

# The Observer

The Official Publication of the Lehigh Valley Amateur Astronomical Society

<https://lvaas.org/>

<https://www.facebook.com/lvaas.astro>

November 2024  
Volume 64 Issue 11





***Via Sandy Mesics, Programs Chairperson***

Upcoming LVAAS General Meeting Speakers

**November:** Dave Moll will speak on "Lore of the Ancient Skies" in person at SMHQ

**December:** Emma Page (Lehigh U) will speak on "Transits and Eclipsing Binary Stars"

- ▶ Please contact [astrosandy@gmail.com](mailto:astrosandy@gmail.com) if you have ideas for speakers, or would like to volunteer.

***Via Bill Dahlenburg, Nominating Committee Chairman***

Congratulations to our recently elected LVAAS officers for the upcoming term:

Director: **Benjamin Long**

Assistant Director: **Kyle Kramm**

Secretary: **Beth Julius**

Treasurer: **Vo Maziarz**

Swearing-in will take place at the December general meeting and holiday party. Plan to attend the festivities!

***KUDOS! THANK YOU, LVAAS VOLUNTEERS!***

**The Stabile family (Ava, Claudio T. Claudio M.)** had a great time hosting and participating in the Lehigh Valley Space Fest at Lafayette College with **Blaine Easterwood, Linda Prince** and **Earl Pursell**. They had the 90mm SolarMax III and the SkyQuest 10" dob with a white light filter both days. Ava had her microscopes out with samples for demonstrations. Both astronomy merit badge sessions in the building were well attended and went very well. They'd love to do it again next year! <https://photos.app.goo.gl/4ucSm4hWipF4nqVs5>

**Claudio M.** also hosted the final Scout Camping weekend at Pulpit Rock from October 18-20: photos here: <https://photos.app.goo.gl/PNznxri9rA6XepSq7> LVAAS thanks its volunteers, and especially a family of volunteers! Kudos all!

***Via Blaine Easterwood, Education Director***

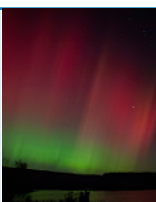
Once again, plans are coming together for our December Holiday Party/General Meeting to be held at Da Vinci Science Center. Please check our website and newsletter for more information.

***Via France Kopy, Editor***

All LVAAS members are welcome to submit material for publication in *The Observer*. All material should be original, including images and videos. We're always open to new ideas and suggestions to improve our newsletter. Contact information is in the black box, last page of this issue.

***Via Earl Pursell, UACNJ Liason***

Public Program Nights are taking place at United Astronomy Clubs of New Jersey; visit [uacnj.org](http://uacnj.org)



cover: **October's Aurora from Leaser Lake** Imager: **Joe Terrible**

Equipment and technique: Olympus E-510, vintage 2007 with a tripod. 5 second images, ISO 1600, F3.5. The 10 mp images were captured in camera raw and processed in Photoshop which has a converter from raw to tiff. Photoshop now also has integrated AI enhanced denoise which I employed. Finally, I brushed out all the extraneous airplane and satellite lights.



# LVAAS General Meeting ~ Public Welcome!

Sunday, November 10, 7 p.m. at SMHQ

## "Lore of the Ancient Skies"

*presented by*

**Dave Moll**



*Archaeology, folklore, religions, and customs provide evidence of considerable astronomical knowledge among ancient peoples. Their knowledge guided agriculture, hunting, religion, travel and other aspects of daily life. Astronomy was molded into the fabric of their ancient societies.. This talk will present numerous examples of such knowledge amongst ancient people and cultures around the world. Today's presentation will build on, and expand*

*on a previous presentation by Mr. Moll. It will leave the audience with one big question: "How did they do that?"*

David Moll, a native of Bethlehem, first joined LVAAS in 1964. He has served as Assistant Director and as a board member for many years. Dave attended Notre Dame High School - Green Pond, the Pennsylvania State University, where he earned a BS in Earth & Space Science Education. He also attended the University of Alaska where he earned the AAS in Petroleum Technology, and he did post-graduate work in Higher Education Administration and Crisis Leadership at Harvard University's Graduate School of Education and the Kennedy School of Government.

A retired University administrator, Dave worked at the University of Alaska as Statewide Manager, Environmental Health & Safety, and California State University, where he was Assistant Vice President, Risk Management & Sustainability. After 34 years of being (far) away in Alaska & California, Dave returned to the Lehigh Valley and re-joined LVAAS in 2010.

*Prospective new members* who wish to attend the meeting please email [membership@lvaas.org](mailto:membership@lvaas.org).



## **Minutes from the LVAAS General Meeting – October 13, 2024**

The October 2024 LVAAS General Meeting was conducted electronically using an online service and at the South Mountain headquarters. Approximately 41 people were in attendance.

