San Diego Astronomy Association

Celebrating Over 50 Years of Astronomical Outreach

February 2026

https://www.sdaa.org/
A Non-Profit Educational Association
P.O. Box 23215, San Diego, CA 92193-3215

Next SDAA Business Meeting
February 13th at 7:00pm

Via Zoom

Next Program Meeting
February 1st 2026

San Diego Air and Space Museum
2001 Pan American Plaza Balboa Park

CONTENTS

February 2026, Vol LXIV, Issue 2
Published Monthly by the
San Diego Astronomy Association
Incorporated in California in 1963

Annual Banquet

Where - San Diego Air and Space Museum
When - Sun Feb 1st 3:00 pm
Speaker - Dr. Andy Boden - Deputy Director of Optical Observatories for CalTech

See https://sdaa.org/program-meeting/

Newsletter Deadline
The deadline to submit articles for publication is the **15th** of each month.

Link to SDAA Merchandise Store https://sdaa28.wildapricot.org/SDAA-Store

Link to Outreach Calendar https://calendar.google.com/calendar/embed?src=g-calendar@sdaa.org&ctz=America/Los_

San Diego Astronomy Association Board of Directors Meeting
January 13, 2026 **–** Unapproved and subject to revision

1. Call to Order

The meeting was held via Zoom and was called to order at 7:02pm with the following BOD members in attendance: Bee Pagarigan, Vice President (presiding); Mike Chasin, Treasurer; Kin Searcy, Recording Secretary; David Wood, Corresponding Secretary; Drew Koning, Director; Ross Salinger, Director. Absent members were: Dave Decker, President (hospitalized); Jerry Hilburn, Director; Gracie Schutze, Director (excused).

2. Approval of Last Meeting Minutes

The December meeting minutes were approved by unanimous resolution. (Motion: D. Koning/ Second: D. Wood)

3. Members Present

Damon Blackman, Gene Burch, Francisco Contreras, Hiro Hakozaki, Jim Love, Tom Kennedy, Prascilla Morquecho, and Mark Smith were present.

4. Treasurer's Report

The Treasurer's report was approved by unanimous resolution. (Motion: D. Wood/Second: R. Salinger). SDAA membership is presently 829. Significant transactions include banquet expenses and the costs for CPA firm Considine and Considine to conduct required audits of SDAA and the Foundation.

5. Strategic Planning Committee Report

D. Blackman reported that the next meeting of the SPC will be January 29 to address charter development (Action Item: BOD 12-02) and a presentation to the membership at the banquet. The SPC is also working on preparing the Strategic Plan for board approval at the February BOD meeting and a job description for the SDAA Executive Director employee position called for in the Strategic Plan. D. Blackman will forward a listing of the next level expansion of the 5 strategic goals approved at the December BOD meeting to present and future BOD members for review.

6. Old Business - Banquet Planning

D. Wood reported that the registered attendance is presently 154 and described the agenda. The facility will be available at 1pm on February 1 for SDAA to set up centerpieces and raffle/auction items. K. Searcy is finalizing the list of guests and their invitees. The BOD thanked D. Wood for taking the lead in organizing this unique event that includes museum access.

7. New Business - Loaner Scope Damage

A loaner scope was returned damaged with a repair estimate of $90. The BOD agreed that the member should be given an invoice for the repair via Wild Apricot and will consider revoking his membership if he neither pays nor appeals the Board's decision to fine him.

