



VOL. 54 NO.3
MAY/JUN 2024



Find us on Facebook!

<https://www.facebook.com/groups/SLAS.Talk/>

<https://www.facebook.com/UtahStarParty>

<https://www.facebook.com/UtahSPOC>



SLASBROCHURE.pdf



SLAS.US

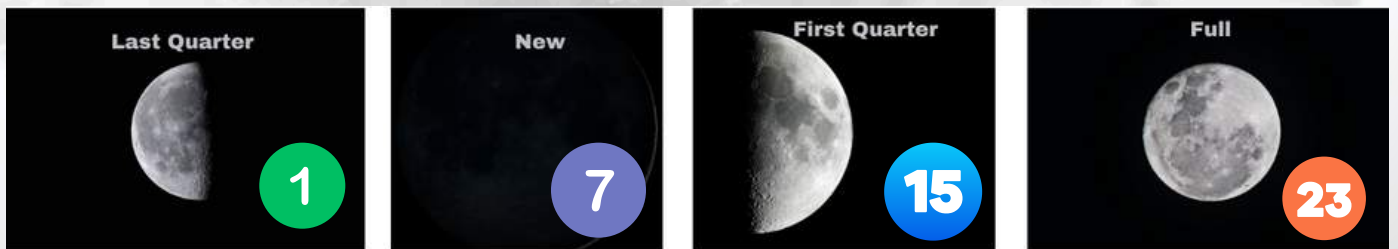


MOON PHASES

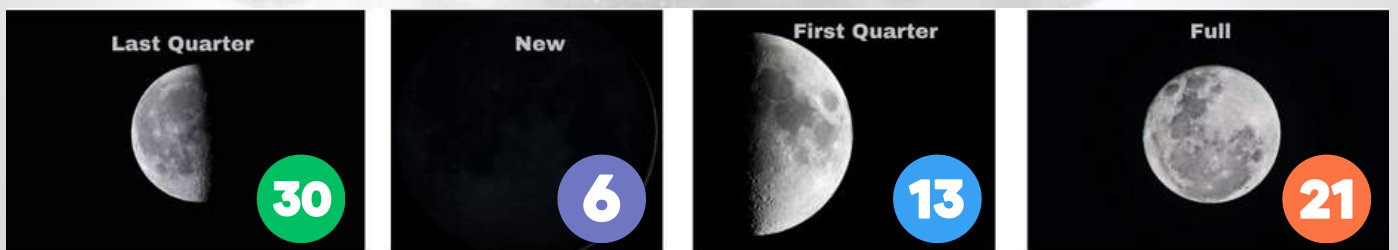
SOURCE: MOONPHASES.ORG

Utah, (Calculated Time Zone: America/Denver (MST), GMT-07:00)

MAY 2024



JUNE 2024



NASA needs help with their MOONDIFF project and you can help! Scan the QR code at the right to get more information on how you can help!



SLAS OFFICERS

SLAS Board of Directors

President: Don Abernathy

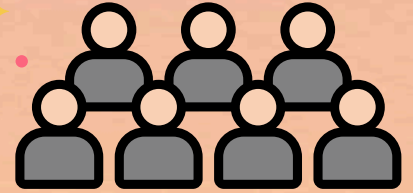
Vice President: Aleta Cox

Secretary/Treasurer: Krista Lemoine

Board Members at Large: Trevor Hebditch and Marlene Egger



Appointed Positions



Astronomical League Contact: Aleta Cox

Equipment Manager: Trevor Hebditch and Aleta Cox

Library Loaner Telescope Coordinator: Joan Carman

Historian: Patrick Wiggins

NASA Night Sky Ambassador: Krista Lemoine

Nova Newsletter Editor: Jenette Scott

Observatory Director: Jim Keane

Private Star Party Coordinator: Don Colton

Webmaster: Ken Warner

ZAP Grant Writer: Jim Keane

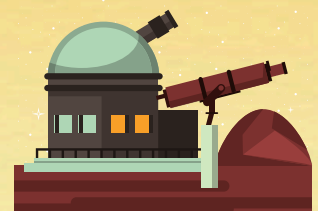


SPOC Advisory Committee

Chair: Jim Keane

Members: Don Abernathy, Bob Moore, Patrick Wiggins, Luke Moses, Jim Keane, John Drabik, Leslie Fowler, Bill Kennedy.

Members As Obser. Dir. Emeritus: Bruce Grim, Rodger Fry.



SPOC Telescope Instruction Coordinators

Bogdan Refractor: Marlene Egger

Ealing: Jim Keane

Grim: Rodger Fry

Clements: Leslie Fowler

Contact board: board@slas.us

contact editor: astrobug3027@gmail.com

SLAS EVENTS PAGE



Come to a
Star Party!!

www.slas.us



The Salt Lake Astronomical Society invites you to join us at a FREE public Star Party or Sun Party! Enjoy views of the Sun, Moon, Planets, Stars, Nebulae, and Galaxies through some of Utah's largest telescopes.

2024 Star & Sun Party Schedule & Locations

APR	20 th	SPOC*
APR	27 th	Sun Party- Winchester Park (6400 S. 1100 West)
MAY	11 th	SPOC*
MAY	17 th	SL Co. Library Taylorville Branch 4870 S. 2700 West, Taylorville, UT
MAY	18 th	SPOC*
MAY	25 th	Sun Party- Winchester Park (6400 S. 1100 West)
JUN	1 st	SPOC*
JUN	5-8 th	Bryce Canyon Astronomy Festival
JUN	14 th	SL Co. Library South Jordan Branch 10673 S. Redwood Rd., South Jordan, UT
JUN	15 th	SPOC*
JUN	22 nd	Sun Party- Winchester Park (6400 S. 1100 West)
JUN	29 th	SPOC*
JUL	12 th	SL Co. Library Granite Branch 3331 So. 500 East, South Salt Lake, UT
JUL	13 th	SPOC*
JUL	17-20 th	Astronomical League Convention- Kansas City
JUL	20 th	Sun Party- Winchester Park (6400 S. 1100 West)
JUL	27 th	SPOC*
AUG	9 th	SL Co. Library Riverton Branch 12877 So. 1830 W., Riverton, UT (accessible from Redwood Road is easier to find)
AUG	10 th	SPOC*
AUG	17 th	Sun Party- Winchester Park (6400 S. 1100 West) SPOC* Stansbury Days
AUG	24 th	SPOC*
SEP	7 th	SPOC*
SEP	13 th	SL Co. Library Herriman Branch 5380 W. Herriman Main St., Herriman, UT
SEP	14 th	SPOC*
SEP	21 st	Sun Party- Winchester Park (6400 S. 1100 West)
OCT	11 th	SL Co. Library Holladay Branch 2150 E. Murray-Holladay Rd., Holladay, UT
OCT	12 th	SPOC*
OCT	19 th	Sun Party- Winchester Park (6400 S. 1100 West)
OCT	26 th	SPOC* (final star party of the year)

*Stansbury Park Observatory Complex

Star Parties run from Dusk until:
10 PM in Apr, May, Sept, Oct
11 PM in Jun, Jul, Aug,
Sun Parties are from 9AM – Noon.

