

## PRESIDENT'S CORNER

### by Bruce Horrocks

Happy Spring to all of the Cache Valley Astronomical Society members! The warmer weather and the change to daylight saving time seems to mark that we have truly gone through another winter, and we are ready for spring. We hope that you have been out and been looking at the spring skies and making some way on you Messier object



Shannon Horrocks

list. I have been able to cross a few of those off my list so far and still have several to go. Hopefully the weather will cooperate with us in our effort for the next few weeks.

I would like to thank each of you who responded to our request that you reply to our email regarding your club membership. It has helped us to see for sure who is still out there and enjoying this newsletter and the occasional pictures sent through our email system. If you are one of those that did not respond, I would like to ask you again, that if you wish to receive the newsletter that we get a short reply to this extent. As we go forward, we will be removing some emails on our list that we feel are club members that have moved or just no longer with us.

Secondly, I would now like to encourage all of you who said you like the newsletter but are too busy to attend our club meetings to make an effort to join with us. We have one final meeting this spring which will be held this month on April 19. The Nibley City Office building is booked up most of this month, and so this meeting will be held in Wellsville at my place. The address is shown on the newsletter, and we will meet at our same time of 7:00 p.m. There is plenty of space for parking and room for many of you, so we do look forward to seeing you. If there are any changes, we will be sure to let you know via

*cont'd on p. 2*



*pngimage.com, PNG All, and clipartmax*

## UPCOMING EVENTS

### Meeting

Date: Tuesday, April 19, 2022

Time: 7:00 p.m.

Place: Bruce's home

3250 S. 5800 W.

Wellsville, UT 84339

Guest Speaker: [Paul Ricketts](#), Director of the University of Utah's South Physics Observatory

### STEM Events

- April 14: Cedar Ridge Elementary (Hyde Park)

Please plan to arrive at 5:30. The event is from 6:00 to 8:00 p.m.

Keep up to date by visiting our website:



**President's Corner, cont'd from p. 1**

our email system.

As there have been many cloudy nights this spring, our opportunities for viewing the skies have been somewhat limited. Some time ago I decided to give solar viewing a try. Personally, I was never much of a fan of solar viewing, as it seemed like a lot of money to spend only to see one star. I purchased a Daystar Quark Chromosphere filter and thought that if I really don't find this that much fun, I should be able to sell it with not too much pain to my checking account. I have been pleasantly surprised just how much I have learned to enjoy this.

A few of the things I have learned about solar viewing are, (1) you don't have to stay up so late and be tired the next day, (2) it is much warmer during the viewing times, and (3) the sun changes almost every day so there is always something new to look at. These three factors have made me a believer in spending a little money and time to observe the sun. It does not require a large telescope, since instead of looking at objects that are thousands and millions of light-years away, you are about only eight light-minutes away. Instead of seeing only tiny dots of light in your eyepiece, you now have to move the scope around to see the whole image of the sun. If you ever get the chance to do so, I would encourage you to take a look at the sun if you can. Make sure you



*Bruce Horrocks*

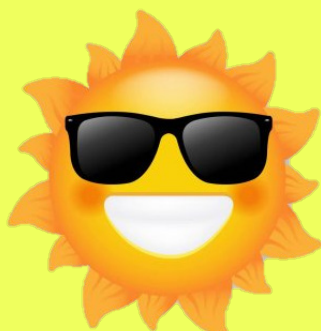
can do this safely and with the proper filters. Never look at the sun without making sure you have all the correct equipment and that it is working properly! Maybe we will even need to hold a daytime star party for that one star we all enjoy the most.

We would again like to thank Lyle Johnson for his great presentation on backyard astronomy. While it covered the basics, it was a very enjoyable presentation, and I am glad to know that there are some great people out there like Lyle who can find objects without all the computers and software. We would also like to thank all of you that have helped with our STEM outreach efforts as well. We have one final STEM night for the year and then we will be done.

We have seen some schools begin to request some star parties, so we will be sure to keep you posted on any of those that might come up. If you are involved with any of the libraries in the county, I know some of them have mentioned having star parties as well.

Good luck on whatever sky objects you are going after this month, and let us know what success you have and be sure to share these with us on the club [website](#) or [Facebook page](#). Until next month . . .