Secretary Joe Zitarelli opened the meeting at 7:03 p.m.

Tonight's General Meeting presentation was "Construction of a Home Observatory and 32-inch F6 "Relay" Telescope" featuring Mario Motta, M.D.

Dr. Motta had been in practice at North Shore Medical Center in Salem, Massachusetts since 1983, recently retiring in 2022. He is a graduate of Boston College, with a BS in both physics and biology, and of Tufts Medical School. He is board certified in Internal Medicine and Cardiology, and is a fellow of the American College of Cardiology, and of the American Society of Nuclear Cardiology. He is an Associate Professor of Medicine at Tufts University School of Medicine. Dr. Motta has long been active in organized medicine, both in the American Medical Association (AMA) and in the Massachusetts Medical Society (MMS), holding a number of posts through the years. He is a past President of the MMS. He was elected and served 8 years on the AMA Council of Science and Public Health, and then was elected to the Board of Trustees of the AMA in 2018, recently completing his term. In May of 2023 at its annual meeting, the MMS awarded Dr. Motta its highest honor, the "Award for Distinguished Service."

Dr. Motta has been constructing and building telescopes since a teenager and also has a lifelong interest in astronomy. Over the years he has built 3 observatories, 2 separate 32-inch telescopes, and a trailer mounted 16-inch F6.3 telescope. His latest, built into his home, is a 32-inch F6.5 relay scope with a spherical primary, a Mangan secondary, and 4 corrector lenses, that gives him a usable 30 arc minute field of view, has a flat field with no aberrations, and with no color distortion as well. He enjoys doing astronomical research with this instrument as well as observing and general deep sky imaging. The 20 foot dome was also completely homemade. This telescope was featured in *Sky and Telescope* in May of 2011. It has also been featured in the *New York Times*, *Boston Globe* and other periodicals. He has been awarded several national awards in astronomy, including the Las Cumbas Award from the Astronomical Society of the Pacific in 2003, and also the Walter Scott Houston Award from the northeast section of the Astronomical League, and in 2017 the Henry Olcott Award from the American



northeast section of the Astronomical League, and in 2017 the Henry Olcott Award from the American Association of Variable Star Observers (AAVSO). He has served as a president of the ATM's of Boston, and has served as a council member of the AAVSO, and is a past president as well. He has also served on the Board of the IDA. He has worked on light pollution issues, and published several white papers on LP as a member of the AMA Council on Science and Public Health. He served on a UN committee (COPUOS) representing the AMA on light pollution for a worldwide effort to control LP and satellite proliferation. Finally, several years ago the International Astronomical Union honored Dr. Motta by naming an asteroid after him, in part for his work on light pollution as well as amateur research - asteroid 133537MarioMotta.

Dr. Motta went through the steps involved in building such a large telescope with 11 optical structures, as well as a discussion of all the assistance he had along the way. He especially sought a lot of help with the optics. He started the primary mirror from a 32" blank and ground it to  $\frac{1}{4}$  wavelength accuracy. He built the observatory starting at bedrock then constructed a 26' pier that isolated the telescope from the house. He put up the ribs of the dome and completed it with donated fiberglass. Much of the supports were carbon fiber, and he used as much scrap material and free labor as possible to keep costs down. He used the services of the University of Arizona's Richard F. Caris Mirror Laboratory to design and build the secondary tube with corrector lenses. He also had built an 18 point support for the primary mirror, and once finished the mirror was at  $\frac{1}{16}$  wavelength precision.

He was able to obtain a 24" Byers gear with a 76,000 step rotator. He has electronic encoders installed for accuracy. He currently uses an on axis guider and a ZWO ASI6200 camera. On the outside of the telescope he has added a solar scope, a 6" f7.4 refractor and a Celestron 8" f2 reflector. He is using his system for measuring Cepheid variables, looking for exoplanets. He has identified a white dwarf absorbing a planet and he has studied an occultation of Neptune's moon Triton. He has also been able to study the atmosphere of Triton.

He showed many of his images including multiple galaxies and nebulae including M16 with the Pillars of Creation. He demonstrated the high level of resolution afforded by a telescope with such a large aperture. To see the images he showed you can visit his website at:

<https://www.mariomottamd.com/category/astronomy/>

To see pictures of building the telescope you can go to:

<https://www.mariomottamd.com/telescope-making/>

To see the Sky and Telescope article on his home observatory you can read the article at:

<https://www.mariomottamd.com/wp-content/uploads/skyandtelescope-MottaObs-May2011.pdf>

After Q&A the business meeting began at 8:11 p.m.

