

# The SAN MATEO COUNTY ASTRONOMICAL SOCIETY

Feb, 2008 546th 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 normally held on the first Friday of the month, August through June.

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 a complimentary bulletin or additional information, call (650) 592-3192.

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## The Rivers of Mars, the Tides of Titan.

**(Unfortunately, most of the former are marked with Rio Secco signs, and the latter produce noxious odors.)**

Dr. Devon Burr is a SETI Institute Principal Investigator. Her specialty involves looking for places where life might exist, or might once have existed, on places like Mars, Titan, or the Starbucks in Mountain View. Some of the life signs she looks for are indications that there might be a liquid medium, such as water, liquid methane or soy-milk mocha half-caf latte. (The latter will only support life if wireless is also present.) To

find out more about the criteria for living in the solar system, or to improve your chances of finding a kindred soul of the opposite gender,

come to the ISC on  
**Friday February 1, at 7:30**

(See p 2 for directions.)

### **MONTHLY STAR PARTY**

**Crestview Park in San Carlos**

Please see directions on P. 2

**Sat., February 2**

Sunset: 5:34 PM

Moonrise: 4:07 AM

Moonset: 1:13 PM

Phase: 4 days after LQ

**Sat., February 9**

Sunset: 5:42 PM

Moonrise: 8:24 AM

Moonset: 8:49 PM

Phase: 3 days after new

### **This may be your last issue!**

Check your membership expiration date on the mailing label. If it's 04/07 or earlier, you will be removed from the mailing list unless your membership is renewed.



## ***ANNOUNCEMENTS***

### ***Mars Channels Real!***

***(You can still find "I Love Lucy" reruns on them, but "The X Files" was cancelled.)***

Although the canals that were once claimed to criss-cross the surface of Mars all turned out to be optical illusions, the ironic fact is that the Red Planet is riven by natural "channels" – the now-dry courses of running water. While clearly indicative of a watery past, these channels pose many questions about Mars' evolution and its potential for life. How much water would it have taken to make the canyons? Just what mechanism provoked these floods from within Mars' crust? Were Martian subsurface aquifers ever habitable, in the way aquifers are on Earth? And could sediment in these channels contain the fossilized remains of ancient life?

Geologist Devon Burr has a wide-ranging interest in potential sites for life nearby. In addition to studying the real "canals" on Mars, she also tries to identify places where there might be water ice just below this planet's dry, sandy surface. What would produce such near-surface ice? If there are sources of heat within the Martian interior that might cause occasional melting, would this be a good place to look for signs of life?

In addition to her Mars research, Devon is also interested in the geology of Titan, the largest moon of Saturn. Titan has a bitter cold landscape where rivers and lakes are filled not

with water but with liquid natural gas, and where organic compounds fall from the sky. For this researcher, one world is not enough.

Her awards include a Graduate Student Researcher Program fellowship, Fulbright fellowship, Iowa Fellow, and Distinguished Graduate of the United States Naval Academy. Her scientific papers have garnered "Best Student Presentation" and Outstanding Student Paper" honors.



*Dr. Devon Burr received her PhD. in Geosciences from the University of Arizona, Tucson, with a minor in planetary sciences. She has worked at the U.S. Geological Survey as a Eugene M. Shoemaker Fellow, as well as at the Los Alamos National Laboratory.*

### **Coming Speakers**

**March:** Dr. Peter Jenniskens, Principal Investigator, The SETI Institute. His topic: "Getting a Grip On Meteor Showers."

**May:** Dr. Jennifer Heldman, NASA. Her topic: "Shooting for the Moon."

## **From the Prez:**

Our monthly meeting is on Friday, February 1st. We have an excellent speaker from the SETI institute , Dr. Devon Burr. Dr. Burr is a SETI Institute Principal Investigator and the title of her talk will be “ The planetary habitability of Mars and Titan: a Geology Perspective”. This is a talk I won't miss and I would suggest that you don't miss it either. More information can be found at [http://www.smcas.com/events/february\\_1st\\_2008](http://www.smcas.com/events/february_1st_2008). Weather permitting, we will have a viewing opportunity in the observatory after the meeting

Our Crestview Star Parties will be on February 2 and February 8. If you are thinking of buying a telescope, would like help using a telescope you own or just want to get a chance to look through high quality amateur telescopes, this is the event for you. Club members will start setting up around sunset and observing will start at about 1 hour after sunset. Details can be found at [http://www.smcas.com/events/at\\_crestview\\_park/](http://www.smcas.com/events/at_crestview_park/).

