

# The SAN MATEO COUNTY ASTRONOMICAL SOCIETY

September 2015 – 630th General Meeting Notice



# EVENT HORIZON

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. 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 info is found at [www.smcas.com](http://www.smcas.com), where those who want can join via Paypal.

Membership includes access to this monthly Event Horizon newsletter, discounted costs and subscriptions to calendars and magazines, monthly star parties of the Society and the College of San Mateo, use of loaner telescopes, field trips, social occasions and general meetings presenting guest speakers and programs. For additional information, please email us at [SMCAS@live.com](mailto:SMCAS@live.com), or call us at (650) 678-2762.



*Dessert, anyone? This chocolate cake was a centerpiece of the summer Star-B-Que at Crestview Park on August 22. Food was featured, along with stars, clusters, planets, and more. As the sky darkened, the fog stayed away and telescopes came out for a fun evening of viewing and education. More photos on page 3 of this issue.*

## Table of Contents

Organizational Information	1
President's Corner	2
Snapshot of the Star-B-Que	3
September Meeting Info	4
June Meeting Review	5
SMCAS Event Schedule	7
Astronomy Myths	8
Rise and Set Chart	9
Family Science and Astro Day Information	11
Directions to CSM, Crestview	12
Application Form & Club Info	13

## TIME TO GET YOUR SPAGHETTI ON!

**General Meeting is Sept., 4, 2015**

**Fall Equinox Spaghetti Feed/Potluck is Sept. 26, 2015**

- **SMCAS General Meeting**  
Friday, Sept. 4, 2015. CSM Planetarium. Pizza social and general meeting at 7:00 p.m. Special presentation at 8:00 p.m. Details are on page 4.
- **SMCAS Fall Equinox Spaghetti Feed/Potluck**  
Saturday, Sept. 26, 2015. Crystal Springs Methodist Church. 2145 Bunker Hill Dr., San Mateo. 6:00 p.m. Bring a dish to share.

## President's Corner

**Summer has quickly gone by...**and our fall events are rapidly approaching! I hope you all had a great summer! Our last SMCAS general meeting was June 5, providing a three-month interval to our upcoming September 4 meeting. Although we didn't have summer-time general meetings and presentations, SMCAS itself did not take a vacation and continued with other member-focused activities and public outreach.

In addition to our regularly scheduled bi-monthly Crestview star parties, we held our annual banquet and installation of officers on July 11 at Roundtable Pizza in San Mateo. The banquet included installing our new board of course, recognition of the exceptional service of a number of our members, a presentation on the history of the reflecting telescope by Ken Lum, and a great pizza dinner courtesy of our friend and fellow board member, Andy Thanos, III. I want to welcome our new board members: Ed Ching and Mike Ryan who will both serve as board members at large, and Ted Jones who will serve as Secretary. I also want to thank outgoing board members Tom Stephany, Karen Zamel and Jeff Dye for dedicated service to the organization! And, of course, I want to thank continuing board members for their service: VP Ed Pieret, Treasurer Karen Boyer, Bob Franklin, Ken Lum, and Andy Thanos. Lastly, thanks go to many other volunteers at SMCAS for their commitment to our members and the community at large!

On August 22 we had our first (annual?) SMCAS Crestview Park Star-B-Que. This was somewhat of an experiment to learn how to hold Star-B-Ques at that location, instead of our traditional location (Hidden Villa in the Los Altos Hills). The event was a great success and we may very well re-visit this San Carlos location for future Star-B-Ques. We had more than 25 members and guests attend the Star-B-Que on a beautiful evening, and we set up telescopes for stargazing afterwards. We've included some photos in this issue, along with the cake picture on the front page!

On August 28 we had a group of volunteers at the SLAC National Accelerator Laboratory Kid's Night. As this event was scheduled to occur after we put this issue of the Event Horizon to press, we don't have a summary to provide. But, they were expecting approximately 450 family members and children to attend.

Looking forward, we have a great speaker coming up at our September 4 meeting (you'll find information on page 4). And, be sure to mark your calendars for our annual fall Equinox Spaghetti Feed/Potluck at 6:00 p.m. on September 26 at the Crystal Springs Methodist Church in San Mateo. That night, Ken Lum will continue his presentation series on the evolution of telescopes, with a focus on the first half of the 20<sup>th</sup> century. The following night, Sept. 27, there is a Lunar Eclipse Viewing event scheduled at CSM, Science Building 36. SMCAS volunteers will be needed to help at that event (please email or see me at the monthly meeting to volunteer), or members can just come out and enjoy the event!

