



EVENT HORIZON

The SAN MATEO COUNTY ASTRONOMICAL SOCIETY

October – December • 2022 Issue

789th General Meeting: Oct. 7

790th General Meeting: TBD

791st General Meeting: TBD



**In-person Meeting Returns to CSM Oct. 7
with lecture by Dr. Norman Nasise**

See page 5

Table of Contents

Upcoming Events	3
From the Prez	4
General Meeting & Lecture: Discovering Wonders of the Night Sky –Oct. 7, 7pm at CSM	5
Thank You for Volunteering for CSM’s Family Science Day	6
Celebrating the Autumnal Equinox!.....	7
Oct. 1 Was NASA’s International Observe the Moon Night.....	8
EARLY HISTORY OF THE SMCAS.....	9
NASA Night Sky Notes —Fomalhaut: No So Lonely After All	11
Directions to SMCAS Public Star Parties (Weather Permitting)	13
Directions to SMCAS Meetings at The College of San Mateo:	14
Become an SMCAS Member Today!	15
SMCAS Application.....	back page

Cover: Dr. Norman Nisese with his wife, Laura, in front of their mobile observatory.

Founded in 1960, the San Mateo County Astronomical Society is a 501(c)(3) non-profit organization for amateur astronomers and interested members of the public. In non-pandemic times, visitors may attend Society meetings and lectures on the first Friday of each month, September to June, and Star Parties two Saturdays a month. All events are free for visitors and guests. Family memberships are offered at a nominal annual cost. Detailed membership information is found at <http://www.smcasastro.com/membership.html> where those who want can join via PayPal. Membership also includes access to our Event Horizon newsletter, discounted costs and subscriptions to calendars and magazines, monthly star parties of the Society and the College of San Mateo, field trips, social occasions and general meetings presenting guest speakers and programs. For additional information, please email us at SMCAS@live.com or call (650) 678-2762.

Membership forms are available near the end of this newsletter. The Membership Application form is on the back page.

Upcoming Events

PLEASE NOTE: SMCAS in-person Star Parties have resumed at Crestview Park. [Click here to see the schedule.](#)

Friday, Oct. 7: SMCAS General meeting, 7 p.m., ISC Room (room 110) and presentation by Dr. Norman Nasise, 8 p.m. in the Planetarium. See page 5 for additional details.

Saturday, Oct. 22: Star Party – at sunset (6:22 p.m.) – Crestview Park, 1000 Crestview Drive, San Carlos, CA 94070. See page 13 for directions and guidelines.

Saturday, Oct. 29: Star Party – at sunset (6:14 p.m.) – Crestview Park

Saturday, Nov. 19: Star Party – at sunset (4:56 p.m.) – Crestview Park

Saturday, Nov. 26: Star Party – at sunset (4:53 p.m.) – Crestview Park

Saturday, Dec. 17: Star Party – at sunset (4:53 p.m.) – Crestview Park



The Lagoon Nebula, M8, taken using a Unistellar eVscope with an Orion Skyglow light pollution filter, taken from Crestview Park over the summer. *Photo by Ken Lum.*

From the Prez

Greeting to the Society,

Exciting news the College of San Mateo, CSM, is allowing us to return to campus for our general meetings. We are excited to be able to return to our pre-COVID ways. Oct. 7 will be our first in-person general meeting since March 2020. Once again, we will be providing pizza and general meeting prelecture at 7pm with the lecture in the Planetarium to follow at 8 pm. We will also be making this a hybrid event and continue to broadcast the event on Zoom. I hope to see you all back on campus for our great lecture series.

There is lots of exciting space news these days so it could not be a better time for things to return to normal. James Webb Space Telescope, JWST, is returning lots of fascinating information. Perseverance rover is still producing great science and discoveries, The Double Asteroid Redirection Test, DART, mission was a success and hopefully the Artemis rocket will make its first trip around the moon soon. There is a partial solar eclipse on Oct. 25 to look for and on Nov. 7 a total lunar eclipse. So much going on it could not be a better time to be in the society.

With things opening up more the SMCAS Board would like to hear from the members as to what kind of activities they would like to do. In the past we had field trips and camping trips, as well as our lectures and start parties. We have our societal dinners and social gatherings and our outreach

events to the community. We want to learn what it is you all would like the society to do so we can better serve you as a board. So be on the lookout for a survey we are creating to get some feedback from you all and feel free to reach out to any of the board members with ideas or thing you would like the society to do. We really want to hear from you.

