

May, 2010 573rd 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](http://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](mailto:SMCAS@live.com) or call (650) 862-9602.

## SCIENTIST TALKS ABOUT LIFE ON MARS!!

(No shopping malls, no fast-food restaurants, no traffic.)

Dr. David Des Marais isn't suggesting locations for vacation homes, but there are certain advantages to life on Mars: no wars, no famine, no pollution, no politics, and plenty of (weak) sunshine. Dr. Des Marais, an esteemed scientist at NASA/Ames, will talk about exploring Mars for habitable environments and life. Mars, having once had abundant water, is the one planet other than our own that at least offers the possibility of detecting evidence that life achieved a foothold (or a fin-hold.) To find out how our search for such evidence is progressing, come to the Planetarium Dome on Friday, May 7, at 7:30. (See p 9 for directions)

### Table of Contents:

Upcoming Events	1
Announcements	2
From the Prez	3
NASA Space Place	4-5
Meeting Notes	6
Calendar	7
Origins of our Logo	8
Directions & Map	9
Membership Application	10



**SMCAS – Serving San Mateo County for 50 years**

### **MONTHLY STAR PARTIES**

**Crestview Park in San Carlos**

**Saturday May 8, 15**

See page 9 for directions

See page 7 bottom of calendar for rise & set times

## ***ANNOUNCEMENT***

**Friday, May 7, 7:30pm**



### **Plenty of beach, but it's a long way to the ocean.**

Mars is the one planet in our solar system whose climate ever resembled our own. Recent missions have discovered fascinating landscapes and chemicals and minerals formed by the action of liquid water. Mars might have been habitable in the past, and liquid water might persist today in some subsurface environments. Recent discoveries are revealing the most promising places to search for evidence of life. If the fourth planet once had oceans, lakes, rivers and streams, and if those conditions prevailed long enough, life may not only have started there, but perhaps evolved beyond algae to more complex forms. Owing to its small size, Mars was unable to retain a dense atmosphere, so most of its water was lost in space. Which would have been too bad for Mr. and Mrs. Trilobite. Still, imagine the fossils that might turn up if an expedition were mounted.



David Des Marais, a staff scientist at NASA Ames Research Center, is the Principal Investigator of the Ames Research Center team of the NASA Astrobiology Institute. David has investigated the geochemistry of lunar samples, meteorites and both volcanic and ancient sedimentary rocks from Earth. He coordinated a long-term study of cyanobacterial benthic ecosystems. He is a member of the science teams of NASA's 2003 Mars Exploration Rover mission, the 2005 Mars Reconnaissance Orbiter mission, and the 2011 Mars Science Laboratory mission. David has published more than 160 technical articles and chapters on these research topics.

### ***UPCOMING EVENTS***

**SMCAS ANNUAL INSTALLATION OF OFFICERS BANQUET**

July 24, 2010

Waterfront Restaurant

## From the Prez:

As I write this, we have just completed our Spring Astronomy Day. Although we could have liked to have many more attendees, the attendance was better than it has been for the last few years. The weather was great!

This year we had exhibits explaining the Solar System, The Search for Extra solar Planets, How Telescopes Work, Making Craters, Making Comets and the History of SMCAS. There were Planetarium Shows and Solar Observing throughout the day. We also provided materials and instruction that helped the public make over 30 Planispheres.

As the day progressed there was talk about Astrophotography, delivered by Chanan Greenberg, followed by observing of the Moon, Saturn and Mars from CSM's rooftop observatory.

We are now planning a Fall Astronomy Day on October 16th. This should be a better date because the weather is usually better, it gets dark sooner and it is the beginning, not the end of the academic year.

**For the October Astronomy Day we need more volunteer presenters.** We'll want to present everything we did in the spring Astronomy Day plus a lot more. We have scripts and props for many subjects that were not delivered because of the lack of volunteers. These additional subjects include: Black Holes, Supernovas, The Moon, The Galaxy and Universe, Spectroscopy and Gravity.

