

★ ABOVE THE FOG

• BULLETIN OF THE SAN FRANCISCO AMATEUR ASTRONOMERS •

Vol . 54, No. 9 – September 2006

September 20, 2006 – General Meeting

Randall Museum . 199 Museum Way . San Francisco

7:00 pm doors open . 7:30 pm announcements . 8:00 pm speaker

DR. SCOTT SANDFORD, NASA Ames Research Center

STARDUST: A SUCCESSFUL SAMPLE RETURN MISSION TO A COMET



The STARDUST Mission has recently completed a successful attempt to capture a sample from a comet and return it to Earth for study. The spacecraft was launched in 1999 and on January 2, 2004 it made a close flyby (236 km) of the nucleus of a comet - Comet Wild 2. During the flyby the spacecraft collected samples of dust from the coma of the comet. These samples were returned to Earth on January 15, 2006, where they landed in the Utah Test and Training Range. These samples are receiving a preliminary examination to establish the basic nature of the returned samples, after which they will be made available to the general worldwide scientific community for study.

The speaker is one of the original Co-Investigators and Science Team members of the STARDUST mission and was on the team that recovered the Sample Return Capsule from the Utah desert. He also escorted the capsule to NASA-Johnson Space Center and assisted

with the removal of the samples from the capsule. He is now leading one of the Preliminary Examination Teams. His team is tasked with studying the organic materials in the returned samples.

The talk will begin with a brief overview of the scientific goals of the STARDUST mission and the mission's design and flight history. Images (and anecdotes) from the Sample Return Capsule recovery, transportation, and opening will then be shared. Finally, the talk will end with a summary of the exciting preliminary findings obtained from the returned comet samples.

Dr. Scott Sandford is a member of the Astrophysics Branch at NASA's Ames Research Center where he is a senior member of Ames' Astrochemistry Laboratory. He has extensive experience in the fields of infrared astronomy and spectroscopy, laboratory astrochemistry, and meteoritics. He has participated in 3 ANSMET expeditions to Antarctica to collect meteorites and did his thesis work on cometary and asteroidal dust samples collected in the stratosphere using NASA U2 aircraft. His work on meteoritic materials has largely concentrated on their connection to interstellar processes. Dr. Sandford also serves as an Associate Editor of the journal Meteoritics and Planetary Science.

Dr. Sandford has experience with a variety of ground-based, airborne, and spaceborne observatories and has over 18 years of experience in the combined use of laboratory and telescopic infrared spectroscopy to identify and study molecules in space, with a particular emphasis on organics. He has identified a number of new molecular species in space, many of astrobiological interest, and has authored or co-authored over a hundred papers that have appeared in the peer-reviewed literature. He is also currently serving as the Principal Investigator (PI) for the AstroBiology Explorer (ABE) MIDEX Mission, a concept mission that will use a cooled space telescope to detect and identify organic materials throughout the universe.

In addition to finding meteorites and micrometeorites on Earth, Dr. Sandford is also involved in numerous other studies of extraterrestrial materials. In particular, he is a Co-Investigator on the Hayabusa Asteroid Sample Return Mission and the Stardust Discovery Mission. The Stardust Mission returned sample from comet Wild 2 to Earth on January 15, 2006. Dr. Sandford was a member of the Recovery Team that recovered the Sample Capsule after its landing in Utah and transported it to NASA's Johnson Space Center where he helped remove the samples. He is currently leading one of the teams of scientists that are making the preliminary examination of the returned samples.

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Membership Dues

The mailing label on the back of this issue shows the month and year through which your membership was paid. If the date has passed, your membership has expired. Members may receive no more than one bulletin after the expiration of membership.

Please renew soon if your membership is expiring.