Finally, a bit of bitter-sweet news long time member Jerzy Cwirko-Godycki passed away this year and in a tribute the family made a sizable donation to SMCAS. It was a very thoughtful gesture and we hope to use it to continue our efforts to spread the understanding of space and science. In addition, past president, Bob Franklin, passed in September. We have been most fortunate to have had such knowledgeable and active people in the club for so long.

I hope to see you all in-person at one of our general meetings.

Clear Skies,



Michael Cooke
SMCAS President
tfbsaxman@hotmail.com



General Meeting & Lecture: Discovering Wonders of the Night Sky –Oct. 7, 7pm at CSM

We're excited to announce that SMCAS will hold its first in-person General Meeting and Lecture, since COVID, Friday. As in the past, the general meeting begins at 7pm in Building 36, College of San Mateo, ISC Room (room 110). Then we'll transition over to the Planetarium for a lecture by Dr. Norman Nasise. Star Chaserz CEO Norman Nasise, MD will present the topics of his mobile observatory (once featured in Sky & Telescope), his recently-completed Red Bluff observatory, and his new public outreach initiative.

StarChaserz is a nonprofit organization dedicated to promoting public awareness, education, appreciation and preservation of

one our most precious, wonderful and often overlooked natural resources — the night sky. To achieve this goal, they offer both live events and virtual ones through their website, Starchaserz.org. Live events include scheduled Star Parties; virtual events include live video broadcasts through telescopes in remote mobile and stationary observatories located in dark sky areas of Northern California.

His mobile observatory came about at the suggestion of his wife. At one point, Nasise planned on purchasing land to build my new observatory. But his wife, Laura, expressed concern with this proposal due to his busy

(continued on page 6)

General Meeting & Lecture (cont'd)

work schedule and the difficulty of finding time to commute to the new observatory. He challenged her to come up with a better idea and she did! She had seen in a magazine, an advertisement for a GMC EUV Envoy with a retractable roof. Laura suggested that he could purchase one of these vehicles and place a telescope on the cargo bay. Furthermore, with this unique vehicle, the scope could be used at any desired location. For the next six months, he worked in his garage coming up with a lift that would be able to

elevate my telescope out of my new Envoy. He purchased a 14-inch Meade Telescope and had a computer designed specifically for a mobile observatory.

After COVID hit, Mike Ryan, the Society's previous president, assisted Nasise with virtual events by describing the deep-sky objects being observed.

We understand not everyone will be ready to gather right away with others so we will stream this event, as well. [Click here to access the Zoom link.](#) ♦

Thank You for Volunteering for CSM's Family Science Day

The Society would like to thank Ed Pieret for coordinating all those who volunteered for the College of San Mateo's Family Science Day, which has become the longest running event at the college. We would also like to thank the following participants for handling the corresponding activity:

- Solar Observing – Ken Lum and Michelle Morales
- How Telescopes Work – Marion Weiler
- Solar System Model – Karen Boyer
- The Comet Chef – Ed Pieret

With a special shoutout to Karen Boyer and Marion Weiler for also setting up for that evening's reception, besides making sure everyone was fed throughout the day. ♦

- SMCAS Information table — Michael Cook, Mike Ryan and Stephen Minkin
- Make a Constellation Finder (planisphere) — Ed Ching, Mike Ryan and Steve Minkin

Left – Karen Boyer preparing for the reception.
Right – Marion Weiler also prepares for the reception.





Celebrating the Autumnal Equinox!

By Ken Lum

Great food followed a presentation of some amazing videos of meteorite falls, failed rocket launches and unbelievable airplane malfunctions and recoveries downloaded from YouTube and presented by Ken Lum at Oct. 1. Below are the URLs of the video clips used for the enjoyment of those who could not make it. Have fun!

Five Incredible Meteor Impacts Caught On Camera
<https://www.youtube.com/watch?v=O2WDDtC3kfE>

Ten INCREDIBLE Space Launch Failures!
<https://www.youtube.com/watch?v=6Hnagko7uL8>

N-1 Soviet Moon Rocket Launch Failures
<https://www.youtube.com/watch?v=4hZ5Ep06TTk&t=11s>

Build Your Own Plane and Mid-flight the Prop falls off!!
<https://www.youtube.com/watch?v=FFPa8li2fGE>

Airplane Wing Falls Off Midflight Amazing Pilot Landing
<https://www.youtube.com/watch?v=OZtgNOgDgvs>

Top left – SMCAS members enjoyed the many different dishes at this year’s Autumnal Equinox. Top right – The enormous spread of food that was available for this year’s potluck. *Photos taken by Vikas Kapur.*

Below – Members enjoyed the videos (where the links are to the left) after dinner and dessert. *Photo by Michael Cooks*



Oct. 1 Was NASA's International Observe the Moon Night

By Michelle Morales Torres

Oct. 1 brought us NASA's International Observe the Moon Night! NASA wanted to unite all those that love to observe the moon and anything to do with it, such as, moon-inspired stories, images, artwork and more. The moon was in its waxing crescent phase. Oct. 2 brought us the first quarter. It was purposely scheduled around the first quarter phase. Apparently, it's funner to look at the moon through a telescope during this phase because more detail is visible along the line that divides the light and dark areas on the moon. This line is called the terminator. Shadows are longest along the lunar terminator on a waxing moon. That means any features along this line will really stand out.

