ABOVE THE FOG
• BULLETIN OF THE SAN FRANCISCO AMATEUR ASTRONOMERS •

Vol. 59, No. 1 – January 2011

(No January General Meeting)

SFAA's General Meetings take place on the 3rd Wednesday of each month (except January)

SFAA Annual Awards Dinner
January 29th 6:00PM

Cocktails (No Host) – 6:00 p.m. Dinner – 7:00 p.m.

L'OLIVIER RESTAURANT, 465 Davis Court, San Francisco, (415) 981-7824
(between Jackson and Washington)

*** PLEASE SELECT ONE APPETIZER, ENTRÉE AND DESSERT ***
(If you forget, we'll choose for you!)

Appetizer
- Soup du Jour
- Baked Brie in Phyllo on greens
- Baby Frisee and Mache Salad with cherry tomatoes and Balsamic Vinaigrette

Entrée
- Noisettes of Pork Tenderloin, Black Peppercorn Sauce
- Grilled Ribeye Steak, French Fries, Shallot Demi-Glace
- Chicken Dore, Lemon Butter Sauce
- Grilled Seafood (scallop, prawn, salmon, sea bass) over Soft polenta, Basil Oil Saffron Couscous with seasonal vegetables

Dessert
- Creme Brulee
- Chocolate Mousse Cake
- Fresh Strawberries with Cream Sauce

$30.00 per person. Pay online using PayPal at http://sfaa-astronomy.org/dinner_page.php or by check.

Make checks payable to "SAN FRANCISCO AMATEUR ASTRONOMERS" and submit with meal choices to SFAA, PO Box 15097, San Francisco, CA 94115 **before** Friday, January 22, 2011.

IMPORTANT DATES

SFAA GENERAL MEETINGS & LECTURES

Randall Museum, 199 Museum Way (Near 14th Street and Roosevelt)
Third Wednesday of each month: 7:00 p.m. Doors open. 7:30 p.m. Announcements. 8:00 p.m. Speaker
SFAA BOARD MEETINGS IMMEDIATELY PRECEDE GENERAL MEETINGS AND BEGIN AT 6:00 P.M.

January 29 – 6:00 p.m. – SFAA ANNUAL AWARDS DINNER
February 16
March 16

CITY STAR PARTIES *Land's End (Point Lobos)*

The parking lot at Lands End is currently under construction and will be inaccessible for a few months. SFAA Public Star Party will be held at the multi-tiered parking lot just past the entrance of lands end on Geary Street. We believe the address for this parking lot is 1 Merry Way.

Directions:

If you are heading west on Geary (toward the Ocean), the entrance will be on your right a few hundred feet after the Lands End turn off. It is located above the Cliff House Restaurant.
Map and directions: **http://www.sfaa-astronomy.org/clubarchive/directions-pointlobos.php**

TELESCOPE CLINIC ONE HOUR BEFORE SUNSET

NOTE: While City Star Parties WILL ALWAYS be held on a Saturday, some will be close to the last quarter phase of the moon; 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 Mt. Tam members-only events.

2010 MT TAM SPECIAL USE PERMIT STAR PARTIES - MEMBERS ONLY

GATEKEEPERS NEEDED

Special Use Permit observing nights on Mount Tamalpais are private and open *only* to SFAA members. Please arrive by sunset. A permit is required for each car. We must vacate the mountain by 2:00 a.m. except on specially approved nights (such as Messier Marathon).

January 8

MT TAM PUBLIC STAR PARTIES (May through October)

Public nights on Mount Tamalpais start with a lecture in the Mountain Theatre, followed by public viewing in the Rock Springs parking lot. SFAA members may view privately after crowd departs from approx. 11 pm-2 am.