SFAA WEBSITE AND ONLINE SERVICES



The SFAA web site at sfaa-astronomy.org is provided to our members and the general public for the sharing of club information and services. The web site contains links for club [star parties](#), [events](#), [newsletters](#), [lectures](#) and [meetings](#). If you wish to interact with other people who are interested in astronomy, the SFAA web site offers public and members only [bulletin board forums](#). If you wish to remain up-to-date on club activities, then we encourage you to subscribe to one or both of our public [mailing lists](#), which will allow you to receive our newsletter and/or club announcements via email. Other useful and interesting information and services are available on the site such as [observing location reviews](#), member [astronomy photos](#), and members only [telescope loans](#). Information about the SFAA's membership, organization and by-laws are available at the club's online public document [archive](#). If you need to contact a representative of the SFAA, then please visit our [contacts](#) page to help in finding the right person to answer your questions.

Above the Fog is the official bulletin of the San Francisco Amateur Astronomers. It is the forum in which club members may share their experiences, ideas, and observations. We encourage you to participate by submitting your articles, announcements, letters, photos and drawings. We would also like to hear from our new members. Tell us about yourself – what you have done in the past and what other clubs you have joined. **The deadline for the next issue is the 20th day of the month.** Send your articles to Phil Estrin at pestrin@dir.ca.gov.

Club Telescopes

The SFAA owns 6 club loaner telescopes, Dobsonian/Newtonian reflectors: 6" f/10, 8" f/7, 8.5" f/6 and 10" f/8, a Starblast, a C-8 and a Meade 8" SCT. They are available for extended periods (30 days or more) to SFAA members. These are generally very fine scopes, easy to use and well suited for deep sky, planets, and star parties. The loaner custodians are Pete & Sarah Goldie, located in San Francisco. If you are interested in borrowing a scope, or if you have items you can donate for the loaner program (eyepieces, star maps/books, collimator, etc.) please contact them via email (<mailto:pg@lbin.com>) or phone (415-206-9867). Email communication is preferred and strongly recommended for a quick and accurate reply.



Club Astronomy Videos

The SFAA owns a series of astronomy videotapes featuring Alex Filippenko, a world-renowned professor of astronomy at UC Berkeley. The videotapes provide an introduction to astronomy and cover topics such as the Solar System, the lifecycles of stars, the nature of galaxies, and the birth of the Universe. The SFAA loans the tapes free to all members. If you are interested in viewing these tapes, you may check them out at any of the SFAA General Meetings. These tapes were kindly donated to the SFAA by Bert Katzung. Our librarian is Dan Christian at danny.christian@sbcglobal.net.



For information on the course tapes themselves:
<http://www.teach12.com/ttc/assets/coursedescriptions/180.asp>



!!!! IMPORTANT NEWSLETTER ANNOUNCEMENT !!!!

Commencing with the December issue, SFAA's official newsletter, Above the Fog, will be delivered via e-mail. When the newsletter becomes available, members will receive an e-mail notification with a link to the online version.

If you wish to continue receiving the newsletter in hard copy format, please submit a request to treasurer@sfaa-astronomy.org.

THROUGH THE FINDER...

I have to begin this month's column with an apology. After 25 years of word processing I still sometimes forget to save the document I'm working on before forwarding it. The brilliant, sharply honed insights and thoughts that were featured in last month's column never left my desktop. What you read was merely the rough draft of some ideas that I pecked out for later elaboration. For instance I hope you realized that the "AA" sin I confessed to in the 1st sentence referred to an "Amateur Astronomers" sin – I'm not in a 12 step program, yet.

I won't try to recapture all that soared unread from my keyboard last month but I do want to repeat the missing "Thank You's" to all those who contributed to the Edwina Cherrington Memorial Fund. Additional donations have come in since last month and other purchases will be made in the near future.