Of course, a telescope isn't needed to observe the moon. If you go to <https://moon.nasa.gov> and look for OBSERVE THE MOON NIGHT at the upper, left, it will take you to the event's website where you'll find all different kinds of resources for participating. You can search for events taking place near you or online. There's a link to NASA's broadcast channel where the show began at 4 p.m. There are also moon maps. These maps were specifically made for the Oct. 1 event, so it shows the moon in its waxing crescent phase as it was seen from our coast at 7 p.m.

In addition, NASA gives a few suggestions for the event. Besides making or admiring moon related artwork, they suggest listening to moon-inspired music. There were a few podcasts about the moon. The last suggestion they give is to continue moon

observations throughout the year. They provide great resources for this too, besides documents in the form of a calendar for putting down observations, they also have a set of questions to help you think about what was noticed in the moon.

Besides wanting to unite people all over the world in a celebration of lunar observation, some other goals of this event was to empower people to learn more about the moon, space science and exploration and inspire continued observation of the moon, the sky and the world around us. Naturally, another goal was to raise awareness of NASA's lunar science and exploration programs. This worldwide event has been held annually since 2010. Future International Observe the Moon Night dates are Oct. 21 2023, and Sept. 14, 2024. ♦



EARLY HISTORY OF THE SMCAS

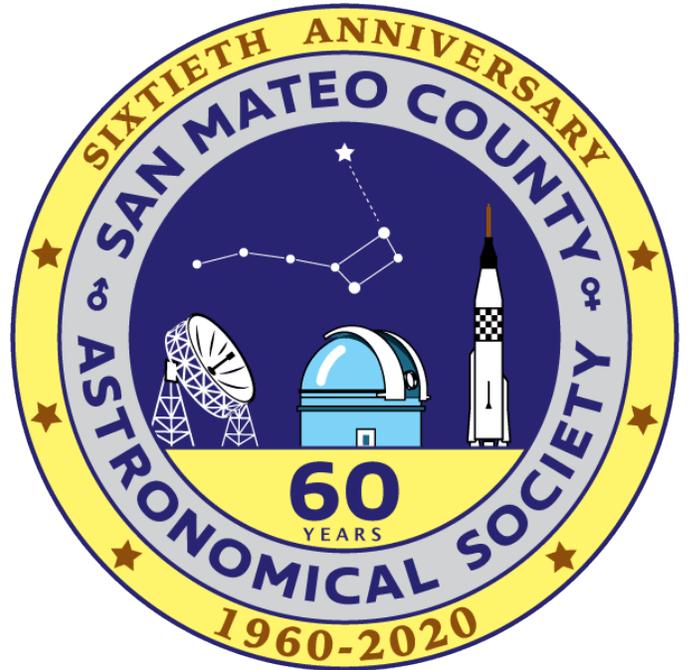
By Mike Ryan

On July 3 1960, the San Mateo Astronomical Society was formed by four high-school boys, as a summer school project. Among the rules were a motion and majority vote of the members for anyone to go to the bathroom, and five-cent fines for a variety of infractions, such as speaking out of turn. NASA was a newly-minted agency, just formed two years prior and rockets routinely blew up on the launch pad.

The push into space was the tip-of-the-spear for John F. Kennedy's New Frontier. The burgeoning growth of space science was becoming standard fare at coffee-table and cocktail-party conversation, with focus on space exploration, space physics, planetary geology, astrobiology, and the impact of spatial phenomena on the Earth, upon life on Earth, and upon the human condition.

As a result, unprecedented numbers of people were looking around for sources of information. For instance, for descriptions and explanations of astronomical features and phenomena, guidance in finding and buying telescopes and complementary equipment. Once they equipment was obtained, they looked for learning and practicing observation techniques. Some even sought guidance in reconciling all the new knowledge with the structure of their own traditional beliefs.

