# The Observer

The Official Publication of the Lehigh Valley Amateur Astronomical Society
https://lvaas.org/
https://www.facebook.com/lvaas.astro
December 2022
Volume 62 Issue 12

# ad astra **********

Treasurer Blair Hogg and the Board of Governors have completed their work on the 2023 budget. A notice was sent to all members containing a link which allows them to review the budget. Members will vote on the budget during the December 4th, 2022, General meeting.

Also at the Dec 4th meeting, the new officers will take over the society and my 2-year term as Director will end. I personally would like to thank everyone for supporting me and the society over the last two years. I believe the society is as strong as ever. This would not be possible without the continued support of our many volunteers. Please welcome Mike Huber as our new Director and author of ***Ad Astra,*** Sandy Mesics as Assistant Director, Blair Hogg as Treasurer, and Joe Zitarelli as our Secretary.

The last Star Party of the season was held on Nov 5. Due to large attendance (approx.140), we conducted 3 planetarium shows, skipping the recorded lecture.

On the weekend of November 4 to November 6, 2022, Claudio Stabile hosted BSA Troop 302 from Bethlehem PA with 15 Boy Scouts, 4 Female BSA Scouts, and 10 adults at Pulpit Rock.

The Board of Governors has approved May 19th to 21st, 2023 as the dates when Megameet will be held next year.

Frank Lyter is working on instructions to guide users on the use of Sky Safari 7 Plus or Pro software with the Pulpit Rock 12-inch Meade telescope. Both Stellarium and Sky Safari work in parallel on this scope, with Stellarium on the local PC and Sky Safari on your phone or tablet.

The November Astroimaging meeting was held on November 19th, 2022. Lynn Krizan demonstrated the various field rotators available for telescopes. Twelve people were in attendance. The next meeting is scheduled for December 17th, 2022.

Ad Astra!

Thomas Duff

# Minutes from the LVAAS General Meeting – November 13th, 2022

The November 2022 LVAAS General Meeting was conducted electronically using an on-line service and in person at our South Mountain headquarters. Approximately 55 people were in attendance. Director Tom Duff opened the meeting at 7:05 p.m. Tonight's General Meeting presentation was by John Conrad, speaking on "Do Look Up: DART - The World's First Asteroid Deflection Test."

In September, NASA's DART spacecraft successfully demonstrated kinetic deflection, leading the world's efforts to develop our Planetary Defense against Near Earth Objects (NEOs.) John spoke on the Planetary Defense program, including the latest on our inventory of NEO threats, and highlighted the role of DART in preparing us for the future.

John Conrad followed his childhood interest in space and spaceflight through Astronautical Engineering degrees at the U.S. Air Force Academy and Purdue University straight into leadership in unmanned space programs for the Air Force and NASA. Now retired, his extensive career experiences never wandered far from technology development and application in Aerospace and Defense, as well as IT and Energy and Security programs. His life-long learning (formal and informal) and accumulated tools have enabled him to make frequent presentations to orient and promote science applications and solutions to a variety of audiences. His most recently used platforms include telescopes and binoculars to share his knowledge and love of astronomy and cosmology.

Membership: Rich Hogg

2nd readings

- Cameron Flynn
- Jennifer Barakat
- Michael Ports
- Jeff Mucklin

1st readings

- Pravin Chunduru
- Jonathan Tirrell
- Federico Zayas
- Phil Doherty
- Jeff Spillane

By-laws revision: Rich Hogg

- A motion to approve the bylaws revision concerning membership was made by Sandy Mesics, and seconded by Kyle Kramm. Please visit our website for details.

General Comments:

- Our annual Christmas party will be held at Da Vinci Science Center on Dec.4. Any LVAAS member can attend the museum from 12 p.m. - 5 p.m. for free. The meeting will be held in the Creative Studio. Society members will be able to tour the center's exhibits free of charge; just mention you're from LVAAS at the front desk.

  It is requested that attendees bring a dish for the Potluck dinner; drop-off time is 12:00 p.m. Vic Marris, president of Stellarvue, will be speaking over Zoom about making world-class refractors, starting at 2 p.m. It is requested that eating take place before 2 p.m. or after 3 p.m. Please refrain from eating during the talk. Cleanup is at 4:30 p.m. as we need to be out of the building by closing time (5 p.m.)

Budget

- It's time to create the budget for 2023. If you have an idea that you would like a director to consider, bring it to them to present at the BOG budgetary meeting.
- At the next general meeting there will be a vote on the club budget.

General Meetings (Jan - Mar) will take place at Muhlenberg College. Thank you, Dr. Judy Parker!

South Mountain Maintenance – Bill Dahlenburg

- If any new members want to come check us out, we are usually here on Saturday mornings from 9 a.m. -12 p.m. Help with cleaning, shoveling snow etc. would be appreciated!

Library & History – Dave Raker

- We will not be back at South Mountain HQ for a general meeting until April. If anyone wants to borrow books, dvd's etc., please just sign the card next to the desk leaving your name, what was borrowed, and the date. Saturday mornings are a good time to come as Bill and others have keys to the library.

Astroimaging Group – Tom Duff

- Next meeting for November 19th.

Pulpit Rock Observatories – Frank Lyter

- Users can now connect Sky Safari on LX200, requires SkySafari 7. Frank will send out instructions electronically as well as in the book at the observatory. Driving up to Pulpit Rock can be dangerous when ice starts to form on the road. Contact Frank if you need any keys or would like to be trained on anything.

Next General Meeting:

- The next general meeting will be held at The Da Vinci Science Center in Allentown from 12 p.m. to 5 p.m. Vic Marris, president of Stellarvue, will be giving a talk about making world-class refractors.
- Our January, February, and March general meetings will be held at Muhlenberg College.

The November General Meeting was recorded.