The biggest opportunity in the remainder of this year for members to meet, greet, eat, and retreat to dark skies will be up at Bootjack Campground on Mt Tam, Saturday, September 16, starting at 3:00 pm. SFAA supplies the basic main course protein (hamburgers, hot dogs) - you bring whatever you like to drink and share. After digestion we will repair to our Rock Springs permit area behind locked gates for a night of members-only stargazing. Please let us know at least 2 days in advance if you plan to attend so we can plan our protein purchases accordingly. Email me if you're coming: jdillon1399@earthlink.net

You can share your scope and astro-knowledge with the general public on Saturday, Sept 30, at another City Star Party hosted by the Randall Museum. Michael Portuesi and Ken Frank will give an illustrated talk at sunset entitled "Your Other Address: Finding Your way In the Milky Way". This will be followed by public scoping on the dark side of the Museum. As usual, we will hold a public telescope clinic prior to sunset to help anyone with a new-fangled (or old-fangled) scope that has been uncooperative or unfathomable.

See you in the dark...

John Dillon
President
San Francisco Amateur Astronomers

Important Upcoming Dates

SFAA General Meetings & Lectures

Wednesday, September 20
Wednesday, October 18
Wednesday, November 15
7:00 p.m. Doors open. 7:30 p.m. Announcements. 8:00 p.m. Speaker
Randall Museum, 199 Museum Way (Near 14th Street and Roosevelt)

Board Meetings

Tuesday, September 12
Tuesday, October 10
Tuesday, November 14
7:00-8:30 p.m.
Randall Museum, 199 Museum Way
(Near 14th Street and Roosevelt)

Mt Tam Star Parties – Special Use Permit – Members Only

Saturday, September 16 – **ANNUAL STAR BQ, 3:00 p.m.**
Saturday, October 21, 7:00 p.m. – Orionids - **ONE GATEKEEPER VOLUNTEER NEEDED**
Saturday, November 18, 5:00 p.m. - **TWO GATEKEEPER VOLUNTEERS NEEDED**

City Star Parties

Saturday, September 30, 7:00 p.m. – RANDALL MUSEUM - Telescope Clinic one hour before sunset
MICHAEL PORTUESI & KENNETH FRANK, Speakers
YOUR OTHER ADDRESS: FIND OUT WHERE YOU ARE IN THE UNIVERSE

Saturday, October 14, 6:30 p.m. – RANDALL MUSEUM - Telescope Clinic one hour before sunset
STEPHANIE ULREY, Speaker
AMATEUR ASTRONOMY – HOW TO GET STARTED

Saturday, November 25, 5:00 p.m. - Telescope Clinic one hour before sunset
SPEAKER VOLUNTEER NEEDED

Weather may cancel the City Star Party. Call the SFAA Hotline at (415) 289-6636 AFTER 4 PM to learn the status of the event and the location. If the hotline announces the Star Party is cancelled, the Telescope Clinic and Lecture are cancelled as well. However, if the Hotline does not cancel the Star Party, be assured that the Lecture will proceed as scheduled even given less-than-perfect telescope conditions.

Please also note that while City Star Parties WILL ALWAYS be held on Saturdays, some will be closer to the last quarter phase of the moon, while others will be close to first quarter. This is so we can work around dates for Mt. Tam public star parties as well as our members-only events on Mt. Tam.

Map and directions <http://www.sfaa-astronomy.org/sfaa/starparties/cspmap.shtml>

Upcoming General Meeting Guest Speakers

October 18 - LYNETTE COOK, Astronomy Artist

This Bay Area artist illuminates the Solar system and beyond. Her art is featured in Dava Sobel's "The Planets" and "Infinite Worlds" Lynette's beautiful illustrations appear in Astronomy and Sky and Telescope magazines.

November 15 – ADRIENNE COOL, San Francisco State University

A member of the Hubble Heritage Team, Dr. Cool presents the latest results from the Hubble Telescope's Advanced Camera for Surveys (ACS).

