



The Sonora Astronomical Society's SONORAN STARRY NIGHTS

SEPTEMBER 2023

September Meeting Details

DATE: Tuesday, September 12th, 2023
MEETING TIME: 7:00 PM
PLACE: La Posada Rec Center & Zoom
MEETING SCHEDULE:
(6:30 ZOOM Waiting Room Available)
7:00 Meeting Intro and Welcome
7:10 Featured Presentation Followed
by Club Activities/Business

Next Member Star Parties

DATE: Thursday, September 14th, 2023
TIME: 6:15 PM
PLACE: Canoa Preserve Park

**LOOKING AHEAD -
THE FOLLOWING STAR PARTY WILL BE:**

DATE: Thursday, October 12th, 2023
TIME: 5:30 PM
PLACE: Canoa Preserve Park

NOTE: If you have a telescope that you don't know how to use, or are looking to buy a telescope and want to compare different telescopes, join us at a star party and we can give you some help.

UPCOMING EVENTS

NEXT CLUB MEETING

DATE: October 10th, 2023
LOCATION: La Posada Rec. Center
TIME: 7:00 P.M. (in person + Zoom)
Speaker: T B A
Subject : T B A

September Presentation

Speaker: Rev. Christopher Corbally, SJ
- Vatican Observatory
Subject: Machine Learning and More in Stellar Spectral Classification
Abstract: Automatically classifying stellar spectra, particularly according to the powerful MK System, has been a "holy grail" of spectroscopists involved in surveys, ever since the advent of digital spectra and computers. Its history to the present contains interesting applications of minimization techniques and machine learning. In the end, we shall see how letting a machine follow the steps of human expertise turns out to be highly successful.

Biography: Fr. Chris Corbally S.J. was born near London in 1946 and entered the Society of Jesus in 1963. He completed the licentiate in philosophy at Heythrop College, Oxfordshire in 1968; his B.S. in physics at Bristol University in 1971; and his M.S. in astronomy at the University of Sussex (Brighton) in 1972. He was ordained in 1976, the year that he earned a B.D. in theology from Heythrop College, London, where he also gained a Pastoral Diploma in 1977. After ordination, he obtained a PhD in astronomy at the University of Toronto (Canada) in 1983. Since then Fr. Corbally has been a research astronomer of the Vatican Observatory and was its Vice Director for the Vatican Observatory Research Group in Tucson until 2012.

He is a member of the Royal Astronomical Society, the American Astronomical Society, the President of the National Committee for Astronomy in the Vatican City State for the International Astronomical Union. He was the president of the IAU's Division IV (Stars), 2009-2012. He is a member of the Institute on Religion in an Age of Science, for which he was president from 1999-2002.

SONORAN STARRY NIGHTS

PRESIDENTS NOTES

Greetings everyone,

We will resume our live/ZOOM hybrid meetings this month. There has been another spike in COVID infections recently. Hopefully that will not cause us an issue or cause La Posada to shut down outside group activities again.

This summer has been a rough time for observing. Between the heat and the monsoon most observing has been put on hold for this period. I did get to see some Perseids last month, a few were quite spectacular. The monsoon may continue for part of this month, but hopefully it will abate so we can get back to some clear skies to do some observing.

The Tucson astronomy club is picking up most of the public star parties we used to do, but they can have difficulty getting people this far south. Canoa Ranch will be holding numerous star parties. I would like to know if anyone would like to volunteer to assist TAAA. Please contact me if you think you could contribute.

We are still looking for someone to step into the president's position. I won't live forever. To keep this club viable, we need people to step up and help out. Otherwise, it will not last.

Canoa Preserve Park is open for business, so our club star parties are back on. There has been sparse attendance at our star parties lately. This location is a great club asset. Please make use of it. Remember we will be limited to no more than 10 people unless we have an occasion where we want to have more. In which case we need to apply for a permit with a larger number.

Finally be sure to check out our website. Joe has done a great job to keep it relevant.

Stay safe,

John Dwyer
President

MEMBER EQUIPMENT FOR SALE

For Sale:

Meade 7" Maksutov telescope f/15 \$700 OBO
This is an OAT with the following accessories included with the telescope:
-- Losmandy mounting adapter
-- Meade electronic focuser
Pick-up in Green Valley, AZ



Contact Steve @ 520-260-1556
Email to: stadthaus2005@gmail.com

Have a telescope or other astronomy equipment for sale? Contact John Dwyer with your item(s) to get them listed here.

The SAS website has a good one-page article from Sky & Telescope that can help get you started. Copy and paste this link:

<https://sonoraastronomicalsociety.org/newsletters/>

Basic monthly star charts are now available on the website Home page yellow banner.