### Nominating Committee: Bill Dahlenburg

Bill presented the slate of nominations for officers that was approved at the September general meeting to the LVAAS membership. By unanimous acclamation of the members present, the following were elected as officers of the society starting December 1, 2024:

- Director - Benjamin Long
- Assistant Director - Kyle Kramm
- Secretary - Beth Julius
- Treasurer - Wojciech "Vo" Maziarz

We took a break starting at 8:15 p.m.

The information meeting resumed at 8:30 p.m.

### Membership - Rich Hogg

- The following members completed their Second Readings and are now full members:  
Garrett Tow (family membership)
- The following members completed their First Readings:  
John Bonaventure  
Robert Cottignies  
Thomas Finan  
Dr. Becky Frank  
Tadd Kehler  
Ron Kline  
Kim and Jeff Pinegar (family membership)
- The following members have previously completed a First Reading and are still eligible to complete a Second Reading to become full members:  
Janine Bonham (family membership)  
Stephen Huber  
Michael Williams

### AstroImaging - Tom Duff

- We have an AstroImaging group that meets monthly. We discuss a variety of topics and all are welcome. If the skies are clear members may be imaging. The next meeting will be Saturday November 2 at 7:00 p.m. at South Mountain.

### Stargazers - Kyle Kramm

- Kyle gave an update on the rental fleet and recommended that members consider renting and trying equipment out before buying.



- The next Stargazers group will meet on Friday November 8 at 7:00 p.m. at South Mountain. At the last Stargazers we actually looked through telescopes!

#### South Mountain Maintenance – Bill Dahlenburg

- Bill and others are available from 9 a.m. until about noon on most Saturday mornings and are available for tours, instruction on the telescopes and solar viewing if the sky is clear.
- Contact Mike Clark if you are interested in checking out the rental fleet.

#### Pulpit Rock Maintenance – Ron Kunkel

- Ron stated that he and Frank Lyter work together at Pulpit Rock and are available for instruction on the telescopes or a tour of the facilities for LVAAS members. Email addresses are available on the contacts page on the website.

#### Calendar - Mike Huber

- We are working on a LVAAS calendar that would feature images from members of LVAAS.
- Examples of the available paper stock are on the front table. Please make your preference known by voting for your favorite.
- If interested in being involved contact Mike at [mhuber614@gmail.com](mailto:mhuber614@gmail.com)

#### Library - Joe Zitarelli

- The library has a number of books on a variety of topics in astronomy, astrophysics, chemistry and physics. There are also many videos available including LVAAS General Meeting presentations.
- If you are interested in any of these topics you are encouraged to check out what the library has to offer. Contact Joe if you have any questions or would like suggestions.

#### Next General Meeting:

- The next General Meeting will be held at South Mountain on Sunday November 10, 2024 at 2:00 p.m.

The October 2024 General Meeting was recorded.

The meeting was adjourned at approximately 8:55 p.m.