On February 8<sup>th</sup> the public planetarium shows at CSM will resume. The new hybrid planetarium system will be in place for this show. Over the last few months, the planetarium has been filled to overflowing for these shows, and the new projectors will attract even larger crowds. SMCAS volunteers help with these shows both at the planetarium and the observing session afterward.

Jazz Under the Stars will be on February 16<sup>th</sup>. This is an event where member volunteers can help introduce the public to astronomy and help operate the Dobsonians and larger telescopes. At the January 19<sup>th</sup> event there were about 50 of the public that attended and both the public and volunteers got a chance to observe spectacular views through CSM's 20 inch telescope. If you are interesting tin volunteering, let me know. This is the ideal event to introduce young children to telescope viewing since it has much better lighting than Crestview.

Finally, there is going to be a total lunar eclipse on February 20<sup>th</sup>. This is a Wednesday evening but the eclipse is early with totality starting at 7:00PM. CSM and SMCAS are planning a joint event.

International Astronomy Day will be May 10<sup>th</sup> , 2008. As we did last year, we are planning to combine it with a Family Science Day sponsored by CSM.

**Ed Pieret, President - San Mateo County Astronomical Society**



## No Mars Rock Unturned

by Patrick L. Barry

Imagine someday taking a driving tour of the surface of Mars. You trail-blaze across a dusty valley floor, looking in amazement at the rocky, orange-brown hillsides and mountains all around. With each passing meter, you spy bizarre-looking rocks that no human has ever seen, and may never see again. Are they meteorites or bits of Martian crust? They beg to be photographed.

But on this tour, you can't whip out your camera and take on-the-spot close-ups of an especially interesting-looking rock. You have to wait for orders from headquarters back on Earth, and those orders won't arrive until tomorrow. By then, you probably will have already passed the rock. How frustrating!

That's essentially the predicament of the Spirit and Opportunity rovers, which are currently in their fourth year of exploring Mars. Mission scientists must wait overnight for the day's data to download from the rovers, and the rovers can't take high-res pictures of interesting rocks without explicit instructions to do so.

However, artificial intelligence software developed at JPL could soon turn the rovers into more-autonomous shutterbugs.

This software, called Autonomous Exploration for Gathering Increased Science (AEGIS), would search for interesting or unusual rocks using the rovers' low-resolution, black-and-white navigational cameras. Then, without waiting for instructions from Earth, AEGIS could direct the rovers' high-resolution cameras, spectrometers, and thermal imagers to gather data about the rocks of interest.

"Using AEGIS, the rovers could get science data that they would otherwise miss," says Rebecca Castaño, leader of the AEGIS project at JPL. The software builds on artificial intelligence technologies pioneered by NASA's Earth Observing-1 satellite (EO-1), one of a series of technology-testbed satellites developed by NASA's New Millennium Program.