For more information: **http://www.sfaa-astronomy.org/starparties/**

San Francisco Amateur Astronomers Upcoming Lectures –

Randall Museum Theater . Randall Museum . 199 Museum Way . San Francisco
7:30 p.m. . Free & Open to the Public

San Francisco Amateur Astronomers welcomes member volunteers to bring snacks (munchies, soft drinks) for the general meeting lectures at the Randall Museum. In addition to paper supplies, the Randall provides a coffee pot for hot water, instant coffee & tea bags. Volunteers are needed for general meetings throughout the year. You will be reimbursed or you may donate your items with SFAA's thanks and appreciation. Please submit meeting date you wish to volunteer for with your name, e-mail address and telephone number to doublestar@comcast.net You will be contacted to confirm. Plan to arrive to set up by 7:00pm. San Francisco Amateur Astronomers is most appreciative of your participation in supporting our organization.

February 16
R. Jay GaBanny, Bay Area Photographer
SEARCH FOR GALACTIC FOSSILS

The most widely accepted cosmological theory explains that major spiral galaxies, like the Milky Way, formed over the past 10 billion years from less massive clumps in a process described as galactic cannibalism. For the past decade an international group of professional astronomers has been searching outside the local group of galaxies for ancient relics to support our understanding about galactic evolution. Jay's talk will explain the team's efforts, review its findings and conclude with the release of new deep space image that represents the group's latest evidence.

March 16
Donald R. Lowe, Department of Geological and Environmental Sciences, Stanford University
DID LHB END NOT WITH A BANG BUT A WHIMPER? THE GEOLOGIC EVIDENCE.

Lunar evidence of Late Heavy Bombardment suggests that the terrestrial bombardment rate was not much greater than the low impact rate of today. This lecture addresses the geological evidentiary findings supporting this position.

UPCOMING ASTRONOMY EVENTS – Kenneth Lum

Every Weekend **Friday & Saturday** **7:30pm - 10:30pm** **Weather Permitting** **FREE TELESCOPE VIEWING** **Every Weekend** **Saturday & Sunday** **12:00 Noon – 5:00pm** **Weather Permitting** **DAYTIME TELESCOPE VIEWING FREE WITH GENERAL ADMISSION** **Chabot Space and Science Center** **10000 Skyline Boulevard** **Oakland, CA 94619-2450** **(510) 336-7300**	**EXPLORE THE NIGHT SKIES AT THE CHABOT OBSERVATORIES** For more information: http://www.chabotspace.org/ Free Telescope Viewing Regular hours are every Friday & Saturday evening, weather permitting: 7:30pm - 10:30pm Come for spectacular night sky viewing the best kept secret in the Bay Area and see the magnificence of our telescopes in action! Daytime Telescope Viewing On Saturday and Sunday afternoons come view the sun, moon, or Venus through Chabot's telescopes. Free with General Admission. (weather permitting) 12pm - 5pm: Observatories Open
Friday and Saturday **December 17 and 18** **6:00 p.m.** **Chabot Space and Science Center** **10000 Skyline Boulevard** **Oakland, CA 94619-2450** **(510) 336-7300**	**DINNER, A MOVIE, AND THE UNIVERSE AT CHABOT SPACE CENTER** Join us for Chabot's unique evening social rendezvous. Start your night off with dinner and drinks, then cozy up in the planetarium as you're whisked to the edge of the universe and cap off the evening with telescope viewing featuring breathtaking views of the cosmos. Dinner: Buy advance tickets to ensure your dinner reservation. Purchase dinner separately at the cafe ($15). ADVANCED TICKETS A Movie and the Universe: Admission to Chabot includes access to all our interactive exhibitions, a film in the MegaDome theater AND a show in the Digital Planetarium. Purchase your advanced tickets online or call the Box Office at (510) 336-7373.
Thursday **January 13** **7:00 pm - 8:30 pm** **Jewish Community Center** **3200 California Street** **San Francisco, CA 94118** **Cost:** **$20 General, $17 Members, $10 Students**	**THE MAN WHO KILLED PLUTO** CalTech astronomer Mike Brown led the exploration that discovered the dwarf planet Eris which eventually led to the planet Pluto being demoted to a dwarf planet. Brown, a self described "science geek," recounts the fallout of his being labeled as a "planet killer" while also discussing complex scientific concepts such as "what is a planet?" Goldstar is offering half-price tickets to this event.
Friday **January 14** **7:30PM-** **Peninsula Astronomical Society** **General Meeting**	Dr. Pascal Lee of NASA Ames/SETI FROM THE EARTH TO MARS: LESSONS FOR MARS SCIENCE AND EXPLORATION FROM THE HAUGHTON-MARS PROJECT, DEVON ISLAND, HIGH ARCTIC Ken Lum MARS ON EARTH: SIMULATIONS OF A MARS MISSION ON DEVON ISLAND IN THE HIGH ARCTIC

