

July, 2010 575th 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.

MYSTERY SPEAKER SOLVED!!

(It won't be Steven Hawking, Neil DeGrasse Tyson or General Stanley McChrystal (Ret.) It will be last month's no-show.)

Although there's no regular July meeting, your intrepid booking agent (aka Marion Weiler) has lined up Gordon Myers once again for our July Banquet event! Gordon will be discussing the fascinating history of variable stars. (Would that include the soon-to-be-retired general above? His star has notably faded in the last weeks.) Actually, his very interesting presentation will include descriptions of many objects we measure as variable stars, and will also describe the role the AAVSO has played since 1911 collecting data from around the globe and coordinating research with professionals. (For more detailed information, please see the website or look at the June issue of this newsletter.) For a really interesting and fun event, come to the banquet.

See flyer on page 2 and the reservation form on page 3.

Table of Contents:

Upcoming Events	1
Banquet Flyer	2
Reservation form	3
From the Prez	4
NASA Space Place	5-6
Meeting Notes	7
Calendar	8
Directions & Map	9
Membership Application	10



SMCAS – Serving San Mateo County for 50 years

MONTHLY STAR PARTIES

**Crestview Park in San Carlos
Saturday July 3 and 10**

See page 9 for directions
See page 8 bottom of calendar for rise & set times



2010 SMCAS ANNUAL INSTALLATION OF OFFICERS BANQUET



Saturday, July 24th

The evening will start with no-host cocktails & appetizers at 6:00 p.m., dinner at 7:00. Our speaker will start at approximately 8:15PM.

Members who cannot attend the banquet are invited to come at 8:15 for the speaker.

Please see the next page for reservations

Speaker: Gordon Myers

"The Weird World of Cataclysmic Variable Stars"

Place: [Waterfront Restaurant](#), #One Uccelli Boulevard, Redwood City



2010 S.M.C.A.S. 50th ANNIVERSARY INSTALLATION OF OFFICERS BANQUET

All members, interested non-members, their families and friends, are invited to our Society's 50th anniversary Installation of Officers ceremony, and accompanying banquet dinner. We've made every effort to keep the dinners affordable, and to offer selections with broad appeal.

Date/time: Saturday, July 24th; No-host cocktails & appetizers at 6:00 p.m., dinner at 7:00.

Place: Waterfront Restaurant, #One Uccelli Boulevard, Redwood City
(There's a map on their website at <http://www.waterfrontwc.com>)

Come early to mix and mingle, to enjoy the view, appetizers and the company of fellow astronomers! Bring a favorite book, gadget, telescope, etc. for show & tell. Those not able to attend the dinner are invited, without charge, to attend the speaker's program, at about 8:15 p.m.

Entree choices are shown below. Meals will come with a salad, with potatoes, rice or pasta, with vegetables, bread & butter, dessert, coffee/decaf, or hot tea. Tax and tip are included in the price. Wine may be ordered for the table, at \$20.00 or \$24.00 a bottle, depending upon the type of wine.

- | | |
|------------------------------------|--------------------------------------|
| Linguini (Pasta) Primavera \$16.95 | Chicken Marsala (w Potatoes) \$21.95 |
| Salmon Piccata (w Rice) \$24.95 | New York Steak (w Potatoes) \$26.95 |

If you have dietary restrictions or questions, call Mike Ryan at (650) 592-3192 or email him at jmraastro@yahoo.com. Whole meals (entree, drink, dessert, tax & tip) for children under 13 are available off the kid's menu (hamburger, hot dog, pizza, mac 'n cheese, etc) for under \$10.00.

Please reserve a spot if you are going to attend. Use this form to pay in advance. If you wish to pay at the door (cash or check only) you can reserve by calling the number above or sending an email to SMCAS@live.com.

_____	_____	\$ _____
Name	Entree choice	Cost
_____	_____	\$ _____
Name	Entree choice	Cost
_____	_____	\$ _____
Name	Entree choice	Cost
_____	_____	\$ _____
Name	Entree choice	Cost
Total Amount of Check Enclosed.....		\$ _____
		Total Cost

Please fill this form and mail with check to: SMCAS, P.O. Box 974, Station A, San Mateo, CA 94403

From the Prez:

As the summer wears on, SMCAS may not have regular meetings but the club continues to be active.

Of course, we have our annual Banquet on July 25. You will find a lot more information about the banquet in this issue along with signup sheets.

We will continue to participate in the CSM Astronomy events in July. There will be a Planetarium show on July 8th and Jazz Under the Stars is scheduled for July 17.