Clear Skies,  
Bruce Horrocks



*WDRfree*

### Challenges from Our President

- If you haven't responded yet as to whether you're still interested in CVAS, please do so.
- Come out and join us our next meeting on April 19 at Bruce's house!
- Using proper equipment, take a look at our closest star—the sun!
- Get ready for star party season!

### Don't Forget!

This month's meeting is at Bruce's house, NOT Nibley City Offices!

3250 S. 5800 W.  
Wellsville, UT 84339



# COMA BERENICES (BERENICE'S HAIR)

by Dell Vance

Rising early in the evening sky to the east is the constellation Coma Berenices. It is one of the ancient constellations that is included in the modern list of 88 constellations.

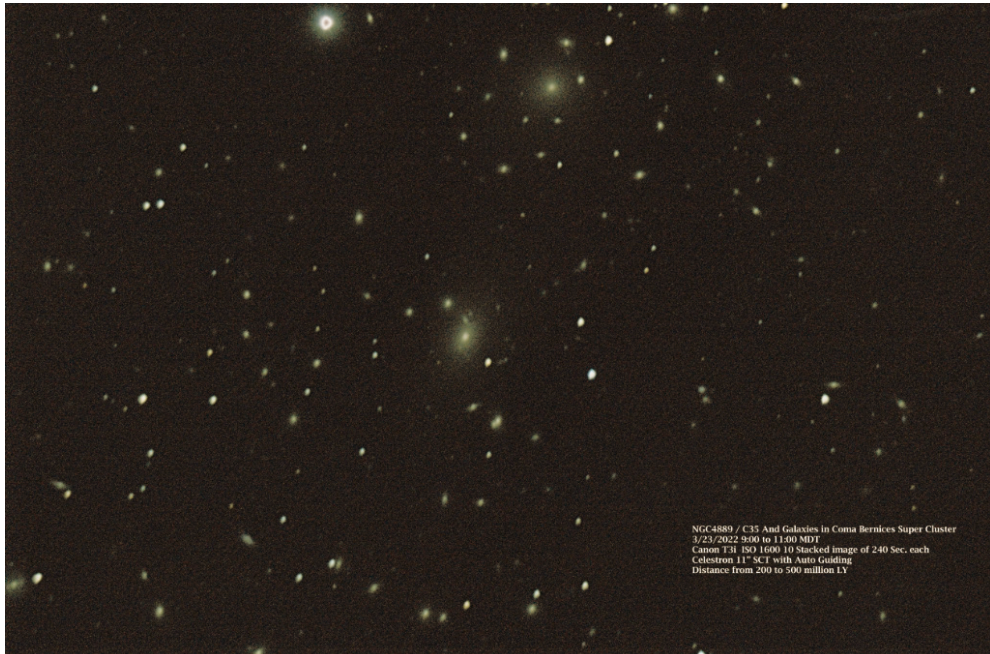
It is named after Berenice, the consort of the Egyptian ruler Ptolemy III in the third century BCE. Berenice cut off her hair and sacrificed it to the gods for the safe return of Ptolemy from the battle in the Third Syrian War. Coma Berenices is the constellation of Berenice's Hair. It is

not easy to find because its stars are 4th magnitude or fainter. It lies between the constellations Leo and Boötes.

The Coma Supercluster lies within Coma Berenices. This is a supercluster of galaxies. This superclu-

ster has over 10,000 galaxies. It is between 230 and 300 million light-years away from Earth. The Caldwell object C35 (also known as NGC4889) is one of the brightest galaxies within the supercluster. When

viewed through a larger telescope, several galaxies are visible around C35. I have imaged C35 with my 11-inch Schmidt-Cassegrain telescope on a couple of occasions. The first time, I took a single-shot image and found over 14 galaxies in the image. This year, I took several four-minute-ex-



NGC4889 / C35 And Galaxies In Coma Berenices Super Cluster  
3/23/2022 9:00 to 11:00 MDT  
Canon T3i ISO 1600 10 Stacked image of 240 Sec. each  
Celestron 11" SCT with Auto Guiding  
Distance from 200 to 500 million LY

Dell Vance

posure images and stacked them to get a higher-quality image. I found over 60 galaxies in the combined image. This is a great target for imaging a supercluster. If you have access to a larger telescope, it is fun to see.

pngset

## Hey, Astronomy Hero!

### What's Your Origin Story?

CVAS members are astronomy superheroes who share their love of astronomy with the galaxy! (Or, at least with the people of Earth!)