9. Adjournment: The meeting was adjourned at 7:20pm by unanimous resolution. (Motion: D. Wood/Second: R. Salinger)

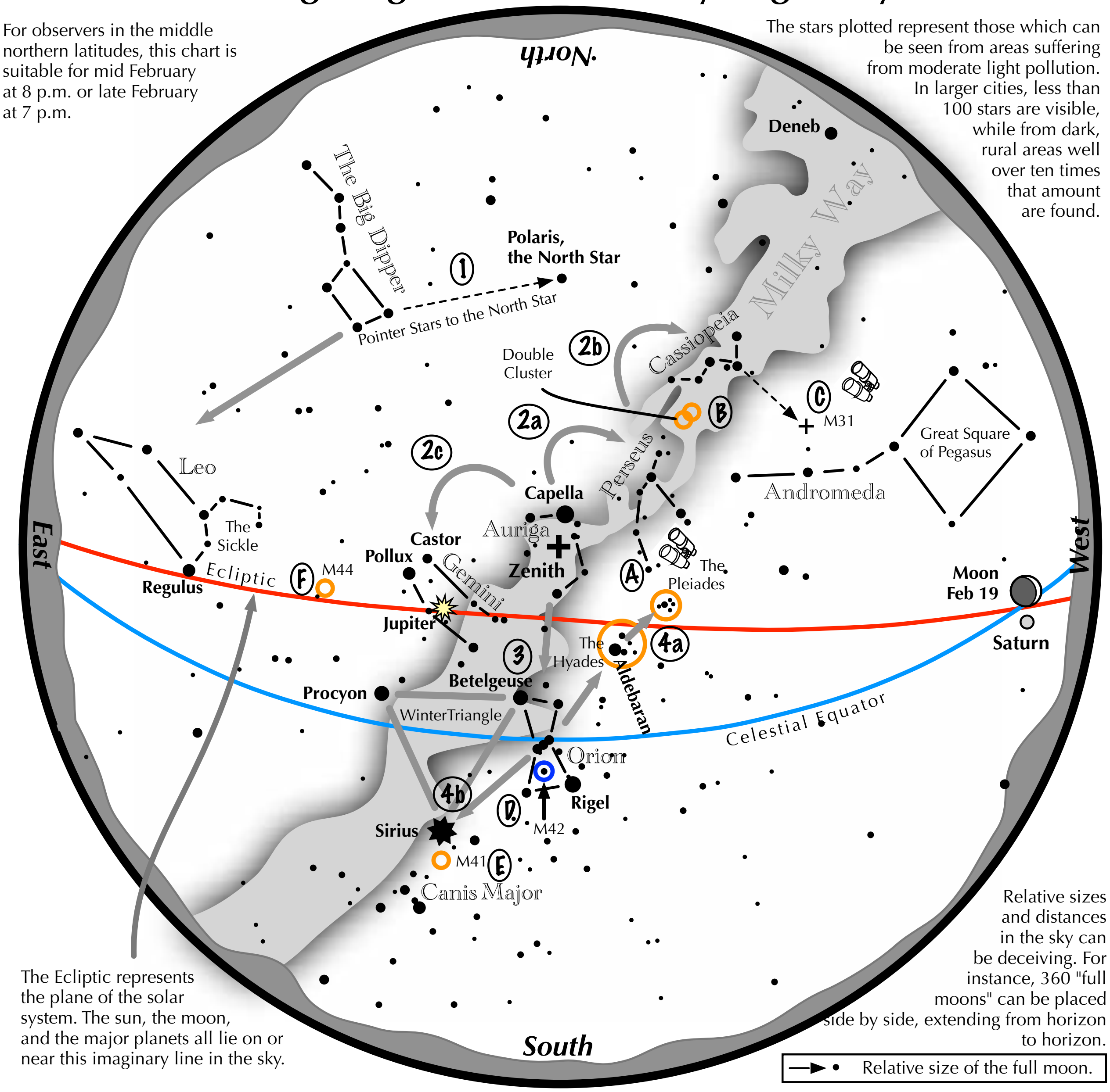
San Diego Astronomy Association

Navigating the mid February Night Sky

2026

For observers in the middle northern latitudes, this chart is suitable for mid February at 8 p.m. or late February at 7 p.m.

The stars plotted represent those which can be seen from areas suffering from moderate light pollution. In larger cities, less than 100 stars are visible, while from dark, rural areas well over ten times that amount are found.



The Ecliptic represents the plane of the solar system. The sun, the moon, and the major planets all lie on or near this imaginary line in the sky.

Relative sizes and distances in the sky can be deceiving. For instance, 360 "full moons" can be placed side by side, extending from horizon to horizon.

Navigating the February night sky: Simply start with what you know or with what you can easily find.