Crestview Star Parties will also continue during the summer. This month they will be on the July 3 and 10.

If you never attended one of these events, this month is an ideal time to do so. Viewing doesn't start until about 9:30PM so there is plenty of time to have dinner and complete other early evening activities.

The summer sky holds some dramatic constellations such as Scorpius and Sagittarius. The Milky Way can be seen from Crestview with the unaided eye during the summer so it is worth a trip, especially if you have never seen the edge of our galaxy. July is also the last good chance to see Saturn before it is lost in the glare of the Sun for six months.

If you want to learn about telescopes, find out about different brands and designs, get help with a telescope you own, or just kibitz with the active astronomers in our club come at sunset - around 8:30PM. If all you want is to see planets, nebulae and star formations, come about an hour after sunset. You can find sunset times at the top of our homepage, <http://www.smcas.com>.

Crestview Park is in San Carlos. It is off Crestview Drive just north of the intersection with Britton. You can find directions on our website at http://www.smcas.com/events/directions/crestview_park/.

If you are coming after dark, please park on the street and walk into the park so that your car lights don't ruin the astronomers night vision.

Even though the weather might be warm during the day, it is wise to bring jackets for everyone in your party. Please leave your flashlights at home - you really don't need them if you let your eyes adapt to the darkness.

You, your family and your neighbors are always very welcome at the Crestview Star Parties. The astronomers in the club love to share what they see in the night.

I hope to see all of you at the banquet and at Crestview Park.

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



Black Holes No Joke

by Dr. Tony Phillips

Kip Thorne: Why was the black hole hungry?

Stephen Hawking: It had a light breakfast!

Black hole humor—you gotta love it. Unless you're an astronomer, that is. Black holes are among the most mysterious and influential objects in the cosmos, yet astronomers cannot see into them, frustrating their attempts to make progress in fields ranging from extreme gravity to cosmic evolution.

How *do* you observe an object that eats light for breakfast?

"Black holes are creatures of gravity," says physicist Marco Cavaglia of the University of Mississippi. "So we have to use gravitational waves to explore them."

Enter LIGO—the NSF-funded Laser Interferometer Gravitational-wave Observatory. According to Einstein's Theory of General Relativity, black holes and other massive objects can emit gravitational waves—ripples in the fabric of space-time that travel through the cosmos. LIGO was founded in the 1990s with stations in Washington state and Louisiana to detect these waves as they pass by Earth.

"The principle is simple," says Cavaglia, a member of the LIGO team. "Each LIGO detector is an L-shaped ultra-high vacuum system with arms four kilometers long. We use lasers to precisely measure changes in the length of the arms, which stretch or contract when a gravitational wave passes by."

Just one problem: Gravitational waves are so weak, they change the length of each detector by just 0.001 times the width of a proton! "It is a difficult measurement," allows Cavaglia.

Seismic activity, thunderstorms, ocean waves, even a truck driving by the observatory can overwhelm the effect of a genuine gravitational wave. Figuring out how to isolate LIGO from so much terrestrial noise has been a major undertaking, but after years of work the LIGO team has done it. Since 2006, LIGO has been ready to detect gravitational waves coming from spinning black holes, supernovas, and colliding neutron stars anywhere within about 30 million light years of Earth.

So far the results are ... nil. Researchers working at dozens of collaborating institutions have yet to report a definite detection.

Does this mean Einstein was wrong? Cavaglia doesn't think so. "Einstein was probably right, as usual," he says. "We just need more sensitivity. Right now LIGO can only detect events in our little corner of the Universe. To succeed, LIGO needs to expand its range."

So, later this year LIGO will be shut down so researchers can begin work on Advanced LIGO—a next generation detector 10 times more sensitive than its predecessor. "We'll be monitoring a volume of space a thousand times greater than before," says Cavaglia. "This will transform LIGO into a real observational tool."

When Advanced LIGO is completed in 2014 or so, the inner workings of black holes could finally be revealed. The punchline may yet make astronomers smile. Find out more about LIGO at <http://www.ligo.caltech.edu/>. The Space Place has a LIGO explanation for kids (of all ages) at <http://spaceplace.nasa.gov/en/kids/ligo>, where you can "hear" a star and a black hole colliding!

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



Laser Interferometer Gravitational-wave Observatory in Livingston, Louisiana. Each of the two arms is 4 kilometers long. LIGO has another such observatory in Hanford, Washington.