***Marion Weiler***

*President, San Mateo County Astronomical Society*

## A Snapshot of the August 22 Star-B-Que at Crestview Park in San Carlos

Due to the loss of our scheduled date at Hidden Villa this year, we decided to organize an alternative club Star-B-Que at our old favorite observing site at Crestview Park in San Carlos on August 22. About 25 of our members and their families showed up with food and telescopes, providing good eats and good astronomical viewing for an evening of great fun.

During last year's renovation, San Carlos installed permanent picnic tables and grills which proved extremely convenient and useful. If we are not able to return to Hidden Villa, our plans are to repeat this activity at Crestview Park next year with more publicity during one of our regularly scheduled star party dates. Here are some photos of the event.



## **Cosmology with Strong Gravitational Lensing is the Topic to Presented by Dr. Phil Marshall, SLAC National Laboratory, KIPAC**

**Friday, September 4, 2015 — College of San Mateo  
SMCAS General meeting at 7:00 p.m. — ISC Room  
Presentation at 8:00 p.m. — Planetarium**



Strong [gravitational lenses](#) have become an important astronomical tool; they allow us to make accurate measurements of galaxy masses, they provide a magnified view of the distant universe, and they allow us to constrain cosmological parameters. In this presentation Dr. Marshall will describe the science and issues of strong gravitational lensing, describe ongoing investigations of how to find lenses and infer their properties, present recent measurements, and discuss the LSST (photo left) and its potential use to expand the lensing sample size to enable competitive and complementary

constraints on Dark Energy.

Dr. Marshall is a research scientist at SLAC National Accelerator Laboratory, and a member of the Kavli Institute for Particle Astrophysics and Cosmology (KIPAC). His main research interest is observational cosmology using strong gravitational lensing: weighing galaxies, measuring distances and the expansion rate of the Universe and mapping out where the mass in the Universe is. He is involved in a number of surveys to find new lenses, using both ground-based and space telescopes - including designing the strong lensing science analysis for [LSST](#) — The Large Synoptic Survey Telescope.



He feels communicating their science is an important part of every scientist's job: he tries hard to reach as wide an audience as possible, in a variety of ways. He is particularly interested in talking to people how science works: the process of enquiry, using models to understand the world, coping with uncertainty, and how knowledge grows.

Phil earned his BA and MS in Physics from the University of Cambridge in 2000, and earned his PhD in Astrophysics from the University of Cambridge in 2003. Since then he has worked on galaxy structure and evolution, and cosmology, in Postdoctoral Research positions at SLAC, the University of California Santa Barbara, the Kavli Institute for Particle Astrophysics and Cosmology (KIPAC), and at the University of Oxford.

---

## June Meeting Review

# Astronomical Tourism Engaged Attendees at the SMCAS June 2015 General Meeting

**By Ken Lum**

Tom Stephany and I gave a presentation on Astronomical Tourism at this past June's SMCAS meeting. It was about the various ways amateur astronomers can use upcoming astronomy-related events as an inspiration to take a vacation to witness these events. Most prominently, these include solar eclipses, rocket launches, aurora tours in Alaska and Iceland, amateur astronomical conventions, visiting professional observatories the world over, and astronomical museums.

The next most anticipated astronomical event to travel to will be the Solar Eclipse of August 21, 2017. The path of totality will be across the entire continental U.S. starting in northern Oregon, passing just south of Yellowstone National Park, through the Midwest finally exiting in South Carolina. Hotels are already taking reservations even though the event is 2 years away. So make sure to reserve a spot!

Eclipse tours can also be reserved through tourism businesses such as TravelQuest International at: <https://www.travelquesttours.com/> and Melita Trips of San Jose <http://www.melitatrips.com/>.

For those interested in visiting professional observatories, it is hard to beat the Antique Telescope Society at: <http://webari.com/oldscope/>

Don't forget that the ATS will be visiting the SF Bay Area this October 9-12 this year to see Lick Observatory, Chabot Space and Science Center, the University of Santa Clara, and UC Santa Cruz's Center for Adaptive Optics. Registration is on the ATS website under "Convention 2015." The cost of the tour will be \$250 for non-ATS members and \$230 for ATS members. Having been to almost 20 of these observatory tours, I can tell you all they are incredibly worthwhile!