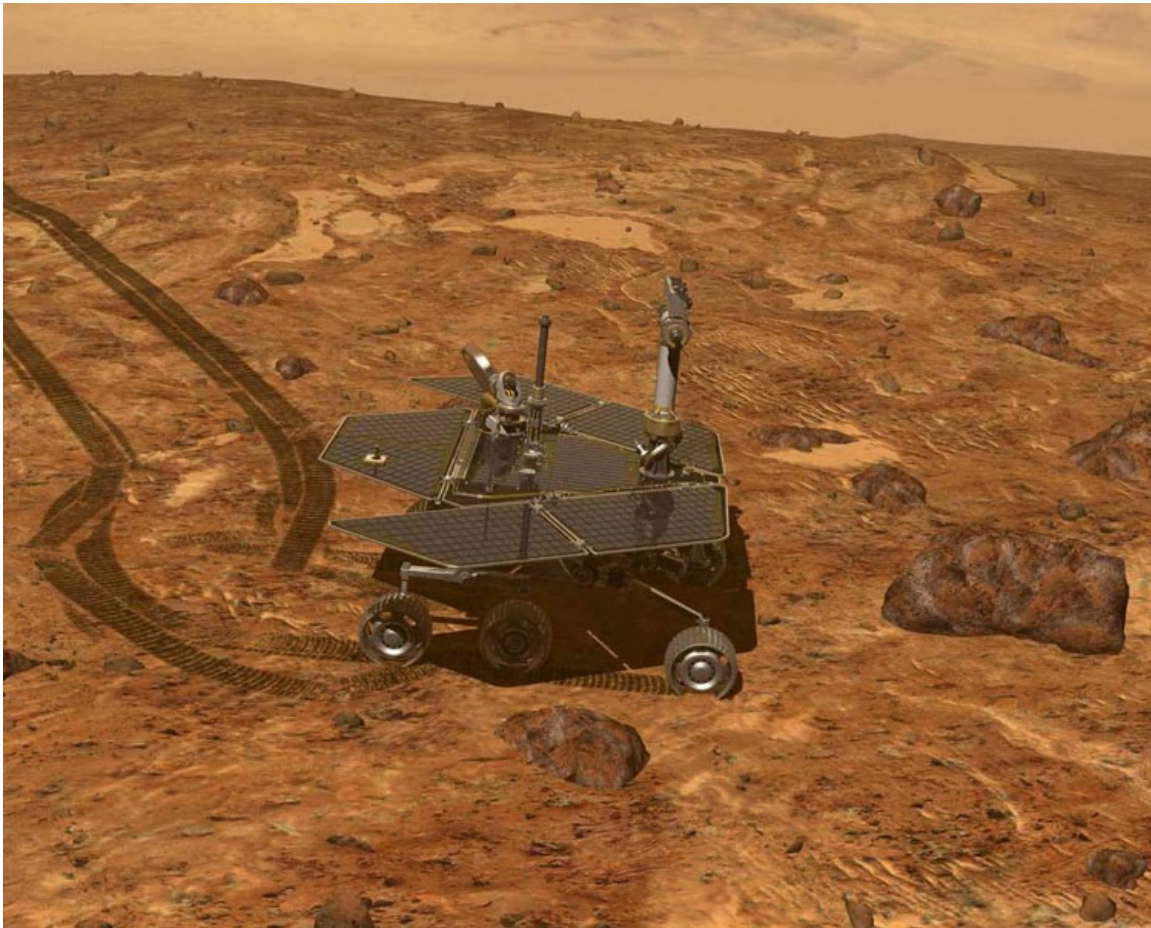
AEGIS identifies a rock as being interesting in one of two ways. Mission scientists can program AEGIS to look for rocks with certain traits, such as smoothness or roughness, bright or dark surfaces, or shapes that are rounded or flat.

In addition, AEGIS can single out rocks simply because they look unusual, which often means the rocks could tell scientists something new about Mars's present and past.

The software has been thoroughly tested, Castaño says, and now it must be integrated and tested with other flight software, then uploaded to the rovers on Mars. Once installed, she hopes, Spirit and Opportunity will leave no good Mars rock unturned.

Check out other ways that the Mars Rovers have been upgraded with artificial intelligence software at [nmp/TECHNOLOGY/infusion.html#sciencecraft](http://nmp/TECHNOLOGY/infusion.html#sciencecraft).

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



*Are these rocks of any scientific interest? With the new AEGIS software, the Mars Rovers, Spirit and Opportunity, will be able to judge for themselves whether a scene is worth a high-resolution image. (Artist's rendering.)*

## Is Time Travel Possible?

Every science fiction fan has pondered the weird implications of time travel. Can you travel into the future, find out the winning Super Lotto number--then come back and buy a ticket? Would doing so be cheating the laws of physics (to say nothing of ethics)? Astrophysicist Marc Rayman toys with such ideas in this Space Place Musings Podcast. Go to <http://spaceplace.jpl.nasa.gov/en/educators/podcast/> to subscribe to these Podcasts. Or listen now to this and the previous Podcasts on your computer or read the transcripts.