What piqued your interest in astronomy? Please tell us! Send your article to Bonnie at [bschenkdar@gmail.com](mailto:bschenkdar@gmail.com)!

# A CLEAR NIGHT IN FEBRUARY

by Blaine Dickey

I had been waiting to see comet **19P Borrelly** but the weather was not cooperating in early February. But on the nights of the 18th and 19th, the skies were beautifully clear and cold. I went outside, rolled back the roof of my observatory, synced my LX200R to the sky, and then went back inside where it was warm and proceeded to find the comet and begin imaging.



Comet 19P Borrelly

The comet is not much to look at but it shows a dim tail on to the left of its nucleus. On the 18th the comet was 1.4 AU from the Earth or 11.3 light-minutes. This comet was visited by the Deep Space Spacecraft in 2001. The “P” in front of the comets name means that it is a periodic comet. It orbits the sun every 6.8 years.

**Messier 36, 37, and 38**, in the winter Milky Way of the constellation Auriga, are some of my favorite open clusters. Observing them thru the eyepiece of a telescope is indeed a treat! (See images 3, 4, and 5, respectively.)

After imaging these three clusters, I decided to image **Messier 42 and 43** while they rode high in the southern sky. The resulting image shows a lot of beautiful subtle detail and color.

On that evening **Messier 82**, the Cigar Galaxy, was in the eastern sky above the Big Dipper

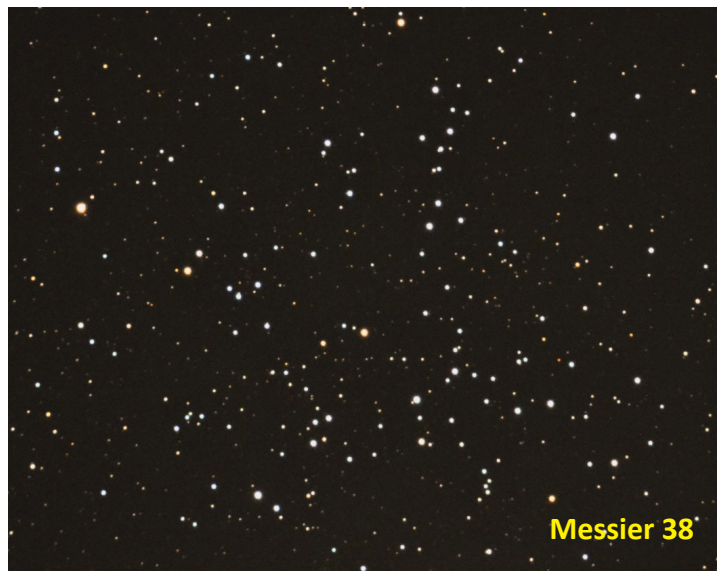
Some years ago I imaged a supernova in this galaxy that could be seen with the unaided eye through my Meade telescope. It was the first supernova I had observed directly. The supernova was a thousand times farther away than any of the other stars I could



Messier 36



Messier 37



Messier 38

*cont'd on p. 5*

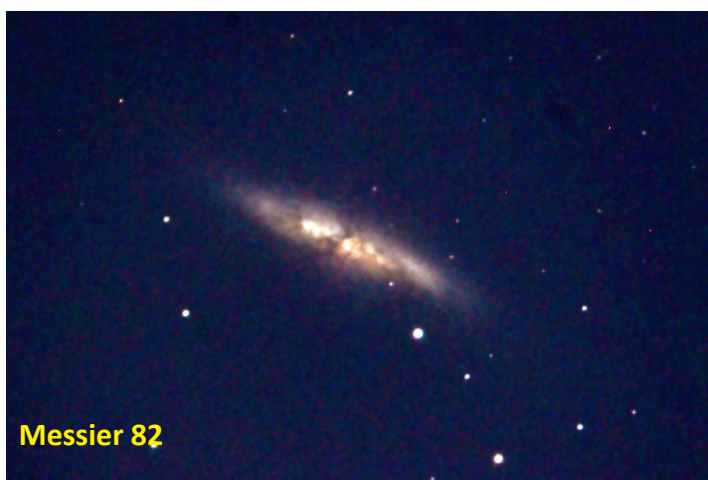


*Clear Night, cont'd from p. 4*



Messier 42 and Messier 43

02.18.2022 23:18



Messier 82



NGC 2392

see in my telescope that night, being about 12 million light-years distant.

