuaha Astronomy Complex, a two-hour drive southeast of my Vail, Arizona home, observers are treated to one of the darkest sky locations in the world.

It is well worth loading Pegasus into a van and using it at that wonderful dark site. Whether I am down there or right here, placing my eye at the eyepiece of this beloved telescope warms my heart and pierces my soul.











Thank you for your interest in the Popular Astronomy Club. To renew your membership or to apply as a new member, please fill in the information and either mail this form to the address below, or bring it to a PAC event. The membership year runs from October 1<sup>st</sup> through September 30th. There is a pro-rated amount if you join anytime during the year (see below). Our club newsletter, REFLECTIONS, will be e-mailed to you and it will be posted on the club website.

#### Submission of this application and payment confirms the applicant's agreement to abide by the policies and procedures detailed in the PAC Policy & Procedures Document available at our website: www.popularastronomyclub.org.

Membership pro-rated (for new members) amount by month: Oct-\$30.00, Nov-\$27.50, Dec-\$25.00, Jan-\$22.50, Feb-\$20.00, Mar-\$17.50, Apr-\$15.00, May-\$12.50, Jun-\$10.00, Jul-\$7.50, Aug-\$5.00, Sep-\$2.50

#### PAC renew or new member:

(a) Regular Membership	\$30.00		\$	
(b) Additional family member (\$7.50 each) x (#)			\$	
Or you can elect c, d, or e (this include	es the \$30.00 membership,	with the balance a	tax deductible gift	to PAC):
(c) Supporting Member	\$40.00		\$	
(d) Sustaining Member	\$60.00		\$	
(e) Patron Member	\$80.00		\$	
(f) Student Member	\$10.00		\$	
		Grand Total	\$	
Your Name:				
Address:				
City	State	Zip		
E-Mail				
Home Phone:	Cell Phone			
Please enter name (s) of ADDITIONA	L FAMILY MEMBERS:			
Emergency Contact:		phone #		
THANK YOU!! Welcome to the Po	pular Astronomy Club!!			
Make your check payable to the <b>Popu</b>	lar Astronomy Club, Inc Michael Haney 564 36 <sup>th</sup> Ave. East Moline, III cell # 309-781	. Mail or present at (treasurer) inois 61244 -4150	t a PAC meeting t	0:



# Date: November 13, 2023

Event: Membership meeting @ 7 p.m.

Location: Butterworth Center / Zoom

Program: "Astronomy on the Santa Fe and Oregon Trails" by Val Germann All these events, dates and times are tentative and subject to change! Please check your emails for any updates and changes!

### **UPCOMING EVENTS**

- November 18: Public observing at Niabi Zoo (no rain date; last of season)
- **November 20:** QCAS annual dinner / election of officers, Dynasty Buffet, Davenport
- **December 11:** PAC meeting, Butterworth Center; elections of officers; Year in Review by Roy Gustafson
- January 8: PAC meeting, Butterworth Center; "The Tunguska Event" by Andy Bruno, Associate Professor of History and Environmental Studies at Northern Illinois University
- February 12: PAC meeting, Butterworth Center; ""Discarded Worlds: Astronomical Ideas That Were Almost Correct " by Brother Guy Consolmagno, Director of the Vatican Observatory
- March 11: PAC meeting, Butterworth Center; business meeting / smorgasbord of member presentations

# Presentation focuses on 'trailblazing' astronomy



The presentation at November general membership meeting of the Popular Astronomy Club will focus on how the night sky guided the settlers and explorers of the American West.

"Astronomy on the Oregon and Santa Fe Trails" will be presented via Zoom by Val Germann of the Central Missouri Amateur Astronomers. Val will show how astronomy played a prominent role in the exploration of the American West, specifically in expeditions led by Zebulon Pike in the 1800s and John C. Fremont in the 1840s

VAL GERMANN 1840s.

Both explorers took refractor telescopes, chronometers, barometers and other scientific instruments with them as they explored and blazed trails used by westbound settlers. Portable observatories were set up during the expeditions to determine the meridian passages of various stars and time the eclipses of Jupiter's moons. Data collected in these observations were used to find the explorer's exact position and to develop accurate maps.

Val is a long-time CMAA member who currently serves as chair of the Mid-States Region of the Astronomical League. He taught astronomy at Columbia College in Columbia, Missouri, for more than 20 years and currently serves as a volunteer at the University of Missouri's Laws Observatory.

The meeting will be held at the Butterworth Center in Moline at 7 p.m. All PAC members and guest are welcome to attend, or to view the meeting via Zoom.