All Sun & Star Parties are Weather Permitting.
See you under a clear Sky



General Meeting Information

BOARD MEETINGS ARE FOR SLAS BOARD MEMBERS AND ARE OPEN TO ANY MEMBER OF SLAS TO ATTEND. PLEASE NOTE THAT ONLY BOARD MEMBERS MAY VOTE AT BOARD MEETINGS. BOARD MEETINGS TAKE PLACE ON THE 2ND WEDNESDAY OF EACH MONTH AT 7:30 PM LOCATED AT THE DENNY'S RESTAURANT ON 1701 WEST NORTH TEMPLE STREET SALT LAKE CITY, UTAH 84116 (WE MEET IN THE BACK MEETING ROOM)

GENERAL MEETINGS FOR SLAS MEMBERS TAKE PLACE ON THE 3RD WEDNESDAY OF EACH MONTH (WITH THE EXCEPTION OF DECEMBER WHEN THE SOLSTICE PARTY AT THE BEGINNING OF DECEMBER TAKES THE PLACE OF THE GENERAL MEETING) AT 7:30 PM LOCATED AT ROOM TB104, RAMPTON TECHNOLOGY BUILDING, SALT LAKE COMMUNITY COLLEGE REDWOOD ROAD CAMPUS PARKING IS ACROSS THE STREET TO THE NORTH OF THE BUILDING IN PARKING LOT 'R'. GENERAL MEETINGS ARE OPEN TO THE PUBLIC.

- **May. 08** - Board Meeting
- **May. 15** - General Meeting
- **Jun. 12** - Board Meeting
- **Jun. 19** - General Meeting

See the above info for places and times for meetings and the webpage: slas.us for more information.

PLEASE NOTE: Zoom is no longer available for these meetings unless the guest speaker is joining us virtually.





SLAS General Meeting Guest Speakers

May 15, 2024



Dr. Julia Kamenetzky

Dr. Julia Kamenetzky is an Associate Professor of Physics at Westminster University in Salt Lake City. She completed her MS and PhD in Astrophysical and Planetary Sciences at the University of Colorado at Boulder. Her doctoral and post-doctoral research focused on molecular gas in star-forming galaxies, working with the Herschel SPIRE Fourier Transform Spectrometer, the Atacama Large Millimeter Array (ALMA), and the Arizona Radio Observatory (ARO). Since her beginning tenure at Westminster, she has been involved in many different research projects that involve undergraduate students, such as light pollution research, variable star monitoring, exoplanet transit monitoring, and physics/astronomy education research. Dr. Kamenetzky will be talking about her work in the studies of molecular gas in galaxies. Be prepared to become familiar with submillimeter-wave spectroscopy . . . a new way to think about the universe.

June 19, 2024



Ron Wilcox

Ron Wilcox, a new member of SLAS, will be our Guest Speaker for June's monthly General Meeting. Ron is currently an RN Case Manager with Intermountain Healthcare/Select Health (RN BSN CCM) and is active in his church, ham radio (QFZ.com, call sign: KF7ZN), music, and most recently . . . astronomy. He and his wife have acquired a Celestron 8SE telescope, and are in the process of learning the greater mysteries of the observable sky, having joined the Salt Lake Astronomical Society. His presentation, "A Visit to the Sun and the Ionosphere" is of special interest with the upcoming solar maximum in the sun's cycle (early 2025). Those members who are already engaged in solar viewing (besides certain recent eclipse events) know what a treat is presently available in viewing the sun's activity. Ron will bring us up to date on what to expect in the upcoming months. It is a pleasure to have him address our membership.

SLAS NEWS

This News is Brought to You

By the Letter “M” For the Month of March and the Messier Marathon



Photo credit: Ryan Boyce

Jenette Scott, Max Byerly and Leslie Fowler, right, pose in their custom Messier Marathon shirts, before the night of stargazing began and they were forced to cover up. Fighting cold and sleepiness, the three found and identified nearly all 110 Messier deep-sky objects all in one night. (Photo: Ryan Boyce)



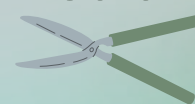
Catálogo Messier completo

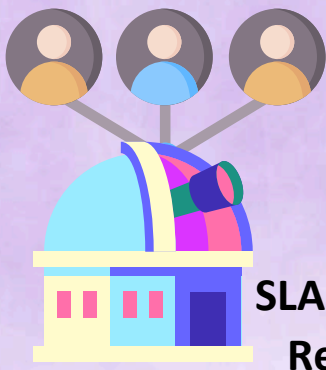
Max Byerly, Leslie Fowler, and Jenette Scott are three friends who love planning and running the Messier Marathon every year. They are also members of SLAS who like to invite anyone who wants to join. This year, the marathon was run out at Knolls on March 8 and it was a huge success and loads of fun! In addition to Max, Leslie, and Jenette, Max’s friend Mitch Preston came Jenette’s husband Jeremy, and SLAS members who joined in the night of fun and deep sky objects were Krista Lemoine and her husband Nicholas, John Johanson (who brought his 19-year-old grandson), Jim Fenton (who brought a table of yummy goodies that put Martha Stewart to shame and kept everyone well fed), Alpine Stringham (who brought his son), and Mike Clements. Ryan Boyce who is a journalist for KSL also came along and joined the fun and wrote an article about the night called, “Running on Starlight,” which can be read [here](#) or scan the QR Code on the right. It was a fun night and we look forward to doing it again next year!

Running on Starlight KSL



A special, Thank You! Shout-out to all those individuals who helped clean, prune, and trim around SPOC on March 19 so the observatory could be ready to open for the 2024 observation season! You are the best!





SLAS Astronomy Outreach Speakers and Presenters Recognized for their work from 2023 to Present

By Marlene Egger

SLAS is well-known for our public star parties, solar parties, and star parties at schools and libraries. Lesser known are our outreach speakers and presenters who may speak singly to an individual class, a scout troop, a small group of adults, OR to a large group like a school assembly or a large community organization. SLAS sponsors some of these presentations when they are focused toward the public. For more private events, speakers and presenters work out arrangements case-by-case. The SLAS Board would like recognize individuals who perform this important work.

SLAS's outreach mission attracts those of us with a desire to share our passion for astronomy! In the last decade, outreach speakers have included every Board member, Observatory Director, and many more. If we listed every outreach speaker in the history of SLAS, the list would be incredibly long. So, we have narrowed the field to the most recent, 2023 to present.

In 2023, some of our outreach speaker presentations included the Utah Civil Air Patrol conference (Don Abernathy), a local Boy Scout Troop (Marlene Egger), speaker at Heritage Starfest last September in Torrey, Utah; Sponsored by the town of Torrey and the Entrada Institute (Mark Swain), Saint Olaf Catholic School (Krista Lemoine), Mountain Shadows Elementary (Krista Lemoine, Don Abernathy, Marlene Egger), a convention at Deer Valley hotel (Leslie Fowler and Rodger Fry), Summit Land Conservancy (Leslie Fowler), a homeschooling group (Rodger Fry), several summer Girls' Camps (Jenette Scott and Leslie Fowler), a large 16th Birthday Celebration up Emigration Canyon (Leslie Fowler and Jenette Scott), and a boys' Primary group (Jenette Scott, Max Byerly, and Leslie Fowler).

