FIRST LIGHT

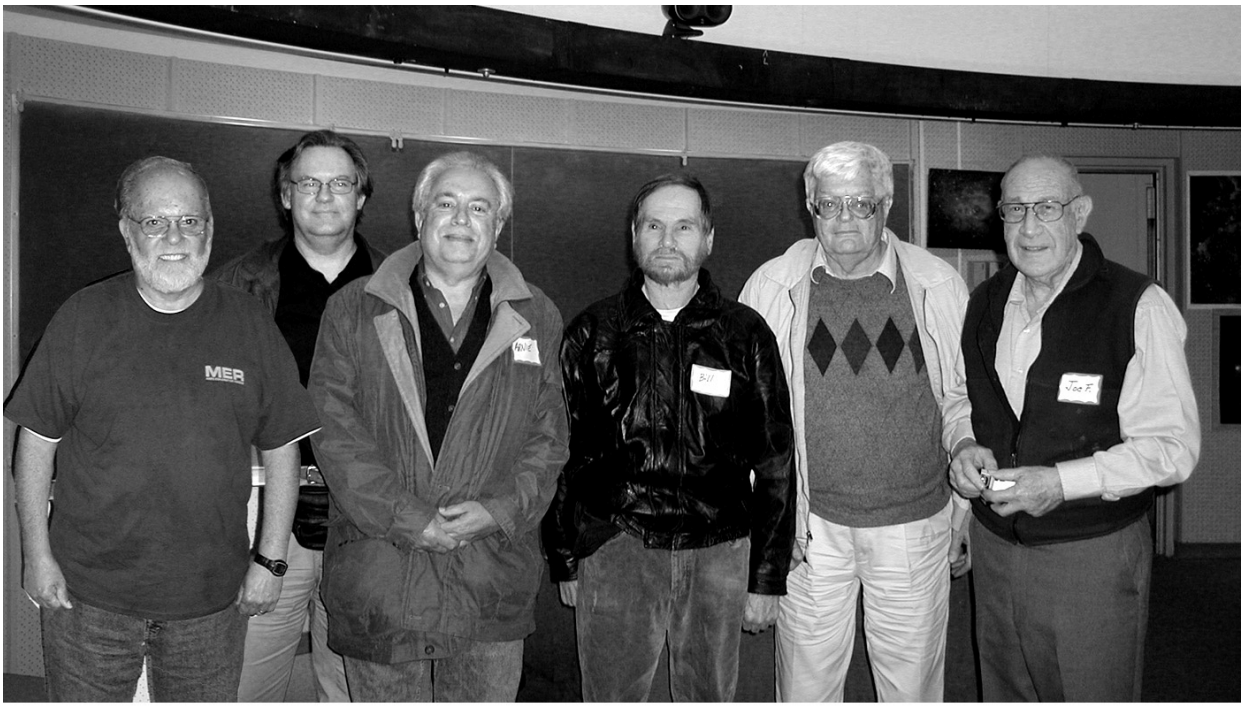
Journal of the South Bay Astronomical Society – April 2007
on line at www.geocities.com/sbas_elcamino

Monthly General Meeting: Friday, Aril 6th, 7:30 PM

Guest Speaker: Dr. Stephen Edberg, JPL

"SIM PlanetQuest: Exploring the Universe with High Precision"

Members Honored for Outreach Efforts



Joe Fierstein presents NSN Awards to:
Ray Grace; Ken Munson. Arnie Stodolsky; Bill Eisele;
& Jacques Linder
For help with our outreach program.
Other recipients not present were :
Ron Rennie & Nora De Muth

The March 2 Meeting

President Ken Rossi opened the meeting at 7:35 by asking if there were any newcomers present, and Joel, Greg, Bob, and Andre and his parents introduced themselves. Ken described the recent outreach events of the SBAS and the events to be held in the next few weeks, including a Messier Marathon at Red Rock. He also encouraged the 45 people present to renew their membership, and to suggest speakers for our monthly meetings. A discussion ensued about whether or not the First Light should be distributed electronically as a Web page rather than as an e-mail attachment, and it was decided that the Executive should take a close look at the available options. Mona Delitsky distributed copies of her most recent Science Newsletter.

After a fifteen-minute social break, President Rossi noted that in the last couple of years, the El Camino Planetarium has had a new planetarium projector installed, and the lighting and audio systems have been upgraded. Ken commended the College for its willingness to support its astronomy program with such upkeep and improvements, with the audience applauding his sentiments.