Submitted by Joe Zitarelli, Secretary

## Price Dropped \$1000!

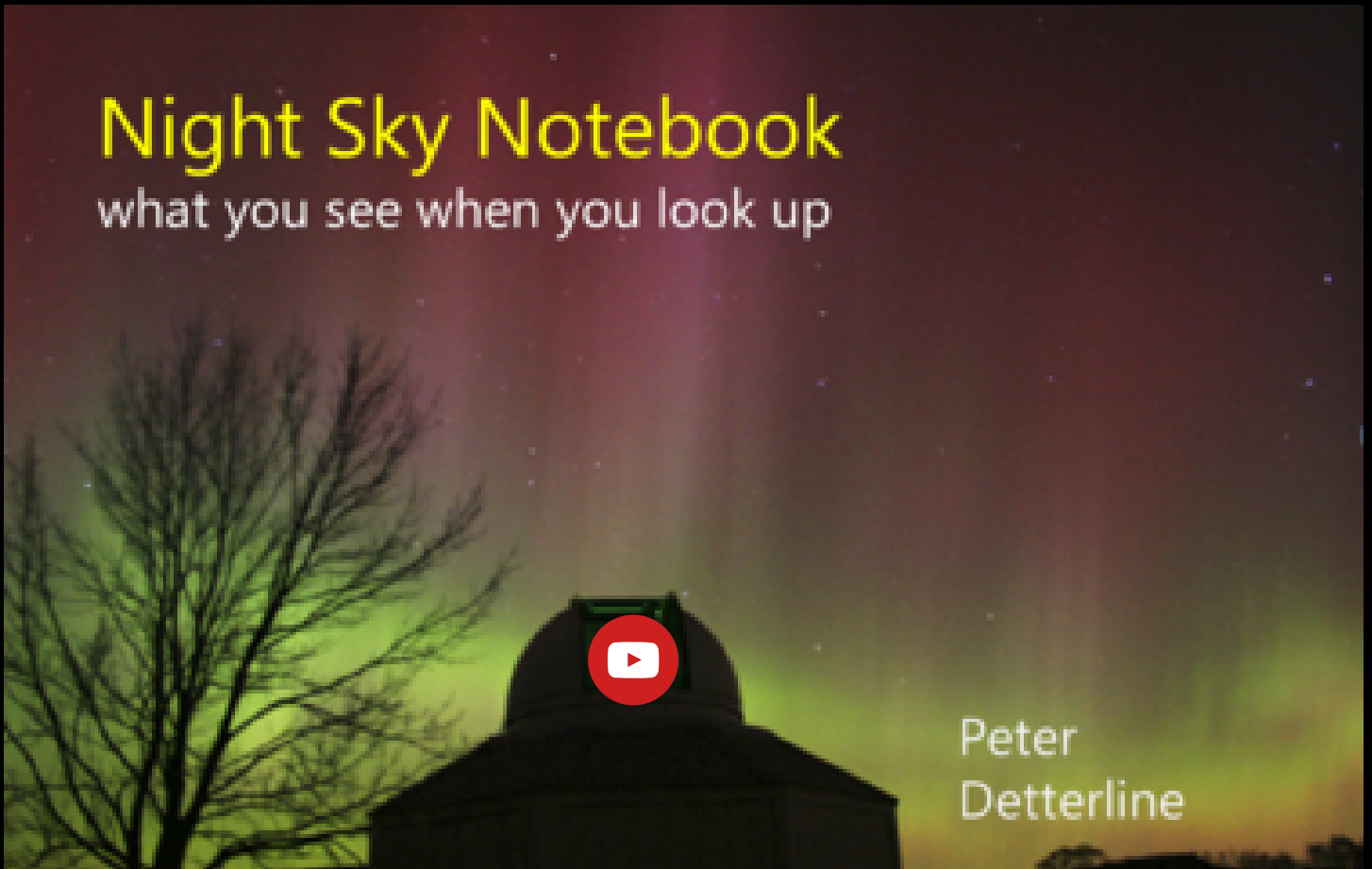
Astrophotography Rig - Only out under the stars twice. Rig consists of Redcat 51 Gen 3 250mm F4.9 scope, Celestron StarSense Autoguider, 9x50 finderscope, ZWO EAF electronic focuser, ZWO ASI533MC Pro cooled color camera, 2" filter drawer with Moon and UHC filters, telescope heater strap with manual PWM temperature controller, Celestron AVX equatorial mount, external GPS receiver, (3) 12vdc power supplies, powered USB hub and Windows 10 laptop for equipment interface and image processing. \$1800 [bodhi.black@1791.com](mailto:bodhi.black@1791.com) (267) 377-6229







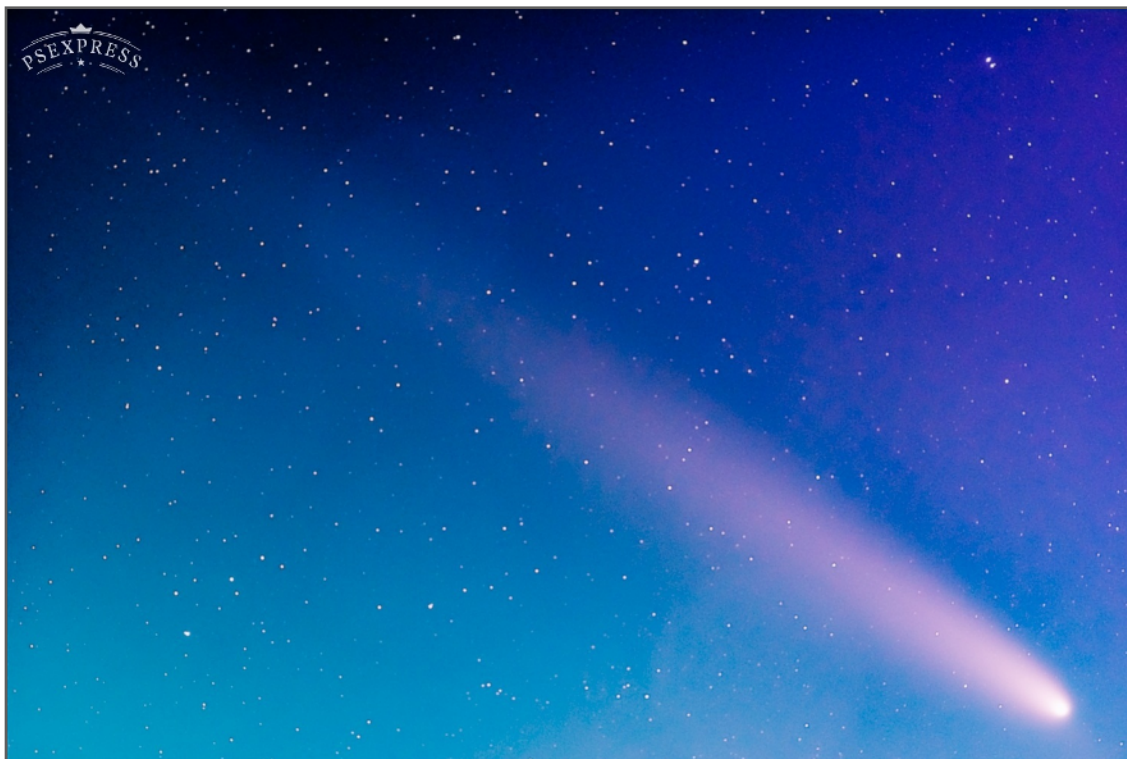
*Peter Detterline's*  
**Night Sky Notebook**  
*November 2024*