Rocket launches are mostly done at Cape Kennedy in Florida, and tours can be arranged through: <https://www.kennedyspacecenter.com/tours.aspx>



***Total solar eclipse in Cairns, Australia, on November 13, 2012. Photograph taken by Tom Stephany.***

***Continued on page 6***

## *Astronomical Tourism...*

*Continued from page 5*

Closer to home in southern California, the Vandenberg Air Force Base also offers public tours at: <http://www.vandenberg.af.mil/>

If you schedule your visit at the right time, you might be able to watch a launch!

Finally, don't forget amateur astronomical conventions such as the Riverside Telescope Makers Convention in southern California. This would be a great opportunity to meet other amateurs and see what they are up to.



***Ken and Loh-chung Lum getting ready to photograph the Solar Eclipse of March 29, 2006, while in Turkey.***

---

## Event Update

# Star Parties, Fall Equinox Dinner, Monthly Meetings, and Family Science and Astronomy Festival on the Horizon for SMCAS this Year!

We have many fun and interesting activities planned through the end of the year. While the new website is under construction, please contact Marion Weiler ([mgwe@pacbell.net](mailto:mgwe@pacbell.net)) for more information or to volunteer at any of these events. Please contact Ed Pieret ([epieret@comcast.net](mailto:epieret@comcast.net)) if you are available to help out with Star Parties at Crestview Park and other locations

Here is a summary of activities on our calendar.

Friday, Sept. 4, 2015	7:00 p.m.	<b>General Membership Meeting, Pizza Social and Presentation</b>
Saturday, Sept. 5, 2015	7:30 p.m.	<b>Crestview Star Party</b>
Saturday, Sept. 12, 2015	7:30 p.m.	<b>Crestview Star Party</b>
Saturday, Sept. 26, 2015	6:00 p.m.	<b>Fall Equinox Spaghetti Feed/Potluck Crystal Springs Methodist Church, San Mateo</b>
Sunday, Sept. 27, 2015	6:30 p.m.	<b>Total Eclipse of the Harvest Supermoon CSM Bldg. 36 Observatory</b>
Friday, Oct. 2, 2015	7:00 p.m.	<b>General Membership Meeting, Pizza Social and Presentation</b>
Saturday, Oct. 3, 2015	7:00 p.m.	<b>Crestview Park Star Party</b>
Saturday, Oct. 10, 2015	6:30 p.m.	<b>Crestview Park Star Party</b>
Saturday, Oct. 17, 2015	2:00 p.m.	<b>Family Science and Astronomy Festival</b>
Friday, Nov. 2, 2015	7:00 p.m.	<b>General Membership Meeting, Pizza Social and Presentation</b>
Saturday, Nov. 7, 2015	5:00 p.m.	<b>Crestview Park Star Party</b>
Saturday, Nov 14, 2015	5:00 p.m.	<b>Crestview Park Star Party</b>
Friday, Dec. 4, 2015	7:00 p.m.	<b>General Membership Meeting, Pizza Social Location to be announced.</b>
Saturday, Dec. 5, 2015	5:00 p.m.	<b>Crestview Park Star Party</b>
Saturday, Dec. 12, 2015	5:00 p.m.	<b>Crestview Park Star Party</b>