In a time when you could count on your fingers the number of astronomical professionals in northern California, libraries wanted amateur hobbyists to present the new activity of public Star Parties. Schools were looking for assembly presenters and prominent community figures were actively



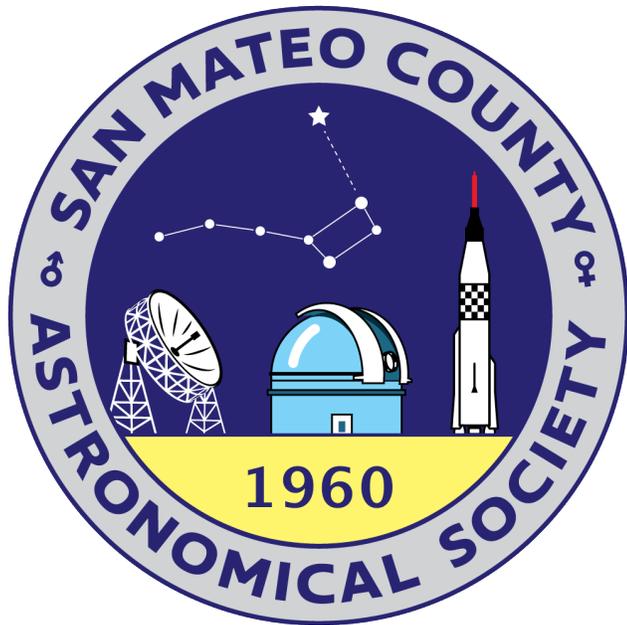
seeking knowledgeable, articulate invitees to help engage their guests at dinners and social events.

Into this dynamic came the San Mateo Astronomical Society which, from its modest beginnings, rapidly became a knowledge focus in the community. With just a small newspaper ad, it quickly grabbed the attention of the executives at the Schlage Lock Company, which attracted members from other companies, such as, American Can Company, United Airlines, County Supervisor Bill Little, and College of San Mateo Astronomy Chairman, Dr. Claude Anderson. The Society's membership rapidly shot up to 94 and acquired a stargazing site at a place called Star Hill on Skyline Drive, which was on the property of the old Wickett Lumber Company.

We were invited to meet in the San Mateo City Council Chambers, then, soon after, in the planetarium at CSM's campus that had

(continued on page 10)

EARLY HISTORY OF THE SMCAS (cont'd)



The SMCAS logo without the 60th anniversary notation.

just opened in 1963. Members had keys to the building, and access to all the facilities, including the projection equipment. It was long before we were drawing crowds of more than a hundred. This would result in needing to use the Music Room or Theatre and as a valuable community resource, we were never charged for their use.

We were invited to set up weeklong public displays and presentations at places like, at that time, the new indoor Hillsdale Shopping Mall (with props borrowed from NASA-Ames), at the San Mateo Public Library, and in the Beresford Park Recreation Center. We performed public sky lectures at CSM, other local schools, and at the Coyote Point Museum (now CuriOdyssey, where lecturers had to shout over or pause for the whining roar of landing jetliners), with publicity provided by the hosting organization.

The organization leaders wrote an informal set of bylaws establishing a structure of four

officers and five at-large board members, in order to engage some 10% of the membership in support activities. It wasn't until 1976 that we formally incorporated as the San Mateo County Astronomical Society, with filed Articles of Incorporation and new formal bylaws, to encourage donations of money, telescopes, telescope-making equipment, magazines, books and atlases, to establish a lending library, and a pool of telescopes for members to borrow.

Truthfully, the task and opportunities have changed drastically from the time of our founding, and from the Society's early years. We are no longer an obvious go-to organization for education or information about astronomy and space science. The now-numerous professionals, and the easy abundance of instant information have largely supplanted our role of being a community resource.

It isn't easy; much of what we had managed to achieve has been lost, and we, like so many citizen organizations, have had to face the dilemma of how to maintain relevance in a world changing more rapidly, and more radically, than any of us in our wildest dreams, could likely have imagined.

But, there are still many among the public who seek a transition environment of knowledgeable amateurs, of semi-professionals, and of a show-and-tell or advisory resource such as we can still provide. Our task and challenge are to ferret out where those opportunities lie, and to prepare ourselves to take them up while, at the same time, providing benefit to others.





NASA Night Sky Notes

Fomalhaut: Not So Lonely After All

By David Prosper

Fall evenings bring a prominent visitor to southern skies for Northern Hemisphere observers: the bright star **Fomalhaut!** Sometimes called “The Autumn Star,” Fomalhaut appears unusually distant from other bright stars in its section of sky, leading to its other nickname: “The Loneliest Star.” Since this star appears so low and lonely over the horizon for many observers, is so bright, and often wildly twinkles from atmospheric turbulence, Fomalhaut’s brief but bright seasonal appearance often inspires a few startled UFO reports. While definitely out of this world – Fomalhaut is about 25 light years distant from us – it has been extensively studied and is a fascinating, and very identified, stellar object.