Imaging **NGC 2392, the Eskimo Nebula or Clown Face Nebula**, a planetary nebula in the constellation Gemini, was a pleasant surprise for me. The subtle and bright blue colors of this planetary nebula are a wonder to see.

**NGC 2158** (see image on p. 7) one of my favorite open clusters, lies just to the right of Messier 35, in Gemini. When you move your scope to the right of Messier 35, you will be pleasantly surprised to see

*cont'd on p. 6*



**Clear Night, cont'd from p.**

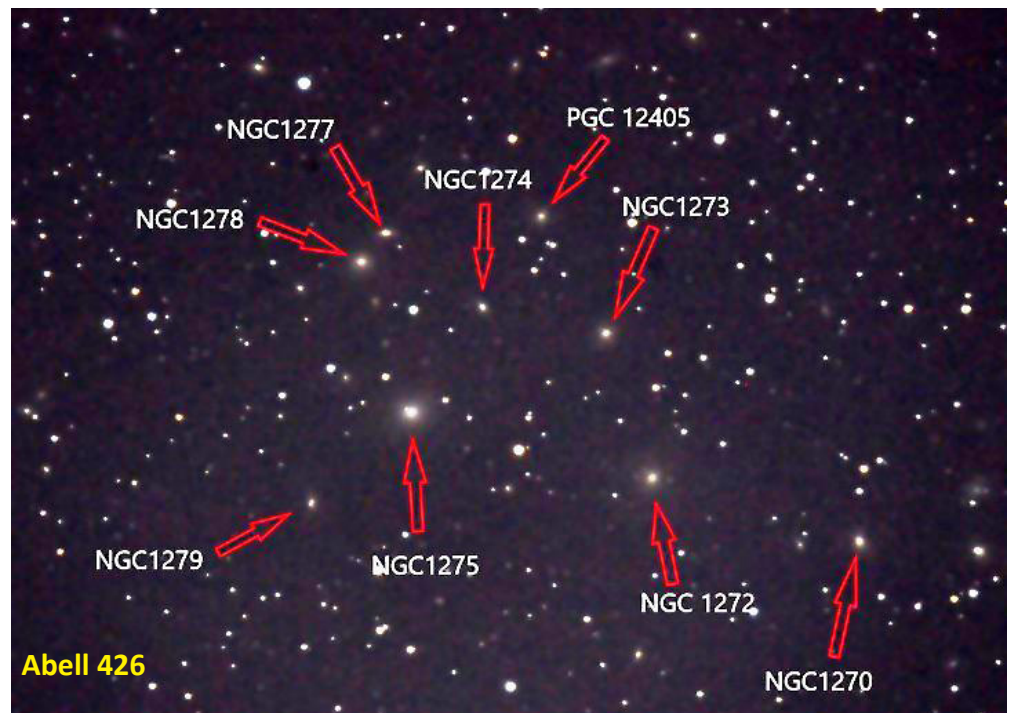
5

this small, dim, and dense open cluster.

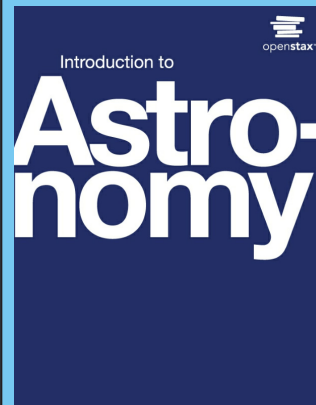
Finally this deep image of **Abell 426** is a group of galaxies 200 to 350 million light-years' distance. Nine of the brightest galaxies are labeled, while there are other galaxies in the image that are not.

As I concluded my evening of imaging, I was satisfied that I had touched the immensity of space in a small but meaningful way.