December 20 – MEMBER'S NIGHT

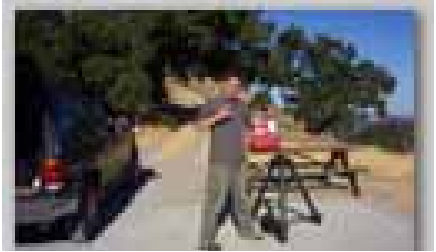
Bob Douglas will give a presentation on two different topics. Other members will speak as well. Member's astronomy art and astrophotography will be presented for members to judge.

Dark Sky Observations on Fremont Peak



Morning fog

Friday night, August 18, had Elan & Ellie, Slava, Doug, the Schumacher clan, Larry and Adam, new Board member Carter, Stephanie, Jon and yours truly.



Carter and Tool Time

We were blessed with dark skies (with the exception of the northerly light dome). The blanket of fog short-sheeted the valley; otherwise it would have been an exceptional night on the Peak. No dew heaters needed that night as humidity was low, wind still and temperature comfortable high 60's.

Peter and family brought along their new Meade Apo and spent most the night cruising the Milky Way. Stephanie had the new Wm Van Dyke Arnett 8" loaner SCT. Ask her to show you how to polar align.

We observed some favorites and both Friday and Saturday saw the ISS whiz by in the northern sky. At the end of Saturday morning's sky tour, we called it quits around 3 am. Doug, Slava and I were perusing Capricorn for planets. Needless to say Saturday eve was far more fruitful, being able to bag the two outer gas giants, Uranus's observable moons and Ceres.

Saturday was the public day and night. The Schumacher's went whale watching while Carter and I assisted FPOA president Pat Donnelly with the two club solar scopes. Among the local talent of FPOA, I met John Fingerhut, a founding member who was the first to break ground of the present observatory. FPOA's 20th anniversary is Saturday August 27th and a glowing article on the club is in the Sunday Pinnacle, the local Hollister paper.

<http://www.pinnaclenews.com/life/contentview.asp?c=192561>



Slava at the eyepiece



Even though Fremont Peak is a solid two hours drive, it's well worth the experience. If you haven't looked thru the eyepiece of the Challenger, you're missing out. Plan a visit for next year's SFAA Night.

You won't be disappointed.

Ken Frank



Dave at work with the guider system

TELESCOPE MAKING AND COSMOLOGY CLASSES TAUGHT BY JOHN DOBSON

Imagine if you had a chance to learn Morse code from Samuel Morse, or study Cartesian Geometry from Rene De Carte. Imagine how you'd feel if you had to tell your grandchildren that you had **missed** your chance to build your own diesel engine under the supervision of Rudolph Diesel. Well, don't miss your chance to make your own Dobsonian telescope! Explore the Universe with John Dobson! How it got the way it is and how we got the way we are to wonder about it. His specialty is seeing the philosophical meaning behind quantum mechanics and relativity theory. What does Heisenberg's Uncertainty Principle tell us about the nature of our universe? Hear his alternative view to the Big Bang cosmological model.

Classes will be held at: Randall Museum, 199 Museum Way, San Francisco, CA 94114 ph: (415) 554-9600 **starting October 11th at 7:00 pm** for telescope making and **Thursday October 12th 7:00 pm** for cosmology. There are 10 classes ending on December 12-13. Please contact the Randall Museum to sign up. <http://www.randallmuseum.org/events.cfm> Class size is limited.

THE BARCROFT EXPERIENCE

Jim Webster

This is the star party to end all star parties! We observed in the White Mountains, to the east of Bishop, California, from 8,000-12,400 feet at one of the darkest sites in the U.S. The White Mountains are home to the world's oldest living things, the eerily beautiful 4,000 year-old Bristle Cone Pines. On Thursday, we were at Grandview campground at 8,000 feet, and on Friday, Saturday, and Sunday -- through special dispensation -- at the University of California, Barcroft High Altitude Research Facility, at 12,400 feet. Barcroft is half Antarctic research station, half Shangri-La with real beds, flush toilets, showers, tools, the highest library and pool table in the lower 48, very good, warm food cooked, and an unforgettable view. It is a good guess that this is the "highest" and most unusual star party in the U.S.