In 2024, Don has repeated his performance at UCAP as well as an elementary school class. Max Byerly spoke at a private function in January.

Jenette Scott gave a very well-received talk to South Valley Rotary Club about Leap Day answering the questions they had about why these days have to be added to the calendar, when they are added to the calendar, and how that corresponds to keeping the calendar in sync with the seasons. "The Rotary Club members were very fascinated by all the calculations that go into the calendar, the astronomy, and how the algorithm we use today came about that determines what year is a leap year. They were very surprised to learn that a leap year doesn't occur every four years. They loved learning how the calendar defines who we are and what we do. They were also surprised to learn that the law and the government do not recognize Leap Day. The reasoning behind that and the legislation that went into not recognizing leap day was equally surprising to them. They also were intrigued by the mess Julius Caesar caused with the calendar and the days that were skipped when Pope Gregory fixed the calendar," she said. They have asked her to speak again on the mental health issues surrounding light pollution, as mental health is one of their priorities.

Jenette also spoke to a girls' Primary group this past March. She said "I enjoy doing astronomy speaking and presentation engagements. I like to see people's faces light up when they learn something new about the cosmos or are in awe of something in the universe. I Especially love to see the faces of the of kids light up! Those 'A-HA!' moments are so rewarding!" She also loves the astronomy outreach she is able to do as the SLAS Nova editor. "My degree is in science education. Astronomy, physics, chemistry, science writing and lifelong learning are my passion." She says that several teachers use the Nova in their classrooms and they have expressed to her how the Nova has helped their students. One teacher told Jenette that her classroom reading levels have gone up and their students' interest in science has blossomed because they love reading the Nova! Jenette is very excited that she can help students become lifelong learners and reach new horizons especially in science.

Max says of his experiences doing outreach, "My involvement with presentations for private events and such are a combination of both technology and the tried and true trade. I usually combine using a telescope and a camera so people get a sense of both ways of enjoying the newer age of astronomy. Taking a decent size aperture telescope and then having another dedicated piece like the Seestar or another OTA with a camera attached really opens up the imagination. We learn the constellations; we talk about the things that lie in the universe. We use the iPad to showcase targets and the patterns in the sky. And then we dedicate the telescope to a variety of targets such as stars with different colors, a few nebulae, galaxies and some clusters. It's so amazing at the same time to photograph them, share that with them on their phone so they can take something away with them. This approach has led me very well in outreach recently and is really what I love doing, both for the club, and for just the joy of sharing the night sky. Astronomy may have new tricks, but the fundamentals and the basics are tried and true, and will always be that way forever."

Krista says, "I enjoy being able to bring astronomy to the public and inspiring children to discover a new hobby. I love when someone sees an object for the first time in a telescope and gets excited."

Leslie says of her experiences, "It's fun when I can see the moment someone's eyes light up because they really learned something from what I showed them or explained to them."

Current SLAS President Don Abernathy shared with me his approach to astronomy outreach presentations:

I like to introduce astronomy to newcomers who are not quite sure what they are looking for, or what their interests may be. I begin with a simple introduction as to the history of astronomy (ancient times up to Galileo and the telescope), and then step up to the night sky, and what there is to see. I begin with our solar system (sun, planets, moons, etc.) and progress out through our galaxy, eventually into the universe. This approach can have many, many side trips into specific "locations," as well as the means to observe and learn (via books, videos, photos, telescopes, star parties, and much more). With presentations, tailored to all age groups and interest levels, the fascination of astronomy often fans the flames of curiosity....

In astronomy, some of those experiences [when the light bulb turns on] are like when a person first views a double star, and they learn about multiple star systems. Or, explaining the light and

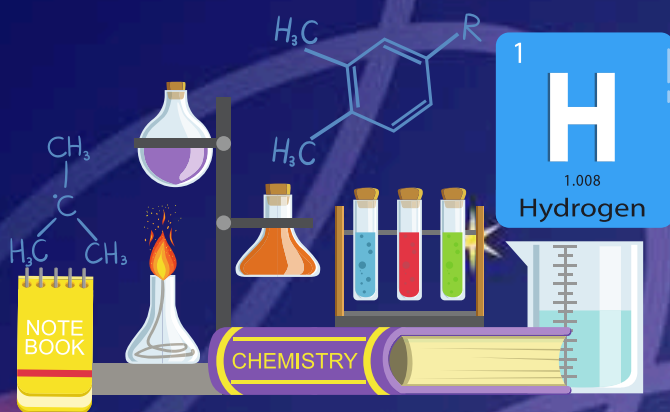
shadows on the moon and its craters/mountains (on the moon, where there is no atmospheric disturbance, the shadow line is sharp, light-dark, nothing in between). Or, the first view of the bands of atmosphere on Jupiter, and the four Galilean moons, or the rings of Saturn, all seen in real time. Or, the sun, our star, with the solar flares, prominences, and sunspots. Or . . . I *could* go on....

Other SLAS members who have done similar work in the past are past-presidents Dave Bernsen, Joan Carman, and John Johansen (famous for his magic tricks with a beautiful white dove), as well as current SPOC Observatory Director Jim Keane, Ann House, Bill Kennedy, Don Colton, and founding club member and past-president Patrick Wiggins who has given science and astronomy presentations at schools around the valley for decades. Educational outreach is Patrick's passion. These members are an inspiration to us all!

In explaining why our SLAS member's have a passion for outreach, Don hit the bull's eye when he said, "The astronomical community is one of sharing with others, and expanding our perspective of our place in the universe. I am thrilled to be one of the many who share these experiences with others."



The Astronomer's Periodic Table of Elements



Source: rsc.org

HYDROGEN



Hydrogen, the king of the elements, has been around since the Big Bang and is the most abundant element in our universe. It was officially discovered by Henry Cavendish in 1766. Even though alchemist Paracelsus noted in the 1500s that iron filings added to sulfuric acid produced a flammable gas, and Robert Boyle was able to reproduce that experiment in 1671, it was Henry Cavendish who actually collected the gas from his replications and studied it further. Therefore, he gets the credit for discovering hydrogen. Cavendish noted that when the gas was ignited, it created water as a by-product. This discovery ended the long-held belief that water is an element.

The element was given the name, hydrogen by the French Chemist and chemical revolutionist Antoine-Laurent de Lavoisier. He took the Greek roots "Hydro" which means "water" and "Genes" which means "Produces or Causes" to form the name hydrogen to define "water producing".

Despite countless billions of years of innumerable stars fusing hydrogen into helium, the element still makes up over 75% of detectable content in the universe. When hydrogen is ignited on Earth, due to a spark or a flame, it reacts with the oxygen in the air around it. This reaction combines the hydrogen with the oxygen creating water. The reaction also creates a lot of energy in the form of heat, which causes the reaction to speed up and run out of control, hence the explosion.