*All images in this article courtesy of the author.*



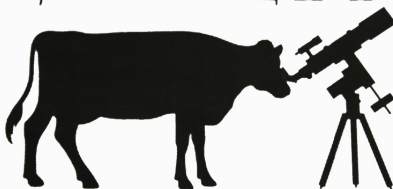
## Free Astronomy 101 Textbook Now Available!



In an effort to democratize knowledge, the [OpenStax](#) project produces free digital and inexpensive hard-copy college-level textbooks written by professionals in many fields. You do not have to be a college student to request a copy. You can read more about the new astronomy textbook [here](#). And you can download or order a copy [here](#).

Amazon Kindle


## CACHE VALLEY ASTRONOMICAL SOCIETY



Our Website: [CVAS-UTAHSKIES.ORG](http://CVAS-UTAHSKIES.ORG)


## EXECUTIVE COMMITTEE

- President: Bruce Horrocks; [bruceh@gembuildings.com](mailto:bruceh@gembuildings.com)
- Vice President: James Somers; [james.m.somers@aggie-mail.edu.usu](mailto:james.m.somers@aggie-mail.edu.usu)
- Secretary/Treasurer: Bonnie Schenk-Darrington; [bschenk-darr@gmail.com](mailto:bschenk-darr@gmail.com)
- Night Sky Network Coordinator: Garrett Smith; [GarrettGillSmith@gmail.com](mailto:GarrettGillSmith@gmail.com)
- Past President: Dell Vance; [avteam.dell@gmail.com](mailto:avteam.dell@gmail.com)
- Public Relations: Lyle Johnson; [lyledj@aol.com](mailto:lyledj@aol.com)
- Webmaster/Librarian: Tom Westre; [twestre45@aol.com](mailto:twestre45@aol.com)



Got a cool image, story, or article?  
Please share it with us! Send it to  
Bonnie at [bschenkdarr@gmail.com](mailto:bschenkdarr@gmail.com).

*Clipart Library*

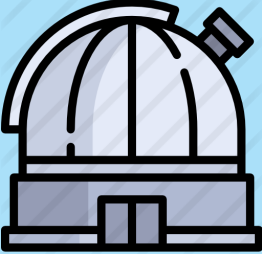


**USU  
Observatory  
Public Night**

April 8, 2022  
9:00 to 10:30 p.m.

Possible targets:  
The Orion Nebula  
The Pleiades  
The Moon  
Betelgeuse  
Sirius

More info available  
[here](#).



*clipartmax*



*Clipart.World and Cliparts Zone*

Need a quick astronomy fix?  
Tune in to CVAS's astronomy show on Utah Public Radio!

# UTAH SKIES

Every Tuesday at 4:48 p.m.  
91.5 KUSU-FM (west Cache Valley)  
89.5 KUSR (east Cache Valley)

You can also download the UPR app or listen to the livestream [here](#).  
Check out our past radio shows [here](#).

