

# ★ ABOVE THE FOG

• BULLETIN OF THE SAN FRANCISCO AMATEUR ASTRONOMERS •

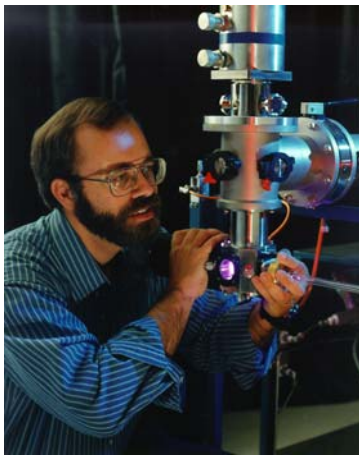
Volume 50, Number 10 – October 2003

## STARDUST I

Mission Target and Operations From Launch to Sample Return

Dr. Scott Sandford • NASA Ames Research Center

October 15, 2003 – 7:30 p.m.



One of the most important pieces of information you can have about something is its composition. While we have some understanding of the make up of our current Solar System, we know very little about the original material from which it was made. This is because the vast majority of these 'starting materials' have been altered by planetary and other Solar System processes over the past 4.56 billion years.

It is generally believed that comets are the most pristine repositories of the original materials from which the Solar System formed. For this reason, the collection and study of cometary materials has been a high priority for scientists interested in understanding how stars and planetary systems form and evolve. The principal science goal of the STARDUST Mission is to collect, and return to Earth, just such a sample. The STARDUST spacecraft is currently in deep space and will encounter Comet Wild-2 on 02 January 2004 (soon!). During the encounter, the STARDUST spacecraft will make a number of *in situ* measurements and collect dust from the comet's coma. The spacecraft will then return to Earth and deliver the sample to the surface in January of 2006. Shortly thereafter the

sample will be available for study by the world's scientists.

During my talk about STARDUST I will first quickly review the scientific advantages of sample return missions (as opposed to remote sensing missions) and briefly discuss what we currently know about the original materials from which the Solar System was made. I will then devote the majority of my time to describing the STARDUST mission. This will include descriptions of the mission's target, Comet Wild-2, the spacecraft and its instruments, and the mission operations from launch to sample return.

*Dr. Scott Sandford is a member of the Astrophysics Branch at NASA's Ames Research Center where he is a co-leader (with Louis J. Allamandola) 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) MIDEEX 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 of the STARDUST Discovery Mission, a mission that will return a cometary sample to Earth for study in 2006.*

## 2003 Club Officers & Contacts

<i>President</i>	<b>MichaelPortuesi</b>	<b>(415) 550-9366</b>
<i>Vice President</i>	Nancy Cox	(415) 269-8259
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<i>Treasurer</i>	Lorrie Boen	
<i>Speaker Chair</i>	Nancy Mahan	
<i>City Star Party</i>	Randy Taylor	(415) 255-8670
<i>Membership &amp; Subscriptions</i>	Lorrie Boen	
<i>Bulletin Editor</i>	Phil Estrin	(415) 703-4533
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	Bill Stepka	
	Randy Taylor	
	Dennis Tye	
	Jim Webster	
	Dan Christian	
	James Mace	
<i>Alt. Board Members</i>	Bob Naeye	(650) 756-0430
<i>Webmaster</i>	Joe Amato	

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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.

## Online services for SFAA members

The SFAA's Secretary's Web Site helps keep SFAA information together and accessible to members. The site URL is <http://www.whiteoaks.com/sfaa/>. At this site you can find such information as minutes from meetings of the Board of Directors, the SFAA official by-laws, and other information. SFAA also offers email lists to supplement the bulletin board offered at the SFAA's official web site. At present there are two email lists -- an unmoderated list for use primarily for business and discussion by the Board of Directors (but open to all members), and a moderated announcement list for all SFAA members. If you would like to be added to the SFAA-announce email list, please contact the secretary ([secretary@sfaa-astronomy.org](mailto:secretary@sfaa-astronomy.org)) and let him know. You can also sign up for the list yourself at this URL: <http://www.whiteoaks.com/mailman/listinfo/sfaa-announce>

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***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 seventh day of the month.** Send your articles to Phil Estrin at [pestrin@dir.ca.gov](mailto:pestrin@dir.ca.gov).