Hydrogen is king because its bonds are very important to life. Hydrogen is used to form over 90% of all atoms. It is a structural element for organic atoms. In life forms, hydrogen is a driving force. It provides energy. It is used in respiration, digestion, cell division, photosynthesis, reproduction, the water cycle, Etc. It is the simplest of the elements, but it is a powerhouse. Without it, life on Earth wouldn't exist.



How Long is Too Long?

As plans move forward to place a station on the moon and eventually on Mars, this will be one of the questions that will need to be answered. Just how long is too long to be off our home planet?

Fifty-nine-year-old cosmonaut Oleg Kononenko already set a record in February of this year for spending the longest time in space, but he isn't done with his mission on the International Space Station, yet. He is poised to reach 1,000 days in space on June 5, 2024, 00:00:20 Moscow, Russia time. A few days after that, he will celebrate his 60th birthday aboard the Space Station on June 21. If all goes as planned, Kononenko will leave the Space Station on September 23, 2024, bringing his time in space to 1,110 days. This equates to 3 years, 2 weeks, and 1 day aboard the ISS.

We are already aware of the challenges astronauts face when they return to Earth after spending a few months in space, but how will those challenges play out after spending years? Oleg Kononenko will be a subject to pay attention to, especially regarding age and recovery time.

Baylor College of Medicine Center for Space Medicine's TRISH program, which stands for Translational Research Institute for Space Health, is hard at work studying the effects of microgravity on the human body and coming up with practical solutions to the challenges that come with being in space for long periods.

Some of the challenges astronauts face with space missions are:

- Loss of bone density akin to osteoporosis makes bone breakage a risk once back on Earth.
- Muscle atrophy (loss) makes fall and injury risk high when the astronaut returns to Earth.
- Neurological system disruptions make eye movement, eye focus, balance, orientation, and spatial awareness difficult until the brain adjusts.
- Eye problems such as globe flattening, optic disc swelling, and vision changes including temporary blindness. Of the eyes, Baylor College of Medicine Center for Space Medicine states, "One of the most recognized issues associated with the eyes in space is Space-Associate Neuro-ocular Syndrome (SANS), which causes swelling in the back of the eye. This collection of symptoms will need to be addressed before we can safely book a three-year mission to Mars."

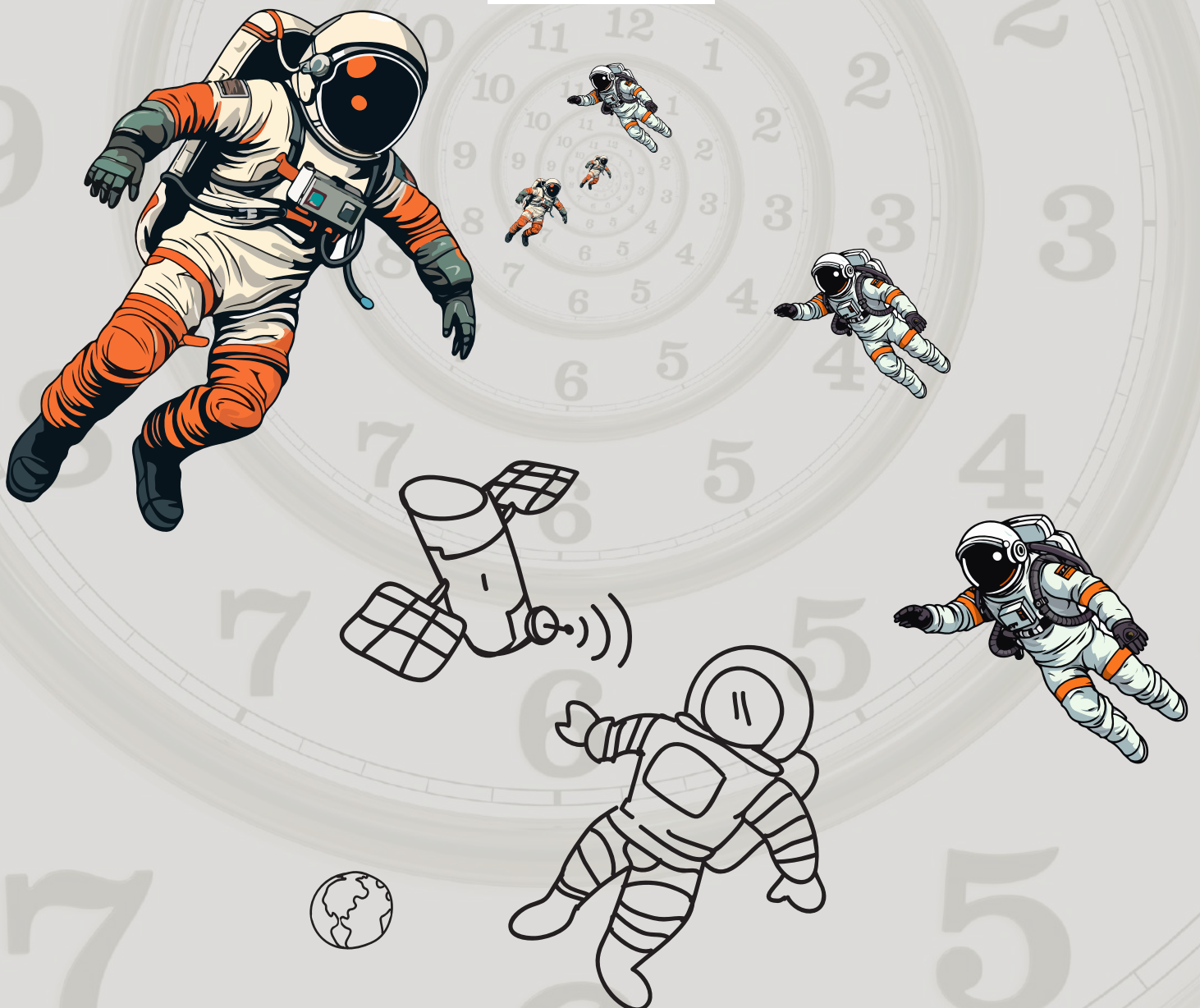
- Cardiovascular issues. The heart in space does not have to pump as hard to circulate blood around the body as it does on Earth. This leads to a decrease in blood volume, orthostatic intolerance, and decreased aerobic capacity. This causes the heart to shrink in size. When an astronaut returns to Earth, a smaller, weaker heart is a problem. The heart can overexert itself which can lead to a life-threatening coronary event or cause irreversible heart damage and/or promote cardiovascular disease.
- Mental Health Issues. Being confined to a small space away from friends and family can take a toll on anyone. Night and day cycles are also out of wack since the Space Station experiences sunrise every 90 minutes. Then, factor in no birds chirping, no sound of rain, no wind rustling leaves on trees, no going to a movie or a restaurant, and missing other little joys of being on Earth, can lead to stress, decreased focus, and a mental break that may need extensive psychological intervention to overcome.
- Gastrointestinal problems. Because the effects of gravity are different in space, food does not move through the digestive tract the way it should and the gastrointestinal tract loses motility in space. This can lead to symptoms similar to irritable bowel including constipation and waste impaction.
- Weakened immune systems. The space station is a nearly sterile environment. This hyper-clean environment weakens the immune system because it isn't exposed to all the micro-organisms that the Earth supports and that our immune systems need exposure to to stay strong. This opens astronauts to microbial skin irritations/diseases and other illnesses of the body upon their return to the Earth.
- Radiation Exposure. According to Baylor, "While on Earth, the atmosphere protects humans from harmful space radiation. Beyond Low Earth Orbit (LEO), space radiation can pose a significant risk to space explorers. They can experience radiation sickness, central nervous system effects, degenerative diseases, and most notably, an increased lifetime risk of cancer. On Earth, we're exposed to a relatively minimal amount of radiation on any given day- but in space, astronauts are exposed to about 100 times that. That could be anywhere between 150 to 6,000 chest x-rays."