Foothill Community College **12345 Moody Road** **Los Altos Hills**	Happy New Year everyone! Our upcoming PAS General meeting to kick off the new year will be on Friday, January 14 at 7:30PM in our usual venue at Foothill Community College in Los Altos Hills in Rm. 5015, Bldg. 5000 near Parking Lot #5. Our speaker will be Dr. Pascal Lee of NASA Ames and the SETI Institute who will speak on "**From the Earth to Mars: Lessons for Mars Science and Exploration from the Haughton-Mars Project, Devon Island, High Arctic".** Since 1997, Dr. Lee has been in charge of the Haughton-Mars Project (HMP) at the Haughton impact crater site on Devon Island, in the High Arctic, which is one of the most Mars-like places on Earth. While there, Dr. Lee and his team has conducted science and exploration research at the site, and established the HMP Research Station, now the largest privately operated polar research station in the world. Its purpose is to simulate a Mars mission in an effort to work out the details (and pitfalls) of a human mission to the Red Planet and perhaps to other Solar System bodies. Their geological and astrobiological investigations have led to the formulation of the "Mars, Always Cold, Sometimes Wet" Model. Dr. Lee will describe how Haughton is being used to conduct exploration investigations and develop technologies which are helping to pave the way towards the first human mission to Mars. He will also describe a possible timeline for manned missions to Mars and nearby objects. Dr Pascal Lee is co-founder and chairman of the Mars Institute, a planetary scientist at the SETI Institute in Mountain View, CA, and the Principal Investigator of the NASA Haughton-Mars Project (HMP) at NASA Ames Research Center in Moffett Field, CA. He holds an IngÉnieur degree (ME) in Engineering Geology & Geophysics from the University of Paris (1987), and a MS (1993) and Ph.D. (1997) in Astronomy & Space Sciences from Cornell University. Dr. Lee's research interests focus on Mars, asteroids and impact craters. He is particularly interested in the history of water on Mars and in the geologic and physical conditions allowing life to develop on planets. Dr. Lee often visits the Earth's polar regions and other extreme environments for planetary analog studies. Much of his work at HMP was profiled in a chapter of the recent book, "Packing for Mars", by Oakland journalist, Ms. Mary Roach. I highly recommend this book as one of the most entertaining science books of the past year. Among many other items covered, it gives the ultimate answer to the question every kid asks an astronaut about how they relieve themselves in space. While the answers are incredibly hilarious, they also show how serious the problems of maintaining a human body in space really are and why it is so expensive and hazardous. For those interested and able, we will have dinner with Dr. Lee at Chef Chu's Chinese restaurant in Los Altos at the corner of El Camino Real and San Antonio Rd. starting at 6PM. Please let me know by email at lum40@comcast.net or by telephone at (650)508-1879 if you intend to come to dinner so I can make appropriate reservations. Also, don't forget that parking in Parking Lot #5 is $2.00 so bring some cash! See you all for what is a most entertaining account of a great adventure! There will be dinner with Dr. Lee at Chef Chu's Chinese restaurant at the corner of El Camino Real and San Antonio Rd. in Los Altos at 6PM.
Friday **January 14** **9:00 – 11:00 pm** **Foothill Community College Observatory** **12345 Moody Road** **Los Altos Hills** **Cost: Free**	Foothill Observatory is open for public viewing every clear Friday evening from 9:00 p.m. until 11:00 p.m. Visitors can view the wonders of the universe through the observatory's new computer-controlled 16-inch Schmidt-Cassegrain telescope. Views of objects in our solar system may include craters and mountains on the moon, the moons and cloud-bands of Jupiter, the rings of Saturn, etc. The choice of targets for any evening's viewing depends on the season and what objects are currently in the sky. On clear, dark, moonless nights, the telescopes give visitors views into the deeper reaches of space. Star clusters, nebulae, and distant galaxies provide dramatic demonstrations of the vastness of the cosmos. The public viewing programs at Foothill are free of charge and are open to guests of all ages. Please note that the observatory is closed when the weather is cloudy. Also note that visitor parking permits are available from the machines in the parking lots for $2.00. Come to Foothill Observatory and join us in the exploration of our Universe! Foothill Observatory is located on the campus of Foothill College in Los Altos Hills, CA. Take Highway 280 to the El Monte Rd exit. The observatory is next to parking lot 4. Parking at the college requires visitor parking permits that are available from the machines in the parking lots