Another bit of club business is **the opening of nominations for Officers and directors** which will be done in the May meeting. The actual elections will be at the June meeting with installation at our Banquet on July 24th. There are four officers and five Directors at Large. These nine people make up the SMCAS Board of Directors and are responsible for managing the club. None of the current officers or directors consider their position to be anything but temporary. There are several members of the club who have served as President in the past and I am beginning to look for a replacement. The same is true for all of the other officer positions.

We are currently short one board member so if you are interested in serving, this is a great time to get started. Being a board member involves attending a meeting about every other month and the expectation that you will lend a hand at SMCAS events. Joining the board is a great step toward learning what is involved in the officer positions. If you're interested in a board or officer position, including President, I would love to hear from you. Catch me at a meeting or contact me using the email or telephone number below.

**Ed Pieret, President - San Mateo County Astronomical Society**  
**SMCAS@live.com** **(650)862-9602**



## A Rock Hound is Born

It's tough to be a geologist when you can't tell one rock from another. Is that a meteorite or a chunk of lava? A river rock or an impact fragment? Houston, we have a problem!

It's a problem Spirit and Opportunity have been dealing with for the past six years. The two rovers are on a mission to explore the geology of the Red Planet, yet for the longest time they couldn't recognize interesting rocks without help from humans back on Earth.

Fortunately, it is possible to teach old rovers new tricks. All you have to do is change their programming—and that's just what NASA has done.

"During the winter, we uploaded new software to Opportunity," says Tara Estlin, a rover driver, senior member of JPL's Artificial Intelligence Group, and the lead developer of AEGIS, short for Autonomous Exploration for Gathering Increased Science. "AEGIS allows the rover to make some decisions on its own."

Estlin and her team have been working for several years to develop and upload increasingly sophisticated software to the rovers. As a result, the twins have learned to avoid obstacles, identify dust devils, and calculate the distance to reach their arms to a rock.

With the latest upgrade, a rock hound is born.

Now, Opportunity's computer can examine images that the rover takes using its wide-angle navigation camera (NavCam) and pick out rocks with interesting colors or shapes. It can then center its narrower-angle panoramic camera (PanCam) on targets of interest for close-up shots through various color filters. All this happens without human intervention.

The system was recently put to the test; Opportunity performed splendidly.

At the end of a drive on March 4<sup>th</sup>, the rover settled in for a bit of rock hunting. Opportunity surveyed the landscape and decided that one particular rock, out of more than 50 in the NavCam photo, best met criteria that researchers had set for a target of interest: large and dark.

"It found exactly the target we would want it to find," Estlin says. "It appears to be one of the rocks tossed outward onto the surface when an impact dug a nearby crater."

The new software doesn't make humans obsolete. On the contrary, humans are very much "in the loop," setting criteria for what's interesting and evaluating Opportunity's discoveries. The main effect of the new software is to strengthen the rover-human partnership and boost their combined exploring prowess.

Mindful that Opportunity was only supposed to last about six months, Estlin says "it is amazing to see Opportunity performing a brand new autonomous activity six *years* later."

What will the rock hounds of Mars be up to six years from now? Stay tuned for future uploads! Learn more about how the AEGIS software works at

<http://scienceandtechnology.jpl.nasa.gov/newsandevents/newsdetails/?NewsID=677>. If you work with middle- or high-school kids, you'll find a fun way to explore another kind of robot software—the kind that enables "fuzzy thinking"—at [http://spaceplace.nasa.gov/en/educators/teachers\\_page2.shtml#fuzzy](http://spaceplace.nasa.gov/en/educators/teachers_page2.shtml#fuzzy).

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



*Opportunity spots a rock with its NavCam that its AEGIS software says meets all the criteria for further investigation.*

NOTE FOR EDUCATORS: for their bimonthly newsletter, go to: <http://spaceplace.nasa.gov/en/educators> The newsletter is all about the many useful and free resources on The Space Place website that can be helpful to classroom and home school teachers, after-school program directors, museum and library program directors, and other informal educators.