SONORAN STARRY NIGHTS

THE SEPTEMBER SKY

SKY HIGHLIGHTS FOR SEPTEMBER

The big planets are returning to the evening sky. **Saturn** is now the primary evening planet. Having reached opposition in late August, it is visible most of the night at a magnitude of 0.5. **Jupiter** is rising about two hours after sunset reaching a magnitude of minus 2.7. **Mars** is extremely low in the western evening sky and will be lost in the glare of the Sun next month. **Uranus** is trailing behind Jupiter about 7° behind it. **Neptune** is still trailing behind Saturn, about 24° to the east. **Venus** has returned to the morning sky. It will be low in the eastern sky before sunrise exhibiting a magnitude of -4.7 towards the end of the month. Its diameter continues to shrink as it moves away from us while its percentage of illumination is about 28%. **Mercury** is too close to the Sun early in the month but returns to the morning sky and reaches greatest western elongation from the Sun of 18° on the 22nd.

A new comet (**C/2023 P1 (Nishimura)**) discovered by a Japanese astronomer appeared in August. It was first picked up on August 12th and has a very hyperbolic orbit which means that it could have come from outside our solar system or possibly the Oort Cloud and most likely will not return to our area. It is predicted to possibly be as bright as 3rd magnitude, but it will be very close to the Sun then. There will be a very limited time to view it as it is closing fast on the Sun. On September 1st at 5:00 am it will be about 14° to the left and a little above Venus which will make it a little easier to spot. It will have a magnitude of around 7 or 8 so binoculars or a telescope would be needed. At that point it will be about 18° above the eastern horizon. On the 5th it will be about 15° left of Venus and about 13° above the horizon. It will continue to get lower as it approaches the Sun, so you need to get it early before it becomes unviewable..

SEPTEMBER MOON/SUN TIMES

DATE	M-Rise	M-Set	M-Phase	Sun-set	Star Party
Fri 09/01	20:09	7:43		18:48	
Sat 09/02	20:40	8:52		18:46	
Sun 09/03	21:14	9:59		18:45	
Mon 09/04	21:49	11:06		18:44	
Tue 09/05	22:28	12:12		18:43	
Wed 09/06	23:13	13:16	3rd Qtr	18:41	
Thu 09/07	-----	14:15		18:40	
Fri 09/08	0:03	15:09		18:39	
Sat 09/09	0:57	15:57		18:37	
Sun 09/10	1:54	16:38		18:36	
Mon 09/11	2:52	17:13		18:35	
Tue 09/12	3:50	17:44		18:33	SAS Meeting
Wed 09/13	4:46	18:12		18:32	
Thu 09/14	5:42	18:37	New	18:31	SAS SP
Fri 09/15	6:36	19:02		18:30	
Sat 09/16	7:31	19:28		18:28	
Sun 09/17	8:27	19:54		18:27	
Mon 09/18	9:25	20:23		18:26	
Tue 09/19	10:25	20:57		18:24	
Wed 09/20	11:29	21:38		18:23	
Thu 09/21	12:33	22:26		18:22	
Fri 09/22	13:38	23:24	1st Qtr	18:20	
Sat 09/23	14:37	-----		18:19	
Sun 09/24	15:30	0:29		18:18	
Mon 09/25	16:16	1:41		18:16	
Tue 09/26	16:56	2:54		18:15	
Wed 09/27	17:31	4:07		18:14	
Thu 09/28	18:04	5:18		18:12	
Fri 09/29	18:35	6:27	Full	18:11	
Sat 09/30	19:08	7:37		18:10	
					(S) =Solar

SONORAN STARRY NIGHTS

THE STARGAZER'S CORNER:

This article is distributed by NASA's Night Sky Network (NSN).

Looking Beyond the Stars

Brian Kruse

Looking up in awe at the night sky, the stars and planets pop out as bright points against a dark background. All of the stars that we see are nearby, within our own Milky Way Galaxy. And while the amount of stars visible from a dark sky location seems immense, the actual number is measurable only in the thousands. But what lies between the stars and why can't we see it? Both the Hubble telescope and the James Webb Space Telescope (Webb) have revealed that what appears as a dark background, even in our backyard telescopes, is populated with as many galaxies as there are stars in the Milky Way.

So, why is the night sky dark and not blazing with the light of all those distant galaxies? Much like looking into a dense forest where every line of sight has a tree, every direction we look in the sky has billions of stars with no vacant spots. Many philosophers and astronomers have considered this paradox. However, it has taken the name of Heinrich Wilhelm Olbers, an early 19th century German astronomer. Basically, Olbers Paradox asks why the night sky is dark if the Universe is infinitely old and static – there should be stars everywhere. The observable phenomenon of a dark sky leads us directly into the debate about the very nature of the Universe – is it eternal and static, or is it dynamic and evolving?