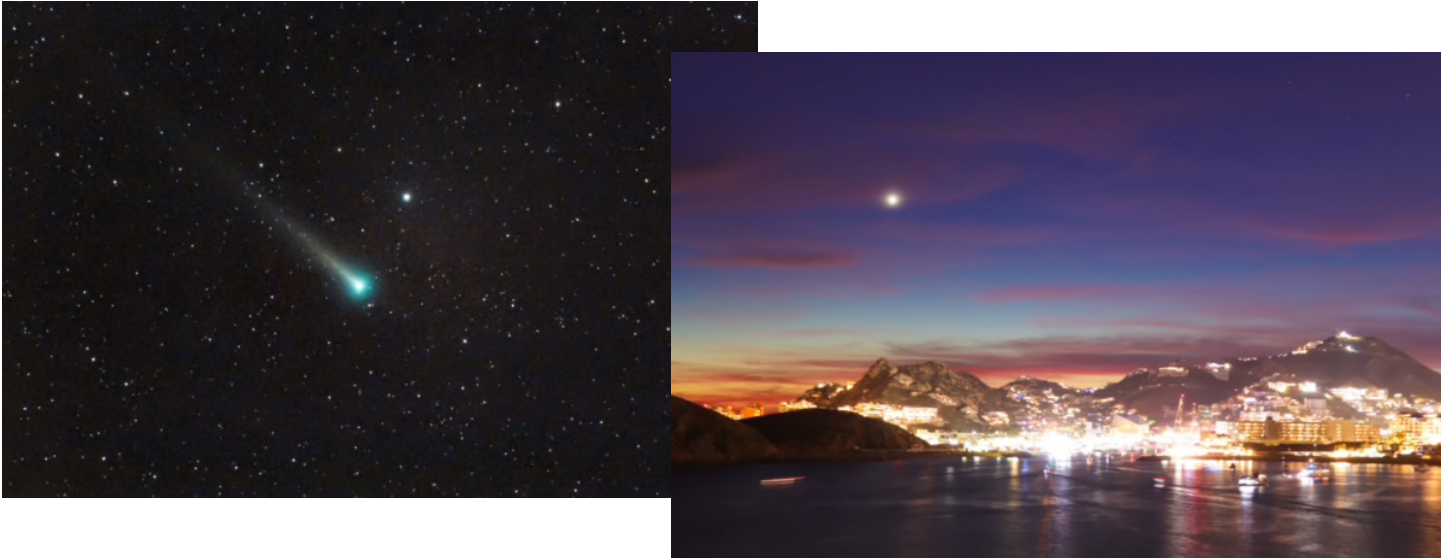


*UPR USU*



# ASTROPHOTOGRAPHY GALLERY

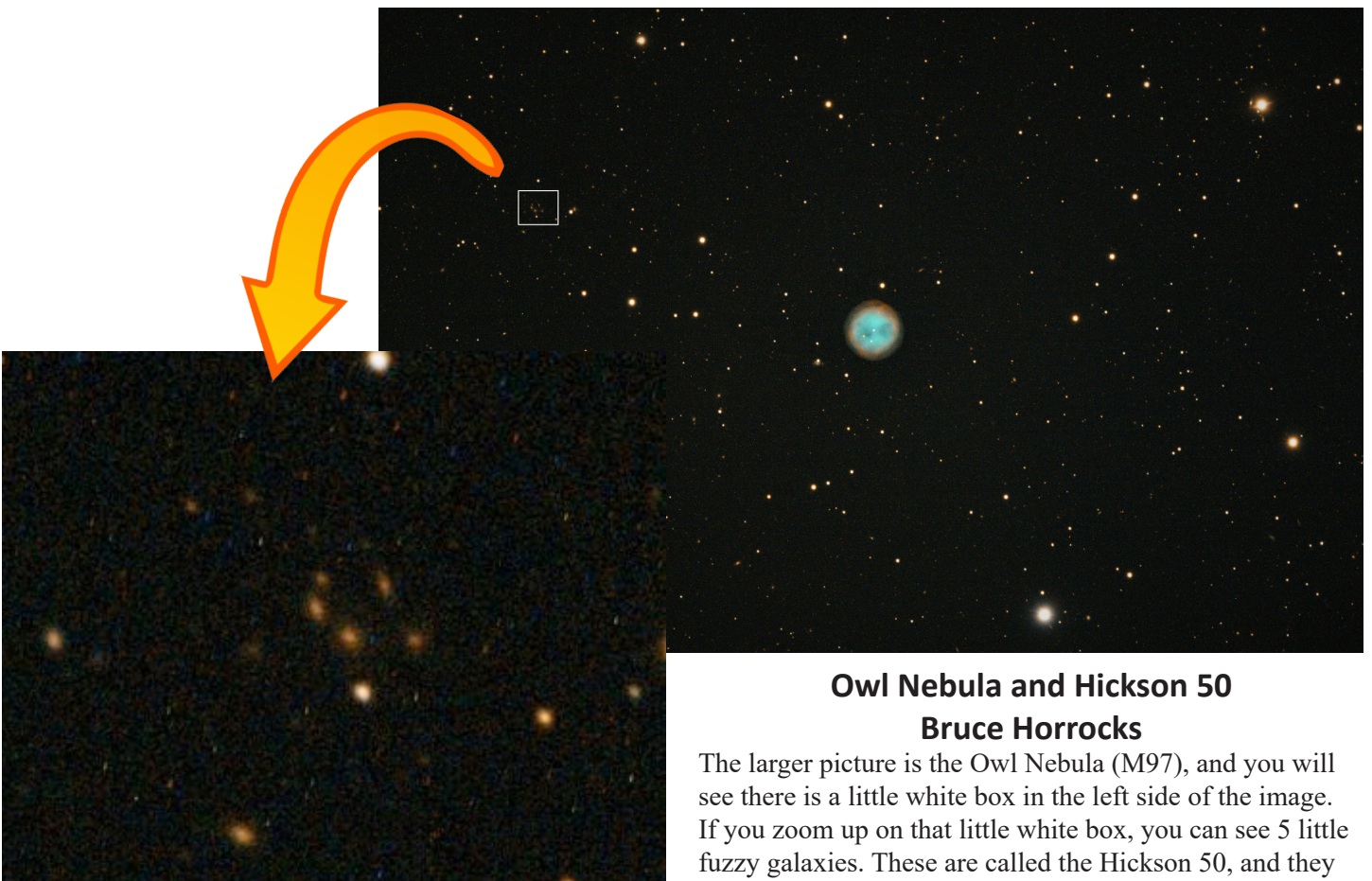
## Recent Images by Club Members



### Two Terrific Images

**Dean L.**

He took some with a Canon Eos 77d with a (old) 24-300mm f/3.5-6.3 for the Milky Way core shots, and for the tracked deep space shots, Dean used a (new) Canon 70-300mm f/4-5.6 with a Sky-Watcher Star Adventurer Mini.



### Owl Nebula and Hickson 50

**Bruce Horrocks**

The larger picture is the Owl Nebula (M97), and you will see there is a little white box in the left side of the image. If you zoom up on that little white box, you can see 5 little fuzzy galaxies. These are called the Hickson 50, and they are around 1.8 billion light-years away.



## DID YOU GET ANY GOOD IMAGES OF THE CORONAL MASS EJECTION OR THE AURORA BOREALIS AT THE END OF MARCH?

**If so, please share them!**

Send them to Bonnie at [bschenkdarr@gmail.com](mailto:bschenkdarr@gmail.com) so we can see them in the newsletter next month!



*Clipart Library and clkr.com*

### Free Online Course: Introduction to Amateur Astronomy



*Clipart Library*

We advertised this course in our January issue and in our club e-mails. Kalamazoo (Michigan) Astronomical Society has been giving a free introductory astronomy class online. Students who attend all five sessions even receive a nifty certificate!

It's too late to formally join the class. But CVAS has been given special permission to post the YouTube videos of the lectures! So, if you'd like to brush up on your introductory astronomy, here are links to the lessons!

