

The SAN MATEO COUNTY ASTRONOMICAL SOCIETY

January, 2012 593rd General Meeting Notice



EVENT HORIZON

Founded in 1960, the San Mateo County Astronomical Society is a non-profit organization for amateur astronomers. Family memberships are open to the public, and visitors are cordially invited to the Society's meetings, which are held on the first Friday of the month, September through June. Detailed information about our events and membership can be found at www.smcas.com

Membership includes a monthly bulletin, discounted subscriptions to calendars and magazines, monthly star parties, use of our loaner telescopes, tours, field trips and guest speakers, plus an invitation to join our online discussion group. To receive additional information, send a note to SMCAS@live.com or call (650) 862-9602.

Table of Contents:

| | |
|------------------------|-----|
| From the Prez | 2 |
| NASA Space Place | 3-4 |
| Meeting Notes | 4 |
| Calendar | 5 |
| Meet Mike Ryan | 6 |
| Directions & Map | 7 |
| Membership Application | 8 |

STARS CLOSED FOR HOLIDAYS

(Come back in February, or when Leo rises.)

As the winter solstice gives the Northern Hemisphere its longest nights of the year, your friendly astronomy club officers are all too busy gazing through their various telescopes to bother coming to a January meeting. But we'll be back with another exciting roster of guest speakers and great presentations on the cutting edge of science starting on the first Friday in February.

Until then, happy holidays, and keep looking up.



Leo the Lion, harbinger of Spring.

MONTHLY STAR PARTIES

Crestview Park in San Carlos

Saturday 01/14/2012

Saturday 01/21/2012

(See directions on p. 7)

From the Prez:

As we embark on a new year, it's a time to reflect on the accomplishments of the last year and look forward to the challenges and opportunities for the new year.

SMCAS' most outstanding accomplishments in 2011 was the funding of the SMART project. Working with The Mars Institute, The SETI Institute and CSM, we were able to send a student intern to the high arctic with the Haughton Mars Project in order to scout the location for a remote telescope. In 2012 we hope to repeat the success and send an intern to place monitoring equipment at the site selected.

In 2011 we had 10 regular meetings and 26 scheduled Crestview parties (although we were weathered out at several of these). We conducted one of the most successful outreach events in our history, the Family Science and Astronomy Festival on Nov. 5. We increased our active membership and revived the social gathering by serving pizza before meetings. On the down side, we didn't get more members involved in running the organization. The same people tend to stay on the Board and fill the various officer positions.

In 2012, we look forward to a number of extremely exciting astronomical events.

- There will be an Annular Solar Eclipse on May 20 that can be viewed from Northern California cities. The Bay Area will see a partial eclipse but cities such as Redding and Lake Tahoe will experience totality. An annular eclipse occurs when the Sun and Moon are exactly in line, but the apparent size of the Moon is smaller than that of the Sun. The Sun appears as a very bright ring, or annulus, surrounding the outline of the Moon.
- A partial lunar eclipse will occur on June 4, and will be visible in the early morning from our location.
- On June 5 there will be a transit of Venus across the face of the sun. The next time this is visible will be in 2117 so it is the last one any of us will see in our lifetime.
- NASA's Mars Science Laboratory (MSL) is scheduled to land on Mars between August 6 and August 20, 2012.

We will continue our meetings on the first Friday of each month except January, July and August. We will also continue our Crestview star parties on the Saturdays closest to the third quarter moon and the new moon.

I would like to remind you that all memberships expire on January 1, 2012 (except those new memberships paid the second half of the year). You can pay your dues by credit card on our website or by check mailed to the address on page 8. You can also hand a check or Cash to Marion Weiler at a meeting or event. As an added feature, we are allowing members to order a GalileoScope for only \$30 additional with membership.

Finally, for a discounted subscription to Astronomy or Sky and Telescope contact me by email.

Ed Pieret, President
(650)862-9602

San Mateo County Astronomical Society
SMCAS@live.com



Dawn Takes a Closer Look

By Dr. Marc Rayman

Dawn is the first space mission with an itinerary that includes orbiting two separate solar system destinations. It is also the only spacecraft ever to orbit an object in the main asteroid belt between Mars and Jupiter. The spacecraft accomplishes this feat using ion propulsion, a technology first proven in space on the highly successful Deep Space 1 mission, part of NASA's New Millennium program.

Launched in September 2007, Dawn arrived at protoplanet Vesta in July 2011. It will orbit and study Vesta until July 2012, when it will leave orbit for dwarf planet Ceres, also in the asteroid belt.