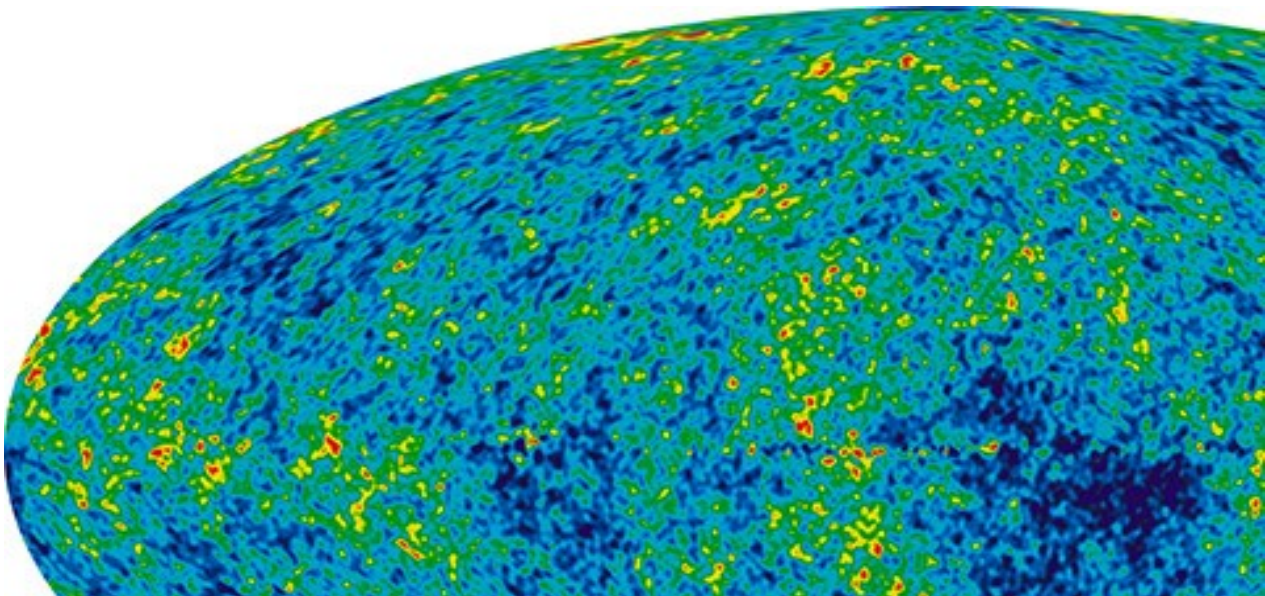
It was not until the 1960s with the discovery of the Cosmic Microwave Background that the debate was finally settled, though various lines of evidence for an evolving universe had built up over the previous half century. The equations of Einstein's General Theory of Relativity suggested a dynamic universe, not eternal and unchanging as previously thought. Edwin Hubble used the cosmic distance ladder discovered by Henrietta Swan Leavitt to show that distant galaxies are moving away from us – and the greater the distance, the faster they're moving away. Along with other evidence, this led to the recognition of an evolving Universe.

The paradox has since been resolved, now that we understand that the Universe has a finite age and size, with the speed of light having a definite value. Here's what's happening – due to the expansion of the Universe, the light from the oldest, most distant galaxies is shifted towards the longer wavelengths of the electromagnetic spectrum. So the farther an object is from us, the redder it appears. The Webb telescope is designed to detect light from distant objects in infrared light, beyond the visible spectrum. Other telescopes detect light at still longer wavelengths, where it is stretched into the radio and microwave portions of the spectrum. The farther back we look, the more things are shifted out of the visible, past the infrared, and all the way into the microwave wavelengths. If our eyes could see microwaves, we would behold a sky blazing with the light of the hot, young Universe – the Cosmic Microwave Background.

The next time you look up at the stars at night, turn your attention to the darkness between the stars, and ponder how you are seeing the result of a dynamic, evolving Universe.