Fomalhaut appears solitary, but it does in fact have company. Fomalhaut’s entourage includes two stellar companions, both of which keep their distance but are still gravitationally bound. Fomalhaut B (aka TW Piscis Austrini, not to be confused with former planetary candidate Fomalhaut b*), is an orange dwarf star almost a light year distant from its parent star (Fomalhaut A), and Fomalhaut C (aka LP 876-10), a red dwarf star located a little over 3 light years from Fomalhaut A! Surprisingly far from its parent star – even from our view on Earth, Fomalhaut C lies in the constellation Aquarius, while Fomalhaut A and B lie in Piscis Australis, another constellation! – studies of Fomalhaut C confirm it as the third stellar member of the Fomalhaut system, its

immense distance still within Fomalhaut A’s gravitational influence. So, while not truly “lonely,” Fomalhaut A’s companions do keep their distance.

Fomalhaut’s most famous feature is a massive and complex disc of debris spanning many billions of miles in diameter. This disc was first detected by NASA’s IRAS space telescope in the 1980s, and first imaged in visible light by Hubble in 2004. Studies by additional advanced telescopes, based both on Earth’s surface and in space, show the debris around Fomalhaut to be differentiated into several “rings” or “belts” of different sizes and types of materials. Complicating matters further, the disc is not centered on the star itself, but on a point approximately 1.4 billion miles away, or half a billion miles further from Fomalhaut than Saturn is from our own Sun! In the mid-2000s a candidate planetary body was imaged by Hubble and named Fomalhaut b. However, Fomalhaut b was observed to slowly fade over multiple years of observations, and its trajectory appeared to take it out of the system, which is curious behavior for a planet. Scientists now suspect that Hubble observed the shattered debris of a recent violent collision between two 125-mile wide bodies, their impact driving the remains of the now decidedly non-planetary Fomalhaut b out of the system! Interestingly enough, Fomalhaut A isn’t the only star in its system to host a dusty disc;

(continued on page 12)



NASA Night Sky Notes

Fomalhaut: Not So Lonely After All

Fomalhaut C also hosts a disc, detected by the Herschel Space Observatory in 2013. Despite their distance, the two stars may be exchanging material between their discs - including comets! Their co-mingling may help to explain the elliptical nature of both of the stars' debris discs. The odd one out, Fomalhaut B does not possess a debris disc of its own but may host at least one suspected planet.

While Hubble imaged the infamous "imposter planet" of Fomalhaut b, very few planets have

been directly imaged by powerful telescopes, but NASA's James Webb Space Telescope will soon change that. In fact, Webb will be imaging Fomalhaut and its famous disc in the near future, and its tremendous power is sure to tease out more amazing discoveries from its dusty grains. You can learn about the latest discoveries from Webb and NASA's other amazing missions at nasa.gov.

*Astronomers use capital letters to label companion stars, while lowercase letters are used to label planets. ◆