---

---

## Astronomy Myths

### The Earth is Closer to the Sun in the Summer than the Winter

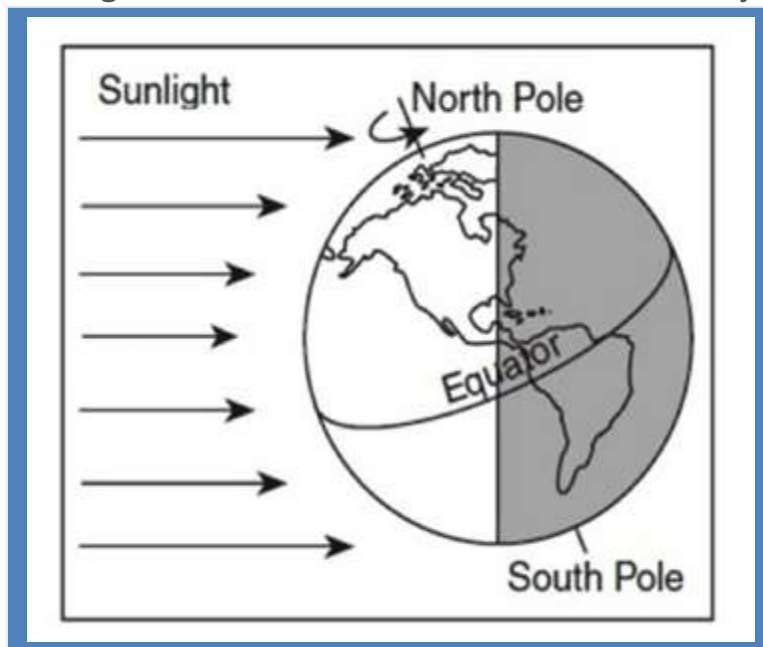
**By Ed Pieret**

This idea is not only held by children but by educated adults. There is a classic film called *A Private Universe* that opens with a group of Harvard Graduates being asked to explain the seasons. The vast majority gave the distance from the Sun as an explanation.

This answer is illogical; how can the northern hemisphere be closer to the Sun and the southern hemisphere farther at the same time? If seasons were caused by the distance this would have to be the case because most educated people know that the seasons are opposite in the two hemispheres.

In actual fact, the Earth's orbit is slightly elliptical and it is closest to the Sun in early January (January 2, 2016 is the next date of closest approach).

The real explanation has to do with the tilt of the Earth in its orbit. The Earth (and just about all classroom globes) is tilted at 23.4 degrees from the plane of its orbit. As the Earth goes around the sun it maintains this tilt just like a gyroscope would. That means



that the Earth is tilted toward the sun for half the year (spring, summer) and away from the Sun the other half (autumn, winter).

This drawing illustrates the real cause of the seasons. In summer, the Northern hemisphere is tilted toward the sun as shown. In winter, the Southern hemisphere will be tilted towards the Sun.

***The tilt of the earth's axis in summer.***



## September Rise and Set Chart

<b>SMCAS 2015 (PDT)</b>	<b>Sep 5 Rise</b>	<b>Sep 5 Set</b>	<b>Sep 12 Rise</b>	<b>Sep 12 Set</b>	<b>Sep 19 Rise</b>	<b>Sep 19 Set</b>
Sun	6:43 AM	7:31 PM	6:49 AM	7:21 PM	6:54 AM	7:10 PM
Moon	p11:58 PM	2:21 PM	6:16 AM	7:07 PM	12:39 PM	11:10 PM
Mercury	8:59 AM	8:25 PM	8:57 AM	8:05 PM	8:36 AM	7:38 PM
Venus	4:38 AM	5:42 PM	4:12 AM	5:22 PM	3:54 AM	5:06 PM
Mars	4:38 AM	6:29 PM	4:32 AM	6:14 PM	4:27 AM	5:59 PM
Jupiter	6:07 AM	7:15 PM	5:47 AM	6:52 PM	5:27 AM	6:28 PM
Jupiter's moons	Ji gec		c Ji g e		iJ g e c	
8 PM, East on left		J=Jupiter, c=Callisto, e=Europa, g=Ganymede, i=Io				
Saturn	12:56 PM	11:03 PM	12:30 PM	10:37 PM	12:05 PM	10:11 PM
Uranus	8:59 PM	9:50 AM	8:31 PM	9:22 AM	8:02 PM	8:53 AM
Neptune	7:16 PM	6:27 AM	6:48 PM	5:58 AM	6:20 PM	5:30 AM
Pluto	4:11 PM	2:03 AM	3:44 PM	1:35 AM	3:16 PM	1:08 AM

- Note: "p" and "n" for moon times refer to the previous and next day respectively.  
 - Star parties are at Crestview on the 5th and 12th.  
 - At the time of this writing, I have not confirmed that CSM's Jazz Under the Stars will be on the 19th.

## Purchase Eligible Items from Amazon and SMCAS will Receive a Donation!

SMCAS is now enrolled in AmazonSmile, a program that enables certified 501(c)(3) non-profit organizations to receive donations from eligible purchases at Amazon.