You'll never forget your view of the Milky Way from Barcroft. Oxygen is provided in the dining room! This is also a wonderful excuse to explore the many amazing sights of the beautiful eastern Sierras such as Bodie, the famous ghost-town, the hot springs at Mono Lake, the volcanoes, Mammoth Lakes and Devil's Post Pile.

In a word, the Barcroft experience was wonderful. I intend to go again next year. The seeing was probably a magnitude of 7 or better, with translucent skies and no dew at that high elevation. The weather was temperate, warm during the day and tolerable but cool at night -- I never felt uncomfortably cold. You have a warm house to go into at night during your observing session with warm drinks, oxygen and food. The food was great and the staff was very accommodating. The company was one of comraderie and was intellectually stimulating. Bunk-style sleeping accommodations. Rustic but not primitive accommodations with a TV, videos, library, pool table, machine shop, hot showers, flush toilets, etc.

There is a 16-mile drive on a dirt road that isn't that bad; a little dusty, but again not too bad. There is about a leisurely 11-hour drive. I did get altitude sickness largely because of lack of sleep and exertion from a long hike, but it wasn't that bad. I saw more detail than ever on familiar items and every item I looked at in four nights was the best I ever saw. Many of them were like the astronomical photos that you see. Absolutely the best observing site I have ever been to. The weather was just perfect. There is a campsite called Grandview nearby on the way up that is easy to get to, but a considerable distance from here, that has the great viewing and warm nights at about 8000 feet. Very few campers in a huge area. It is dusty, though, and has prefab outhouses.

SFAA ANNUAL BOOTJACK STAR-B-Q

Saturday September 16, 2006

At 3:00 pm in the Bootjack picnic area, enjoy meeting your astro buddies (not in the dark), for fun and camaraderie and all that good stuff.

"Members-only" star party to follow at the usual Rock Springs parking lot. **Let John Dillon (jdillon1399 at earthlink.net) know if you're coming** by September 1st (with "Bootjack" in the subject line) -- and please show up this time! With that said, if you need to cancel let John know for obvious reasons, like having six months' worth of hot dog buns in my freezer!

Thanks, Ken



Monday, 11 September 2006

Benjamin Dean Lecture Series

Dr. Charles Wood

Wheeling Jesuit University & Titan Radar Mapper Team Member

"Exploration of a New World"

Titan is the largest piece of unexplored real estate in the solar system. It is bigger than the planet Mercury and has a dense atmosphere. The Cassini radar instrument is discovering volcanoes, river channels and dunes - features that make Titan the most Earth-like object in the solar system.

The program begins at 7:30 pm in Kanbar Hall at the Jewish Community Center of San Francisco, 3200 California Street (at Presidio Ave.). Tickets are \$4 and are available in advance or at the door.

Parking is available across the street in the UCSF Laurel Heights campus parking lot for \$1.25 per night. Parking in the JCC garage is \$1.25 per half-hour. The #1 California, #3 Jackson, #4 Sutter, and #43 Masonic MUNI lines stop directly in front of the building. The #38 Geary and #24 Divisadero buses stop only a few blocks away.

If you would like to be on the Dean Series e-mail list to get advance notice of future lectures, as well as any changes, send an e-mail to deanseries@calacademy.org. Your e-mail address will not be used for any other purpose.



MT TAM ASTRONOMY PROGRAMS

MOUNTAIN THEATER, Mt. Tamalpais State Park
EXPLORE THE WONDERS OF THE UNIVERSE

On September 23, we will enjoy the last lecture in this year's series in the Mountain Theater followed by viewing through telescopes. **Plan to come and join us.** Following the talk, and weather permitting of course, you can join the San Francisco Amateur Astronomers for a close up look at the marvelous objects in our summer sky. Even if the day is hot, wear layers as it can chill down at night. And don't forget your flashlights. Please car pool, if at all possible. If there is any change in the program due to weather, it will be on the hot line: 415-455-5370 after 4:00pm.