1 Above the northeast horizon rises the Big Dipper. Draw a line from its two end bowl stars upwards to the North Star.

2 Face south. Overhead twinkles the bright star Capella in Auriga. Jump northwestward along the Milky Way first to Perseus, then to the "W" of Cassiopeia. Next jump southeastward from Capella to the twin stars of Castor and Pollux in Gemini.

3 Directly south of Capella stands the constellation of Orion with its three Belt stars, its bright red star Betelgeuse, and its bright blue-white star Rigel.

4 Use Orion's three Belt stars to point northwest to the red star Aldebaran and the Hyades star cluster, then to the Pleiades star cluster. Travel southeast from the Belt stars to the brightest star in the night sky, Sirius, a member of the Winter Triangle.

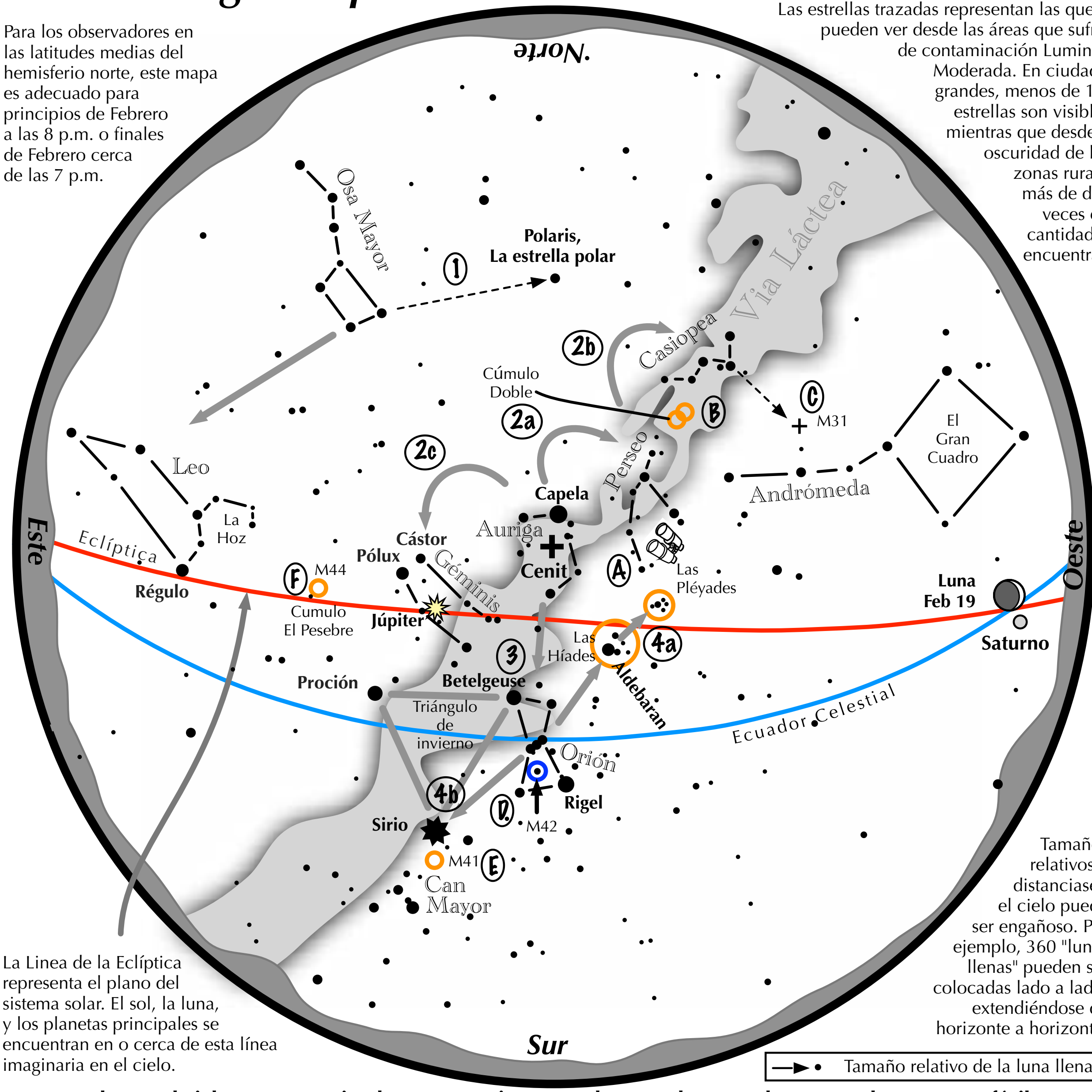
Binocular Highlights

A: Examine the stars of two naked eye star clusters, the Pleiades and the Hyades.
B: Between the "W" of Cassiopeia and Perseus lies the Double Cluster.
C: The three westernmost stars of Cassiopeia's "W" point south to M31, the Andromeda Galaxy, a "fuzzy" oval.
D: M42 in Orion is a star forming nebula. **E:** Look south of Sirius for the star cluster M41. **F:** M44, a star cluster barely visible to the naked eye, lies southeast of Pollux.

Navegando por el cielo nocturno de Febrero 2026

Para los observadores en las latitudes medias del hemisferio norte, este mapa es adecuado para principios de Febrero a las 8 p.m. o finales de Febrero cerca de las 7 p.m.

Las estrellas trazadas representan las que se pueden ver desde las áreas que sufren de contaminación Luminica Moderada. En ciudades grandes, menos de 100 estrellas son visibles, mientras que desde la oscuridad de las zonas rurales más de diez veces esa cantidad se encuentran.



La Linea de la Eclíptica representa el plano del sistema solar. El sol, la luna, y los planetas principales se encuentran en o cerca de esta línea imaginaria en el cielo.

Tamaños relativos y distanciasen el cielo puede ser engañoso. Por ejemplo, 360 "lunas llenas" pueden ser colocadas lado a lado, extendiéndose de horizonte a horizonte.

Navegando por el cielo nocturno: simplemente comience con lo que sabe o con lo que puede encontrar fácilmente.

1 Sobre el horizonte noreste se alza la Osa Mayor. Dibuja una línea desde sus dos estrellas finales hasta la estrella polar.