Ken then introduced the evening's speaker, Dr. Nicholas Gessler, an anthropology professor at UCLA who spoke about "Collecting Meteorites". He began by pointing out that decades ago, meteorite collectors found that dry lake beds could be a rich source of meteorites. Often, there would be no other sources of rocks in the area, and the flatness and lack of vegetation improved one's chances of finding even small meteorites. Also, some beds could be particularly rich if a meteorite had broken apart overhead and left a field of fragments, or if the dry lake bed was eroding and previously-buried meteorites were being exposed on the surface.

Most meteorites come from the main asteroid belt between Mars and Jupiter. The carbonaceous chondrites are meteorites that come from asteroids that had not undergone much geological evolution, and are particularly valuable as a source of information about the original composition of our Solar System soon after it formed. Other meteorites come from larger asteroids, which had interiors hot enough to melt and permit the asteroid to differentiate, with the denser metallic materials forming a core surrounded by less-dense rock. The iron meteorites come from the cores of these asteroids after they were broken apart by collisions, and the achondrites come from the rocky crust.

Over the course of 5,000 man-hours of searching by Dr. Gessler and his friends and family, an impressive 2,000 meteorites have been collected. He went over the process of how you could go about finding meteorites on your own (after apologizing for helping to pick clean the dry lake beds of southern California!) and how to officially register any find that you make. As an aside, he pointed out that one sometimes finds tracks of rocks that have slid across the ground for many meters, and suggested that icy surfaces on the rocks and ground during the wintertime are the likeliest cause.

Dr. Gessler mentioned that a few meteorites apparently came from the Moon and Mars, having been blasted into orbit by the fall of meteorites on those celestial bodies. Steven Morris pointed out that at the Griffith Observatory, two such meteorites are on display side by side; visitors can touch a piece of the Moon and a piece of Mars at the same time. Several other audience members asked questions or contributed comments as well, and then President Rossi brought the meeting to a close at 9:40. Dr. Gessler brought a wide assortment of meteorites with him, and many members lingered to examine and hold these wonderful objects, and ask more questions.

- Dr. Steven Morris

Early Bird Gets the Worm or "Black Hole Breakfast"

by Dr. Tony Phillips

We all know that birds eat worms. Every day, millions of birds eat millions of worms. It's going on all around you! But how often have you awakened in the morning, stalked out in the dewy grass, and actually seen a bird having breakfast? Even though we know it happens all the time, a bird gulping a worm is a rare sight.

Just like a black hole gulping a star…

Every day in the Universe, millions of stars fall into millions of black holes. And that's bad news for the stars. Black holes exert terrible tides, and stars that come too close are literally ripped apart as they fall into the gullet of the

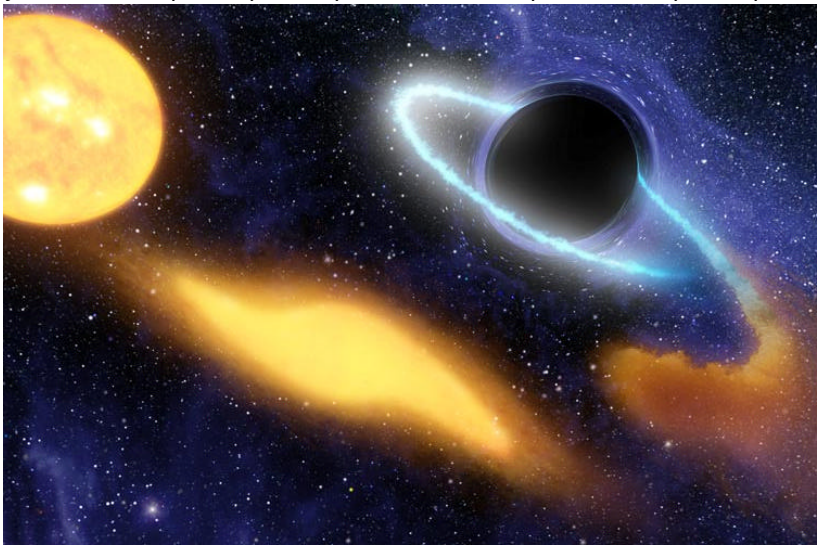
monster. A long burp of X-rays and ultraviolet radiation signals the meal for all to see.

Yet astronomers rarely catch a black hole in the act. "It's like the problem of the bird and the worm," says astronomer Christopher Martin of Caltech. "You have to be in the right place at the right time, looking in the right direction and paying attention."