So, what will Oleg Kononenko experience in September once he returns to Earth after spending a little over 3 years in space? That remains to be seen, but what we do know is that the Earth is a perfect place for humans to live. Human bodies need all that the Earth provides and that includes the gravitational pull it exudes on our bodies which helps keep our bodies happy and healthy. Replicating all that the Earth does for us in space is going to take more than just a little thought and ingenuity. Today's space explorers have donated their bodies to science to pave the way for the space explorers of the future. So, how long is too long to remain in space? Will we be able to overcome the challenges microgravity causes on the human body?

The answers to these questions are in the process of being discovered. The answers and solutions to these questions could very well lead to better treatments and quality of life in the future in the treatment of disease and the breakdown of the body due to aging. Making life better for future generations is the payoff for pioneering efforts and we are pioneers in this venture.

If you'd like to know more about how space affects the human body, click [here](#) to visit Baylor College of Medicine Center for Space Medicine, or scan the QR code below.

Baylor College of Medicine
Center for Space Medicine






SATURDAY AT 8 PM


May the 4th Be With You - A Dark Skies Affair

5535 S Highway 66, Morgan, UT, United States, Utah 84050

Join us at the UofU Observatory & East Canyon on May 4th, 2024, for an unforgettable Dark Skies experience! 🌌

🌙 With a waning crescent moon and the chance to spot two planets, it's set to be a perfect evening under the stars. Whether you're an experienced astronomer or just curious about the cosmos, this event is for you!

 Date: May 4th, 2024

 Time: Evening entry starts at 7 PM

Reservations are now open via reserveamerica.com if you'd like to spend the night and fully immerse yourself in the celestial wonder. Don't miss out on this incredible opportunity to witness the beauty of the universe up close!



May
the 4th
be
WITH
YOU





PRESENTS LEARN ASTROPHOTOGRAPHY



Astro Night at Goblin Valley

May 10, 2024 - 9:30pm - 1:30am

Join me in the beautiful southwest for a night under the stars in one of Utah's most iconic locations!

1 and 2 night option available!

Location: Hanksville, Utah

Group Size: Limited to 8

Duration: 4 Hours (1 and 2 Night Option)

Physical Difficulty: Easy

Cost: 1 Night \$299 - 2 Night \$550

Transportation: Not Included

Lodging: Not Included



Astro Night at Mirror Lake

May 31, 2024 - 9:30pm - 1:30am

Join me just 90 minutes from Salt Lake City under the dark skies of the Uinta Mountains!

Location: Kamas, Utah

Group Size: Limited to 8

Duration: 4 Hours

Physical Difficulty: Easy

Cost: \$299

Transportation: Not Included

Lodging: Not Included

For more information and to register please scan

QR Code





ALCON 2024

GOING TO KANSAS CITY FOR STARS AND ALL THAT JAZZ!

SPEAKERS INCLUDE

- ★ Stephen Alexander, theoretical physicist, cosmologist, jazz saxophonist and author of *The Jazz of Physics*, a book that discusses the link between music and the structure of the universe
- ★ David Levy, comet hunter, amateur astronomer and science writer
- ★ Kelvin Stassun, Professor of Physics and Astronomy, Vanderbilt University
- ★ Tim Ross, actor, musician, screenwriter, director and amateur astronomer



EVENING EVENTS

- ★ Gottlieb Planetarium
- ★ Linda Hall Library, Rare Books Room
- ★ StarBQ at Overland Park Arboretum
- ★ Powell Observatory
- ★ Awards Banquet

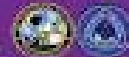
VENDORS INCLUDE

- ★ DayStar Filters
- ★ Explore Scientific

JULY 17-20, 2024

DOUBLETREE BY HILTON, OVERLAND PARK, KANSAS

Hosted By



Room reservations are now open for the special ALCon rate at the beautiful **Overland Park DoubleTree Hotel**:

<https://group.doubletree.com/hp0506>

or scan the QR code to take you to the Double Tree booking site.

Once you are on the site, click "edit stay" on the upper right of the page to adjust your room nights. (The default is 6 nights!)

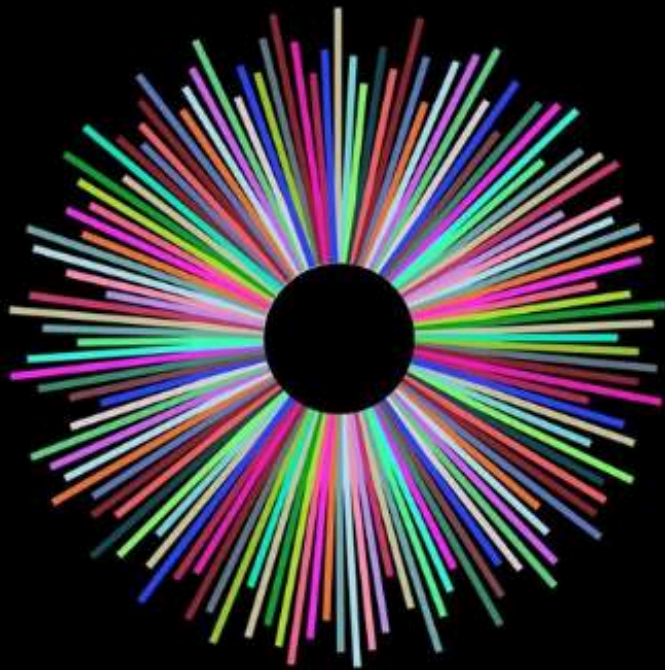


Why stay at the DoubleTree? Sure, you have other choices, but

You will avail yourself to having chance conversations and unexpected, but very enjoyable encounters with presenters, vendors, exhibitors, and other attendees who share your passion about astronomy.

And, of course, you will have the convenience of being situated where the action is – at "astronomy central." Fully experience the spark, enthusiasm, and excitement that ALCon brings!

See you at ALCon 2024!