2 Desde Capela, salte hacia el noroeste a lo largo de la Vía Láctea hacia Perseo, luego hacia la "W" de Casiopea. Siguiente salto hacia el sureste desde Capela a las estrellas gemelas de Cástor y Pólux en Géminis.

3 Directamente al sur de Capela se encuentra la constelación de Orión con sus tres estellas del Cinturón de Orión, su brillante estrella roja Betelgeuse y su brillante estrella azul-blanca Rigel.

4 Usa las tres estrellas del Cinturón de Orión para apuntar al noroeste hacia la estrella roja Aldebarán y el cúmulo estelar Hiades, y luego hacia el cúmulo estelar de las Pléyades. Viaja hacia el sureste desde las estrellas del cinturón hasta la estrella más brillante en el cielo nocturno, Sirio. Es un miembro del Triángulo de invierno.

Puntos destacados con binoculares

A: Examina las estrellas de las Pléyades y las Híades. **B:** Entre la "W" de Casiopea y Perseo se encuentra el Doble Cúmulo de Perseo. **C:** Las tres estrellas más occidentales de la "W" de Casiopea apuntan hacia el sur hasta M31, la Galaxia de Andrómeda, un óvalo "borroso." **D:** M42 en Orión es una nebulosa formadora de estrellas. **E:** Mire al sur de Sirio para ver el cúmulo estelar M41. **F:** M44, un cúmulo de estrellas apenas perceptible a simple vista, se encuentra al sureste de Pollux.

Traducción al español por Dr. Salvador Aguirre **Liga Astronómica** *www.astroleague.org/outreach;* Duplicación permitida y fomentada para toda distribución gratuita

Lunar Eclipses in 2026 and TDS-W Opening

There will be two major lunar eclipses visible from California in 2026. The first will be total, **during the early morning hours of Tuesday, March 3rd.** The other will be a very deep partial eclipse on Thursday evening, August 27. If the sky is clear, both will be beautiful, colorful events! **[ANNOUNCEMENT! The SDAA will host our inaugural TDS-W opening for members to observe and image the March 3rd event. We will also offer a comfortable house for retreat with coffee and snacks. Details will be on the Outreach Calendar; K.Searcy]**

When most or all of the Moon is immersed within Earth's shadow, the shaded portion is not completely dark, but typically takes on a coppery reddish or rusty color, from sunlight which has passed through Earth's atmosphere and been refracted, or bent, into the shadow, to reach the Moon. The bluer light passing through lower levels of Earth's atmosphere has been scattered out in different directions, causing our daytime skies to appear blue.