THE STARGAZER'S CORNER (CONTINUED):

NASA's James Webb Space Telescope has produced the deepest and sharpest infrared image of the distant universe to date. Known as Webb's First Deep Field, this image of galaxy cluster SMACS 0723 is overflowing with detail. This slice of the vast universe is approximately the size of a grain of sand held at arm's length by someone on the ground. (Image Credit: NASA, ESA, CSA, STScI) <https://bit.ly/webbdeep>



The oldest light in the universe, called the cosmic microwave background, as observed by the Planck space telescope is shown in the oval sky map. An artist's concept of Planck is next to the map. The cosmic microwave background was imprinted on the sky when the universe was just 380,000 years old. It shows tiny temperature fluctuations that correspond to regions of slightly different densities, representing the seeds of all future structure: the stars and galaxies of today. (Image credit: ESA and the Planck Collaboration - D. Ducros) <https://go.nasa.gov/3qC4G5q>

SONORAN STARRY NIGHTS

S.A.S. CLUB OFFICERS

OFFICE/POSITION	NAME	PHONE NO.
Chairman of the Board	Open	
President	John Dwyer	(520) 393-3680
Secretary	Michael Moraghan	(520) 399-3352
Treasurer	John McGee	(520) 207-6188
Star party Coordinator	Duane Johnson	(520) 303-6920
Newsletter Editor	Joe Castor	(620) 584-4454
Webmaster	Joe Castor	(620) 584-4454
ALCOR* (Currently Inactive)	Burley Packwood	(520) 396-3576
NSN** Representative	Duane Johnson	(520) 303-6920
Past President Emeritus	Open	
*Astronomical League		
**Night Sky Network		

WHY JOIN SAS

1. SAS Family Membership Fee is only \$15.00 per year.
2. SAS monthly newsletter "The Sonoran Starry Nights."
3. Top-quality astronomy lectures by local astronomers!
4. SAS Discount for Astronomy Magazine \$34.00 for 1yr or \$60.00 for 2 yr renewed through our treasurer.
5. SAS Discount subscription rate for Sky & Telescope Magazine — self-renewed.
6. RASC Observer's Handbook at a discount, \$30.00.
7. SAS T-Shirts for sale for \$10.00—M, L, XL.
8. Member of International Dark-sky Association (IDA).
9. SAS Discount for Astronomy 2020 Calendar \$10.00
10. SAS monthly Member Star Parties.
11. SAS Telescope and astronomy book loan programs.
12. SAS outreach to astronomy education in schools.
13. SAS fellowship with other amateur astronomers!

CLUB DUES

Dues (family or individual) are \$15 annually, payable each year in the month you initially joined the club. You will receive a reminder in the monthly newsletter e-mail of your due date. You can either pay at the club meeting or mail it to the club's address (S.A.S., P.O. Box 1081, Green Valley, AZ, 85622).

SAS WEBSITE

If you want to keep up-to-date with club activities, such as star parties, etc., check out our website (and Calendar) at:

[HTTPS://sonoraastronomicalsociety.org](https://sonoraastronomicalsociety.org)

SAS STATISTICS & FINANCES

Lifetime Members: 1
 Individual & Family Members: 109
Total Membership: 110

Bank Balance as of April 30: \$1,976.99
 Deposits / (D/Ws): \$150.00 / (\$189.90)
Bank Balance as of August 31: 1,937.09

SONORAN STARRY NIGHTS

LOCAL ASTRO-IMAGING GROUP: Sonoran Desert Astro Imagers (SDAI) (Larry Phillips, Coordinator)

Are you interested in Astrophotography or are you currently involved in imaging the skies? Please plan to join our monthly meeting of the Sonoran Desert Astro Imagers group. Our meetings focus on improving our skills, helping each other, workshops, and field trips. Please send your Name and E-mail address to my address below and we'll include you in the emailing notices of monthly meetings; "the when and where meeting notice." Do you have any questions? If so, call me (Larry Phillips) at (520) 777-8027 or email to llp41astro@cox.net. Clear Skies! Larry Phillips

ABOUT THE ASTRONOMICAL LEAGUE



While SAS is no longer an active member of the Astronomical League, a SAS member may join the Astronomical League as an at-large member. What are the advantages to joining the AL?

1. You can receive various observing awards by joining an "observing club" and observing the required number of objects. There are all levels of clubs from beginner to advanced, viewing constellations to deep-sky objects and using either your naked eyes, binoculars, or a telescope. Contact our ALCOR rep Burley Packwood for details.
2. You can get a 10% discount on books purchased through the AL Book Service.
3. You will receive the AL's quarterly "Reflector" magazine which keeps you up to date on all the AL activities.

More info at www.astroleague.org

SAS IS A MEMBER OF IDA



SAS is proud to be a member of the International Dark-Sky Association, supporting the reduction in light pollution around the U.S. and the world. More info at www.darksky.org

SAS NON-PROFIT STATUS

The Sonora Astronomical Society is a 501 (c) (3) nonprofit charitable organization! SAS has a CERTIFICATE OF GOOD STANDING from the State of Arizona Corporation Commission!

MAGAZINE SUBSCRIPTIONS

To renew your Sky and Telescope Magazine at the Club Rate, you can go directly to their website, or to order it new, or to order or renew Astronomy Magazine, contact the Club Treasurer.

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