**Comet C/2023 A3 (Comet Tsuchinshan-ATLAS)** was visible to viewers in our area during October, and was captured by some lucky LVAAS imagers.

**Terry Pundiak** made his capture off of Rte 248 near Easton, PA (*left*); **Kyle Kramm** caught it from his backyard in Bethlehem, PA. (*below*) **Paul Tracy** achieved his lovely image in Schnecksville, PA (*next page*)







# Lehigh Valley Astronomers Treated to a Colorful Show of the Northern Lights

October 8, 2024 CME and solar flare brought the Aurora farther south into our locale.



Gwyneth Fowler captured images of the Aurora, radiating overhead from a corn field just south of Pulpit Rock in Windsor Township.



Melissa Wirth witnessed the bright Aurora from Center Valley, PA.



Bill Dahlenburg caught the Aurora while imaging at South Mountain Headquarters in Allentown, PA.

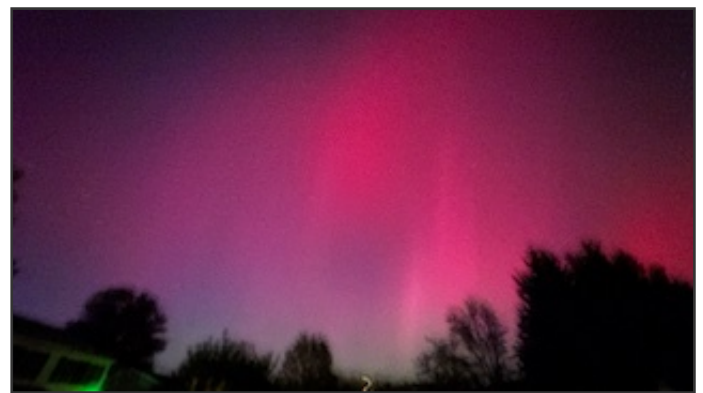




Jamie Elovski's time-lapse video of the Aurora, filmed on October 11, 2024



Carol Moll, wife of LVAAS member Dave Moll, captured this image from just north of Allentown, PA with Cassiopeia in the background.



The beautiful pinks and purples of the Aurora have been caught here by Steve Vlastic.



# POTPOURRI

by Sandy Mesics

When perusing articles from past Observers for ideas for these columns, I occasionally get the best information from the “Society News” or the “Potpourri” columns. They often give an insight into how the club was functioning at that time.

Like most of you, I am astounded by the quality of astroimaging that can be accomplished by new equipment like the Seestar 50. When we see the awesome work done by our astroimagers, we can’t lose sight of what it was like to do astrophotography fifty years ago. This clip is from the December 1974 Observer.



.....POTPOURRI.....

With the revitalization of the drive system of the Kaweck1 Observatory at Pulpit Rock, Glen Hacker and Frank Pentz have embarked on an ambitious astrophotography project to capture the beauties of the nighttime Messier objects. Starting with such glories as the Pleiades and Orion Nebula, they have been using the 2", f/15 finder-scope as a camera lens and guiding through the big 8" refractor. If their early results forecast future events, it can only be that they will go far in their efforts to capture these celestial spectaculars. As their technique improves, Glen envisions adding slow motion controls for both polar and declination axes. He has already finished the construction of a special tripod chair which will allow for a more comfortable guiding posture while photographing.



Glen Hacker presents on video astronomy at LVAAS in 2003

Shooting Messier objects on film? Using a 2-inch f-15 telescope? Manual guiding? Without electric slow-motion controls? Astrophotography in the 1970s was not for the faint of heart. Yet folks like Glen Hacker pursued projects like this. Hacker was a dedicated amateur who liked grinding his own mirrors, and he was a great innovator as well. He once gave a presentation at LVAAS on his work in video astronomy from his rooftop observatory in downtown Reading using image intensifiers.

Also, in this issue was a notice that time on the 8-inch refractor in the Kawecki Observatory was in high demand.