For the predawn eclipse on Tuesday, March 3rd, you can catch a nap on Monday evening and set your alarm to get up and out by 12:44 a.m. for the beginning of the Penumbral phase. If you want to catch the start of partial eclipse, you need to be ready at 01:50 a.m. That's when the Moon first starts to enter the umbra, or dark, circular central core of Earth's shadow. Total eclipse will last for nearly one hour, from 3:04 a.m. until 4:03 a.m. PST.

Within that hour, the Moon will appear deepest within the shadow, and likely darkest, around 3:34 a.m. PST.

Partial eclipse will conclude at 5:17 a.m., when the Moon completely exits the umbra.

If you don't wish to follow the entire 3 hours and 27 minutes of Moon's encounter with Earth's shadow, then the most impressive 20-minute intervals to follow would be centered on the beginning and end of totality: from 2:54 a.m. until 3:14 a.m., and from 3:53 a.m. until 4:13 a.m.

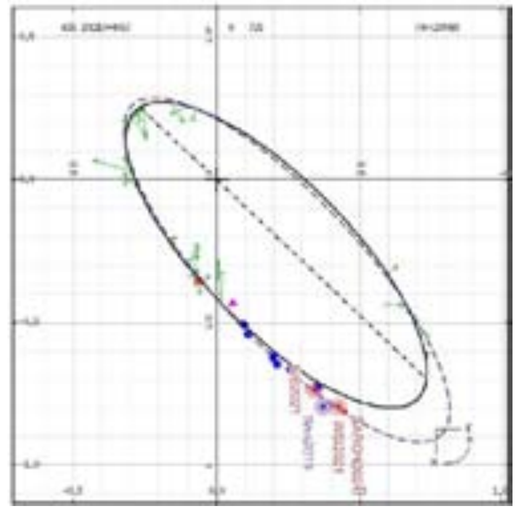
<u>Courtesy of "The Abrams Planetarium *Sky Calendar* "</u>

Robert C. Victor, (former Staff Astronomer, now retired),
Abrams Planetarium, Michigan State University;

https://www.abramsplanetarium.org/msta/

Can you do real research? The jury is in!

Dinesh Shetty and Francisco Vasquez from Ferris State University observed six known binary stars in the Boyce-Astro Speckling Binaries course in the summer of 2024. They quickly developed new orbital models for each using Dave Rowe's Speckle Toolbox and wrote their paper which was published in the ***Journal of Double Star Observations*** (JDSO) on January 1, 2025.



Prior (solid line) vs new (dashed) orbital models

GUESS WHAT? Four of their orbit models have been adopted by the **United States Naval Observatory (USNO)**, the world's keeper of double and binary star information. These replaced the prior models developed by professional astronomers in the past 30 years and published in the ***Sixth Catalog of Orbits of Visual Binary Stars.***

When hearing of this achievement, Dinesh and Fracisco modestly said "Contributing new ephemerides to the 6th Orbital Catalog is especially meaningful because it reflects years of careful observation, analysis, and collaboration. It's rewarding to see that our work is now part of a resource the broader astronomical community relies on."

Francisco Vasquez, Ferris State

Only a few thousand of double stars have been confirmed as binary – that is they are gravitationally bound. By modeling the orbits of these relatively few binaries using Kepler's Laws, astronomers have been able to deduce the masses of all stars – **THE** key to astrophysics. Astronomers are continuing this binary star research to refine the estimates of stellar masses and learn more about stellar systems and lives.

Dr. Dinesh Shetty, Ferris State

Dinesh also offered this: "The opportunity provided by Boyce Astro made it possible to conduct this work with the consistency and precision required, and we are grateful for that support." They were guided by the Boyce-Astro course and made their observations using BARO, the Boyce-Astro observatory at TDS.