ASP 2024
A VIRTUAL CONFERENCE

**ASTRONOMY ACROSS
THE SPECTRUM:**
Education & Outreach
Everywhere, All at Once

August 22-24, 2024

#ASPMtg #ASPMeeting



**For more information,
Scan the QR Code.**





Registration Is Now Open!



2024 Nightscaper Photo Conference

September 26 to 29 • Kanab, Utah

The Nightscape Photo Conference is an in-person event devoted to astro-landscape photographers, scientists, artists, and activists who wish to enjoy and preserve the night skies.

This fourth conference brings together some of the most impactful community members to share ideas, work with peers to craft images, and hone techniques for responsibly studying and documenting the quiet beauty of dark skies.

For more information and to register please click the link here:

<https://www.nightscaper.com/>



Boise State University Physics Department Hosts Free First Friday Astronomy Talks

When:

FIRST FRIDAY OF EACH MONTH

IN PERSON AND ONLINE

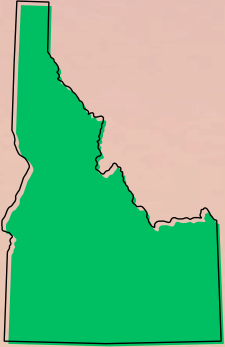
7:30 PM - 9:30 PM

Location

BSU Education Building Room 112

BSU First Friday Astronomy Talk

BSU First Friday YouTube Channel



Boise State Physics hosts the First Friday Astronomy events on the First Friday of every month at 7:30p MT on Boise State's campus and online (boi.st/astrobrancoslive). Visit <https://www.boisestate.edu/physics/seminars-and-events/> for more information. These talks are entirely donation-supported and open to the public.

WHAT ARE HUBBLE AND JAMES WEBB LOOKING AT?

Scan the QR Code below and find out!



Volunteers Still Needed for Astrocon 2025!



ASTROCON 2025 will be held June 25-28, 2025, under the spectacularly dark skies of Bryce Canyon National Park in southern Utah.

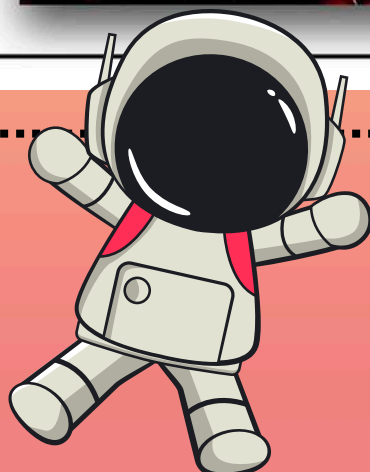
The venue will be at Ruby's Inn and Convention Center a few miles from the park entrance. A special area a few miles east of the convention center will be available for evening viewing plus astrophotography/digital imaging workshops.

The convention's goal is to teach how to enhance one's personal viewing experiences through workshops and evening viewing plus opportunities to learn astrophotographic skills. As we are still in the planning stage, we welcome your input as to how daytime and/or evening presentations and workshops can best achieve these goals. Ideas that our committee is considering include:

- Setting up your own personal observing program (including Astronomical League Observing Programs to consider)
- Observing tips including clothing to wear, how best to use your own eyes, equipment ideas
- Using star charts (digital and paper)
- Creation of observing lists for difference types of objects
- Understanding eyepiece selection
- Using filters for visual and photographic work
- Sketching workshop
- Observing log workshop – starting and keeping your own journal
- Astrophotography/Digital Imaging workshops (novice and advanced)

Please feel free to contact me if you wish to assist with a presentation and/or a workshop. We are starting our planning early, as we learned from ASTROCON 2017 at Casper Wyoming, held during the total solar eclipse, that advance planning is particularly important for this type of event. We look forward to hearing from you.

Lowell Lyon
ASTROCON 2025 Chair
801-699-7283
bolide@sisna.com





Astronomical Events

March and April 2024

Source: [Sea and Sky](#)

May



May 6-7: Eta Aquarids Meteor Shower

May 08: New Moon

May 09: Mercury at Greatest Western Elongation

May 23: Full Flower Moon



June



June 06: New Moon

June 20: Summer Solstice

June 22: Full Strawberry Moon






Taking Stargazing to a New Level!

Want a new adventure with the night sky? Check out these unique dark sky tours!

Zion National Park, Utah Zero Gravity Pod Sky Tours

For \$170, you can spend 120 minutes under the starry sky on a unique cosmos tour that includes using a zero-gravity pod and binoculars. For more information scan the QR Code below.



Sedona Stargazing Tours

For \$120, you can take a tour of the constellations over the Arizona desert with a professional guide and learn about the ancient peoples that names the constellations. For more information scan the QR code below.



Get Up and Glow: Bioluminescence and Stargazing Tours in Titusville, Florida

For \$99, you can take a 90-minute tour with a professional guide in bioluminescent dinoflagellate filled waters in a Kayak with clear star-filled skies above. For more information, scan the QR Code below.



Take the Stargazer Tour Aboard the Sky Railway in Santa Fe, New Mexico

For \$139, the sky Railway Train in Santa Fe becomes a traveling observatory! Listen to professional astronomers educate about the night sky and view the beauty of the stars from a railway car! For more information, scan the QR code below.



All Prices Are Subject To Change





HELP!



**Need Some Help with Your
Telescope? Get Friendly, Expert
Help with
SLAS Member, Max Byerly!**

Telescope Repairs and Maintenance:

Do you ever find yourself needing help with your telescope? Maybe something isn't working, right? Maybe you can't figure out how to get it properly collimated or aligned with the sky. Has it broken down and needs a fix? I'm here to help!

I'm Max and I've been helping people get back under the night sky for over a decade. I moved to SLC a few years ago, and have tried to be active when my work schedule lets me come to events and star parties.

I enjoy helping people with the night sky and their equipment. I know a lot from the basics all the way to imaging faint targets with a telescope. I'm quite experienced in particular with Meade, Celestron, iOptron, and Orion/Skywatcher equipment, but that doesn't mean I can't help if you have something outside of that. I've repaired and fixed many mounts cleaned many telescopes and mirrors, and regreased and tuned several Goto systems. Just know that when something happens or if you're not comfortable tackling something, reach out to me and let's see what I can do for you!

Contact: maxbyerly@icloud.com



Pssst! Need a Telescope?



Do you want to use a telescope, but don't have the space for one, or the money for one? There are a couple of options for borrowing a telescope. One is from our Salt Lake County Libraries and the other is if you join SLAS, you can borrow a telescope as part of membership benefits.



To reserve Telescopes, please call Customer Service 801.943.4636 or stop by your local branch and talk with a librarian.



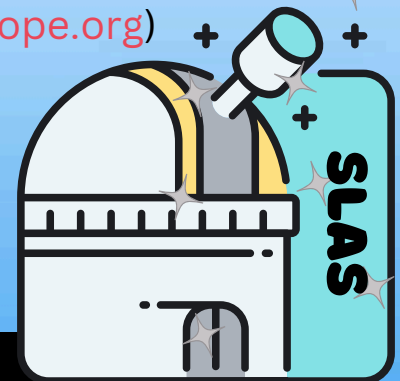
Telescopes THE SALT LAKE COUNTY LIBRARY SYSTEM

The County Library is lending a limited number of Orion StarBlast Telescopes at each branch. The County Library's telescope lending program is made possible through a partnership with the Salt Lake Astronomical Society. Follow the safety rules and don't look at the sun! Enjoy this STEM experience.