	for $2.00. http://www.pastro.org/dnn/Observatory/FoothillObservatory.aspx
Saturday **January 15** **11:00 am** **UC Berkeley** **Evans Hall** **Berkeley, CA 94720** **Cost: Free**	**WISE Astronomy: The Wide-field Infrared Survey Explorer** NASA's Wide-field Infrared Survey Explorer (WISE) has mapped the sky in infrared light, searching for asteroids, the nearest and coolest stars, the origins of stellar and planetary systems, and the most luminous galaxies in the Universe. WISE is an unmanned satellite carrying an infrared-sensitive telescope that images the entire sky, providing a vast storehouse of knowledge about the Solar System, the Milky Way, and the Universe. During this lecture, I will describe the mission, its history, current status, and some of the discoveries it has already made. Bryan hails from Traverse City, Michigan where the dark sky enthralled him from a very early age and inspired him to study astronomy. He graduated from the University of Michigan in 1997 with degrees in Astronomy, Physics, and Music. Bryan continued his education at the University of California at Berkeley, where he researched the large scale flow of galaxies in the nearby Universe by measuring their distances. He received a Ph.D. in Astrophysics from UC Berkeley in 2002. Bryan now works at the Center for Science Education at UC Berkeley's Space Sciences Laboratory to educate and inspire others about the wonder and beauty of the Universe. His work in space science education and public outreach involves developing programs for the public through the web and museums, developing classroom materials for students in K-12 classrooms, and conducting professional development for science educators. Speaker: Bryan Mendez,
Saturday **January 15** **Lawrence Hall of Science** **1 Centennial Drive** **Berkeley CA 94720** **Cost: Free**	**SATURDAY NIGHT STARGAZING — ON THE LHS PLAZA** See the Moon, Planets, Stars, Galaxies and More Stargaze through astronomical telescopes Ask questions and talk with amateur astronomers Learn how to use a star map to find constellations Share in the wonder of the universe with your friends 1st and 3rd **CLEAR** Saturday of every month throughout the year, **weather permitting** 8:00–10:00 p.m. September 15–March 31 9:00–11:00 p.m. April 1–September 14 Saturday Night Stargazing is a **free public viewing program** sponsored by LHS and Bay Area amateur astronomers. Stargazing is always **weather permitting**, so dress warmly. Foggy and overcast skies can cancel stargazing at the last minute. For more information, join the LHS Stargazing Google Group or follow us on Twitter@lhsstargazing.
Saturday **January 15** **10:00 am – 12:00 Noon** **IF IT IS CLEAR** **Foothill Community**	Solar observing with a Hydrogen alpha solar telescope every clear Saturday morning. This allows spectacular views of solar prominences and unusual surface features on the Sun not otherwise visible with regular white light telescopes. Admission is free. Foothill Observatory is located on the campus of Foothill College in Los Altos Hills, CA. Take Highway 280 to the El Monte Rd. exit. The observatory is next to parking lot 4. Parking