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. Check them out at <http://www.scopecity.com>



General Meeting Notes – June 4, 2010

Twenty six people attended the General Meeting in the College of San Mateo Planetarium, preceded by a social half-hour fueled by two kinds of pizza, coffee, other beverages, and cookies. President Ed Pieret made a few announcements about upcoming events (Star Parties, Jazz Under the Stars, and the next *Astronomy Day*, October 16th at CSM).

- ❑ The Annual Banquet will be on July 24th at the Waterfront Restaurant ... usual location.
- ❑ The Hidden Villa Starbeque will be on August 7th, a joint star party with the Peninsula Astronomical Society, and featuring the Astro Wizard, Dave Rodrigues.
- ❑ No General Meetings in July or August. The next General Meeting will be on September 3rd.
- ❑ The current Officers and at-large Board members (with one exception) were re-elected for another year. It seemed that nobody else wanted to serve, which the Board members regret. President: Ed Pieret. Vice President: Chanan Greenberg. Secretary: John Fiske. Treasurer: Marion Weiler. At-Large Board members: Ken Lum, Mike Ryan, Bob Frommer, Bob Franklin, and Bill Schlander (filling a Board vacancy).





After the Meeting, the scheduled speaker couldn't make it, so Professor Darryl Stanford gave us another wonderful tour of the skies in the marvelous CSM Planetarium. Thank-you Darryl!!



SMCAS ANNUAL INSTALLATION OF OFFICERS BANQUET

SMCAS

July 2010

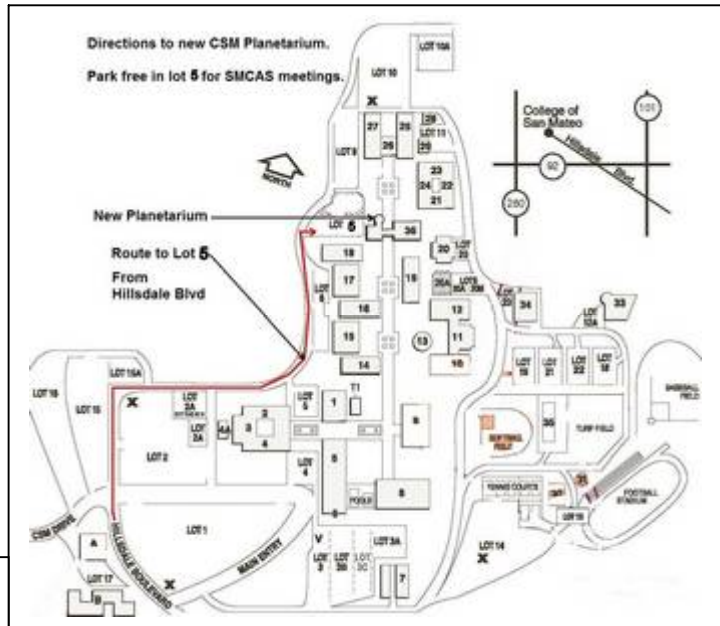
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3 Crestview Star Party
4  Last Quarter 06:35 PT	5	6	7	8	9 "The Sky Tonight" Planetarium Show	10 Crestview Star Party
11  New Moon 11:40 PT	12	13	14	15	16	17 Jazz Under the Stars
18  First Quarter 02:11 PT	19	20	21	22	23	24 SMCAS Annual Banquet
25  Full Moon 17:37 PT	26	27	28	29	30	31

2010

Sun Farthest on 6th
 Moon
 Mercury Before sunrise
 Venus In the evening
 Mars In the evening
 Jupiter In the wee hours
 9 PM, E on left
 Red spot transit
 Saturn Much of the night
 Uranus In the wee hours
 Neptune In the wee hours
 Pluto Much of the night

Jul 3 RiseJul 3 SetJul 10 RiseJul 10 Set

5:53 AM 8:34 PM 5:57 AM 8:32 PM
 11:54 PM on 2nd 12:43 PM 4:35 AM 7:50 PM
 6:21 AM 9:04 PM 7:03 AM 9:27 PM
 9:12 AM 10:55 PM 9:24 AM 10:48 PM
 11:01 AM 11:49 PM 10:53 AM 11:31 PM
 12:30 AM 12:33 PM 12:04 AM 12:08 PM
 c J e i g J e c i g
 9:30 PM 10:16 PM
 12:07 PM 12:30 AM 11:42 AM 12:04 AM
 12:22 AM 12:23 PM 11:55 PM 11:56 AM
 11:00 PM 9:46 AM 10:32 PM 9:18 AM
 7:33 PM 5:40 AM 7:05 PM 5:12 AM



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

Telephone: Ed Pieret at (650) 862-9602



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