The meeting was adjourned at approximately 9:19 p.m.

Submitted by Michael Huber, Secretary

# LVAAS Needs an Upgrade!

## *Do you have any PCs or parts that you are not using?*

There is a PC built into one of the consoles in the Grady Planetarium at South Mountain, and it needs an upgrade. Before we budget money to purchase something, I thought it would be worthwhile to ask you, our members, if you have any equipment that you might enjoy donating.

**They say, "beggars can't be choosers."** In this case, I think we need to disregard that in consideration of a greater wisdom. Installing this upgrade will require significant effort, so we want it to be useful for as long as possible. So, we are going to be a little bit fussy about what we want! We're looking for relatively recent desktop computers or parts with decent performance. (We might be able to work with a laptop, but the path of least resistance would be to use parts from a desktop.) So, we are mostly interested in business-class or gaming-class systems around 5 years old (or newer.) Specifically, we want the following specs:

- Ability to run Windows 11 (see https://www.microsoft.com/en-us/windows/windows-11-specifications)
- Ability to run DirectX 12 (implied by above)
- CPU at least 4 cores, 2 GHz -- hopefully more
- At least 8G of system RAM, but can be upgraded to at least 16G
- Power supply big enough to run the components we install (specs T.B.D.)
- Hard drives, if you have outgrown their capacity but they are not too old (we don't need huge storage space but we want something that will last)
- Flat panel monitor with HDMI or other digital input (not VGA), 14-inch or maybe 15-inch

We are interested in complete systems or parts (motherboards with CPU and RAM, graphics cards, power supplies, hard drives, etc.)

If you think you have something that might work for us, please contact me by email with as much information as possible, such as exact make and model, specs and configuration. Please do not bring equipment to the club unless requested! We do not have room to store equipment that we are not planning to use.

Thank you for your interest in helping LVAAS!

*Rich Hogg technology@lvaas.org*
*Director, LVAAS Technology Committee*

### *Via Sandy Mesics, Programs Chairperson*

Upcoming LVAAS General Meeting Speakers

**A speaker is needed asap for our January general meeting.** Please contact Sandy if you can help.
In February, we have tentatively scheduled Roxanne Kamin to talk about occultations.
In November 2023 we will have Dava Sobel, who has authored several popular astronomy books. Topic TBA.
Would you like to speak on a topic of astronomical interest, or know somebody who would? Please provide contact information to astrosandy@gmail.com to schedule your slot.

A contingent of LVAAS members attended a memorial service held at Muhlenberg College's Egner Chapel on Nov.6 to honor Dr. Judy Parker, who passed away on September 26, 2022. Judy was a lovely person who was much-valued by LVAAS for her friendliness and willingness to help with activities related to her passion, astronomy. Those in attendance were colleague Brent Fadem and family, Tom Duff, Rich Hogg, Paula and Mike Clark, Ron Kunkel, Earl Pursell, Bill Dahlenburg, Sandy Mesics, Mike Huber and myself. Ad astra, Judy! *~ editor*

### *Via Tom Duff, AstroImaging Director*

AstroPalooza is an online event featuring many prominent authorities in Astrophotography and Astronomy. It will be held on Dec. 10 from 2 p.m. -10 p.m. EST. Info: https://astroworldweb.com/astropalooza/
More info: https://www.youtube.com/watch?v=W2qFCnUsh6Q

### *Via Dave Raker, LVAAS Librarian*

I purchased two Nova episodes from PBS: *Ultimate Space Telescope (James Webb)* and *The Universe Revealed.*
I had to purchase a new lapel microphone as the 10-15 year old model is causing issues. There is quite a bit of buzzing and volume drop. This problem has been on and off for a few months. The new one cost only $122.

### *Via Bill Dahlenburg, Star Party Coordinator*

LVAAS is always looking for volunteers to help out with Star Party activities. Anyone willing to help will be trained on running the telescopes. Training is easy.
Planetarium shows are: 6 p.m. for kids, 7 p.m. Presentation, 8 p.m. Planetarium Show for adults
Additionally, if anyone is interested in taking over the organization of LVAAS Star Parties, please let Bill Dahlenburg know: sm_maintenance@lvaas.org

### *Via Earl Pursell, UACNJ Liason*:

UACNJ provides free public programs on-site at our Observatory in Jenny Jump State Forest from April through October on Saturday evenings.
During the off-season (November through March) UACNJ is now presenting an on-line astronomy-related presentation that begins at 8 p.m. You can tune in by visiting us at our YouTube channel, or by visiting our website: uacnj.org.

***Cover:*** **The Christmas Tree Cluster and the Cone Nebula, NGC 2264 (includes both objects) in Monoceros. Imaged by David M. Moll**, February 19, 2017 from North Whitehall Twp., PA.
Image also encompasses the Snowflake Cluster and the Fox Fur Nebula (not recorded). (Image is flipped ~180° from normal sky position to enhance the Christmas Tree effect.)
Telescope: Astro-Tech AT-65EDQ; mount: iOptron iEQ45 Pro; camera: SBIG STF-8300C (OSC). Captured in 36 X 5-minute subs giving 3 hours of total integration.
Pre-processed in Nebulosity 4, final processing done in PhotoShop CC.

# LVAAS General Meeting

## Sunday, December 04 at 2 p.m. at Da Vinci Science Center/Zoom

### (Holiday Party with Pot Luck Lunch -see lvaas.org for full schedule)

# 'The Evolution of First-Class Refractors'

The talk begins with the history of telescopes and then shows how telescopes have evolved through the centuries, and a discussion of what it takes to make a world class refractor. Finally, Vic will show the differences between mass produced telescopes and world class instruments.