## CLUB TELESCOPES

The SFAA owns 4 club loaner telescopes, Dobsonian/Newtownian reflectors: 6" f/10, 8" f/7, and 10" f/8 and a Starblast. 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 Goldie & Sarah Szczechowicz, 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.

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### 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.

For information on the course tapes themselves:

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

## From Your President

September 6 was a great day for SFAA. Our regular City Star Party had clear skies, a beginner's lecture on seasonal observing by Vice-President Nancy Cox, and views of Mars, including those through a refractor brought by Marshall Smith of Orion Telescopes.

The Randall Museum Astronomy Day happening the same day was also a smash hit, with over 750 attendees through the day and night, and a talk by NASA scientist Chris McKay to over 75 people. Activities included decorate-your-own Mars cookies, and build-your-own Mars globes. There were lines out to the parking lot for several of the telescopes, with solar observing by day and Moon plus Mars by night. I want to thank all the SFAA members who helped make these events a success, by donating their time and telescopes to share with the public.

Since we announced the move of public Mount Tam star parties from New Moon to First Quarter weekends for next year, we have had some members ask us what will happen to the City Star Parties at Land's End, which also traditionally happen on First Quarter weekends. The Board considered this issue at our most recent meeting, and we started by looking back at this years' CSPs. The spring and fall CSPs have been very successful events, but all the summer CSPs have been clouded out. This is a typical occurrence. As a result, these summer CSP events have suffered from low attendance, and our Telescope Clinics have fallen short because students don't have a sky with which to practice using their scopes.

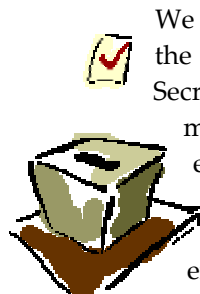
Noting this situation, the Board has drawn up a new schedule for the City Star Parties that should make them more enjoyable as well as effective for the clinics. We will have City Star Parties from January through March, and October through December, on the Saturdays closest to First Quarter Moon. There will be no CSP from April through September. The Telescope Clinics will still occur at the CSP, and will move to Mount Tam during the summer. Next year's CSP dates are: January 31, February 28, March 27 (there is also a Mount Tam public star party that night), October 23, November 20, and December 18.

Finally, I want to mention that our annual election for officers (President, Vice-President, Secretary and Treasurer) and the Board of Directors is coming in December. If you are interested in any of these positions, please let myself or another club officer know. Serving on the SFAA Board requires only a modest commitment, yet offers you the chance to guide our club and shape the fun things we will do. Please consider it!

- Michael Portuesi (president@sfaa-astronomy.org, 415-550-9366)

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## ELECTIONS - (No, not the government type) - But You Could Hold Office in the SFAA!



We need a few good astronomers to put down their lovely toys and give a little time to the club as an officer or board member. The roles are: President, Vice President, Secretary, Treasurer and Board Members. It is important to attend as many board meetings as possible. Board Members are required to attend at least nine meetings each year. The meetings are at 7:00 p.m., the second Wednesday each month at the Western Addition Library at Scott and Geary. Please consider running for one of these positions. A little time means a lot to the club, and it is a rewarding experience. Please contact any current officer or board member if you are interested!



October 11-12, 2003

## ASP 2003 Annual Meeting to be Held in Bay Area

The Big Bang. Supernovae. Gamma-ray bursts. Asteroid impacts. The Astronomical Society of the Pacific (ASP) cordially invites Bay Area amateur astronomers to learn about the violent events that shape our universe by attending the ASP's 2003 Annual Meeting. This exciting two-day event will take place in the San Francisco Bay Area on October 11 and 12.

The theme of this year's meeting is Cosmic Explosions. It includes a full-day series of public lectures on Sunday, October 12, by renowned astronomers such as Sandra Faber, Alexei Filippenko, and Shrinivas Kulkarni.