Dawn can maneuver to the orbit best suited for conducting each of its scientific observations. After months mapping this alien world from higher altitudes, Dawn spiraled closer to Vesta to attain a low altitude orbit, the better to study Vesta's composition and map its complicated gravity field.

Changing and refining Dawn's orbit of this massive, irregular, heterogeneous body is one of the most complicated parts of the mission. In addition, to meet all the scientific objectives, the orientation of this orbit needs to change.

These differing orientations are a crucial element of the strategy for gathering the most scientifically valuable data on Vesta. It generally requires a great deal of maneuvering to change the plane of a spacecraft's orbit. The ion propulsion system allows the probe to fly from one orbit to another without the penalty of carrying a massive supply of propellant. Indeed, one of the reasons that traveling from Earth to Vesta (and later Ceres) requires ion propulsion is the challenge of tilting the orbit around the sun.

Although the ion propulsion system accomplishes the majority of the orbit change, Dawn's navigators are enlisting Vesta itself. Some of the ion thrusting was designed in part to put the spacecraft in certain locations from which Vesta would twist its orbit toward the target angle for the low-altitude orbit. As Dawn rotates and the world underneath it revolves, the spacecraft feels a changing pull. There is always a tug downward, but because of Vesta's heterogeneous interior structure, sometimes there is also a slight force to one side or another. With their knowledge of the gravity field, the mission team plotted a course that took advantage of these variations to get a free ride.

The flight plan is a complex affair of carefully timed thrusting and coasting. Very far from home, the spacecraft is making excellent progress in its expedition at a fascinating world that, until a few months ago, had never seen a probe from Earth.

Keep up with Dawn's progress by following the Chief Engineer's (yours truly's) journal at <http://dawn.jpl.nasa.gov/mission/journal.asp>.

And check out the illustrated story in verse of "Professor Starr's Dream Trip: Or, how a little technology goes a long way," at <http://spaceplace.nasa.gov/story-prof-starr>.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.



This full view of the giant asteroid Vesta was taken by NASA's Dawn spacecraft, as part of a rotation characterization sequence on July 24, 2011, at a distance of 5,200 kilometers (3,200 miles).

Credit: NASA/JPL-Caltech/UCLA/MPS/DLR/IDA

General Meeting Notes – December 2, 2011

Seventy six people came to the General Meeting in the College of San Mateo Planetarium, preceded by a social half-hour with pizza and beverages. President Ed Pieret made a few announcements about upcoming events: Star Parties, Jazz Under the Stars, the annual Christmas Party, and the possibility that the SMCAS January meeting may have to be cancelled because the CSM Science Building and Planetarium will be closed, pending start of the new academic Semester.

The featured presentation was given by Mr. Faride Khalaf, an almost last-minute substitute for the scheduled speaker who had taken ill. Faride presented a wonderful, illustrated, and impassioned presentation on aspects of the 1960's/70's NASA Apollo Program: *Saturn V, The First 700 Seconds*". Faride has a background as an aircraft engineer (he worked for United Airlines for many years), space "buff", and collector of Apollo engineering and related information. We learned (relearned for some of us old-timers) about the Saturn V rocket, saw videos of some Apollo launches, and enjoyed photographs of some of the seven "Mercury" and later Astronauts. Fascinating (and nostalgic for some of us "oldsters"). Bravo Faride!

| January 2012 | | | | | | |
|-----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|------------------------------------------|-----------|----------------------------------------------|--------------------------------------------------------------------|
| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
| 1 New Year's Day  | 2 | 3 Quadrantids Meteor Shower | 4 Quadrantids Meteor Shower | 5 | 6 | 7 Sunset: 5:07 PM |
| 8 | 9  | 10 | 11 | 12 | 13 7:30 PM CSM Planetarium Show | 14 5:15 PM Crestview Star Party Sunset: 5:14 PM |
| 15 | 16 Martin Luther King, Jr. Day  | 17 | 18 | 19 | 20 | 21 5:15 PM Crestview Star Party Sunset: 5:21 PM |
| 22 | 23  | 24 | 25 | 26 | 27 | 28 8:00 PM Jazz Under the Stars Sunset: 5:29 PM |
| 29 | 30 | 31  | 1 | 2 | 3 | 4 |

