

The Newsletter of the Kern Astronomical Society

No. 559

April 2022

KAS Open Meeting

First Friday of

Every Month

Round Table Pizza,

4200 Gosford Road, Suite 101, Bakersfield, CA

Dinner & Social 6:30 pm Meeting/Program 7:30 pm Our regular monthly meeting will be held on April 1st at Round Table Pizza at 4200 Gosford Road.

Join us on Facebook: https://www.facebook.com/groups/syzygy/

Visit our Web Page at https://www.kernastro.org

Contact us at kernastronomicalsociety@gmail.com



Reach for the Stars



April Speaker: Dr. Sarah Milkovich - One Year of Perseverance at Mars

For hundreds of years, the idea of an inhabited Mars has captured our imaginations, but our first close-up view of Mars showed it to be a cold, barren desert. For decades, NASA has been exploring Mars with a fleet of spacecraft to understand the role of water in its history and look for areas that in the past that could have supported life. This work has paved the way for the Mars 2020 Perseverance Rover, which landed on Feb 18, 2021 in Jezero Crater with the ambitious mission to search for evidence of ancient bacterial life and to collect rock samples for eventual return to Earth. In the year since landing, Perseverance has been hard at work getting to know its new home.



Dr. Sarah M. Milkovich is a planetary geologist and systems engineer at NASA Jet Propulsion Laboratory, where she currently works on the Mars Perseverance Rover. Sarah specializes in the science operations of robotic spacecraft, bridging the science and engineering teams. In this capacity, she has spent over 15 years exploring Mars and Saturn with a variety of spacecraft. Sarah has won JPL and NASA team awards for her efforts to return the best possible science within spacecraft engineering constraints, as well as for excellence in outreach and public engagement. She holds a B.S. in planetary science from Caltech, and a M.Sc. and Ph.D. from Brown University in planetary geology with studies of ice on Mars, and volcanoes on Mercury. Sarah is a frequent public speaker at astronomy clubs and fan conventions, sharing her enthusiasm for space exploration and the stories of the people behind the robots.

Upcoming Meetings

May - Shantanu Naidu - Double Asteroid Redirection Test (DART) Mission

June – Katie Wightman – Sequoia Dark Sky Festival

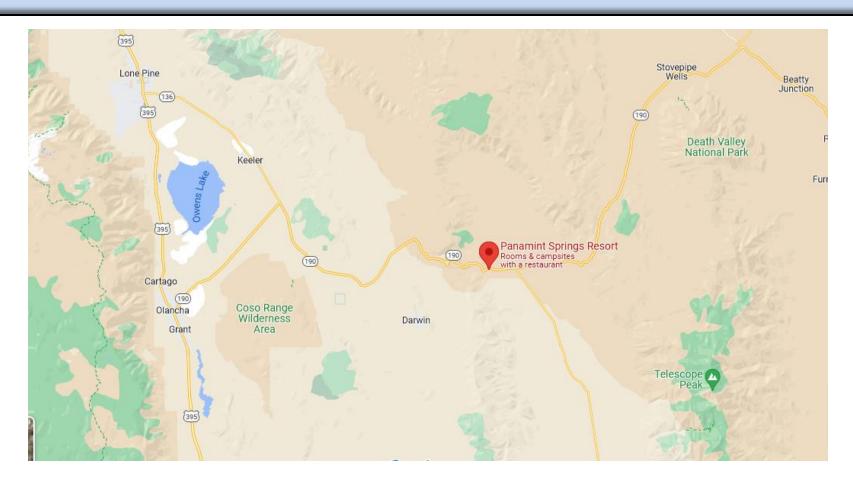
July – No meeting in July

August – Briley Lewis – "Life in the Universe"

Upcoming Events

April Star Parties – New moon star party at Chuchupate on April 2nd. Last quarter moon star party at Chuchupate on April 23rd.

Panamint Springs Dark Sky Trip – KAS has reserved the group camp site at Panamint Springs Resort for April 29th and 30th. Panamint Springs is located off of Hwy 190 in the desert near Death Valley National Park. The night sky is much darker than our Chuchupate star party location. There are bathrooms and showers available at the campground, a nearby store and \$\$\$ gasoline plus a restaurant. The group site has space for car camping, tents, and camper vans or small RV's (no hook-ups). Cabins and RV sites with hook-ups are available with reservations at an additional cost. For more information about the resort visit: https://www.panamintsprings.com/



KAS Annual Picnic

We will be holding our annual picnic on Saturday May 14th at Jastro Park, Site A. Mark your calendars and look for more information in next month's newsletter and at our club meetings.

Riverwalk "Public" Eclipse Party

On the night of May 15th, the moon will pass through the earth's shadow in total eclipse. KAS will be holding a public invited eclipse party (just like our public star parties) from sunset until 10 pm.