***presented by***

## Vic Maris

### President, Stellarvue Inc.

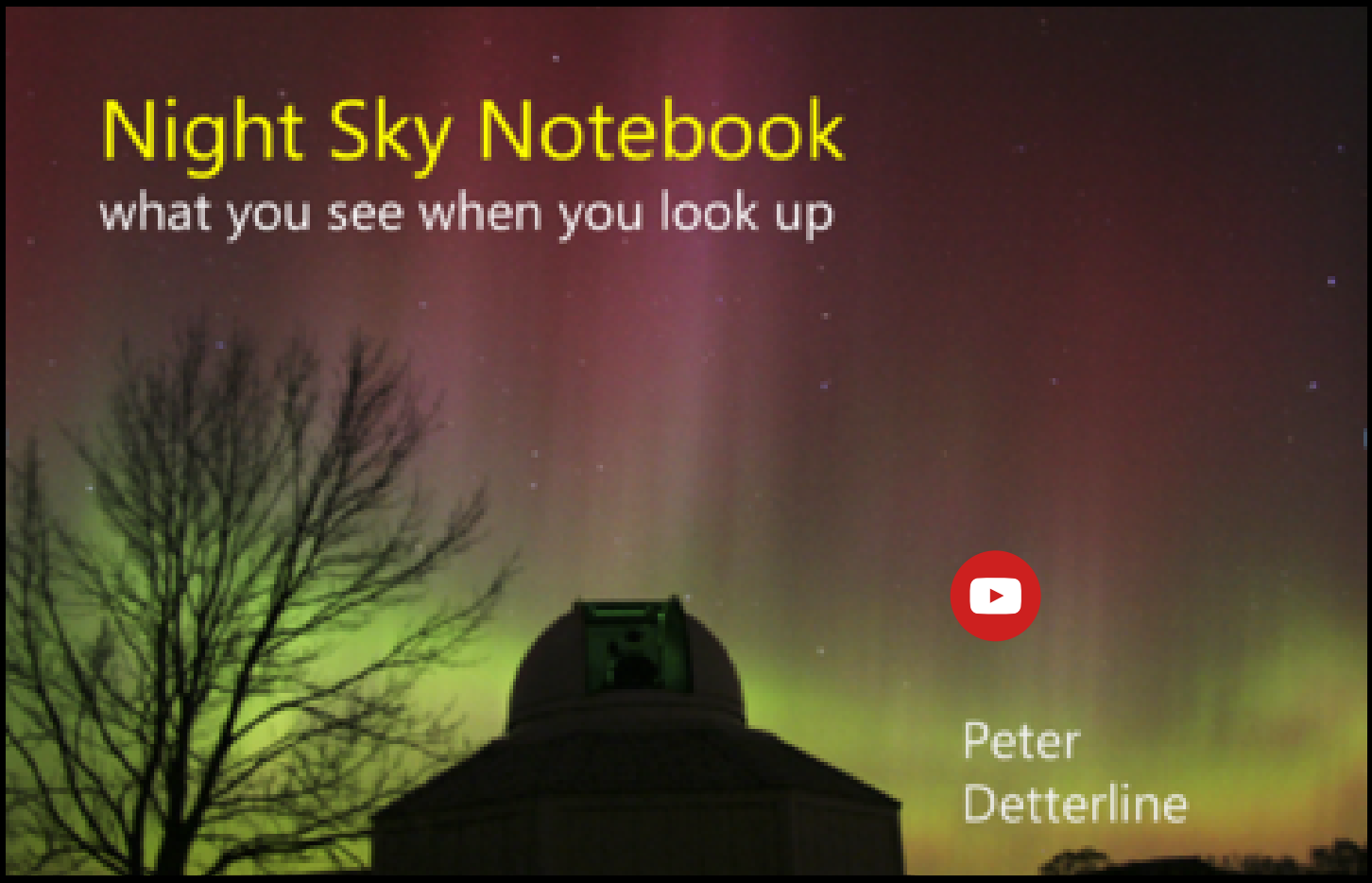

Vic Maris has been making telescopes since the mid 1960's. Starting in 1974, he worked for thirty years for California State Parks as a ranger and superintendent. He gave interpretive presentations during his career, thousands of star talks and was the driving force behind the State working with dedicated club members in establishing an observatory at Sugarloaf Ridge State Park. As Vic neared retirement he began a small telescope company that he named "Stellarvue." He started in his garage. Two decades later Stellarvue has blossomed into a truly high-end refractor company. Stellarvue's reputation attracted industry attention which led to creating space and defense optics. This enabled the company to purchase state of the art test equipment. This and a lot of hard work has resulted in the Stellarvue SVX series of telescopes producing the most accurate optics in the industry.

***Prospective new members who wish to attend the meeting should email*** *membership@lvaas.org*

*Peter Detterline's*

# Night Sky Notebook

December 2022



# StarWatch

BONUS

by Gary A. Becker

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Moravian College Astronomy - astronomy.org

## Full Moon to Nearly Graze Mars

We are in for quite a treat this Wednesday, December 7. Observers eastward of a line running from Pittsburgh through State College and Wilkes-Barre, Pennsylvania will get the opportunity to witness the planet Mars incredibly close to the limb (boundary) of the moon.

For Lehigh Valley residents, the separation will be less than three diameters of the Red Planet or about 40 seconds of arc.Along the boundary line, Mars will graze the mountainous southern limb of the moon.Westward of this position, the moon will occult Mars for a relatively brief period of time. *View the waxing gibbous moon catching up to Mars on Sunday, Monday, and Tuesday, and creeping near to Mars after sundown on Wednesday, December 7. Then watch as the moon's closest approach happens just before 11 p.m. (10:52 p.m.) on Wednesday. Use binoculars to enhance your view, or hide most of the full moon with your thumb or a small piece of cardboard to reduce contrast and make the Red Planet easier to see. The picture below is for the Lehigh Valley and tells it all.Enjoy! Ad Astra!