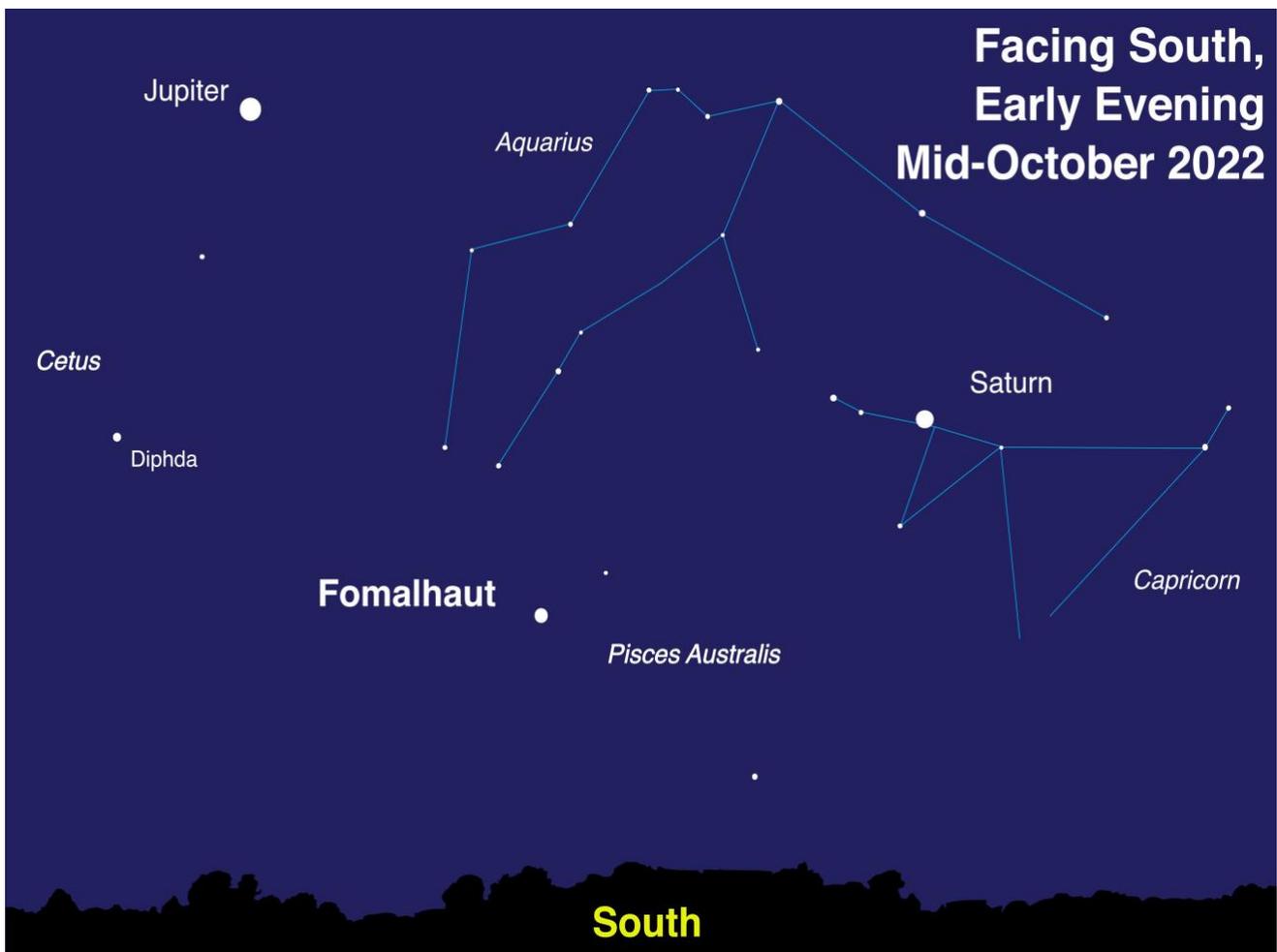


Illustration created with assistance from Stellarium.

Directions to SMCAS Public Star Parties (Weather Permitting)

From Hwy 101 or El Camino: Take Brittan Avenue in San Carlos, west (toward the hills). Follow Brittan 2.3 miles (from El Camino) to Crestview Drive. Turn right on Crestview. In half-a-block, you will see a small, blue-posted sign with an arrow, indicating the entry road into Crestview Park. It lies between houses with addresses #998 and #1000 Crestview Drive.

From Highway 280: Take Edgewood Road exit. Go east (toward the Bay) about 0.8 miles. Turn left at Crestview Drive. Go 0.5-mile uphill to where Crestview meets Brittan. Again, drive the half-block, to the small blue sign on the right, and the entry road on the left.

From Hastings and Club Drives: From Belmont, take Carlmont Drive to Hastings Drive. Follow Hastings about 1.5 miles, first uphill, then down, to San Carlos where it becomes Witheridge Road, then ends a block later at Club Drive. Turn right and climb Club Drive to Crestview Drive. Turn left and continue some 2 miles, first up, then down past Leslie Drive, to the small blue Crestview Park sign on the left. Turn right into the Crestview Park entry road.

Crestview Park - San Carlos

Come on out, and bring the kids, for a mind-blowing look at the Universe!

Bring your binoculars, telescopes, star guides, and lounge chairs for some informal star gazing at Crestview Park.

Dress warmly and wear a hat. Only visitors with telescopes should drive in. Others should park on the street and walk in or arrive before dark so that car headlights don't affect the observers' dark adaptation. Bring small flashlights only, covered with red cellophane or red balloon.

These measures avoid safety issues of maneuvering in the dark, as well as ruining the night vision of the viewers.

Please don't touch a telescope without permission. And parents, please don't let children run around in the dark.

Note: If bringing a telescope and arriving after dark, please enter the Park with your headlamps and white interior lights off. **If you aren't bringing a telescope, whether before or after dark, please park along Crestview Drive, and walk in.**

Crestview Park is residential, adjacent to homes and backyards. Before inviting potentially noisy groups, please call Ed Pieret at (650) 595-3691 for advice and advisories. **Call Ed also to check the weather and 'sky clock' and to see whether the Star Party is still scheduled.**

Crestview Star Party schedule is here:

<http://www.smcasastro.com/crestview-park.html>

From San Carlos, take San Carlos Avenue to Club Drive, and climb to the 5-way intersection. Take the half-right to continue on Club Drive past Witheridge Road to Crestview Drive. Proceed as above to Crestview Park.