Event	UTC Time	Time in Bakersfield*	Visible in Bakersfield
Penumbral Eclipse begins	May 16 at 01:32:05	May 15 at 6:32:05 pm	No, below the horizon
Partial Eclipse begins	May 16 at 02:27:52	May 15 at 7:27:52 pm	No, below the horizon
Full Eclipse begins	May 16 at 03:29:03	May 15 at 8:29:03 pm	Yes
Maximum Eclipse	May 16 at 04:11:28	May 15 at 9:11:28 pm	Yes
Full Eclipse ends	May 16 at 04:53:55	May 15 at 9:53:55 pm	Yes
Partial Eclipse ends	May 16 at 05:55:07	May 15 at 10:55:07 pm	Yes
Penumbral Eclipse ends	May 16 at 06:50:49	May 15 at 11:50:49 pm	Yes

^{*} The Moon is below the horizon in Bakersfield some of the time, so that part of the eclipse is not visible.

Astronomy Sale

Dr. Stephen Collett is looking to sell many of his astronomy related items. We do not have a list of what may be included, however, if interested, please message Dr. Collett through "Facebook".





2022 Dark Sky Festival September 23, 24, 25

Save the dates. This is our biggest event of the year. Camping available. Rooms at the lodge fill up fast. More information available at our Monthly Meetings.

The Dark Sky Festival is the largest night sky festival in Central California and takes place in various locations throughout Sequoia and Kings Canyon National Parks. The festival includes stargazing, guest speakers, and more.

Important Messages from the Board

Membership: We are now collecting annual membership fees for 2022. Annual membership is \$25. There is an application form at the end of the newsletter.

Club Officers: Rod Guice has volunteered for the position of club Secretary and was officially appointed to the position at the March Board Meeting for the remainder of our 2022 term (until September elections). We are pleased to welcome Rod to this position.

KAS Constitution Update:

We will be voting to accept the revisions to our constitution at the April 1st meeting. This is the culmination of a lengthy effort to correct our non-profit status and revise several sections to better describe what we do.

Wind Wolves Preserve Spring Nature Festival Wrap-Up



Once again, KAS was invited to set up a booth for solar viewing at the Wind Wolves Preserve Spring Nature Festival. The sun played hide-n-seek with the clouds for most of Saturday and Sunday morning but by mid-day Sunday we had mostly clear skies and were able to observe several flares on the edge of the sun.

Primary Students in Tanzania Learn about the James Webb Space Telescope

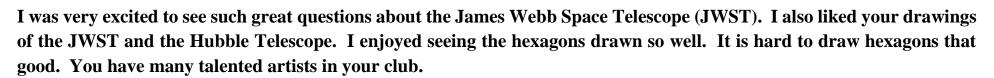
by: Walter Albrecht

Eliatosha Maleko runs a science club for students at the Ilburo Primary School in Arusha, Tanzania. Earlier this month Maleko shared a short video about the James Webb Space Telescope (JWST) with his students. The students were very excited to see the video about the telescope and wanted to know more. The students had many questions and Maleko shared the questions with the Astronomers Without Borders community. They also drew pictures of the JWST and the Hubble Space Telescope.

I responded to the questions from the students in the science club. A software developer and astronomy enthusiast from Bangalore, India responded as well.



Dear Students in the Ilburo Primary School Science Club,



All the scientists and engineers were nervous when the JWST was launched because there are so many ways the mission could fail. Everything went as planned because they tested every part of the telescope again and again before launch. If something does go wrong there is no way for someone to fix it because it is 1,600,000 kilometers from Earth.



1. What is advantages or benefits of James Webb Telescopes to human?

The JWST is much larger than the Hubble Space Telescope. The larger the telescope the more light you can see. Also the JWST is designed to see infrared light. Infrared light is invisible to us because we cannot see infrared light. We can feel infrared light though because it is hot. A fire gives off infrared light and we feel warm. The sun also gives off infrared light. That's why sunlight feels warm.

The universe is expanding and galaxies far away from us are moving very fast. When a faraway galaxy is moving away very fast its color turns red. The JWST can see the red light much easier than the Hubble Space Telescope. You can see some of the galaxies are red in this Hubble Space Telescope photo. Why are they red? It's because they are so far away. The light from these galaxies left billions of years ago. We are seeing what they looked like long ago. So telescopes are like time machines because we can see things from long ago

We live in the Milky Way Galaxy. All the stars you see at night are members of our galaxy. Some stars are hard to see because there is a lot of dust in our galaxy. The JWST can see through this dust. We will be able observe more of our galaxy.

Just as our sun has a family of planets circling it, other stars have planets as well. The JWST can detect planets circling other stars. Using the spectroscopic camera it will be able to detect water, carbon dioxide, ethane, and methane on these planets. These chemicals are the building blocks of life. It will be able to find planets that may support life.