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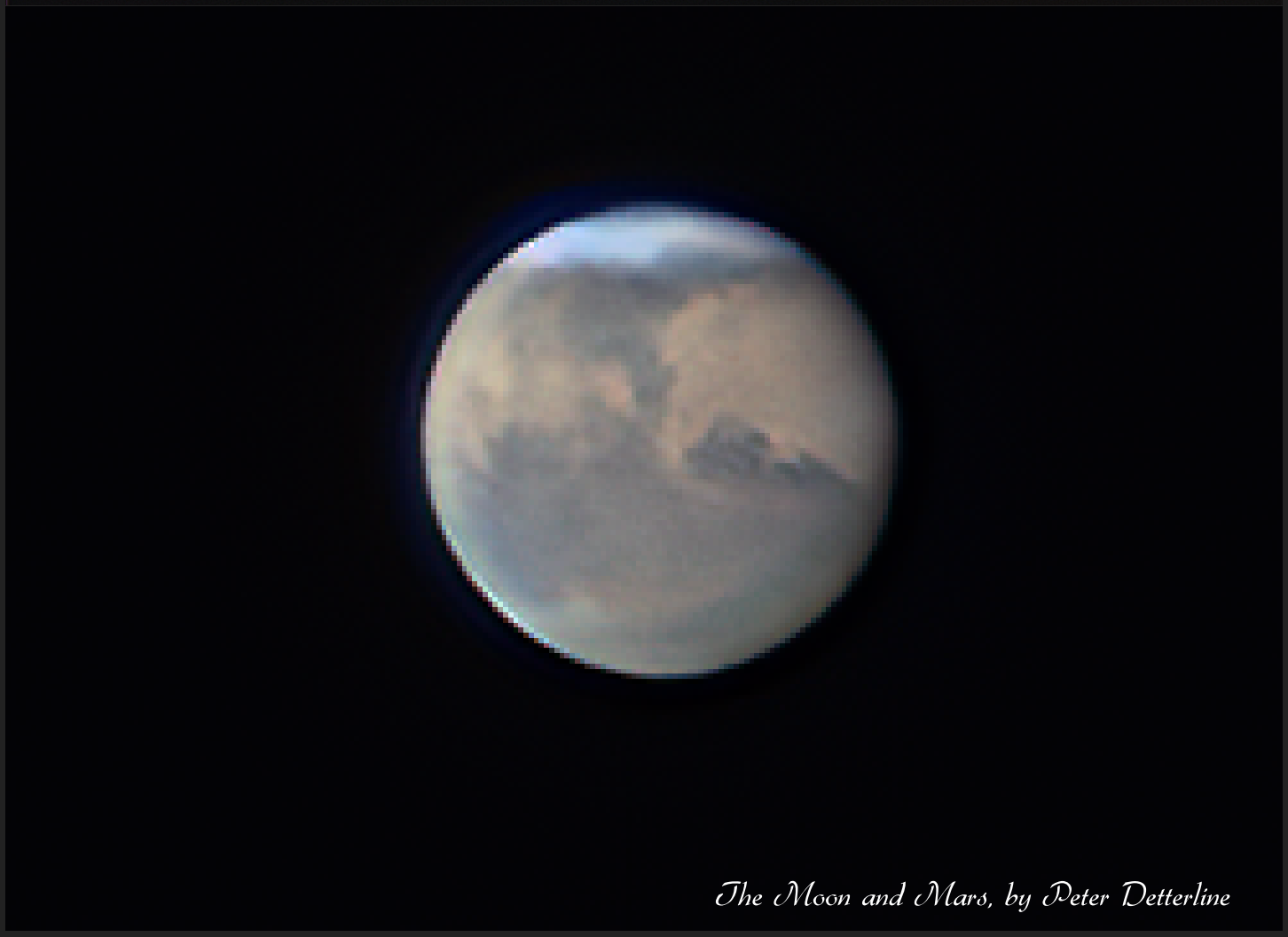
**Images of the Moon and Mars, next page, by Peter Detterline:** ->

**Moon:** Taken in my backyard with a Williams Optic 81 with a ZWO ASI224MC camera on a ZWO AM5 mount. November 8, 2022 during the lunar eclipse at 5:22 AM.

**Mars:** Taken at my home observatory. Celestron Edge 11 with a ZWO ASI482MC camera and an electronic Atmospheric Dispersion Corrector on a Celestron CGX mount. November 24 at 00:48 AM.



*The Moon and Mars, by Peter Detterline*

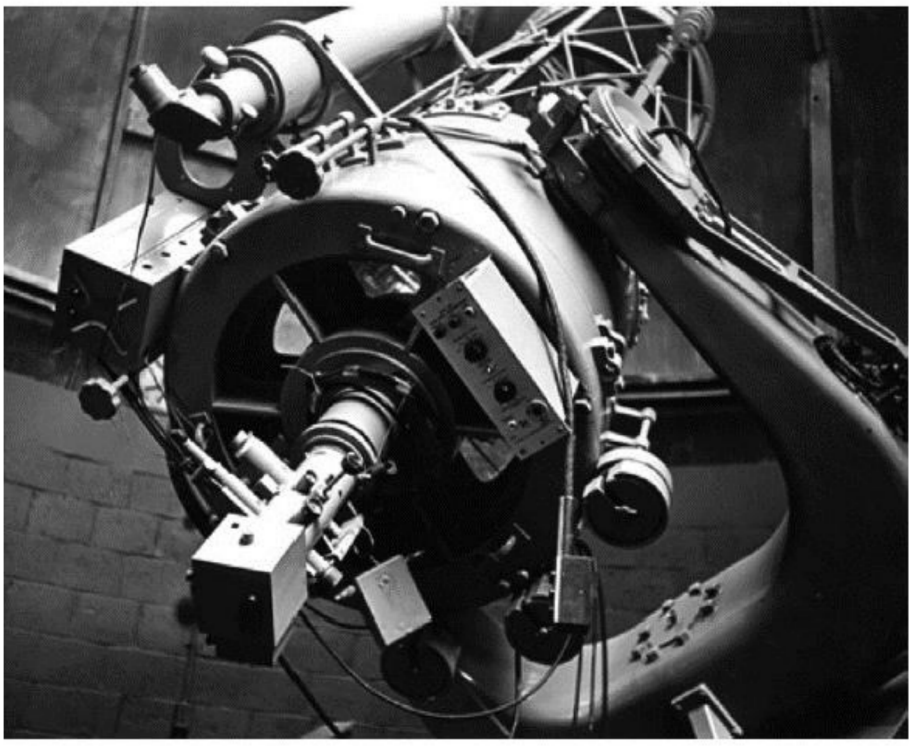
## From the LVAAS Archives: The Ones That Got Away