The ASP carefully selected this year's speaker lineup to focus on top-notch scientists who also excel at communicating scientific concepts to the public. The lectures will run from 9:00 a.m. to 5:45 p.m. in Wheeler Auditorium on the University of California, Berkeley campus. Admission is \$30 for ASP members and \$35 for non-members. You can pre-register on-line until September 26 (see the website below). Scheduled speakers and topics include:

- \* Sandra Faber, University of California, Santa Cruz, "The Big Bang: Truth or Nonsense?"
- \* Matthew Malkan, UCLA, "Blasts from the Centers of Galaxies"
- \* Alexei Filippenko, University of California, Berkeley, "Supernovae: Catastrophic Stellar Death"
- \* Shrinivas Kulkarni, Caltech, "Death Cries Across the Universe: The Brilliant Gamma-Ray Bursts"
- \* Sumner Starrfield, Arizona State University, "Nova Explosions: Stars That Go Bump in the Night"
- \* Robert Lin, University of California, Berkeley, "Solar Flares: The Most Powerful Explosions in the Solar System"
- \* Kevin Zahnle, NASA Ames Research Center, "Cosmic Calamity: Asteroid and Comet Collisions with Earth"

"This is one of the most interesting lineup of speakers we have had," says ASP Executive Director Michael Bennett. "Every speaker is a leading researcher in topics that touch on cosmic explosions. Even better, they are all well known for their ability to communicate complex ideas in terms everyone can understand."

On Saturday evening, October 11, the ASP will host its annual membership meeting at the Woodfin Suite Hotel. Only ASP members are invited to attend this meeting. This meeting is followed by an awards banquet and ceremony honoring this year's ASP award winners. Dine and celebrate with this year's winners, including Vera Rubin, recipient of the prestigious Bruce Medal. Guest speaker David H. Levy will talk about his work with Eugene and Carolyn Shoemaker and their discovery of Comet Shoemaker-Levy 9. Admission to the banquet is \$60. Seating is limited.

For more information about the ASP's Annual Meeting, including scheduling, pricing, and speaker abstracts and biographies, or to pre-register for all events, please visit the ASP website at <http://www.astrosociety.org/events/meeting.html>.

### Admission to ASP Conference Lecture Series

The 115th ASP Annual Meeting is coming this October 11-12. Similar to last year, it is a 2 day event with a day long lecture series "Cosmic Explosions" on Sunday October 12th at UC Berkeley in Wheeler Auditorium.

Please pass this announcement along to your club email list.

We are looking for about 25 people who would be willing to volunteer for part of the day on Sunday, October 12, to help with various tasks. As our thanks for your assistance, you will receive:

Volunteer ID and name tag . Continental breakfast . Lunch . ASP T-Shirt  
. Free admission to the lectures - a seat will be reserved for you in the main lecture hall

The tasks we need covered are as follows:

Set up / Registration - 6:30 AM to 10:00 AM

Meade Telescope Set up, monitoring, and take down - 8:00 - Noon; 11:45 - 4 PM (This is being raffled)

Lecture Room Door Monitors - 7:30 am - 1 PM; 12:30 PM - 6 PM

Volunteer Break Room Monitor - 7 am - 11:00 AM; 10:45 AM - 2:30 PM; 2:15 - 6 PM

Floater/Guest Services - 7 am - 11:00 AM; 10:30 AM - 2:30 PM; 2 - 6 PM

Resources Table - 8 am - 1 PM; 1 PM - 6 PM

If you are interested in volunteering, please register at: <http://fs8.formsite.com/astrosociety/CosmicVolunteer/index.html>  
We will contact you within a day or two after you register.

Please sign up as soon as possible if you are available to help. We thank you in advance as your help is invaluable to our success. A few days before the event we will send you your T-shirt and name tag to wear on October 12, along with instructions on how to get there, where you should report when you arrive, and details regarding your task(s).

If you would like to attend, but not as a volunteer, or if you want more information on the event, please see our website at <http://www.astrosociety.org/>.

### **Marni Berendsen**

Astronomical Society of the Pacific, 390 Ashton Avenue, San Francisco, CA 94112

Phone: 415-337-1100 ext. 116 . Fax: 415-337-5205

[mberendsen@astrosociety.org](mailto:mberendsen@astrosociety.org)

### Family ASTRO Workshop

October 25, 2003



The ASP is proud to announce that our latest Family ASTRO kit had been born!!!

Family ASTRO trains community event leaders to facilitate hands-on astronomy activities for families with children aged 8-12. The program is free and provides free materials to participants who promise to facilitate a minimum of two family events in one year and to report back.

The latest kit, Cosmic Decoder, guides families through the mysterious messages sent through space by astronomical objects - and even humans! With their fun decoding tools, families decode messages and then create their own to send off. Each family takes home a specially designed Cosmic Decoder game full of twist, turns and beautiful astronomical images.