To enroll in the program, go to [smile.amazon.com](https://smile.amazon.com). On your first visit to this site, you can select a charitable organization – San Mateo County Astronomical Society (SMCAS) – that will receive 0.5% of the purchase price of eligible items on Amazon. How will you know if an item is eligible? Items are clearly and literally marked on the product detail pages with “Eligible for AmazonSmile donation.” For more information, go to [smile.amazon.com/about](https://smile.amazon.com/about).

September 2015						
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
		1	2	3	4 7:00 PM Monthly Meeting	5 8:00 PM Crestview Star Party
6	7	8	9	10	11	12 8:00 PM Crestview Star Party
13	14	15	16	17	18	19
20	21	22	23	24	25	26 6:00 PM Equinox Spaghetti Feed
27 Lunar Eclipse Observing	28	29	30			

• observing event   • club event   • community event

Calendar courtesy of Ed Pieret

## When is the Next Blue Moon?

The next Blue Moon will be on May 21, 2016. It's a seasonal Blue Moon, the third of four full moons between the March equinox and the June solstice of 2016.

In recent years, people have been using the name Blue Moon for the second of two full moons in a single calendar month. An older definition says a Blue Moon is the third of four full moons in a single *season*. Someday, you might see an actual *blue-colored* moon. The term *once in a blue moon* used to mean something rare. Now that the rules for naming Blue Moons include several different possibilities, Blue Moons are pretty common!

# Save the Date!

## October 17, 2015

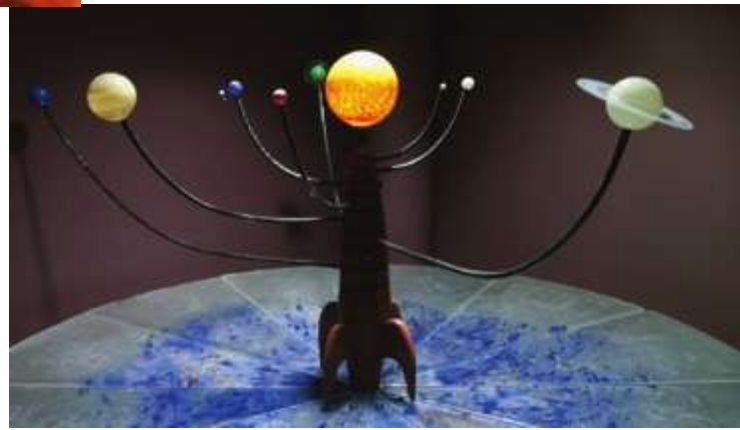
### Family Science & Astronomy Festival

#### The College of San Mateo (CSM)

2:00 p.m. to 11:00 p.m.

<u>2:00 to 6:00 p.m.</u>	<u>Workshops for the Entire Family</u>
<u>7:00 p.m.</u>	<u>Keynote Speaker</u>
<u>8:30 p.m.</u>	<u>Reception with Speaker</u>
<u>9:30 to 11:00 p.m.</u>	<u>CSM Observatory - Telescopes Available for Public Viewing</u>