Director, Tom Roginski, informs your editor that he, Glen Hacker, and Paul Shenkle are on a committee which will regulate observing time at the Kawecki Observatory on Pulpit Rock Mountain. Since there are several projects now in progress utilizing the 8-inch refractor, members will have to reserve instrument time or take pot luck when going to Pulpit if they want to use the big telescope.

When was the last time members had to reserve any time on an LVAAS observatory?

And finally, in the September 1974 "Potpourri" column there was a reference to a field meet at Pulpit Rock that may have presaged the annual Megameet:

. . . . . P O T P O U R R I . . . . .

Members of the L.V.A.A.S., the Berks County Amateur Astronomy Club, Reading, Pa., and the Willingboro Astronomical Society, Willingboro, N.J., combined to form a real observing jamboree at Pulpit on Saturday, August 10th. There were fifteen telescopes hauled to the summit with apertures ranging in size from 60 mm to 8". The weather conditions were phenomenal with nearly perfect seeing and transparency conditions prevailing. Tom Roginski noted that besides lots of general sky watching, dozens of Jupiter drawings were made along with meteor observing, and serious variable star work. It looks like a good start on what should become a common occurrence between these groups of amateurs.

## References

The Observer, September and December 1974.





## Land of the Dancing Lights

I have always wanted to visit Iceland to see a country where volcanoes and the northern lights reign supreme. It's also where you can place one leg on the Eurasian Plate and the other on the North American Plate and hope they suddenly don't lurch sideways dropping you 10 feet at that exact moment. \* As an astronomy educator, however, Iceland is located directly under the auroral oval where even on a quiet night, a thin strip of fluorescing green atmospheric oxygen undulates slowly across the zenith in a never-ending display of Earth's magnetic field successfully shielding us from the sun's dangerous outpouring of deadly charged solar wind particles. We wouldn't be here without geomagnetism, or at best, we would be living underground. \* However, Iceland's far northern latitude, like all other regions where enthusiasts travel to witness the northern lights, such as Norway, Sweden, Finland, Canada, and Alaska, segregate the auroral viewing season from the warmer periods of the year. That's because in the summer, when conditions are most temperate, it never gets dark enough to see auroras in these locales. \* Then there is the weather, which in northern climes is mostly cloudy, cold, drizzly, and damp, often with blustery conditions where trees that buffer the wind are scarce or nonexistent. \* So I came to Iceland, to Arnarstapi on the Vesturland Peninsula at 64.8-degrees north latitude, overlooking the Faxaflói Sea (North Atlantic) about 131 miles south of the Arctic Circle with little expectation of seeing a vibrant display, not only because of weather conditions, but because the space weather environment must also be active. \* Had it not been for my bald, quirky traveling companion, Peter Detterline, I would have probably stayed at home. Pete told me to write that as his introduction. We have been good friends ever since I was his cooperating teacher in the spring of 1981. Since our retirements, we have racked up an impressive 100,000 miles of traveling experiences, all wonderful. Pete is also an excellent cook. We had

planned this trip in the early spring of this year. \* Yes, Iceland produced the rain, drizzle, fog, wind, and everything in between, but on our first night in Arnarstapi, the skies miraculously and unexpectedly cleared. The prediction for auroral activity was also the best that night for several weeks into the future. When Pete came inside around 9 p.m., jumping up and down, I knew that either the world was ending or the night would be special. Thankfully, it was the latter, an incredible auroral experience. \* Upon exiting our house with no dark adaptation, I witnessed a thick ribbon of green straddling the sky, slowly wavering as expected in what I interpreted as an average display. However, as the minutes passed and my eyes kicked into dark mode, the ribbon expanded into a wider band of greenish activity. Sadly about two hours later, clouds moved in, veiling an increasingly active spectacle, but they too dissipated shortly after midnight, allowing the sky to be completely engulfed in regions of auroral activity, from hazy patches of diffused light, brilliant ropelike streamers spanning the heavens, as well as sharp, narrow dagger-like spikes of raining solar debris lighting the upper atmosphere in reds and the lower levels in greens as captured by our cameras and video equipment. Auroral bursts rained down upon us from the zenith, flowering outward like wiggling swords as they approached. By 4:30 a.m., I needed to get to bed, but Pete hung around until dawn began to erode the night's diminishing activity. No, our experience was not as spectacular as the May 10/11 display of this year, which was locally obscured by clouds until an hour before dawn, but it was a night of intense activity in a land of fire and ice, auroral fire this time. Go [here](#) to see images of my Icelandic adventures with Peter Detterline and plenty of auroral images. Unfortunately, the videos will not play because the slides are in PDF format. Ad Astra!