By Sandy Mesics

In 1978, fresh from our success in building the Schlegel-McHugh 20-inch telescope at Pulpit Rock, LVAAS was considering the construction of another large observatory at Pulpit Rock. The Board of Governors authorized Ralph Schlegel's plans to build a 36 to 40-inch telescope, observatory, and administration building at Pulpit Rock. Ralph estimated the cost of such a project at $15,000.

The group started looking around for a suitable project, and they were not thinking small: for a while, it looked as if a 23-inch refractor would be available. This instrument originally was built by Alvan Clark and Sons for Princeton University in 1882. It was completely rebuilt by the Fecker Company in 1932 and remained in use at Princeton until 1964. It subsequently went to the US Navy who offered it up to an educational institution that would have at least 180 days of activity. LVAAS thought about partnering with local universities such as Kutztown, Swarthmore, Villanova and the University of Pennsylvania, as well as local Explorer posts to drive the usage of the telescope.

This telescope was 30 feet long and weighed about 46,000 pounds. Undaunted, LVAAS plans called for folding the optics to make it more manageable. But despite the club's best efforts, this telescope got away. The Navy ultimately offered it to the School District of Greenville County, South Carolina. Since 1985, the scope has resided in the Charles E. Daniel Observatory at the Roper Mountain Science Center in Greenville. It is open to the public for observing on Friday evenings, for a fee.



**1. The 28-inch telescope at Flower and Cook Observatory.**

LVAAS's Plan B was to look at the offer of one of three large mirrors at a junior college in Maryland. Other than this brief mention in the minutes of the Board of Governors, there is no further information on this, and it appears this plan went nowhere.

Plan C was a 28-inch Cassegrain scope at the University of Pennsylvania. This scope was in used at the Flower and Cook Observatory in Malvern and was built by Fecker. An LVAAS team went to check this instrument out and was concerned not only with the $10,000 price tag, but the "sturdiness" of the 2-inch-thick

Pyrex mirror. LVAAS passed on this as well.

Subsequently the Flower and Cook Observatory closed and was sold to a neighbor in 2004. While the observatories housing this instrument and a 15-inch siderostat refractor telescope were vacant, they were vandalized, and the 15-inch lens was stolen. Apparently, the 28-inch scope was donated to the Florida Community College of Jacksonville in 2007. Unfortunately, Dr. Mike Reynolds, who was spearheading the development of the observatory on campus, passed away two years ago. According to Bart Fried, president of the Antique Telescope Society, the 15-inch lens was recovered and is in storage in Jacksonville, along with the 28-inch reflector.

By May 1979, the board recommended that we not proceed with a large telescope, but to build an observatory at South Mountain to house the society's 12-inch Cassegrain telescope that was formerly housed in the Kawecki Observatory. Work would commence on this new observatory, named the Brooks Observatory, just two months later.

But the idea of a large telescope and observatory just wouldn't die. In June 1979 the idea came alive again. A member found that Edmund Scientific Company in Barrington New Jersey had a 40-inch mirror for sale. Interest was re-ignited.


**2. Edmund Scientific Company in the early 1960s**

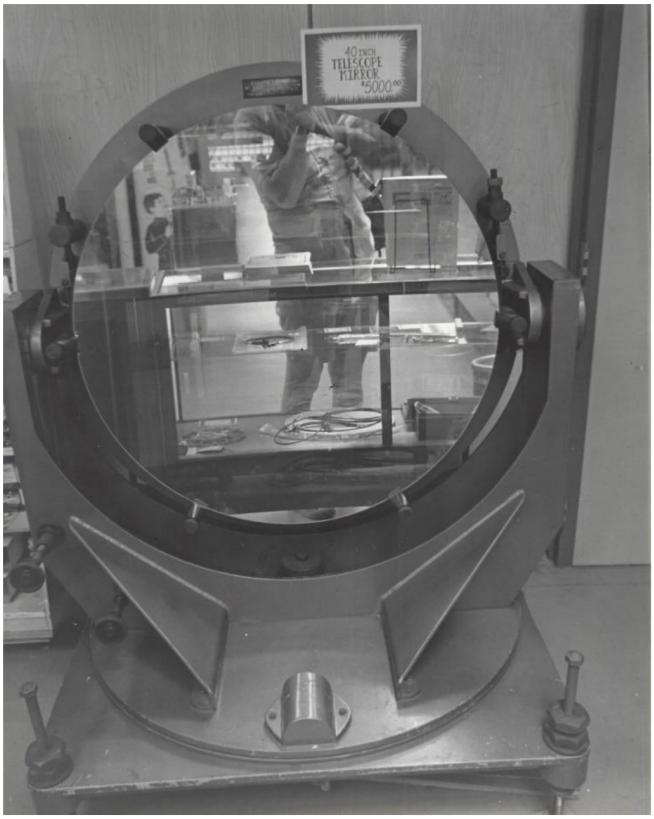
Most of us amateur astronomers of a certain age (meaning old!) fondly remember Edmund Scientific Company. They started out by selling a lot of post-World War II surplus equipment. They were also noted for making very modestly priced telescopes and telescope parts available through their mail-

order catalog as well as their monthly ads in *Sky & Telescope* Magazine. Those of us who were young dreamers in those days practically memorized the contents of the catalogs.