Thank you for supporting our programs.

STAR PARTY VOLUNTEERS NEEDED

Thanks to those who have VOLUNTEERED this year and those scheduled to do so for the SEPTEMBER PROGRAM. You can park cars, set out lanterns, greet the public, etc., and still enjoy the programs and the star party. But to do so, you must be a VIP (Volunteer in the Park, also Very Important Person) which means a one time, two-hour session with a park ranger. If you can help us out, please join us. Let me know by return e-mail or by calling me at (415) 454-4715. Please share this information with anyone interested.

Tinka Ross, Volunteer Coordinator, Mt Tam Astronomy Programs

September 23 . 8:00pm
DR. CHRIS MCKAY
NASA-Ames Research Center

"LATEST RESULTS FROM THE HUYGENS' MISSION TO TITAN"

Last year the Huygens Probe landed successfully on Titan, the largest moon of Saturn. What we saw was not what we expected. Hear the latest results from the analysis of the data from the Probe.



NEW SFAA MEMBERS

Scope City is offering to new members a \$25 credit toward the purchase of telescopes and binoculars.

Obtain a receipt for dues payment from
Stephanie Ulrey, Treasurer,
treasurer@sfaa-astronomy.org.

Contact Sam Sweiss at Scope City
to arrange for your discount.

SEPTEMBER 21 THROUGH 23



San Jose
Astronomical
Association

CALSTAR 2006

The 2006 edition San Jose Astronomical Association (SJAA)'s annual star party CalStar will be held at Lake San Antonio County Park on the nights of September 21 through the 23 (Thursday through Saturday). The web site describing the event is available at <http://www.sjaa.net/calstar>.

The website features a lot of new information such as a picture tour of the CalStar site, advice for first time visitors, and a new layout of the viewing areas. Be sure to check it out.

This year we will be expanding our casual viewing area to offer more alternatives to the CalStar experience. We will once again encourage people that will not be staying overnight to use special areas set aside for early departure. This will help preserve the night vision of our overnight guests and makes the event more photographer friendly.

SJAA will once again be offering a catered meal on Friday and Saturday night. By popular demand we will be offering simpler fare on Friday night to reduce the cost of the event. Saturday night will be a full BBQ with a choice of Tri-tip, chicken, or vegetarian dish.

This year all meals must be ordered and paid for in advance. See the website for details. Walk-in meals may not be available and those that are will require exact change.

This is the seventh year this fall event has been scheduled. Because September features long nights (it is dark from 8:24 PM - 05:27AM on Sept 23) without bitter winter temperatures many people use this to end their summer viewing season. Last year 181 people registered to attend.

For more information email calstar@sjaa.net or write to CalStar at the club address above.

Rob Hawley

Founded in September 1952, the San Francisco Amateur Astronomers (SFAA) is an association of people who share a common interest in astronomy and other related sciences. Our membership consists of people from all walks of life, educational backgrounds and ages. Many SFAA members own their own telescopes; some have been made by hand in local telescope-making classes and vary in size from 6 to 25 inches.

Treasurer, SFAA, POB 15097, San Francisco CA 94115

make checks payable to **San Francisco Amateur Astronomers** and mail to:

- \$10 enclosed, youth/student membership
- \$25 enclosed, individual membership
- \$30 enclosed, family or foreign membership
- \$40 enclosed, institutional membership
- \$75 enclosed, supporting membership

Select one category:

Email address:

Address:

Name: Telephone:

San Francisco Amateur Astronomers Membership Application

San Francisco Amateur Astronomers
P.O. Box 15097
San Francisco, CA 94115



Information Hotline: (415) 289-6636

Web Page: www.sfaa-astronomy.org

Sharing the Wonders of the Universe

Has your membership expired? Your mailing label includes the month and year through which your membership is paid. If it is past, your membership has expired and this may be your last issue.