- Telescopes are located at all libraries for check out, subject to availability
- Only 1 telescope per library card
- The Telescope and all peripheral materials (fanny pack, eyepiece, rubber eye guard, lens covers, view finder, books, head gear, brush pen, instructions, batteries, and base) must be returned together in the condition in which they were checked out and on the same day in which the Telescope is returned

To see all participating libraries in the telescope loaner program in Utah, click on this link: Utah (librarytelescope.org)

These are the telescopes available to borrow through SLAS. This program is for members only and can be obtained through slasloanequipment@gmail.com



- (4) 8" Dobsonian telescopes
- (2) 6" Dobsonian telescopes
- (4) C-8 telescopes
- (1) 4" Criterion SCT
- H-Alpha Solar Telescope, tripod, mount and misc. accessories.



Astronomy For Kids

<https://www.sciencebuddies.org/stem-activities/build-a-telescope#instructions>

This activity requires 2 lenses that need to be purchased, see links below where to purchase supplies.

*This issue's activity comes from Dr. Ben Finio of Science Buddies. He will show us how to make a simple refractor telescope! ****WARNING - DO NOT USE THIS TELESCOPE TO LOOK AT THE SUN!****

Materials

- *Double convex lens, 38 mm diameter, 500 mm focal length
- *Double concave lens, 38 mm diameter, 150 mm focal length
- Cardstock (2 pieces)
- Scissors
- Tape

Instructions

- 1.) Start at a short edge and roll one of the pieces of cardstock into a tube so the outer edge of the tube lines up with the edge of the concave lens. (For an 8.5"×11" piece of cardstock, the resulting tube should be 8.5" long).
- 2.) Tape the lens to the end of the tube and use additional tape to hold the tube together. Optionally, mark this end of the tube (for example, draw a dot or a small eye) so you can remember that this is the end you look into).
- 3.) Roll up the other piece of cardstock, starting along a short edge, so it fits inside the first piece. Use a piece of tape to secure the end of the second tube so it does not unroll. Slide the second tube inside the open end of the first tube.
- 4.) Tape the convex lens to the open end of the second tube.
- 5.) It is time to test your telescope! Hold your telescope with both hands and aim it at a distant object (something across the room or outside). Close one eye and look through the telescope with your other eye. Ensure you are looking through the first tube (the one with the concave lens). If everything looks smaller instead of bigger, flip the telescope around.
- 6.) Slide the second tube in and out to focus your telescope. Keep adjusting the focus until your view through the telescope is not blurry.



Scan QR Code for video instructions

*NOTE: Lenses for this project can be purchased for under \$3 each from Home Science Tools [Here](#) and [Here](#)





A word from Dr. Finio



“Your telescope is made using lenses. Lenses are curved pieces of glass or plastic that bend rays of light that travel through them. Lenses can make objects look bigger or smaller. Sometimes we only use a single lens to make something look bigger, like a magnifying glass.

Your telescope has two different types of lenses. This helps you see far-off objects. The eyepiece (the lens you look into) is a concave-concave lens, also called a diverging lens. Concave means curved inward. A concave-concave lens is curved in on both sides. The objective lens (the lens at the far end) is convex-convex, also called a converging lens. Convex means curved outward. A convex-convex lens is curved outward on both sides. When you look through the telescope, light passes through the objective lens, then through the eyepiece, and finally into your eye. The lenses bend the light to make objects that are far away look bigger.

The type of telescope you built in this activity is called a monocular. Mono means one. Binoculars have two sets of lenses so you can look into them with both eyes.”

To dig deeper, scan the QR Code:



BECOME A CITIZEN SCIENTIST!

SciStarter: Science we can do together: (Sign up at: <https://scistarter.org/>): "SciStarter is a globally acclaimed, online citizen science hub where more than 3,000 projects, searchable by location, topic, age level, etc, have been registered by individual project leaders or imported through partnerships with federal governments, NGOs, and universities. As a research affiliate of NCSU and ASU, and a popular citizen science portal, SciStarter hosts an active community of close to 100,000 registered citizen scientists and millions of additional site visitors. Hundreds of citizen science projects use SciStarter's NSF-supported APIs to help citizen scientists earn credit for their participation in their SciStarter dashboard, across projects and platforms. These features enable SciStarter's partners (libraries, schools, museums, Girl Scouts, and more) to catalyze customized citizen science pathways and track and support the progress of their communities through SciStarter. SciStarter also supports researchers in managing projects, including best practices for engaging participant partners." Citizen Scientists are needed for projects in astronomy research.

Zooniverse: People Powered Research: (Sign up at: <https://www.zooniverse.org/>): "The Zooniverse is the world's largest and most popular platform for people-powered research. This research is made possible by volunteers – more than a million people around the world who come together to assist professional researchers. Our goal is to enable research that would not be possible, or practical, otherwise. Zooniverse research results in new discoveries, datasets useful to the wider research community, and many publications. You don't need any specialized background, training, or expertise to participate in any Zooniverse projects. We make it easy for anyone to contribute to real academic research, on their own computer, at their own convenience." Citizen Scientists are needed for projects in astronomy research.

National Geographic: Citizen Science Opportunities for All Ages:

(Sign up at: <https://education.nationalgeographic.org/resource/citizen-science-projects>): Search space, help NASA classify galaxies, measure night sky brightness, find age-appropriate projects, and teacher resources.

CitizenScience.gov: Helping Federal Agencies Accelerate Innovation Through Public Participation:

(Sign up at citizenscience.gov): "CitizenScience.gov is an official government website designed to accelerate the use of crowdsourcing and citizen science across the U.S. government. The site provides a portal to three key components: a catalog of federally supported citizen science projects, a toolkit to assist federal practitioners with designing and maintaining their projects, and a gateway to a community of hundreds of citizen science practitioners and coordinators across government as called for in the Crowdsourcing and Citizen Science Act of 2016 (15 USC 3724). Through citizen science and crowdsourcing, the federal government and nongovernmental organizations can engage the American public in addressing societal needs and accelerating science, technology, and innovation." Many NASA projects have been listed that need volunteers.



SLAS Board Meeting Minutes

March 13, 2023

7:00PM

Denny's – Redwood Rd & North Temple

Board Members in attendance: Don Abernathy, Aleta Cox, Krista Lemoine, Trevor Hebditch and Marlene Egger.

Other Members in Attendance: Patrick Wiggins, Joan Carman, and Alpine Stringham.

President, Don Abernathy, calls the meeting to order at 7pm.

He thanks everyone for coming.

Next month's board meeting will be April 3rd.

Aleta Cox, VP and ALCor, noted that the Astronomical League is updating their website. She sent an email requesting feedback on what information SLAS wants to have added.