As mentioned, at that time their headquarters was in Barrington, New Jersey, not far from Philadelphia. They had a surplus submarine periscope in their front lobby, and a visit to Edmund's usually started by scanning the surrounding countryside from that instrument. Inside, among displays of their various items were sale bins: these were chock full of assorted parts that were remainders, returned, or in imperfect condition. In short, it was close to Nirvana for amateur telescope makers.

But one of the oddest items that was on display there in 1979 was that 40-inch telescope mirror.

On June 16, 1979, a special Board meeting was held to consider purchasing this 40-inch mirror. At the time, the Willingboro, NJ Astronomical Society had a hold on the mirror: reportedly a member of that club would purchase the mirror and then would donate it to that club. It would be valued as a $10,000 tax deduction. However, the Willingboro club did not have the personnel to finish the mirror, which reportedly was not a perfect parabola. LVAAS proposed to make a deal with the Willingboro club to swap a finished scope for the mirror or working out some kind of partnership with them.




**3. The 40-inch mirror at Edmund Scientific.** ***Photos by Chalie Pauluis***

By the next month, a swap of equipment for the mirror was ruled out, as LVAAS didn't have anything to offer. However, the Willingboro club considered an outright sale of the mirror to LVAAS for $2,000. LVAAS would also need to get two 12-inch mirror blanks: one for the secondary, and one to test the secondary. This would have cost about $200, and LVAAS would want that rolled into the $2000 total. At the July 1979 general meeting, members voted to approve this purchase.

But by August, it became known that Willingboro had advertised the mirror for sale, The board felt slighted that LVAAS hadn't been informed prior to this, since we had made a firm proposal for the

mirror. The board requested that the Willingboro club notify LVAAS within 30 days of their intent. Willingboro did not respond to LVAAS's request, and at the October 1979 board meeting, it was reported that they would not respond to our request.

Willingboro never completed this telescope, and the fate of the Edmund 40-inch mirror remains a mystery, at least as far as the author is concerned.

**Land was cleared in 1988 for the Schlegel Observatory. Construction started in July 1989. The 40-inch mirror was acquired in early 1990; under roof by fall 1991 and hoped to be fully operational by 1994.**

**References**

LVAAS Observer, April 2017 Observer.
LVAAS Board of Governors Minutes, various
Bart Fried, personal communication.
History of Flower and Cook Observatory: https://www.physics.upenn.edu/observer/fcoobs.html

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Imager: Mike Waddell

# StarWatch

## Patriotic Moon

First check out the total lunar eclipse pictures taken from Moravian's Sky Deck atop Collier, ***here***

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The third in an 18-month series of lunar eclipses culminated on Election Day Tuesday, November 8. The dawn eclipse cooperated beautifully to produce photographically our patriotic colors of red, white, and blue. My teaching assistant, Julia Shively, and four of my current astronomy students, Walter Fries, Soukaina Rezqui, Amal Shokr, and Tom Maloney, joined me on Collier's Sky Deck for an early morning lunar eclipse gathering that left everyone with a sleep-deprived Tuesday. It is the price that often must be paid for being a real-time participant in an early morning astronomical event. * Every sky experience has the potential of being affected by inclement weather conditions. However, to realize that last year's November 17/18 near total lunar eclipse, and this year's May 15/16, and November 8 total lunar eclipses were seen under mostly favorable skies was almost miraculous, considering that these months tout more mostly cloudy to overcast nights than mostly clear to clear evenings. Unfortunately for us, Pennsylvania is part of the cloud belt that extends northward through New York and into New England. * Visually, this eclipse seemed to be less colorful than the previous two lunar eclipses. Our urban observation location certainly may have played a part in that; however, there was also less color through binoculars, and particularly through the telescopes on the Sky Deck. The most vivid views were seen in Walter Fries' Moravian telescope, a 9.25-inch Celestron Edge that had excellent optics. Through the eyepiece, the moon's color was a greyish rust. Not to be outdone was the University's 4.8-inch apochromatic Orion refractor which revealed an ultra-crisp, grey shadow with just a tint of rust. * What I found particularly interesting was the distinct demarcation of the Earth's primary shadow, the umbra racing across the lunar surface. Amal Shokr's two images of the partial phases demonstrate a good approximation of a visual eyepiece's view of the ingress of the moon into Earth's primary shadow, the umbra. * When it came to imaging the eclipse, the traditional colors of yellow, orange, and red dominated the exposures. However, in Amal Shokr's spectacular near second contact photo (beginning of totality), a distinct bluish region across the lunar surface became visible. Bluish colorations on the lunar surface are not unheard of when totality begins. Her iPhone sensor may have exaggerated these hues, but hopefully it did not create them. Could these blues have been enhanced by scattering from a high veil of icy cirrus clouds that became visible at dawn? I had predicted the possibility of a patriotic-looking eclipse as the morning sky brightened into blue, but her image was unexpected. * What I thought would happen photographically was similar to what Soukaina Rezqui captured, a reddened moon against a bluing sky. I happily netted similar images as the sky brightened in dawn's early blossoming. * That brings me to my final observation, a brilliant daybreak with vibrant blues, reds, yellows, greys, and white confined to a relatively narrow region of the east, southeastern sky. This probably had more to do with the wispy, cirrus clouds that veiled the heavens, blocking some of the skyward-bound light of dawn and creating a more subdued lighting above them. * One final note… As my students and I watched the eclipsed moon being carried towards the northwestern horizon, one of my former international students (2020), senior Ariel Lin, was observing the eclipsed moon rise from the campus of Peking University in Beijing. In China it was Tuesday evening. Astronomy is not only the beautiful science, but it is a great unifying force as well. That is because we all witness the same universe. The next total lunar eclipse that will regale the East Coast occurs on the night and morning of March 13/14, 2025. "Be there or be square." Ad Astra!