College Observatory **12345 Moody Road** **Los Altos Hills** **Cost: Free**	at the college requires visitor parking permits that are available from the machines in the parking lots for $2.00.
Monday **January 17** **2:00 – 2:45 pm** **Lawrence Hall of Science** **1 Centennial Drive** **Berkeley CA 94720** **Cost: $4.00**	**MOONS OF THE SOLAR SYSTEM** Take a tour of the fascinating worlds that orbit Earth and other planets. Discover the reasons for moon phases and eclipses. Explore Jupiter's moons as Galileo saw them 400 years ago, and see modern images from the Galileo space probe. Learn about NASA's current Cassini mission now studying Saturn and its mysterious moons. *(Recommended for ages 8 to adult)* Programs are approximately 40 minutes, and are presented live with activities. Questions are encouraged!
Monday **January 17** **7:30 pm** **California Academy of Sciences Planetarium** **55 Music Concourse Dr.** **San Francisco, CA 94118** **Cost:** **$12 General** **$6 Members** **$10 Seniors**	**BENJAMIN DEAN LECTURE** Dr. Wick Haxton, *Professor of physics and senior scientist in the Nuclear Science Division at U.C. Berkeley* Dr. Wick will be discussing nucleosynthesis, the origin of elements in massive stars that go supernova, as part of a series about the science behind the Morrison Planetarium's new show "Life: A Cosmic Story." **Reservations:** Adults $12, Seniors $10, Academy members $6. Seating is limited. To reserve a place today, buy a ticket online or over the phone at 800-794-7576
Tuesday **January 18** **7:00 pm – 9:00 pm** **NASA Ames Conference Center** **Moffett Fld** **Mountain View, CA 94040** **Cost: Free**	**BLOOM BOX: BRINGING NASA TECHNOLOGY DOWN TO EARTH** K.R. Sridhar, Principal, co-founder and chief executive officer, at Bloom Energy will be speaking on how the technology he developed at NASA helped in the creation of the Bloom Box. The lecture is free and open to the public. For more information, visit http://researchpark.arc.nasa.gov.
Tuesday **January 18** **4:15 pm – 5:45 pm** **Stanford University** **Hewlett Teaching Center** **Rm 201** **Palo Alto, CA 94305** **Cost: Free**	**ELEMENTARY PARTICLES OF SUPERCONDUCTIVITY** Prof. Assa Auerbach of Technion, Israel, will give the 1/18/11 Physics/Applied Physics colloquium, entitled, "Elementary Particles of Superconductivity" **Cost:** Free