A great place to look is deep in the cores of galaxies. Most galaxies have massive black holes sitting in their pinwheel centers, with dense swarms of stars all around. An occasional meal is inevitable.

A group of astronomers led by Suvi Gezari of Caltech recently surveyed more than 10,000 galactic cores—and they caught one! In a distant, unnamed elliptical galaxy, a star fell into a central black hole and "burped" a blast of ultraviolet radiation.

"We detected the blast using the Galaxy Evolution Explorer (GALEX), an ultraviolet space telescope," explains Gezari. Her team reported the observation in the December 2006 issue of The Astrophysical Journal Letters. "Other telescopes have seen black holes devouring stars before," she adds, "but this is the first time we have been able to watch the process from beginning to end."



In this artist's concept, a giant black hole is caught devouring a star that ventured too close.

The meal began about two years ago. After the initial blast, radiation diminished as the black hole slowly consumed the star. GALEX has monitored the process throughout. Additional data from the Chandra X-ray Observatory, the Canada-France-Hawaii Telescope and the Keck Telescope in Hawaii helped Gezari's team chronicle the event in multiple wavelengths

Studying the process in its entirety "helps us understand how black holes feed and grow in their host galaxies," notes Martin.

One down, millions to go.

"Now that we know we can observe these events with ultraviolet light," says Gezari, "we've got a new tool for finding more."

For more on this and other findings of GALEX, see www.galex.caltech.edu. For help explaining black holes to kids, visit The Space Place at spaceplace.nasa.gov.

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

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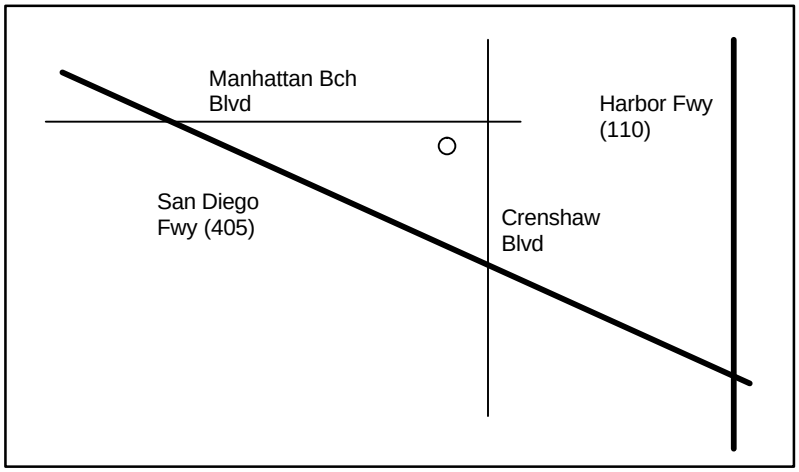
Monthly General Meetings



We normally meet on the first Friday of each month at 7:30 p.m. in the Planetarium at El

Camino College. If the first Friday is on or close to a holiday, we usually defer the meeting until the second Friday of the month.

The Planetarium is on the south side of Manhattan Beach Blvd., one block west of Crenshaw Blvd. (near the center of the map at left).

The planetarium is the only round, domed building on campus. There is on-street parking, and we can often use campus parking: check inside to see if you need a FREE parking permit for your car.

We enjoy the planetarium facilities through the courtesy of the El Camino College Administration, and have several faculty members of the Astronomy Department as members of our Club. Our meetings always include an informal opening, when new attendees are invited to introduce themselves and let us know about their interests in astronomy. Members share their latest news and observations at this time. The rest of the evening is devoted to guest speakers, who range from amateur astronomers to professional astronomers to representatives from local aerospace companies to college professors. We are fortunate to have all these talented people in our area, willing to come and talk to us.

Monthly Planning Meeting

Committee members (and anyone else with an interest in Society activities) meet each month, usually on the Monday following the general meeting. Meetings are sometimes rescheduled due to travel and other circumstances. Exact date and time of each month's meeting will be announced in the schedule of events in FIRST LIGHT each month, and should also be verified with a committee member. The March 5th planning meeting will be held at 7:30 PM at the home of Joe & Miriam Fierstein. Take Hawthorne Blvd. south past Pacific Coast Hwy. up the hill passing Silver Spur Rd. and Highridge until you get to the light at Eddinghill Dr., then turn right and go downhill to the 'T' intersection at Golden Meadow where you turn left up 2 blocks and turn left on Willow Tree Dr. to 3rd house on the right side from the corner – 7022 Willow Tree Dr., Rancho Palos Verdes.