The Workshop will be held at the ASP offices on Saturday October 25th from 9:00 - 2:15. Lunch will be provided during the Cosmic Decoder training at no cost. Please pre-register by completing and submitting the attached application. Space is limited so get your application in soon - we are only accepting the first 20 people.

We will be offering an additional workshop for our Night Sky Adventure kit in the afternoon (2:30- 4:45). You must attend the morning Cosmic Decoder training to participate in the afternoon session. Night Sky Adventure focuses on the night sky and constellations. Families build and use their own star finder and learn to identify objects in the Night Sky. We recommend that these events include a star party at your family event.

For more information, please contact Kristin Nelson at <mailto:knelson@astrosociety.org> or 415-337-1100 ext 101. OR visit our website to download an application and learn more! <http://www.astrosociety.org/education/familyflyer.html>

Silicon Valley Astronomy Lecture Series  
Wednesday . Oct. 8, 2003 . 7:00 p.m.

Dr. David Des Marais of NASA's Ames Research Center will discuss  
"The Mars Exploration Rover Mission: Following the Water"

Smithwick Theater . Foothill College . El Monte Road and Freeway 280 . 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.

Co-sponsored by  
NASA Ames Research Center . The Foothill College Astronomy Program  
The SETI Institute . The Astronomical Society of the Pacific

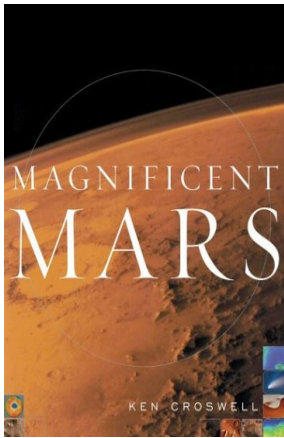
Dr. Des Marais, a member of Science Operations Working Group for the mission, will describe the plans for landing two advanced rovers on the surface of the red planet in January. Both rovers will have instruments on board that can act as "robot geologists," searching for evidence of past water on our neighbor planet.

**Andrew Fraknoi, Chair**

Astronomy Program, Foothill College, 12345 El Monte Road, Los Altos Hills, CA 94022  
E-mail: [fraknoiandrew@fhda.edu](mailto:fraknoiandrew@fhda.edu)

Dr. Ken Crowell - Magnificent Mars  
November 6, 2003 - 7:30 p.m.

CODY'S BOOKS, 2454 Telegraph Ave (at Haste) - Three blocks south of UC Berkeley - (510) 845-7852



Description: The planet Mars has long offered the prospect of another living world in the solar system. Tonight, with an armada of spacecraft scrutinizing the red planet as never before, Harvard-trained astronomer and author Ken Crowell shows you the best color images of Mars and describes the planet from pole to pole, exploring Martian geology, the Martian atmosphere, Martian volcanoes, and Martian water, all organized around the four great elements of Mars: Earth, Air, Fire, and Water. Along the way you'll see nearly every image from Dr. Crowell's new book Magnificent Mars, including volcanoes over twice as tall as Mount Everest, canyons that could stretch from Ohio to California, and floods of water far greater than any known on Earth. Billions of years ago, on a world warmer and wetter, Mars may have given rise to life whose fossils await discovery today.

Ken Crowell earned his doctorate in astronomy from Harvard University and is the author of several highly acclaimed books, including The Alchemy of the Heavens, Planet Quest, Magnificent Universe, See the Stars, and The Universe at Midnight.

"Our little neighbor Mars will be the first New World of the century that has just dawned. Ken Crowell has done a superb job in outlining what is known, and what is suspected, about the next home of mankind beyond the Moon." --Sir Arthur C. Clarke

"At last, a work that synthesizes the latest discoveries on the red planet into an accessible yet accurate form. Magnificent Mars is a magnificent book."-- Robert Zubrin, author of The Case for Mars and president of the Mars Society

More at <http://kencrowell.com/>

## Litebox Pollution at Lake Sonoma

September 20 was a great night at Lake Sonoma. Lots of telescopes up there with us in the inversion layer - 15 or more setup in the lower area and 10 more up on high ground where we were. Shirtsleeves all night. 73 degrees at 3:00 a.m. when we finally packed our three Litebox reflectors <http://www.litebox-telescopes.com> back in the Dodge minivan and headed down into the cool air.