2012 - PST

| | | <u>Jan 14 Rise</u> | <u>Jan 14 Set</u> | <u>Jan 21 Rise</u> | <u>Jan 21 Set</u> |
|---------|------------------------|--------------------|-------------------|--------------------|-------------------|
| Sun | Earth closest on 4th | 7:23 AM | 5:14 PM | 7:20 AM | 5:21 PM |
| Moon | | 11:30 PM | 10:20 AM | 5:54 AM | 4:03 PM |
| Mercury | Before sunrise | 6:32 AM | 4:01 PM | 6:50 AM | 4:23 PM |
| Venus | In the evening | 9:25 AM | 8:11 PM | 9:18 AM | 8:26 PM |
| Mars | Late at night | 9:49 PM | 10:34 AM | 9:24 PM | 10:08 AM |
| Jupiter | Much of the night | 11:55 AM | 1:10 AM | 11:29 AM | 12:45 AM |
| | 8 PM, East on left | i g J e c | | i g J c e | |
| | Red Spot transit | 12:22 AM on 15th | | 1:11 AM on 22nd | |
| Saturn | In the wee hours | 12:52 AM | 12:01 PM | 12:26 AM | 11:35 AM |
| Uranus | In the evening | 10:38 AM | 10:40 PM | 10:11 AM | 10:14 PM |
| Neptune | Briefly in the evening | 9:17 AM | 8:04 PM | 8:50 AM | 7:38 PM |
| Pluto | Before sunrise | 6:07 AM | 4:07 PM | 5:41 AM | 3:41 PM |

Meet Mike Ryan – The Link To Our Club’s Storied Past

Note: this is another in the occasional series introducing active club members. You can find past biographies on our website at http://www.smcas.com/membership/member_profiles/

Mike’s long association with SMCAS (then SMAS, or San Mateo Astronomical Society, annual dues \$6!) began as an enthusiastic high school freshman in 1963, near the dawn of the Space Age. He’s loved astronomy since at the age of 4, when his mom took him to the new Morrison Planetarium. He returned repeatedly, visited Lick Observatory, and read every related kid’s book he could find. At age 5, in his first box of Cracker Jack, the prize inside was a tiny red plastic telescope *Made in Japan*. That night, he saw the craters and mountains of the Moon (rather poorly), for the first time.



By age 12, Mike was saving up to buy a \$12, 2-inch refractor that clipped to a car window. His parents instead bought him a 2.4-inch Tasco refractor for \$60. At 15, Mike made his first telescope mirror which, nearly done, slipped and shattered on the garage floor. But he finally finished the 6-inch, F/5 Newtonian reflector he still has. Its first views from Fremont Peak were thrilling experiences. Then, in 1984, Mike bought the Celestron Classic orange-tubed C-8 Schmidt-Cassegrain he’s used for over 27 years. He recommends it highly for its general suitability at viewing most astronomical objects, as well as its durability, portability, ease of use, low maintenance and timeless appearance.

In 48+ years, Mike has held all the officer positions, been president twice, served on the Board of Directors countless times and become the club historian by default. It was Mike who took the Society from a hobby club to a 501c(3) non-profit, writing the Articles of Incorporation and the original By-Laws in 1975-76, when the word ‘County’ was added to the name. He’s saved a lot of Society memorabilia, including documents and photo records of events. His memories, archives and writings provide virtually all we know about our early years (1963-1982), as well as some of our greatest characters. Want to know about Club history? Ask Mike. But, be careful; once you get him talking, you may never get him to stop!

Mike has done dozens of presentations over the years, organized countless star parties, conferences and outreach events for libraries, schools, rec centers and community groups. He’s recruited many of our members, brought in many speakers, and planned endless club functions, from banquets to potlucks to pool parties. Mike also brought us back the College of San Mateo, following an absence of almost 20 years.

Mike’s professional work includes 19 years as an aerospace engineer at Lockheed, later Lockheed Martin. He had two stints (1969 & 2002) as lecturer, operator and educator at his beloved old Morrison Planetarium, and did the same with Chabot Observatory, later Space Science Center, in 1975 and 2004.

Mike’s ultimate fascination is with total eclipses. He’s seen more lunar eclipses than he can remember, and witnessed the total solar eclipses of 1977, ’79, ’81, ’83, ’91 and ’99. Though “rained out” at the 1984 annular eclipse in Mexico, it wasn’t a total loss; he met his ‘star-crossed’ Lily, whom he would later marry.