NexStar 8 Available to SBAS Members

All members in good standing (with at least six months of continuous membership) can borrow the club's Nexstar8 for up to 7 days. The fee of $5 for a weekend, or $10 for an entire week, is nonrefundable and will be added to the club's Accessories Fund "Wish List" for future purchases. A fully refundable deposit of $200 cash or check is

required. Loss or damage is the responsibility of the borrower. A copy of the complete South Bay Astronomical Society Nexstar 8 Borrowing Rules and Agreement is available upon request. The **Accessories Fund "Wish List"** – Member contributions of any amount or donations will be appreciated, as will any suggestions for new purchases!

SBAS Membership Benefits

Contact Arnie Stodolsky for magazine subscriptions at club rates: "Sky & Telescope" $32.95 and "Astronomy" $34.00/1 year or $60.00/2 years! Make your check payable to SBAS and mail the payment and your subscription / renewal form directly to South Bay Astronomical Society, P.O. Box 1937, Redondo Beach, CA 90278.

Part of your SBAS membership dues goes toward membership in the Astronomical League. All paid members should be receiving the "Reflector", the league's newsletter, four times a year. As a member organization, we can participate in a number of award programs they offer. These are based on completing various observing challenges. Check out the Astronomical League website at www.astroleague.org.

April – Comets & Asteroids

Comets Visible in April:

Comet	Mag	Constellation(s)
Macholz (96P)	5.7 – 11.1	Cet-Psc-Peg
Lovejoy (2007 C2)	~10	Sgr-Aql-Her-Lyr

Asteroid Occultations:

Local Time Date	h	m	Durn m/sec	Star mag	Mag drop	Star No.	Planet No	Alt Name
30-Mar-07	20	19.3	1.8s	10.1	7.7	TYC 2441-01204-1u	12003	Hideosugai
04-Apr-07	0	51.3	1.7s	10.7	5.5	TYC 0751-01488-1u	801	Helwerthia
25-Apr-07	22	50.1	1.1s	10.6	5.4	TYC 1357-00653-1u	1903	Adzhimushkaj
28-Apr-07	1	41.5	6.4s	11.2	2.9	TYC 6738-01085-1u	373	Melusina
04-May-07	0	17.8	6.4s	8.4	5.9	HIP 79734	1424	Sundmania

Planetary Occultations:

Local Time Date	h	m	Durn m/sec	Star mag	Mag drop	Star No.	Planet Name
26-Apr-07	19	52.4	340s	7.4	0	HIP 23550	Venus

Check the JPL Ephemeris Generator page for coordinates of these objects at:
http://ssd.jpl.nasa.gov/horizons.cgi#top

Observing Reports

Ridgecrest – We were visited by a group of 3rd grade students and parents from the Silver Spur School. There may have been some 20+ students and parents. SBAS members that were present that night were Greg Benecke, Steve Pedersen, Michael Harrison, Edward Bashay and his mother, Dennis Robertson, Jacques Linder, Jim Madison, Joe Fierstein, Ken Lehmer, Arnie Stodolsky, Freddie Limas and son, Tim Moore and Shawn Belveal. The night was fairly clear with steady seeing. Some of the objects viewed were: C39, the Blue Snowball Nebula, M42, M43, M44, M45, M46, M47, M31, M34, M79, M78, M93, M103, M35, M36, M37, M38, M67, and M104.

- Ken Rossi

Redrock/Inyokern – On Saturday the 17th, Greg Benecke, Craig Gates, Steve Lindsey, Ken Rossi and his son, Christian, Tim Moore, Joe Fierstein, Dennis Robertson, and I made the trek out to the Redrock/Inyokern Road site for the annual Messier Marathon. The weather conditions were less than ideal. Although the day was warm and the night never got colder than about 60 degrees, the wind never stopped blowing. Although it wasn't blowing a lot of dust around, there was a fine power that was being kicked up. Not to mention the unusually thick marine layer that reached up to about 4000 feet or so. The two effects combined to make viewing much less than desirable. Stars were often reduced to fuzzy dots and it was not worthwhile to increase magnification at all.