**All events and parking are free and open to the public!**

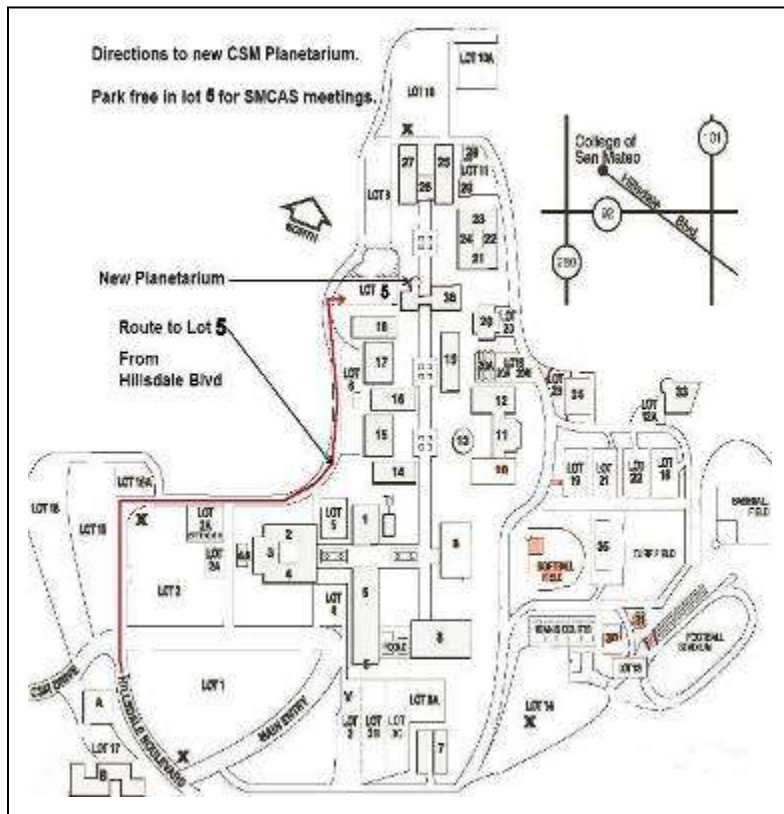


## Directions to SMCAS Meetings at CSM, and to Star Parties

Star Parties are Free to Members and Visitors and are Held Regularly, Weather Permitting

### 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. Continue straight, bear right then, after the 2nd stop sign, bear left over the rise. Enter the next parking lot on the right, called Lot 5, "Marie Curie". Science Bldg 36 and the planetarium lie straight ahead. Enter Bldg. 36 thru the door facing the lot, or walk around the dome to the courtyard entrance.



## Crestview Park

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 flash-lights 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.

### Directions to Crestview Park for Star Parties

**From Hwy 101 or El Camino**, take Brittan Avenue in San Carlos, west (to 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 sign on the right, and the entry road on the left.

**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.

**2nd Note:** 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.

## Membership Application and Society Information

To join the San Mateo County Astronomical Society or to renew membership, you can pay dues via Pay Pal on our website ([www.smcas.net](http://www.smcas.net)), at any monthly meeting, or send your check, payable to SMCAS, to: **SMCAS, PO Box 974, Station A, San Mateo, CA, 94403.**

**Dues are currently \$30 for a new (family) membership and renewing member and \$15 for a student membership.**

**Please check one of the following boxes: ( ) New member ( ) Membership renewal ( ) Student ( ) Address or info change**

**NOTE TO RENEWING MEMBERS: Please complete the following form only if you have a change to your membership or contact info.**

Name(s) \_\_\_\_\_

Address/City/Zip: \_\_\_\_\_

Phone(s) \_\_\_\_\_ Email \_\_\_\_\_

### SMCAS – Society Information

**Meetings** of the San Mateo County Astronomical Society are held the **first Friday of the month (except in July and August)** in the Planetarium at the College of San Mateo, 1700 West Hillsdale Blvd. in San Mateo. Exit Hwy. 92 at West Hillsdale Blvd. and, proceed uphill through the second and third sets of traffic lights, to the first stop sign at the top of the hill. Continue straight, bearing right then, after the second stop sign, left up over a rise. After the third stop sign, enter the first parking lot on the right with a sign 'Lot 5, Marie Curie', identifying the top level plus those below.

Science Bldg. 36 adjoins the lot, with the geodesic planetarium dome to its left. Circle the planetarium, or enter Bldg 36 thru the door facing Lot 5. For the 4<sup>th</sup> floor observatory, use the elevator just inside on the right. The planetarium corridor is ahead on the left. Turn left at the restroom sign.

**Officers: President:** Marion Weiler; **Vice-President:** Ed Pieret; **Treasurer:** Karen Boyer; **Secretary:** Ted Jones. **Board Directors-At-Large:** Bob Franklin, Ken Lum, Ed Ching, Mike Ryan, and Andy Thanos.

**September Event Horizon Editor:** Karen Zamel. **NOTE:** Newsletter is posted by the beginning of each month (except for July and August). Submissions and photos are welcome by the 15th of the month before publication.

### SMCAS Contact Information

**Website:** [www.smcas.net](http://www.smcas.net)

The CSM Astronomy Department schedule is at [www.collegeofsanmateo.edu/astronomy/events](http://www.collegeofsanmateo.edu/astronomy/events).

**Email:** [SMCAS@live.com](mailto:SMCAS@live.com)

**Society Yahoo group:** <http://groups.yahoo.com/group/smcas>.

**Yahoo Group Subscription:** email [smcas-subscribe@yahoogroups.com](mailto:smcas-subscribe@yahoogroups.com) to subscribe.

**Event Horizon:** To submit articles or photos, please contact Ed Pieret — [epieret@comcast.net](mailto:epieret@comcast.net) or 650.862.9602.