Tuesday **January 18** **7:30 pm** SETI Institute 189 N. Bernardo Ave Mountain View, CA 94043	**SETI INSTITUTE COLLOQUIUM SERIES** **NEW HORIZONS: NASA'S HISTORIC MISSION TO THE PLUTO SYSTEM AND BEYOND** **ALAN STERN**, SOUTHWEST RESEARCH INSTITUTE In 2006 NASA launched a sophisticated robotic explorer to make the first reconnaissance of planet Pluto and its moons, three billion miles from the Sun. That spacecraft is called New Horizons. The principal investigator of New Horizons, Dr. Alan Stern, will describe the mission, it's full objectives, and will describe the new class of planets that Pluto represents.
SETI Institute **189 N. Bernardo Ave** **Mountain View, CA 94043** **Cost: Free**	SETI INSTITUTE COLLOQUIUM SERIES **THE EVOLUTION OF SATURN'S F RING** Speaker: **Rob French**, Carl Sagan Center for Life in the Universe, SETI Institute Saturn's F ring has brightened markedly in the last 25 years. It is twice as bright in the Cassini data as it was in the Voyager data from 1980 and 1981. We attribute this change to increasing perturbations by nearby Prometheus, which passes closer to the ring now that it did in the Voyager era, yielding more dust. Rob French will discuss the observations and analysis that led us to this conclusion.
Wednesday **January 19** **7:00 pm** **Smithwick Theater** **Foothill College** **12345 El Monte Rd.,** **Los Altos Hills, CA 94022**	Michael Brown, from the California Institute of Techology, will give a non-technical, illustrated talk on: **HOW I KILLED PLUTO AND WHY IT HAD IT COMING!** as part of the Silicon Valley Astronomy Lecturesin the Smithwick Theater, Foothill College, El Monte Road and Freeway 280, in Los Altos Hills, California. Free and open to the public. Parking on campus costs $2. Call the series hot-line at 650-949-7888 for more information and driving directions. No background in science will be required for this talk. The controversial "demotion" of Pluto was mainly the result of discoveries by a team of astronomers led by Michael Brown. In this talk, Dr. Brown will share the inside story of how he discovered "other Pluto's" out there beyond Neptune, including Eris, larger than Pluto, which he later named for the goddess of discord. Because, as he'll describe with his characteristic humor, its discovery resulted in a private and public controversy which led to the redefinition of what a planet is. Dr. Brown has written a popular-level memoir, How *I Killed Pluto and Why It Had It Coming*, and he will be signing books after the lecture. Dr. Brown is Professor of Planetary Astronomy at the California Institute of Technology and specializes in the discovery and study of bodies at the edge of the solar system. He recently received the Richard P. Feynman Award for Outstanding Teaching at Caltech and was elected a Fellow of the California Academy of Sciences. He was also named one of Wired Online's Top Ten Sexiest Geeks in 2006, the mention of which never ceases to make his wife laugh. The lecture is co-sponsored by: * NASA Ames Research Center * The Foothill College Astronomy Program * The SETI Institute * The Astronomical Society of the Pacific. Past Silicon Valley Astronomy Lectures are now available in MP3 format at: http://www.astrosociety.org/education/podcast/index.html ========== Andrew Fraknoi, Chair, Astronomy Program Foothill College, 12345 El Monte Rd., Los Altos Hills, CA 94022, USA
Thursday **January 20** **4:00 pm**	FUSION SPACE PROPULSION Since the 1980s researchers have extensively studied aneutronic fusion fuels (with boron-11 hydrogen fusing) for space propulsion applications. This presentation will review the basic