Before the sun set, Greg, Ken Rossi and Joe Fierstein made a little trip further down the road to where Larry Kinney had set up shop. Larry was out with his home built Dob. As Greg reported it was a beautifully crafted, wooden tube Dobsonian with a 6-inch mirror crafted at the El Camino Optics Lab. The wooden tube was an octagon. Each of the 8 panels making up the tube was joined at 45 degrees with full length wooden spines. Larry was urged to enter it in the competition at RTMC next spring.

In spite of the atmospheric conditions, I proceeded with the Messier Marathon, managing to get at least 108 of the objects before the sun came up. M74 was only a 'maybe' in the evening twilight and M30 was lost in the sunrise. Of course getting that many objects is quite easy with a goto telescope but, being a fussy type, I insisted on a definite identification of each object by noting the star patterns around them. Ken Rossi was able to get 45 Messier Objects by star hopping and another 26 by using his scope's computer locator, for a total of 71 objects. That was a major improvement over the 38 items that he was able to locate the firs time he tried the Messier Marathon.

Having a goto telescope allowed me extra time for finding other interesting objects during the night. I spent a good portion of the night looking up some rather obscure Arp galaxies (Arp galaxies are peculiar for either being colliding galaxies or having active nuclei). Arp 123 was especially interesting in that it was a nearly edge-on disk with a large, spherical companion galaxy. The positioning of the two made it look rather like a flying saucer from a 1950's B-movie! Other sets of colliding galaxies I examined were the Antenna Galaxies in Corvus and the Siamese Twins in Virgo. I was even able to identify a quasar for the first time. Although not the most distant quasar visible to a small scope, it was nice to finally see one of these highly energetic objects.

There was an occultation by Pluto during the night, between 3:30 and 4:00 AM. However, the sky conditions were so bad I couldn't positively identify faint 14th magnitude Pluto or the 14th magnitude star it was supposed to pass in front of.

Although the sky conditions were terrible, I did manage to at least get a look at some planets. No real detail could be seen as they were reduced to watery blobs but it was nice to at least catch a glimpse of Saturn, Jupiter, Mars and even little Mercury. With that the morning sun called an end to the night's festivities and I packed up and headed for home.

- Ken Munson

Schedule of Coming Events

6 April Friday Night 7:30 PM	**Monthly General Meeting** Speaker: Dr. Stephen Edberg, JPL Topic: SIM PlanetQuest: Exploring the Universe with High Precision
9 April Monday Night 7:30 PM	**Monthly Planning Meeting** Location: See Page 6.
12 April Thursday Evening	**Von Kármán Auditorium (Thursday) & Vosloh Forum at Pasadena City College (Friday)** "Hot Topic, Cool Science: The Greenhouse Effect and the Orbiting Carbon Observatory" Dr. Charles Miller. The year 2005 saw atmospheric carbon dioxide climb to its highest level in the last 500,000 years - raising concerns about increased greenhouse forcing of Earth's climate. NASA Orbiting Carbon Observatory mission will address these concerns by collecting precise global measurements of carbon dioxide in Earth's atmosphere and revolutionizing our understanding of the global carbon cycle.
14 April Saturday Evening	**Out of Town Dark Sky Observing Session** Contact Greg Benecke to coordinate a location.
21 April Saturday Evening	**In Town Dark Sky Observing Session –** Weather Permitting**:** Please contact Greg Benecke to confirm that the gate will be opened! Take Hawthorne Blvd. south across Pacific Coast Hwy.; continue up the hill past Silver Spur and turn left at Highridge. Go one mile and turn left on Whitley Collins, up one block and turn left on Northbay Rd., the new parking lot is at the end on the left. Enter parking lot and turn left, the gate is at the east end (it should be open about 15 minutes before sunset) and a paved road leading into the playground where we have traditionally set up. If at all possible, drop your equipment off and park your car in the new parking lot (less than 200 feet away). If you are absolutely certain that your vehicle does not drip anything you can park with your equipment. *Drive with care* to avoid steel pillars supporting basketball nets**. Note: If you a visitor, not bringing a scope, it is requested that you park in the small parking lot on Northbay Rd.**
22 April Sunday	**Lyrids Meteor Shower Peak** Counts typically range from 5 to 20 meteors per hour. Observers in the country will see more, observers in the city less.

South Bay Astronomical Society

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General Meeting at El Camino College Planetarium:
Friday, April 6th at 7:30 P.M.

Guest Speaker: Dr. Stephen Edberg, JPL

"SIM PlanetQuest: Exploring the Universe with High Precision"

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South Bay Astronomical Society
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