So, Dinesh and Francisco are now truly official astronomers!

You can do it too?

SDSU | San Diego State University

THE DEPARTMENT OF ASTRONOMY PRESENTS

HOW CAN WE SEE A BLACK HOLE?

THE JOHN D. SCHOPP MEMORIAL LECTURE
Wednesday, February 18th 2026 at 7:00PM, NE 60

https://SDSU.zoom.us/j/85440367030

Black holes are, by their nature, invisible. No information of any kind can leave the interior of a black hole, and yet, black holes have become well-studied astronomical objects.

Dr. Charles D. Bailyn specializes in the observational study of black holes. In this lecture, he will explain what black holes are, the ways astronomers can observe them, and what we have discovered about these mysterious entities.

We will give out 10 signed copies of Professor Bailyn's book *What Does a Black Hole Look Like?* via a drawing after the lecture, so come and get a free ticket!

Dr. Charles D. Bailyn
Professor of Astronomy and Physics at Yale University

San Diego Astronomy Association

SDAA Contacts

Club Officers and Directors

President	Dave Decker	President@sdaa.org	(619) 972-1003
Vice President	Bee Pagarigan	VicePresident@sdaa.org	
Recording Secretary	Kin Searcy	Recording@sdaa.org	(858) 586-0974
Treasurer	Mike Chasin	Treasurer@sdaa.org	(858) 210-1454
Corresponding Secretary	Dave Wood	Corresponding@sdaa.org	(858) 735-8808
Director Alpha		DirectorAlpha@sdaa.org	
Director Beta	Drew Koning	DirectorBeta@sdaa.org	
Director Delta	Ross Salinger	DirectorDelta@sdaa.org	
Director Gamma		DirectorGamma@sdaa.org	

Committees

Site Maintenance	Committee	TDS@sdaa.org	
Observatory Director	Ed Rumsey	Observatory@sdaa.org	(858) 722-3846
Private Pads	Mark Smith	Pads@sdaa.org	(858) 484-0540
Outreach	Dennis Ammann	Outreach@sdaa.org	(619) 247-2457
N. County Star Parties	Craig Storms	NorthStarParty@sdaa.org	
S. County Star Parties	Bradley Jameson	SouthStarParty@sdaa.org	
E. County Star Parties	Dave Decker	EastStarParty@sdaa.org	(619) 972-1003
Central County Star Parties	Dennis Ammann	CentralStarParty@sdaa.org	(619) 247-2457
Camp with the Stars	*-Vacant-*	CampWiththeStars@sdaa.org	
K.Q. Ranch Coordinator	Dennis Ammann	KQ@sdaa.org	(619) 247-2457
Newsletter	Andrea Kuhl	Newsletter@sdaa.org	
New Member Mentor		Mentor@sdaa.org	
Webmaster	Jeff Stevens	Webmaster@sdaa.org	(858) 566-2261
AISIG	Dave Wood	AISIG@sdaa.org	
Site Acquisition	*-Vacant-*	SecondSite@sdaa.org	
Field Trips	*-Vacant-*	FieldTrips@sdaa.org	
Grants/Fund Raising	*-Vacant-*	Grants@sdaa.org	
Julian StarFest	*-Vacant-*	info@julianstarfest.com	
Merchandising	Gene Burch	Merchandising@sdaa.org	(858) 926-9610
Publicity	Jeff Flynn	Publicity@sdaa.org	(619) 806-6505
Loaner Scopes	Paul Krizak	loanerscopes@sdaa.org	
Cruzen Observatory Director	Ross Salinger	cruzen@sdaa.org	
TARO Observatory Director	Dave Wood	TARO@sdaa.org	
TDS Network	Dave Wood	TDSNet@sdaa.org	(858) 735-8808
TDS Operations	Bee Pagarigan	TDS@sdaa.org	
ALCOR (Astronomical League Correspondent)	Mark Smith	ALCOR@sdaa.org	(858) 484-0540

SDAA Editorial Staff
Editor - Andrea Kuhl
since April 2011
newsletter@sdaa.org
Assistant Editor: Craig Ewing

Have a great new piece of gear? Read an astronomy-related book that you think others should know about? How about a photograph of an SDAA Member in action? Or are you simply tired of seeing these Boxes in the Newsletter rather than something, well, interesting?