They have a gift shop full of cool stuff and offer many free online lectures, besides the introductory class. You can check out their main website at <https://www.kasonline.org>.

#### Introductory Astronomy Lessons

[Part 1: Our Place Among the Infinities](#)

[Part 2: Discovering the Night Sky](#)

[Part 3: Binocular Basics](#)

[Part 4: Telescope Tutorial](#)

[Part 5: The Art of Astrophotography](#)

# UPCOMING ASTRONOMY EVENTS AND ANNIVERSARIES

by Bonnie Schenk-Darrington

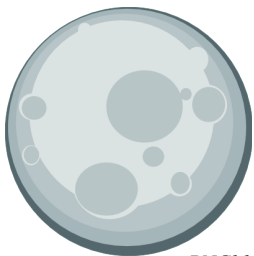
- April 1–5: Multiple conjunctions and appulses of Mars, Venus, and Saturn. This might be best viewable through binoculars. National Geographic UK calls this “a majestic celestial ballet.” You can read more about it [here](#).



KindPNG

- April 1: New moon.
- April 1: [M104](#), also known as the “Sombrero Galaxy,” is highly visible.
- April 2: [Mercury at superior solar conjunction](#). It will not be very visible for a while.

- April 3: Moon occults Uranus.
- April 5: [Judith Resnick](#), the first Jewish woman in space, born in 1949. She was killed in the Challenger disaster in 1986.
- April 9: NASA announces the first team of astronauts, the [Mercury Seven](#), 1959.
- April 11: [Bernhard Schmidt](#), inventor of the Schmidt telescope, born in 1879.
- April 12: [Yuri’s Night](#), a holiday celebrating the anniversary of the launch of the first man into space: Yuri Gagarin in 1961.
- April 14: [Christiaan Huygens](#) born in 1629. He studied the rings of Saturn and discovered its moon, Titan. He was also one of the most important figures of the scientific revolution.