Susan B. Becker -- beckerg@moravian.edu or garyabecker@gmail.com
Moravian University Astronomy - astronomy.org also facebook.com/StarWatchAstro/

Amal Shokr, upper images, Gary A. Becker, lower images

Totality, by Gary A. Becker

Totality, by Amal Shokr

Totality at dawn, by Gary A. Becker

Totality at dawn, by Soukaina Rezqui

For full-size images and complete caption information to accompany the images captured by Gary and his astronomy students, please visit Gary's website using this link:

https://www.astronomy.org/StarWatch/November/index-11-22.html#11-13-22

The eclipsed moon, imaged by Kelly Stever, Processed by Mike Huber: Equipment: Imaging Lens Canon EF 100-400mm f/4.5-5.6L IS USM Imaging Camera: Canon EOS 50D Mount: Promaster XC-M 525K Professional Tripod Accessories: Promaster remote shutter release

The eclipsed moon, captured (above) by Frank Lyter, and (below) by Mike Waddell

Above left and right, the eclipsed moon, imaged from Center Valley by Jamie Elovski

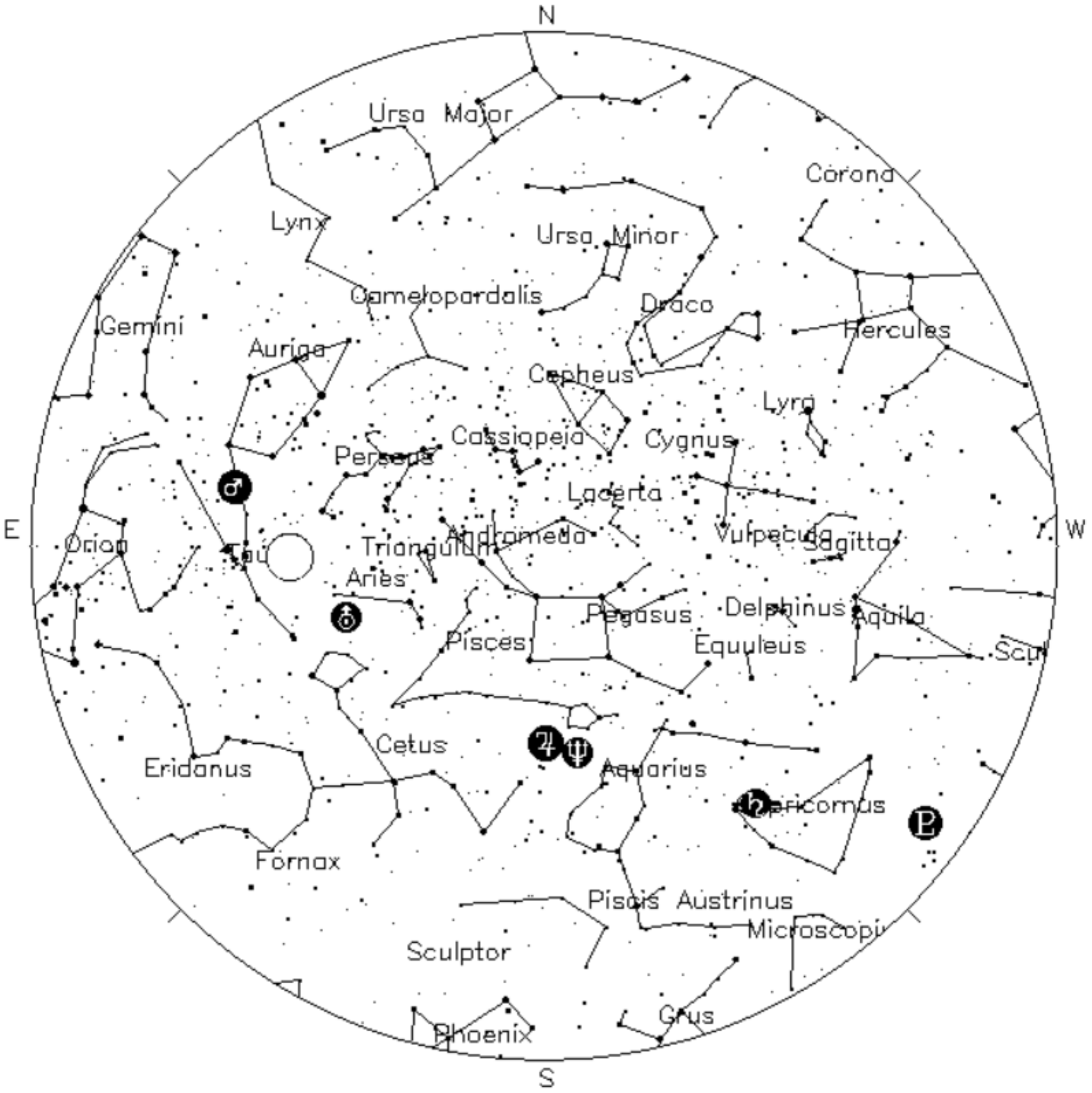
## DECEMBER

| SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
|---|---|---|---|---|---|---|
| | | | | 01 | 02 | 03 |
| General Meeting and Christmas Party - 2 p.m. 04 | 05 | 06 | 07 | Full Moon 08 | 09 | 10 |
| Deadline for submissions to the Observer 11 | 12 | 13 | 14 | 15 | Last Quarter Moon 16 | Astro Imaging at SM 7pm 17 |
| LVAAS Board of Governors Meeting 18 | 19 | 20 | 21 | 22 | New Moon 23 | 24 |
| Christmas 25 | 26 | 27 | 28 | 29 | First Quarter Moon 30 | 31 |