Besides our three 12.5-inch, 14.5-inch and 17.5-inch Litebox reflectors Saturday night, Carter Roberts brought his 18-inch, Mike Portuesi brought his new 15-inch and Pete Goldie and Sarah Szczechowicz brought their 10-inch "exploratory design" for a compact 10-inch made by Litebox Barry Peckham. We lined them all up on "dob heights" and took a group photo. This one by Carter Roberts. <http://www.lbin.com/pg/sonoma/6DOBS.HTM>



Then we had a lot of fun comparing views of Milky Way objects in each of the instruments. The Helix Nebula looked great in Pete and Sarah's 10-inch and in Carter's 18-incher. Mars looked excellent in Carter's 18-inch stopped down to 6-inches with a #85 salmon filter. Neptune and Uranus looked great in Mojo's 14.5 inch. Hickson 87, well at least mag 14.0 PGC 65415 (M-3-53-5) was visible, with some averted imagination, to some of the eyepiece visitors to my 17.5-inch Hagrid.

Most of our personal projects (a few remaining Herschel 400's for Mojo and many Hickson and Abell galaxy clusters for me) weren't optimal for viewing until after midnight, so we took the time to help a new telescope owner polar align his 6-inch Orion StarMax. Worked better once he got the hemisphere switch turned to north instead of south.

We hung out with my 8-year old nephew, Aaron, who was sketching Mars through his 6-inch f/4.8 Pierre Schwaar reflector. Before he left for home in Healdsburg, Aaron took over my 17.5 incher at times and the 12.5 incher at other times. In the 12.5 inch, he liked the Perseus double cluster best. In the 17.5 incher, he liked the Andromeda Galaxy and its companions best. Speaking of M31, Aaron singlehandedly moved my big 17.5-inch Litebox from M31 over to Vega, standing on the ground and pushing on the rocker box, while sighting through or near the Telrad, sort of. Then after climbing the ladder, eyeballing Lyra in the Telrad, he nailed M57, the Ring Nebula first try, with the 9 Nagler at 222x in the focuser. Many of my favorite observing sessions are when my nephew Aaron joins me at Lake Sonoma.

By 11:00 p.m. we all got on to our own lists of things to see and it wasn't until after 3:00 a.m. and a look at Saturn that some of us finally packed up and headed home.

Date: September 20, 2003

**Location: Lone Rock Flat, Lake Sonoma, California 38 42 90N 123 02 43.7 W**

Altitude: 1,129 - 73 degrees at 3:00 a.m. RH 30% humidity Saturday

Instrument: 17.5-inch f/4.5 Litebox Reflector, Hagrid

Ocular 9mm Nagler type 2 for 222x

Seeing: good, softened after midnight.

Transparency: LM 6.2 on 9/20 using LM area 6 Alpha Andromeda, Gamma and Alpha Pegasus chart.

<http://www.seds.org/billa/lm/rjm.html>

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Jane Houston Jones

<mailto:jane@whiteoaks.com> . <http://www.whiteoaks.com/>

## Mars 'N More

There is lots of Mars left for viewing clear into October. So don't despair if you haven't seen our red(dish) rocky neighbor yet. Because of fog. Or long lines. Or long lines in the fog.

Here's the list of more Mars observing events. I'll be adding more in October, too, so check back frequently!  
<http://www.whiteoaks.com/jane/Mars/>

**October 21, November 18 and December 16** - Benjamin Dean Lecture Series at the Morrison Planetarium, California Academy of Sciences. Series theme is **Cosmology**. 7:30 p.m. start. Details on the series: <http://www.calacademy.org/planetarium/special.html-dean> Info (415) 750 7141. September speaker is Kim Coble, University of Chicago, Adler Planetarium on Mapping the Universe from Antarctica.

ON THE EVENT HORIZON --

**October 12** - ASP Lectures: **Cosmic Explosions - A Day About Cosmic Explosions** - a public lecture series in Berkeley. For more information, including other meeting events and to register, see the website <http://www.astrosociety.org/events/meeting.html> or call 415-337-1100 x 109.

**October 24 and 25 at 8:00 p.m.** - Palace of Fine Arts Theatre - Kronos Quartet presents **Sun Rings**. Tickets \$28/\$46 gold circle. Ticket info <http://www.sfjazz.org/> or (415) 766-1999 or box office 3 Embarcadero, Lobby Level, SF 94111.