# 2025

## What are the Stats of your LVAAS Membership?

LVAAS PayPal link: [https://www.paypal.com/donate/?hosted\\_button\\_id=FBP8Y5VX5QXNW](https://www.paypal.com/donate/?hosted_button_id=FBP8Y5VX5QXNW)

(remember to add a note with your name, and membership type)

**If your information has changed:**

**Online information update form:** <https://form.jotform.com/233314308714147>

**Printable form:**

[https://lvaas.org/filemgmt\\_data/files/LVAAS\\_Membership\\_Renewal\\_Form.pdf](https://lvaas.org/filemgmt_data/files/LVAAS_Membership_Renewal_Form.pdf)

**Complete instructions:** <https://lvaas.org/page.php?page=Renewing>

**Questions?** email [membership@lvaas.org](mailto:membership@lvaas.org)

New members who joined after October 1st are paid up for the following year.

Regular: \$45

Family: \$65

Junior/Student: \$15

Sustaining: \$90

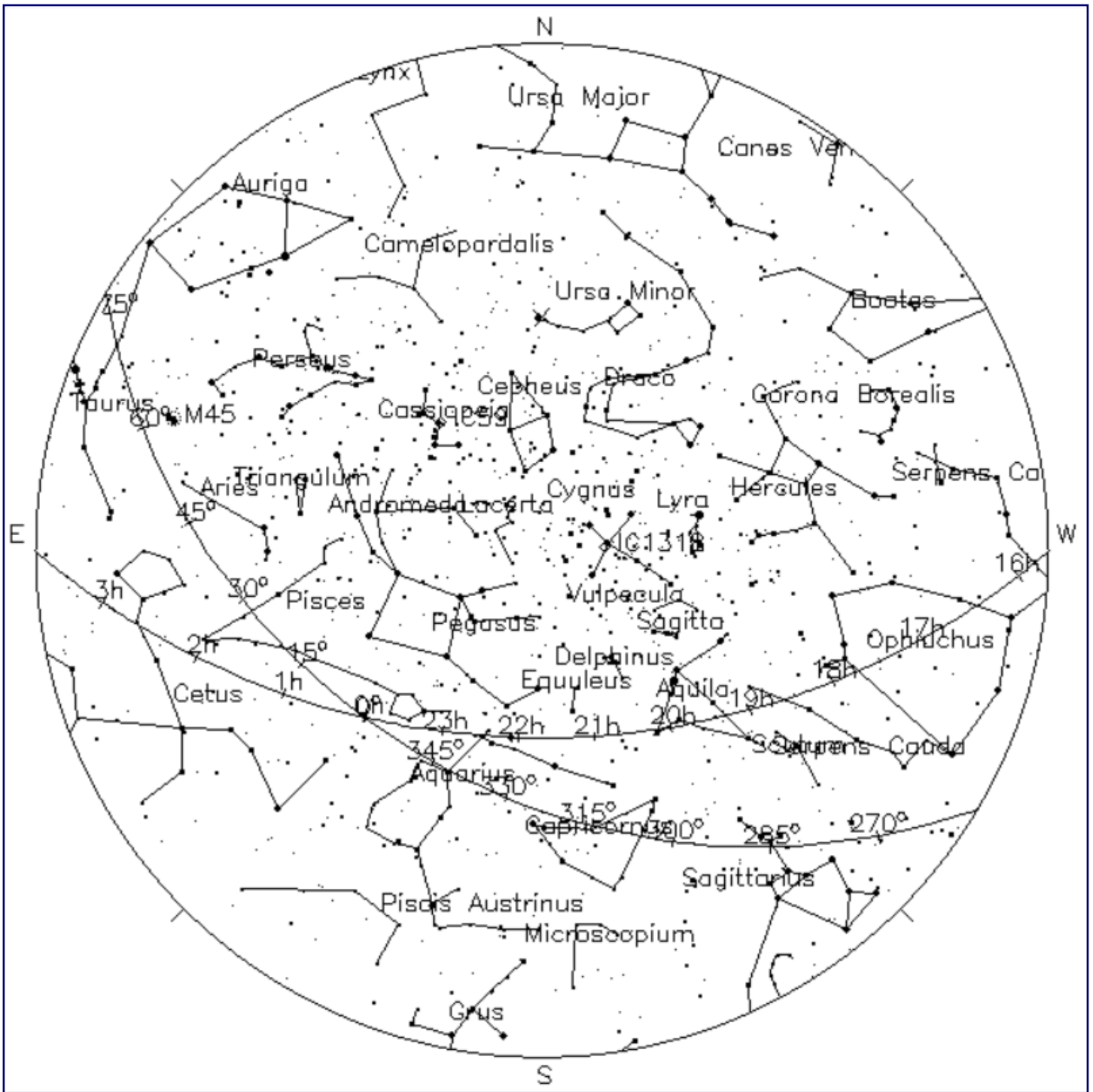
## NOVEMBER 2024

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
					<a href="#">01</a>	<a href="#">Astroimaging Meeting 02</a> - 7:00 PM
<a href="#">Daylight Savings Time 03</a> Ends	<a href="#">04</a>	<a href="#">05</a>	<a href="#">06</a>	<a href="#">07</a>	<a href="#">Stargazers Group Meeting 08</a>	<a href="#">First Quarter Moon 09</a> Star Party
LVAAS Special Board of Governors Meeting						
<a href="#">General Meeting 7:00 PM South Mountain 10</a>	<a href="#">Veterans Day 11</a>	<a href="#">12</a>	<a href="#">13</a>	<a href="#">14</a>	<a href="#">Full Moon 15</a>	<a href="#">16</a>
<a href="#">Deadline for submissions to the Observer 17</a>	<a href="#">18</a>	<a href="#">19</a>	<a href="#">20</a>	<a href="#">21</a>	<a href="#">Last Quarter Moon 22</a>	<a href="#">23</a>
<a href="#">LVAAS Board of Governors Meeting 24</a>	<a href="#">25</a>	<a href="#">26</a>	<a href="#">27</a>	<a href="#">Thanksgiving Day 28</a>	<a href="#">29</a>	<a href="#">30</a>

## DECEMBER 2024

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
<a href="#">01</a>	<a href="#">02</a>	<a href="#">03</a>	<a href="#">04</a>	<a href="#">05</a>	<a href="#">06</a>	<a href="#">Astroimaging Meeting 07</a> - 7:00 PM
<a href="#">First Quarter Moon 08</a> General Meeting / Holiday Party (tentative)	<a href="#">09</a>	<a href="#">10</a>	<a href="#">11</a>	<a href="#">12</a>	<a href="#">13</a>	<a href="#">14</a>