### ***Play Photon Pileup at The Space Place***

In this fast-paced game, multi-colored photons rain in from all directions. They come from old stars, new stars, galaxies, and glowing gas. Spin the Galaxy Evolution Explorer telescope around quickly to collect three photons of the same color and record the beautiful space image one piece at a time. This telescope detects ultraviolet photons best, so those count most. Don't let the sticky non-matching photons pile up too high, or the game will end before your picture is complete. Play Photon Pile-up at <http://spaceplace.nasa.gov/en/kids/galex/photon>. And don't get too addicted!

Scope City, 350 Bay Street, San Francisco, offers a huge selection of telescopes, accessories and more. They also offer a \$25 merchandise discount to new SMCAS members. Obtain a receipt from SMCAS Treasurer showing you have paid your dues for the current year. To arrange for your discount, contact Sam Sweiss at Scope City, in the store, at 415-421-8800, or email [sanfrancisco@scopecity.com](mailto:sanfrancisco@scopecity.com). Check them out at <http://www.scopecity.com>

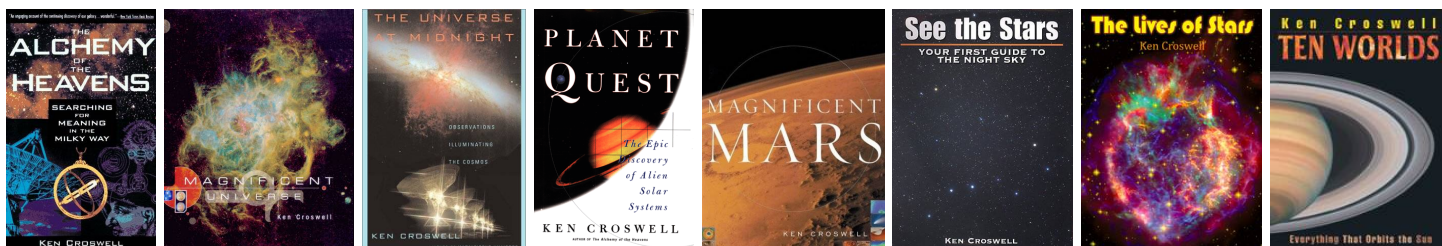


## General Meeting Notes – April 2, 2010

Over 50 people attended the General Meeting in the College of San Mateo, preceded by a social half-hour in which Ken Lum provided sandwiches and fresh fruit. President Ed Pieret made a few announcements about upcoming events (such as Star Parties and Jazz Under the Stars), and called for more volunteers to oversee exhibits to be displayed at the upcoming *Astronomy Day*, April 24<sup>th</sup> at CSM. If you can help, contact Ed or any Board member.

The speaker was the well know author of astronomy books, Dr. Ken Croswell. His topic was *The Lives of Stars*. He explained that only in the past century have astronomers figured out how stars are born, live, and die. Now we can use this knowledge to address the question: “Which stars near the Sun might have planets with intelligent life? “

Dr Croswell made signed copies of his books available for purchase after the meeting. These books are: *The Lives of Stars*, *Ten Worlds*, *The Alchemy of the Heavens*, *Planet Quest*, *Magnificent Universe*, *Magnificent Mars* and *See the Stars*.



---

## Project Astro Invitation for all SMCAS Members

### Increase Science Literacy: Share Your Love of Astronomy With Students




Partner with a local teacher to bring astronomy into a classroom and improve student understanding of science. Learn techniques to engage students and then visit a classroom four times over the next year. The time commitment is small and the effects can last a lifetime. Students love to have their “very own astronomer” and past participants claim they were treated like rock stars! Astronomy is a great way to inspire students and Project ASTRO gives you the tools to be effective in the classroom.