On March 26th there is a meeting for the ASTROCON planning committee at the Murray Library.

Joan Carman, LLTC, has applied for a grant with Rocky Mountain Power in hopes to get the Tooele County library system involved in the LLTP.

Jim Keane, SPOC Director, provided a detailed list of tasks he'd like to complete in 2024 at SPOC. He mentioned he sent a SLAS Blast asking for volunteers to help with cleanup on Saturday at 1pm. Various action items were discussed for this weekend.

Marlene Egger, Board Member-at-Large, mentioned concerns about training protocols for the SPOC telescopes. Jim said that those concerns were addressed privately.

Aleta mentioned that she is putting together information for KSL, social media, and SLAS blasts to promote star parties.

Marlene gave an update on school and special star parties. Don would like to recognize the others that are helping with these outreach projects.

The refractor class is already full. She gave a report on her coordinator duties.

Trevor Hebditch, Board Member-at-Large, discussed his proposal for the SLAS Scholarship. He asked to recuse himself from the planning of how the funds are managed. Krista Lemoine will contact Bank of Utah on how this account can be set up.

Trevor also updated that 2 telescopes are currently loaned out and more will be going out soon.

Don said that David George-Kennedy has expressed some interest in being the Sun Party Coordinator, and he would like to have a Sun party on March 30th.

The Messier Marathon was a huge success. Don went over the email Jenette Scott sent him with her review.

The topic of purchasing a defibrillator at SPOC was discussed. Krista will find out what the costs are. Patrick Wiggins will reach out to Stansbury Park's emergency services about their response time. Joan raised concerns over the costs. This will be tabled until next month.

Joan requested someone else to take on SLASTROFEST this year if there is to be one.

Patrick will add this to the news tomorrow asking for a volunteer for a SLASTROFEST coordinator.

Tony Sarra noted the imaging session went well at the U of U. He provided a summary of the evening. He expressed interest in an imaging contest with the raw data from these sessions. He also noted the website project is still underway. James doesn't currently need anything.

Don mentioned he is doing the agenda for the next board meeting the day of the meeting. He asked if there is a topic that needs to be discussed to please send it in advance so he can add it.

The meeting adjourned at 8:11pm.

Minutes submitted by:

Krista Lemoine, SLAS Secretary/Treasurer

SLAS General Meeting – March 20, 2024

26 Members in attendance.

President, Don Abernathy, calls the meeting to order at 7:30pm.

New members Gabrielle White and Scott Dallin introduced themselves.

Don thanks Professor Jonathan Barnes and Sam Jones for allowing SLAS to use SLCC for the meeting space.

The presenter for the evening is Professor Jonathan Barnes.

Don turns the meeting over to Professor Barnes. Many students from the SLCC Astronomy and Physics Dept were present.

Professor Barnes' presentation is entitled the Sounds of Space. He went over various ways that scientists capture sounds coming from space. Following his presentation, he answered questions from those in attendance.

Don gave an update on the board meeting from last week.

Jim Keane, SPOC Director, is looking for telescope operators and members interested in training. Please see Marlene Egger for training on the Bogdan.

Sun parties are starting a little earlier this year. The first party of the year is on March 30th at Winchester Park. There is currently an opening for Sun party coordinator.

The ASTROCON meeting is next week on March 26th at the Murray Library at 6:00pm.

There was a wonderful turnout for the Messier Marathon. Don would like to see this become an annual event. Jenette Scott mentioned Ryan Boyce's article on KSL should be online this week.

Advanced training after the meeting will take place at Dee's.

Meeting adjourns 8:44pm.

Minutes submitted by:

Krista Lemoine, Secretary/Treasurer of SLAS.

SLAS Board Meeting Minutes

April 3, 2023

7:00PM

Denny's – Redwood Rd & North Temple

Board Members in attendance: Don Abernathy, Aleta Cox, Krista Lemoine, and Marlene Egger.

Other Members in Attendance: Patrick Wiggins, Joan Carman, and Alpine Stringham.

President, Don Abernathy, calls the meeting to order at 7:02pm.

Joan Carman, LTTC, noted that Lehi wants 3 more telescopes. She spoke with Dave Moulton about Pleasant Grove. Krista Lemoine will reach out to Lehi about payment. Tooele County and Joan have talked, but there is no update on their approval.

Patrick Wiggins mentioned to the board that he has several things to update on the website but will do that once the new website is up.

Don updated Aleta Cox with Ryan Boyce's contact information for PR purposes. KRCL Radio would like SLAS to talk about upcoming start parties.

Dr. Julie Kamenetsky, Professor at Westminster College, will be broadcasting the total solar eclipse online. Marlene Egger will send this information out to schools that have reached out to us for an eclipse event.

Krista Lemoine received the insurance documents for renewal from Don.

Marlene gave her report on upcoming school star parties. Lost and Found want specifically female operators due to the type of organization they are. Don asked that this be tabled until more information can be obtained. She also updated everyone on how Bogdan training is progressing.

Trevor Hebditch was absent due to illness. We will discuss his scholarship proposal at the May board meeting.

Aleta mentioned that she wanted clarification of the rules on loaning scopes to new members. This information is already in the SLAS members only section of the website. Patrick will include this in the new member information section as well.

David George-Kennedy has not accepted the role of Sun Party Coordinator.

Marlene suggested the topic of the AED (defibrillator) be brought forth to the general membership. This topic has been tabled for now.

Don will get an update on the website redesign progress.

Aleta updated the SLAS roster of paid Astronomical League members to Mitch with AL. She also mentioned the AL Eclipse Award for the upcoming eclipse.

It was mentioned by Don that astrophotographer Alan Wallace passed away.

Jani Radebaugh stopped by to take a photo with Patrick. She now has a minor planet named after her. Meeting adjourned 8:15pm.

Minutes submitted by:

Krista Lemoine, SLAS Secretary/Treasurer

SLAS General Meeting – April 17th, 2024

20 members in attendance

President, Don Abernathy, calls the meeting to order at 7:30pm.

Don is the speaker for the evening. His presentation is on the LSST also known as the Vera Rubin Observatory. Vera Rubin telescope short videos. He notes that all data collected from the scope will be available for all to post process.

Following his presentation, Don moved on to the business portion of the meeting.

Don thanked Joan Carman for her continued efforts with the library telescope program.

Telescope training is underway at SPOC. He asked everyone to please consider getting trained. If interested, please contact Marlene Egger.

The first star party of 2024 is Saturday, April 20th.

He reminded everyone that members can check out telescopes from the SLAS loaner program. Please contact Trevor Hebditch or Aleta Cox if interested.

Lowell Lyon asked Don to mention that the next ASTROCON meeting will be at Ruby's Inn during the Bryce Canyon Astronomy Festival in June. Please contact Lowell for more information.

Aleta Cox, ALCor, recognized Gene Riggs for his Binocular Messier award back in December.

Meeting adjourned at 8:33pm.

Minutes submitted by:

Krista Lemoine, Secretary/Treasurer of SLAS.