The JWST will also explore our own solar system. We will be able to study comets, moons, Mars, and other planets. We may discover new minor planets, or icy worlds cycling our sun. We can study the atmosphere of Saturn and see how it changes over many years. We will be able observe storms in the atmospheres of Jupiter, Saturn, Uranus, and Neptune.

2. What is the real weight of James Webb Telescope?

The telescope weighs about 6,500 kilograms. That is about the weight of a large bus or 5 cars.

3. We had from the report that James Webb Telescope will replaced the works of Hubble Telescope in the space but where will that Hubble Telescope go?, will it not affect living things when it may be fall or blast on the air?

The Hubble telescope will continue to operate for another 10 or 20 years. As the telescope orbits Earth the very thin air at that altitude slows the telescope down until it crashes on the Earth. Before that happens NASA will attach a small rocket to the Hubble Telescope. They can either force the telescope down into the south Pacific Ocean far from people or it can place it in a higher orbit so that it will not come down for many decades.

4. We have learned that Hubble Telescope since it was sent to the space is almost about 32 years ago how long will James Webb Telescope takes in the space since it returned back on the earth?

The JWST will run for about 20 years. After that its rocket fuel will run out. The telescope is in a special place in our solar system called a Lagrange point. A Lagrange point is kind of like a gravity pocket. You have to fire a small rocket engine every once in a while to stay in this invisible gravity pocket or you could end up moving far from Earth.

Sincerely,

Walter Albrecht



Walter Albrecht started his astronomy journey as a boy when his father gave him a 3" reflecting telescope. He followed NASA's mission to the moon with great interest. When he became an elementary school teacher in Bakersfield, California he integrated NASA's various missions and astronomy into his science lessons. After joining the Kern Astronomical Society, Walter participated in numerous outreach events, attended astronomy conventions, built his own telescope, and served on the Kern Astronomical Society's executive board as the educational committee chair. Walter is also a member of the Astronomical League and Astronomers Without Borders. Now that he is retired he looks forward to sharing his love of space exploration and astronomy with the public.

Astronomers Without Borders is free to join and allows you to connect with amateur and professional astronomers around the world.

Kern Astronomical Society InfoShare

Since 1956, the Kern Astronomical Society has promoted community awareness of current events in astronomy, and provides a forum for sharing of knowledge and experiences among amateur astronomers. Annual membership is \$25.00 which also provides membership in the Amateur Astronomical League, access to their newsletter (Reflector Magazine), and participation in observational programs.

Star Parties and Outreach

The Kern Astronomical Society typically has two Club Star Parties each month depending on the weather. Our Club Parties are held on Saturdays nearest the New Moon. We also host Public Star Parties at various locations around town during April - October. These parties are held on Saturdays nearest the first quarter Moon. In addition, we also host Lunar, Solar, and Planetary viewing for Public Schools. Requests may be directed to our Star Party Coordinator.

Club Equipment

The Kern Astronomical Society has telescopes and accessories (listed below) available for loan to Club Members in good standing. Members are encouraged to borrow the different types of telescopes in stock (especially if you are considering purchasing one). Trying out different sizes and types of telescopes can help you make an informed decision about purchases. If you have a Club telescope in your possession, you will be expected to participate in at least one public star party.

- 6" f/6, 8" f/6, 10" f/5.6, 13" f/4.5 Dobsonian telescopes, Parks Jovian 90, 3 ½" f/13 Maksukov-Cassegrain, 4" f/15 Unitron Refractor
- 8" Solar Filter
- Assorted eyepieces

Privileges and Benefits of Membership in the Kern Astronomical Society

- 1) Hold an elected position as an Officer or Board Member in the Society
- 2) Vote in the election process and on business at meetings
- 3) Go on sponsored field trips to various astronomy related events (i.e. Mt Wilson Observatory, Panamint Springs Dark Sky, etc.)
- 4) Membership in the Astronomical League which includes subscription to Reflector Magazine
- 5) Discount for Sky and Telescope Magazine
- 6) Access/use of club telescopes and related equipment / Help with use of equipment by members
- 7) You are covered under the Society's insurance at related events

KAS Club Officers/Board Members

President: Vice President: Treasurer Secretary Star Party / Event Coordinator Member at Large Member at Large Educational Committee Chair Figure President: Diane Franco Pam Miller Rod Guice Darren Bly John Hester Darrell Miller Educational Youth Ambassador	gpytlak@yahoo.com dianef02@yahoo.com dgmpsm2@yahoo.com stargazer10000@gmail.com dcbly@bak.rr.com jh191623@gmail.com dgmpsm2@yahoo.com
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Kern Astronomical Society

Membership New/Renewal 2022

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