<a href="#">Full Moon 15</a>	<a href="#">16</a>	<a href="#">17</a>	<a href="#">18</a>	<a href="#">19</a>	<a href="#">20</a>	<a href="#">Winter Solstice 21</a>
<a href="#">Deadline for submissions to the Observer 22</a> Last Quarter Moon	<a href="#">23</a>	<a href="#">Christmas Eve 24</a>	<a href="#">Christmas Day 25</a>	<a href="#">26</a>	<a href="#">27</a>	<a href="#">28</a>
<a href="#">LVAAS Board of Governors Meeting 29</a>	<a href="#">30</a>	<a href="#">New Year's Eve 31</a>				

# Sky Above 40°33'58"N 75°26'5"W Friday Nov 01 2024 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

Copyright © 1989 by Jef Poskanzer.

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



# 2024 LVAAS EVENT CALENDAR

Contributed by Bill Dahlenburg

2024 LVAAS Event Calendar											
	Sundays		Board meeting	Saturday			Observer Submission Deadline	Moon Phase			
	General Meeting time	location		Astro-Imaging	Star Parties	Stargazers Group		New	1 <sup>st</sup>	Full	3 <sup>rd</sup>
January	14	3:00 PM Muhlenberg	28	no meeting	no meeting	no meeting	1/21/24	11	17	25	3
February	4	3:00 PM Muhlenberg	25	no meeting	no meeting	no meeting	2/18/24	9	16	24	2
March	10	3:00 PM Muhlenberg	24	no meeting	16	8	3/17/24	10	17	25	3
April	14	7:00 PM S.M.	28	6	13	12	4/21/24	8	15	23	1
May	5	7:00 PM S.M.	19	11	18	10	5/12/24	7	15	23	1 30
June	9	7:00 PM S.M.	30	1 29	15	14	6/23/24	6	14	21	28
July	13/14	5:00 PM S.M.	28	x	20	12	7/21/24	5	13	21	27
August	10/11	7:00 PM Pulpit	25	3 31	17	9	8/18/24	4	12	19	26
September	8	7:00 PM S.M.	29	x	14	13	9/22/24	2	11	17	24
October	13	7:00 PM S.M.	27	5	12	11	10/20/24	2	10	17	24
November	10	2:00 PM S.M.	24	2	9	8	11/17/24	1	9	15	22
December	8	2:00 PM ?	29	7	no meeting	no meeting	12/22/24	1 30	8	15	22

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

NEAF 4/20 - 4/21  
 Mega Meet 8/9 - 8/11  
 CSSP 6/6 - 6/9  
 Stellafane 8/1 - 8/4  
 BFSP

October 4-5-6?

## 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 [observer@lvaas.org](mailto:observer@lvaas.org).

Astroimaging Director, Tom Duff is our new Astroimaging editor, and welcomes all image submissions.

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. Early submissions are greatly appreciated. PDF format is preferred. 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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