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 –January 4, 2008**

A general meeting of the members of the SMCAS was held in the Instructional Science Center (ISC) at the College of San Mateo at 7:30 p.m. There were approximately 10 attendees.

The majority of the board of directors were in attendance and a board meeting was combined with the general meeting. The following topics were covered:\

- The Treasurer, Bob Franklin reported that our finances were in good shape with no significant change of our bank balances over the last year.
- Ed Pieret discussed the status of a grant that CSM is requesting from the National Educational Administration. This grant is for public outreach in the sciences including Astronomy. The SMCAS board has been involved in structuring the grant and the club will be crucial to performing under it.
- The status of the volunteer program was discussed. So far 10 members have indicated their willingness to be contacted for events.
- Possible improvements for the website were discussed including more visibility of members. A suggestion was made to feature a Member of the Month.
- Astronomy day and the need to involve CSM in our plans was discussed.
- The planetarium projector installation was reviewed.
- Star party improvement were suggested:
  - Have a speaker or presentation before it gets dark
  - Conduct a telescope clinic
  - Have a single contact to determine if the event will be called for bad weather

The meeting was adjourned at about 8:30PM

San Mateo County  
Astronomical Society

# February 2008

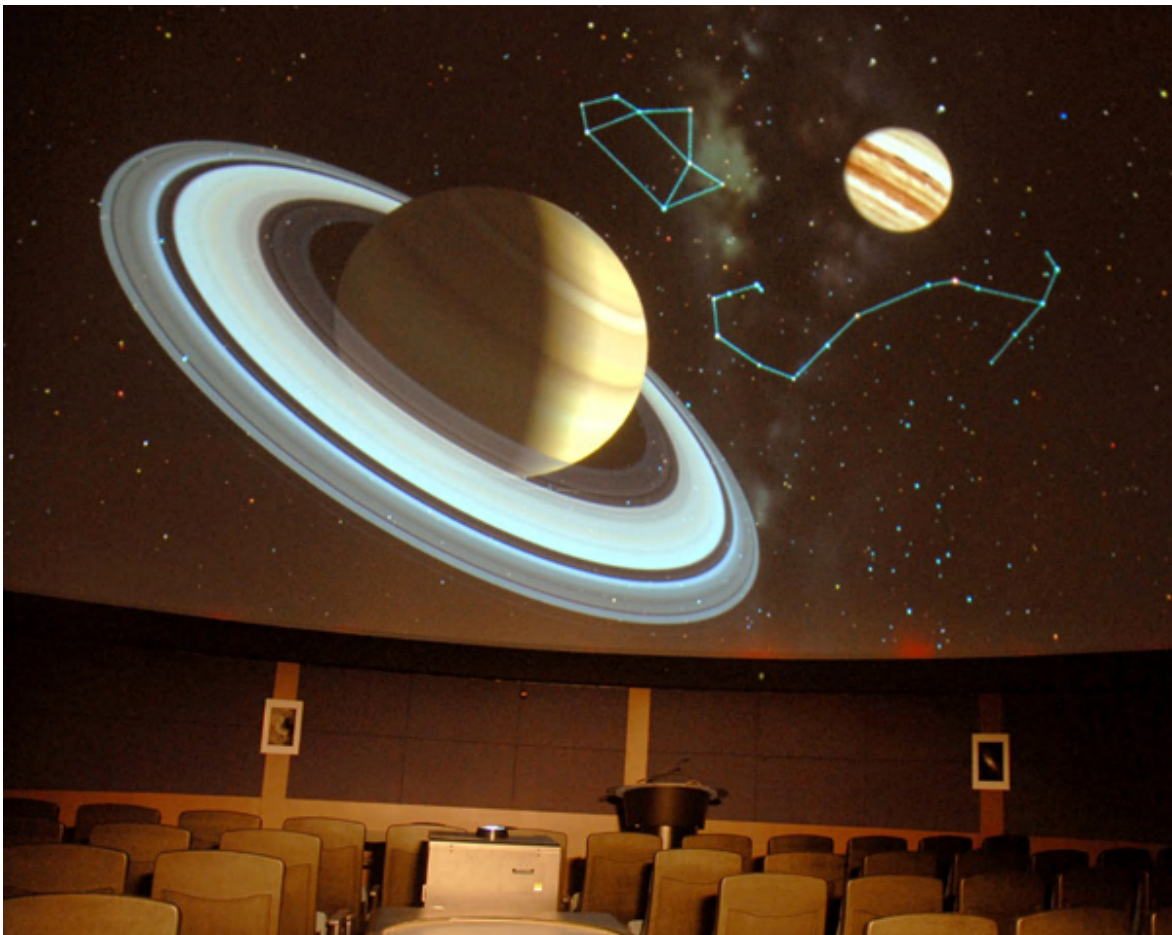
Pacific Standard  
Time

<i>Sunday</i>	<i>Monday</i>	<i>Tuesday</i>	<i>Wednesday</i>	<i>Thursday</i>	<i>Friday</i>	<i>Saturday</i>
					1 <b>SMCAS meeting!</b>	2 <b>Star Party @ Crestview</b>
		LQ 9:03 PM				
3	4	5	6	7	8 Planetarium show @ CSM. Alpha Centaurid meteors.	9 <b>Star Party @ Crestview!</b>
			NM 7:44 PM			