Lockheed Martin's Advanced Technology Center **Lockheed Martin ATC Auditorium in Building 202** **3251 Hanover Street** **Palo Alto, CA 94304**	fusion plasma physics and design concepts that apply aneutronic fusion for propulsion, and the requirements for transitioning to space. When applied to space or near-space propulsion, they can exceed the performance of any conventional electric ion thrusters. Future technology development of aneutronic fusion propulsion will initially be motivated by the very large geosynchronous satellites that will be developed in the next 20 years for commercial and military broadband communication. Dr. Teofilo is a Principal Research Engineer at the Advanced Technology Center, where he has been developing advanced energy sources for satellites, missiles, and undersea vehicles since 1983. Previously he engaged in research, design, and development of advanced fission, fusion, and fusion-fission hybrid reactor technologies at Bechtel Research, Westinghouse, and Pacific Northwest National Laboratory. He has a BEE from Manhattan College and a master's in nuclear engineering and a PhD, both from New York University. Dr. Teofilo has over 100 publications and reports on energy and advanced technology systems design, analyses, and physics.
Friday **January 21** **9:00 – 11:00 pm** **Foothill Community College** **12345 Moody Road** **Los Altos Hills** **Cost: Free**	Foothill Observatory is open for public viewing every clear Friday evening from 9:00 p.m. until 11:00 p.m. Visitors can view the wonders of the universe through the observatory's new computer-controlled 16-inch Schmidt-Cassegrain telescope. Views of objects in our solar system may include craters and mountains on the moon, the moons and cloud-bands of Jupiter, the rings of Saturn, etc. The choice of targets for any evening's viewing depends on the season and what objects are currently in the sky. On clear, dark, moonless nights, the telescopes give visitors views into the deeper reaches of space. Star clusters, nebulae, and distant galaxies provide dramatic demonstrations of the vastness of the cosmos. The public viewing programs at Foothill are free of charge and are open to guests of all ages. Please note that the observatory is closed when the weather is cloudy. Also note that visitor parking permits are available from the machines in the parking lots for $2.00. Foothill Observatory is located on the campus of Foothill College in Los Altos Hills, CA. Take Highway 280 to the El Monte Rd exit. The observatory is next to parking lot 4. Parking at the college requires visitor parking permits that are available from the machines in the parking lots for $2.00. http://www.pastro.org/dnn/Observatory/FoothillObservatory.aspx
Saturday **January 22** **10:00 am – 12:00 Noon** **Foothill Community College Observatory** **12345 Moody Road** **Los Altos Hills** **Cost: Free**	Foothill College Observatory 10AM-12PM if it is clear Solar observing with a Hydrogen alpha solar telescope every clear Saturday morning. This allows spectacular views of solar prominences and unusual surface features on the Sun not otherwise visible with regular white light telescopes. Admission is free. Foothill Observatory is located on the campus of Foothill College in Los Altos Hills, CA. Take Highway 280 to the El Monte Rd. exit. The observatory is next to parking lot 4. Parking at the college requires visitor parking permits that are available from the machines in the parking lots for $2.00.

2010 Club Officers & Contacts

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Club Telescopes

The SFAA owns eight very fine, easy to use, loaner telescopes well-suited for deep sky, planets, and star parties. All scopes are available to any SFAA member. The loaner custodians for the majority of our fleet are Pete & Sarah Goldie. Please contact them at telescopes@sfaa-astronomy.org for details if you are interested in borrowing a scope or if you have items you can donate for the loaner program (eyepieces, star maps/books, red flashlights, collimator, etc.). Please contact the appropriate member indicated below if you are interested in borrowing one of the telescopes.

1) 6" f/10.3 Dobsonian/Ken Frank ken@sfaa-astronomy.org
2) 8" f/7 Dobsonian/Pete Goldie
3) 8.5" f/6 Dobsonian/Pete Goldie
4) 10" f/8 Dobsonian/Pete Goldie
5) 114mm f/4 Newtonian StarBlast/Pete Goldie
6) 8" f/10 Celestron SCT/Annette Gabrielli/ annette@sfaa-astronomy.org
7) 8" f/10 Meade SCT/Stefanie Ulrey/treasurer@sfaa-astronomy.org
8) 9.5" f/5.6 Celestron Newtonian/Ken Frank/ ken@sfaa-astronomy.org

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. For information on the course tapes themselves:

http://www.teach12.com/ttc/assets/coursedescriptions/180.asp

Membership Dues

Membership is billed for each upcoming year on June 30. Members may receive no more than one bulletin after the expiration of membership.

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 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 25th day of the month****. Send your articles to* ***Editor@sfaa-astronomy.org***

MEMBERSHIP APPLICATION

Membership is billed for each upcoming year on June 30. Between January 1 and June30, new members pay one half the amount listed below

Membership Categories (Check one):

_____ $10 Youth/Student _____ $40 Institutional

_____ $25 Individual _____ $75 Supporting

_____ $30 Family

Information: Name(s) _____

Address _____

City _____

State _____ Zip _____

Home Phone _____

E-Mail _____

You can choose E-Mail (Recommended) or hard copy delivery for Above the Fog(Check one)

_____ E-Mail _____ Hard Copy

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

San Francisco Amateur Astronomers
POB 15097
San Francisco CA 94115

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.