Join the campaign to rid the Newsletter of little boxes by sharing them with the membership. In return for your efforts, you will get your very own byline or photograph credit in addition to the undying gratitude of the Newsletter Editor. Just send your article or picture to Newsletter@SDAA.Org.

San Diego Astronomy Association

2026 TDS Star Party Schedule

Date	Type	Sunset	Astro. Twi.	Moonrise(set)	Closing	Illumination	Hosts
Jan-10-26	Public	4:58 PM	6:25 PM	12:42 AM	9:30 PM	51.1%	Ed Rumsey
Jan-17-26	Member	5:04 PM	6:30 PM	6:56 AM	9:30 PM	1.2%	Ed Rumsey
Feb-07-26	Public	5:23 PM	6:47 PM	11:28 PM	10:00 PM	69.1%	Jim Traweek & Jannet
Feb-14-26	Member	5:30 PM	6:53 PM	5:31 AM	10:00 PM	8.0%	
Mar-14-26	Member	6:52 PM	8:14 PM	5:03 AM	11:00 PM	20.3%	Igor von Nyssen
Mar-21-26	Public	6:57 PM	8:20 PM	(10:19 PM)	11:30 PM	10.8%	
Apr-11-26	Public	7:12 PM	8:37 PM	3:32 AM	11:30 PM	36.3%	
Apr-18-26	Member	7:17 PM	8:44 PM	(9:13 PM)	12:00 AM	2.9%	
May-09-26	Public	7:32 PM	9:05 PM	2:01 AM	12:00 AM	53.2%	
May-16-26	Member	7:37 PM	9:12 PM	(8:03 PM)	12:00 AM	0.2%	
Jun-06-26	Public	7:50 PM	9:31 PM	12:31 AM	12:30 AM	69.0%	
Jun-13-26	Member	7:53 PM	9:35 PM	4:47 AM	12:30 AM	3.1%	
Jul-11-26	Member	7:55 PM	9:34 PM	3:30 AM	12:30 AM	10.8%	
Jul-18-26	Public	7:52 PM	9:29 PM	(10:47 PM)	12:30 AM	25.7%	
Aug-08-26	Public	7:37 PM	9:07 PM	2:19 AM	12:00 AM	22.1%	
Aug-15-26	Member	7:29 PM	8:58 PM	(9:14 PM)	12:00 AM	12.6%	
Sep-05-26	Public	7:04 PM	8:28 PM	1:15 AM	11:30 PM	35.5%	
Sep-12-26	Member	6:55 PM	8:18 PM	(7:41 PM)	11:30 PM	3.6%	
Oct-03-26	Public	6:27 PM	7:48 PM	12:17 AM	11:00 PM	50.0%	
Oct-10-26	Member	6:18 PM	7:39 PM	7:50 AM	10:30 PM	0.1%	Paul Krizak
Nov-07-26	Member	4:49 PM	6:13 PM	5:40 AM	9:30 PM	2.5%	
Nov-14-26	Public	4:44 PM	6:09 PM	(9:06 PM)	9:00 PM	27.2%	
Dec-05-26	Member	4:39 PM	6:06 PM	4:33 AM	9:00 PM	10.3%	
Dec-12-26	Public	4:40 PM	6:08 PM	(7:57 PM)	9:00 PM	13.1%	

SDAA is now registered with the employer fund-matching platform Benevity. If your workplace offers matching charitable donations for non-profits and uses Benevity to distribute funds, you can now designate the San Diego Astronomy Association. Thank you for supporting the SDAA!

MEMBERSHIP INFORMATION

Send dues and renewals to P.O. Box 23215, San Diego, CA 92193-3215 or renew on-line. The notice that your membership in SDAA will expire is sent by email. Dues are $60 for Contributing Memberships; $40 for Basic Membership; $70 for Private Pads; $5 for each Family membership.