## JANUARY

| SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
|---|---|---|---|---|---|---|
| New Years Day 01 | 02 | 03 | 04 | 05 | Full Moon 06 | 07 |
| General Meeting - 3:00 PM Muhlenberg 08 | 09 | 10 | 11 | 12 | 13 | Last Quarter Moon 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | New Moon 21 |
| Deadline for submissions to the Observer 22 | 23 | 24 | 25 | 26 | 27 | First Quarter Moon 28 |
| LVAAS Board of Governors Meeting 29 | 30 | 31 | | | | |

## Sky Above 40°33'58"N 75°26'5"W Wednesday, December 7, 2022 00:00 UTC




***Your Sky was implemented*** by John Walker in January and February of 1998. The calculation and display software was adapted from Home Planet for Windows. The GIF output file generation is based upon the ppmtogif module of Jef Poskanzer's pbmplus toolkit, of which many other components were used in creating the images you see here.

ppmtogif.c - read a portable pixmap and produce a GIF file

Based on GIFENCOD by David Rowley

Lempel-Zim compression based on "compress"

Modified by Marcel Wijkstra



**Customize *Your Sky at*** http://www.fourmilab.ch/yoursky/

# 2022 LVAAS EVENT CALENDAR

Contributed by Bill Dahlenburg

## 2022 LVAAS Event Calendar

| | Sundays | | | | Saturday 7:00 PM | Saturday | Mondays | Multi-Day Weekends | Moon Phase | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | General Meeting time | General Meeting Date/location | Board meeting | Observer submission deadline | Astro Imaging | Star Parties | Scouts at S. Mountain | Scouts at Pulpit R. | New | First | Full | Last |
| **January** | 3:00 PM | 9 Muhlenberg/Zoom | 30 | 23 | no mtg | no mtg | | no camping | 2 | 9 | 17 | 25 |
| **February** | 3:00 PM | 6 * Muhlenberg/Zoom | 27 | 20 | no mtg | no mtg | | no camping | 1 | 8 | 16 | 23 |
| **March** | 3:00 PM | 13 Muhlenberg/Zoom | 27 | 20 | 26 | 12 | | | 2 | 10 | 18 | 25 |
| **April** | 7:00 PM | 10 | 24 | 17 | 23 | 9 | | | 1<br>30 | 9 | 16 | 23 |
| **May** | 7:00 PM | 1 * | 22 * | 15 | 21 | 7 | | | 30 | 9 | 16 | 22 |
| **June** | 7:00 PM | 12 | 26 | 19 | 25 | 4 | | | 29 | 7 | 14 | 21 |
| **July** | 5:00 PM | 9/10 Picnic – S.M. | 31 | 24 | 23 | 2 | | | 28 | 7 | 13 | 20 |
| **August** | 7:00 PM | 13/14 Pulpit | 28 | 21 | 20 | 6 | | | 27 | 5 | 12 | 19 |
| **September** | 7:00 PM | 11 | 25 | 18 | 17 | 3 | | | 25 | 3 | 10 | 17 |
| **October** | 7:00 PM | 9 | 30 | 23 | 15 | 1 | | | 25 | 3 | 9 | 17 |
| **November** | 7:00 PM | 13 | 27 | 20 | 19 | 5 | | | 23 | 1<br>30 | 8 | 16 |
| **December** | ** | 10/11 | 18 * | 11 | 17 | no mtg | | no camping | 23 | 30 | 8 | 16 |

* early due to conflicts

July, Aug & Dec are Saturday meetings with rain date on Sunday
Jan, Feb & March general meetings Muhlenberg (tentative)
August meeting is at Pulpit Rock
December meeting / Holiday Party **

| | |
|---|---|
| NEAF | April 9-10 |
| Cherry Springs S.P. | June 2-5 |
| Stellafane | July 28-31 |
| Black Forest S.P. | |
| MegaMeet | August 19-21 |

## Publishing images is a balancing act!

When preparing your images for publication in The Observer, please consider the following guidelines:

**Put the quality in:**

- Considering the "print" size of the image, make sure you have at least 150 pixels/inch.
- Use a reasonably good quality for the JPEG compression ratio.

**But watch the "waistline"!**

- Don't go too much above 200 pixels/inch max.
- Use the lowest JPEG quality that still looks good!
- Shoot for <300KB for a 1/2 page image or <600KB for a full page.

**Tip:** If you're not Photoshop-savvy, you can re-size and compress undemanding images ("human interest" not astroimages), with an online tool such as: https://www.ivertech.com/freeOnlineImageResizer/freeOnlineImageResizer.aspx. It will also tell you the pixel size and file size of your original, even if you don't download the processed copy.

***The Observer*** is the official monthly publication of the Lehigh Valley Amateur Astronomical Society, Inc. (LVAAS), 620-B East Rock Road, Allentown, PA, 18103, and as of June 2016 is available for public viewing. Society members who would like to submit articles or images for publication should kindly do so by emailing *The Observer* editor, France Kopy, at editorlvaas@gmail.com. Articles submitted prior to the Sunday before the monthly meeting of the board of governors (please see calendar on website) will appear in the upcoming month's issue. PDF format is preferred. Early submissions are greatly appreciated. Articles may be edited for publication. Comments and suggestions are always welcome.

LVAAS members please feel free to submit ads for astronomy equipment you have for sale, and additionally you may sponsor a maximum of three ads from non-members per year. Please submit your finished ad as a PDF, with pictures and text**.** Every attempt will be made to include submissions in a timely manner.



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