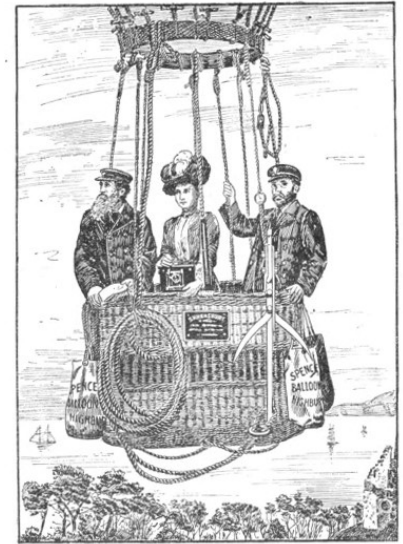


PNGlib

- April 16: [Paschal full moon](#).
- April 17: [Easter Sunday](#)—or, in other words, the first Sunday after the full moon that occurs after March 21 (Paschal full moon).

- April 19: [Gertrude Bacon](#), aeronaut and astronomer, born in 1874.
- April 19: Dwarf planet [136108 Haumea visible in the constellation Bootes](#).
- April 22: Lyrids meteor shower peaks.
- April 24: [Conjunction of moon and Saturn](#).
- April 27: [Conjunction of Venus and Neptune](#).

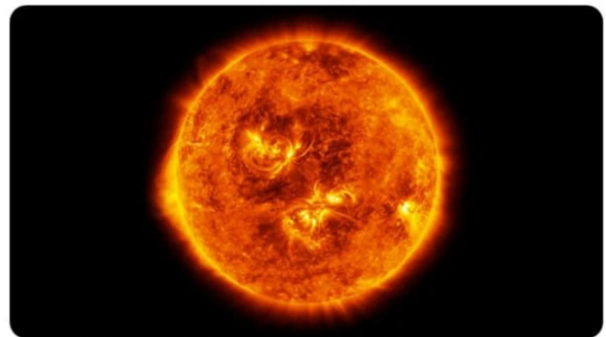
- April 28: [Mercury at highest altitude in the sky](#). It will still be hard to observe, though, because Mercury will still be only 18 degrees above the horizon.
- April 28: [Asteroid 10 Hygiea visible in the constellation of Virgo](#).
- April 30: New moon.
- April 30: Venus–Jupiter conjunction.



Wikipedia

## A LITTLE ASTRONOMY HUMOR

Breaking News:  
Scientists confirmed  
that our Sun has Corona



RuinMyWeek.com



# CACHE VALLEY ASTRONOMICAL SOCIETY MEMBERSHIP APPLICATION FORM

Member # \_\_\_\_\_

NAME: \_\_\_\_\_  
                    First                      Middle Initial                      Last

Address: \_\_\_\_\_  
                                                            Street                      City                      State                      Zip Code

Home Phone: \_\_\_\_\_ Cell Phone: \_\_\_\_\_

Work Phone : \_\_\_\_\_ Occupation : \_\_\_\_\_

Email Address: \_\_\_\_\_

How did you learn about CVAS?

\_\_\_\_\_ Website    \_\_\_\_\_ Star Party    \_\_\_\_\_ CVAS Member    \_\_\_\_\_ Other \_\_\_\_\_

Membership: \$20 lifetime membership

Tell us about yourself: Do you have a special interest in astronomy? Do you have special skills? Are you willing to volunteer on CVAS projects or attend public outreach star parties? Astro equipment owned.

\_\_\_\_\_

---

---

By signing this application, I acknowledge I have access to the CVAS website, [cvas-utahskies.org](http://cvas-utahskies.org), and the CVAS constitution. I agree to abide by the constitution.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

---

Bring this form to the meeting or contact **Bonnie Schenk-Darrington, Secretary/Treasurer** at [bschenkdarr@gmail.com](mailto:bschenkdarr@gmail.com).