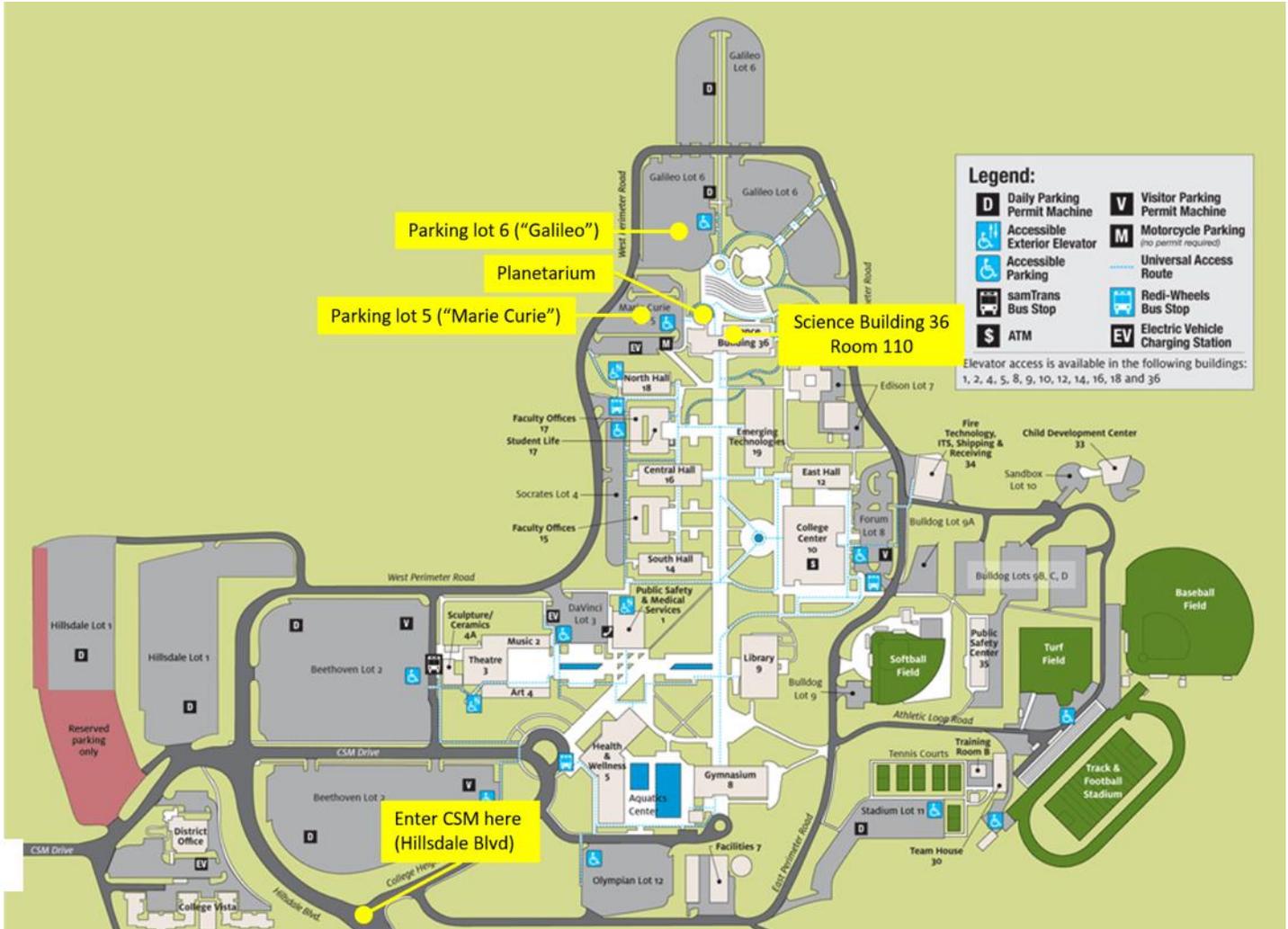
Directions to SMCAS Meetings at The College of San Mateo:

NOTE: CSM is closed due to the pandemic.

SMCAS events are online until further notice.