10	11	12	13	14	15	16 Jazz under the Stars at CSM.
			FQ 7:33 PM			
17	18	19	20 Total Eclipse of the Moon FM 7:29 PM	21	22	23
24 Saturn at opposition @ 1 AM.	25	26	27	28	29	
				LQ 6:19 PM		

<u>Object</u>		<u>Feb 2 Rise</u>	<u>Feb 2 Set</u>	<u>Feb 9 Rise</u>	<u>Feb 9 Set</u>
Sun		7:12 AM	5:34 PM	7:05 AM	5:42 PM
Moon		4:07 AM	1:13 PM	8:24 AM	8:49 PM
Mercury	In the sun's glare	7:19 AM	6:17 PM	6:26 AM	5:13 PM
Venus	Before sunrise	5:20 AM	3:01 PM	5:27 AM	3:13 PM
Mars	Much of the night	1:15 PM	4:25 AM	12:51 PM	3:59 AM
Jupiter	Before sunrise	5:14 AM	2:48 PM	4:53 AM	2:28 PM
	8 PM, E on left red spot transit		ic J e g 7:09 PM		i J e g c 7:58 PM
Saturn	Opposition!	7:19 PM	8:29 AM	6:49 PM	8:00 AM
Uranus	In the evening	8:44 AM	8:15 PM	8:17 AM	7:49 PM
Neptune	In the sun's glare	7:40 AM	6:11 PM	7:13 AM	5:45 PM
Pluto	Before sunrise	4:10 AM	2:25 PM	3:43 AM	1:58 PM
M42	Much of the night	3:00 PM	2:35 AM	2:33 PM	2:07 AM

Saturn is at opposition this month.-- RC

# It's ba-a-ack!!



The Chronos is being reinstated after the original unit was damaged by a flood. Watch for spectacular sky shows.

# Membership Application

To join the San Mateo County Astronomical Society, or to renew your membership please send \$25.00 dues (make check payable to "SMCAS") with this form to:

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

For information, call our CSM contact number (650) 574-6256, or the president at (650) 592-3192

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 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 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:** Helen Asker; **Treasurer:** Bob Franklin

**Board Members-At-Large:** Bob Frommer, Ken Lum, Mike Ryan., Marion Weiler, and John Fiske.

**Membership:** Hank Washauer. **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:** [SMACS\\_info@yahoo.com](mailto:SMACS_info@yahoo.com)

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