Find out more and apply online here: <http://www.astrosociety.org/baprojectastro.html>



## SMCAS

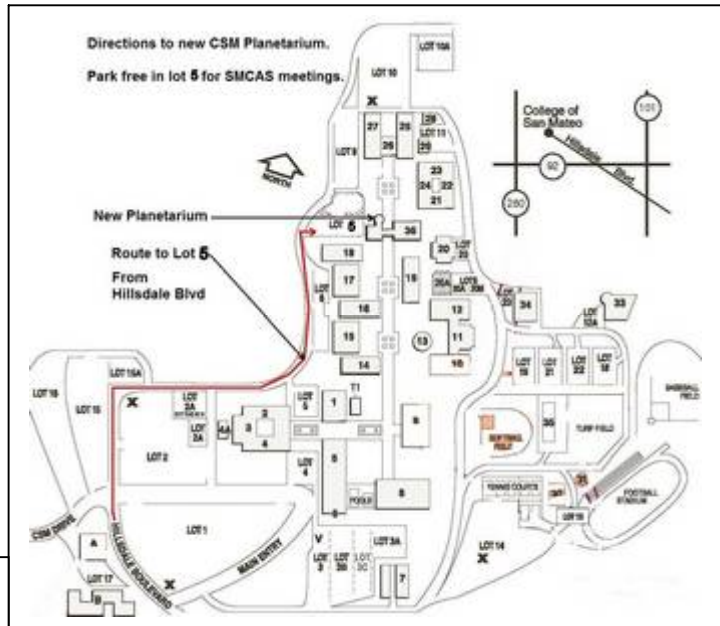
## May 2010

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2	3	4	5  Last Quarter 20:15 PT	6 National Space Day	7 SMCAS Meeting	8 Crestview Star Party
9 Mother's Day	10	11	12	13  New Moon 17:04 PT	14 "The Sky Tonight" Planetarium Show	15 Crestview Star Party
16	17	18 Thirty-year anniversary of eruption of Mount St. Helens.	19	20  First Quarter 15:43 PT	21	22 Jazz Under the Stars
23	24	25	26	27  Full Moon 15:07 PT	28	29
30	31					

<u>2010</u>		<u>May 8 Rise</u>	<u>May 8 Set</u>	<u>May 15 Rise</u>	<u>May 15 Set</u>
<b>Sun</b>		6:06 AM	8:05 PM	6:00 AM	8:11 PM
<b>Moon</b>		3:02 AM	3:10 PM	7:03 AM	10:25 PM
<b>Mercury</b>	Before sunrise	5:30 AM	6:44 PM	5:09 AM	6:16 PM
<b>Venus</b>	In the evening	7:41 AM	10:26 PM	7:47 AM	10:39 PM
<b>Mars</b>	In the evening	12:16 PM	2:17 AM	12:05 PM	1:58 AM
<b>Jupiter</b>	In the wee hours 9 PM, E on left	3:51 AM	3:38 PM	3:27 AM	3:17 PM
	Red spot transit	1:05 AM	on 9th	1:53 AM	on 16th
<b>Saturn</b>	Most of the night	3:44 PM	4:10 AM	3:15 PM	3:42 AM
<b>Uranus</b>	In the wee hours	3:59 AM	3:57 PM	3:32 AM	3:31 PM
<b>Neptune</b>	In the wee hours	2:40 AM	1:27 PM	2:13 AM	1:00 PM
<b>Pluto</b>	Late at night	11:18 PM	9:26 AM	10:50 PM	8:58 AM
<b>M 42</b>	In the evening	9:45 AM	9:19 PM	9:17 AM	8:52 PM

# ORIGINS OF OUR LOGO





### 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 Dues:** Membership annual dues are payable yearly, on your renewal date which is shown on your Event Horizon mailing label. See the back page of the Event Horizon for mailing instructions. Members who are over 3 months past due will be removed from the Event Horizon mailing list until their dues are paid. Members who are over 6 months past due will be removed from the active membership rolls. These members will not be eligible for club privileges but can retain membership in the Yahoo group. We will try to contact the members personally prior to making them inactive.

# 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, Bob Frommer, Ken Lum, Mike Ryan.

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

**Telephone:** Ed Pieret at (650) 862-9602



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