Directions to the CSM Planetarium for Meetings:

After exiting Hwy 92 at Hillsdale Blvd, climb the hill towards CSM, passing two traffic lights to the stop sign at the top of Hillsdale Blvd. Continue straight onto West Perimeter Road and follow it until you reach Lot 5, "Marie Curie", or Lot 6, "Galileo." Science (ISC) Bldg. (36) and the Planetarium lie straight ahead. Enter Bldg. 36 either through the door facing the lot or walk around the dome to the courtyard entrance. We meet in ISC room 110 for pizza and soft drinks one hour prior to the talk in the Planetarium (Pictured below.)





San Mateo County Astronomical Society

Membership Application

SMCAS@live.com; P.O. Box 974, Station A, San Mateo CA 94403; (650) 678-2762

rev 02272020

Become an SMCAS Member Today! Here's what you get:

- **Members Community**

Friendly advice and guidance from experienced recreational astronomers; access to SMCAS group emails, which provide general orientation information, announcements of astronomy events, file access and exchange.

- **SMCAS Events**

General meetings are held the first Friday of most months, at 7pm in the Integrated Science Center (ISC) Room and Planetarium in the Science Center (Bldg. 36) at the College of San Mateo (CSM), 1700 W. Hillsdale Blvd., San Mateo. Meetings include lectures and presentations on space science, an activity session, and refreshments (usually pizza).

We also offer stargazing two Saturdays a month, weather permitting. Visitors and those without telescopes are welcome; members are glad to share! SMCAS also has sponsored dark-sky campouts at Fremont Peak State Park, field trips to SLAC, KIPAC and Lick Observatory, plus **member-only events, including Star-B-Ques and quarterly potlucks.**

- **Subscriptions (free with your membership)**

The Event Horizon, SMCAS' newsletter, with SMCAS and member information, viewing tips and articles.

The Reflector, published quarterly by the Astronomical League, a national alliance of astronomy groups like SMCAS.

- **Significant Discounts on Equipment and Publications**

Discounts on purchases at Bay Area astronomical equipment retailer Orion Telescope Center, on sky calendars and ephemerides, and on such periodicals as *Sky & Telescope* and *Astronomy*.

- **Access to Loaner Equipment**

Use of SMCAS loaner telescopes and other astronomy equipment.

- **Sharing your Appreciation of Astronomy and Space Science with the General Public.**

Your SMCAS membership helps bring astronomy to interested lay people, especially students and children

Annual Dues: (SMCAS is a tax-exempt non-profit 501(c)(3). Dues may be tax deductible; consult your tax advisor):

\$30 Regular Family Membership; \$15 Student Membership

Every membership includes all members of your immediate family, (including your kids).

To join you can:

Send application (see reverse side), with payment, to: SMCAS, P.O. Box 974, Station A, San Mateo CA 94403.

- Bring the completed application and payment to a meeting or event and give it to any SMCAS officer.
- Go online at <http://www.smcasastro.com>, click on the Membership tab and pay via PayPal.

Membership Application on next page



San Mateo County Astronomical Society Membership Application

rev 02272020

SMCAS@live.com; P.O. Box 974, Station A, San Mateo CA 94403; (650) 678-2762

Date: _____ Please check one: New Member or Renewal

\$30 Regular Family Membership; \$15 Student Membership

All members, please indicate areas of interest below. New members, please complete entire form. Renewing members, please provide your name and any information that has changed in the last year.

We will list your name, address, email address, and phone number(s) in our membership roster unless you have checked the box preceding that information. The membership roster is distributed to active members only.

Each member's name and mailing address must be provided to the Astronomical League (AL), SMCAS' umbrella organization. If you don't want AL to have your phone number and email address, indicate below.

Name(s) _____ Email Address _____

Address _____

City & Zip Code _____

Phone Number(s): _____ Do not provide my phone number(s) to the AL.

Don't provide my email address to the AL. (Checking this means you can ONLY get **The Reflector** by regular mail)

Please check one: send **The Reflector** by mail, or by email.

Areas of Interest:

SMCAS encourages member involvement. We invite you to provide additional information about your interests, skills, occupation and prior experience. Please identify SMCAS projects and functions that you might like to help facilitate.

Please indicate which of the following activities might be of interest to you:

___ Star Parties - Do you own a telescope you can bring: Yes () No ()

___ General Meetings - Finding (or being) a Speaker. Official greeter. Set up or take down ISC or refreshments.

___ Family Science Day & Astronomy Festival (Usually at CSM the first Saturday in October).

___ Social Events - Equinoctial and Summer Solstice potlucks, Summer Star-B-Que, Holiday Potluck.

___ SMCAS Membership and Promotional Drives

___ Communications – 'Event Horizon' Newsletter, Website(s), Facebook page, group email, Publicity posting.

___ Educational Programs – School, museum and library star parties, Bay Area Astro teacher assistants.

Other/Comments: _____