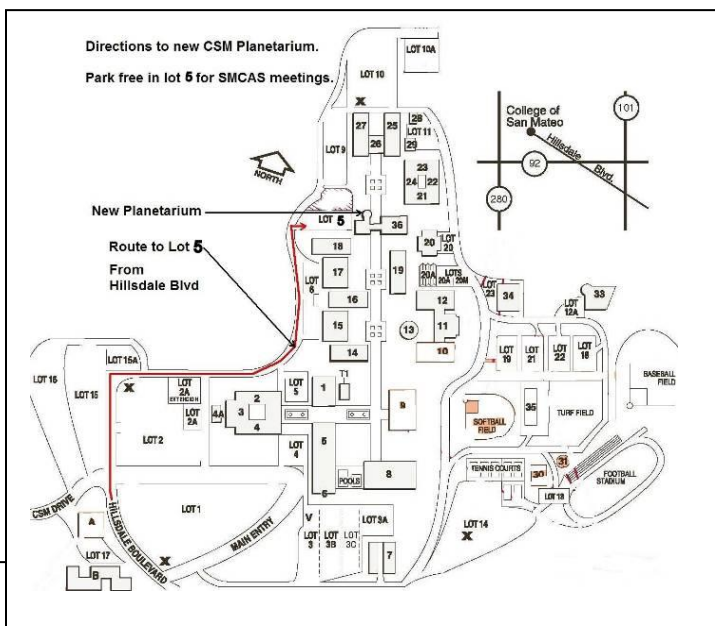
Mike was also invited onto the Board of the San Francisco Amateur Astronomers, and was treasurer and president of the Astronomical Association of Northern California, as well as planning and chairing its biggest, most successful conference ever. AANC recognized Mike as Bay Area Amateur Astronomer of the Year. He’s been interviewed for several news articles. Finally, Mike is the one and only recipient of SMCAS’s coveted *Methuselah Award*, conferred by a grateful Board for his long service to the Society.

Text by Mike Ryan and John Fiske, photograph provided by Mike



Directions to Planetarium

After coming off HW92 at Hillsdale Blvd towards CSM, proceed up hill through the second and third sets of traffic lights until you come to the first stop sign, where you enter the campus, and continue straight. After the third stop sign, turn into the first parking lot on the right. This is now called Lot 5. The planetarium is directly ahead of you. Enter the building (36) through the door facing the parking lot.



Directions to Crestview Park

Crestview Park

Come out and bring the kids for a mind-expanding 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. Visitors should park on the street or arrive before dark so that headlights don't affect the observers' dark adaptation. Bring small flashlights only, with the lens covered with red cellophane or red balloon. Please don't touch a telescope without permission. And parents, please watch your children.

Take Hwy 101 or El Camino to Brittan Avenue in San Carlos, and turn west (right from El Camino). From El Camino, follow Brittan about 2.3 miles to the intersection with Crestview Drive.

From Alameda, go about 1.4 miles to Crestview. Turn right on Crestview. A small sign saying "Crestview Park" is a half-block ahead on the right. Look to the left for the park entry road, a small street between houses #998 and #1000. If after dark, please park on Crestview near the park entrance and walk in the short distance, to avoid safety issues and disturbing the telescope setup and viewing.

From Highway 280 to Edgewood Road. Go east (toward Bay) about 0.8 miles. Left on Crestview Dr. Go 0.5 miles uphill to the intersection with Brittan Avenue. Go one short block to the park entrance on the left.

Note: The park is residential, and adjacent to homes and backyards. Before inviting noisy groups, please call Ed Pieret or Leroy Amen.

For more information, call:
Leroy Amen: 573-0935
Leroy's cell: 504-5196
Ed Pieret: 595-3691

Membership Application

To join the San Mateo County Astronomical Society or to renew your membership please send dues by check payable to "SMCAS" to the address below. Dues are \$35 for a new member, \$30 for Renewing members and \$25 for students and seniors.

SMCAS, at PO Box 974, Station A, San Mateo, CA 94403

Check one: () New member () Membership renewal () Address or info change

NOTE TO EXISTING MEMBERS: do not fill in address etc. unless it's changed!

Name(s) _____

Address/City/Zip: _____

Phone(s) _____ Email _____

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, located at 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 until you come to the first stop sign, where you enter the campus, and continue straight. After the third stop sign, turn into the first parking lot on the right. This is Lot 7. The planetarium is directly ahead of you. Enter the building (36) through the door facing the parking lot.

Officers: President: Edmund Pieret; **Vice-President:** Chanan Greenberg; **Secretary:** John Fiske; **Treasurer:** Marion Weiler

Board Members-At-Large: Bob Franklin, Ken Lum, Mike Ryan, Murad Hamidouche.

Membership: open position **Newsletter:** Dave Wolf, Ron Cardinale, Darryl Stanford, John Garis, Bob Fies.

Program: Marion Weiler, **Publicity:** open position; **Reporter:** open position

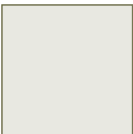
Event Horizon Editor: Dave Wolf **NOTE:** We welcome articles and photos submitted by the 15th of the month prior to publication.

Contacts:

Website: <http://www.smcas.com>

Email: SMCAS@live.com

Telephone: Ed Pieret at (650) 862-9602



SMCAS
P.O. Box 974
Station A
San Mateo, CA 94403