FURTHER OUT --

**November 8** - 5:30 p.m. to about 8:00 p.m. **The second total lunar eclipse of the year!** This is a Saturday night, it gets dark early. Moon will rise in full eclipse just like it did in June, except earlier in the evening. Educators, this is an outstanding chance for a school event. I have lots of ideas for class activities before and during the eclipse. Such as: estimate where the moon will rise and where. I'll be at St. Anselms School with my Project Astro teacher partner, Anita Piscicotta and her classes.

**Jane Houston Jones**

[jane@whiteoaks.com](mailto:jane@whiteoaks.com) . <http://www.whiteoaks.com/>

## Important Upcoming Dates

**Board Meeting**      October 8 – 7:00 p.m.  
                             November 12 – 7:00 p.m.  
                             December 10 – 7:00 p.m.  
  
*Western Addition Library  
Scott & Geary Streets, San Francisco*

**SFAA General Meeting & Lecture**  
  
October 15  
November 19  
December 17 – Elections & Member's Night  
  
*Morrison Planetarium, Golden Gate Park  
Refreshments at 7:00 p.m.  
Speakers begin at 7:30 p.m.*

### **City Star Party**

October 4 – 6:30 p.m.

*Telescope Clinic starts one hour before  
Star Party*





## REVISITED: GENESIS OF ASTRONOMICAL INTEREST

Jim Webster

It was long ago and far away in another time and place. Much time was spent in the great outdoors. Crime and poverty didn't seem to exist. Homes had expansive lawns and large front porches that were in frequent use by their occupants. Backyards were used extensively at night in the summertime to watch multitudes of fireflies and the Milky Way under dark clear skies.

Across the street from where I lived were undeveloped lots used as a park and planted as a jungle forest. My friends and I often cared for God's beloved small creatures, stray cats and dogs there. We frequently visited gracious neighbors and their beautiful gardens, and open fields nearby seemed to beckon us to run upon them. We were a privileged and coddled lot, my friends and I.

My father was an avid and rugged outdoorsman. We had many overnight fishing trips with blankets spread by the creek bank under open skies.

My mother, who was a brilliant and joyful person, seemed to know everything. She would patiently point out the constellations to me and tell me the names of various bright stars. She would have to tell me this frequently because the sky appeared to move and though I was fascinated I would forget. She told me fascinating and intricate stories about ancient myths that past civilizations believed regarding the constellations. This held a deeply moving spiritual impact upon me.

Optical augmentation or enhancement, by the use of a telescope or binoculars in such a dark but brilliant sky never occurred to me. It would seem distracting in retrospect when we had this beautiful canopied dome to view.

Later, there were social and technological waves of revolution in the form of air conditioning and television, which radically changed our way of life. Rarely did we look up at the night sky or think about it. People in large cities had never even seen the night stars. Our spiritual life seemed to falter. There didn't seem to be pertinent needs to even know what phase the moon was in or to know the Judaic holidays, which are based upon moon phases.

There have been many astronomical happenings that I found impressive. These included unexplained mysteries, such as formations of large green balls of light rapidly moving in the night sky, and explosions of blinding light in the dark sky among others. In the realm of the more easily explained physical phenomenon I have seen massive meteoric fireballs seemingly explode immediately overhead, visual impacts upon Jupiter, huge bright comets, and meteor storms. Once after leaving a deathbed scene at one of our great Midwestern hospitals I stopped on my drive to the family home at a farm once owned by old friends, now a wildlife refuge, and walked into a darkening field replanted with native buffalo grass, and found myself surrounded by literally millions of fireflies brilliantly lighting my path and the new moon dark sky.

As interesting and impressive as I found these astronomical events and others, none of these approximated the spiritual, emotional, intellectual, or plainly visceral impact and indelible impressions as the gestalt of my genesis of astronomical awakening in my early childhood. I remember the fascination of the romance, poetry and physics that the night sky held for me, as I stood there amazed gazing at the wondrous glories of our heaven.



## SFAA Annual Awards Dinner

Saturday, January 24, 2004

6:00 p.m. No-host Bar 7:00 p.m. Dinner

Basque Cultural Center . 599 Railroad Ave . South San Francisco . (650) 583-8091



*Prime Rib with Scalloped Potatoes & Vegetables (\$27.00)*

*Breast of Chicken Chasseur with Vegetables & Rice (\$22.00)*

*Vegetarian Pasta (\$18.50)*

*Soup, salad, bread & butter, ice cream and coffee included.*

*Tax and gratuity included.*

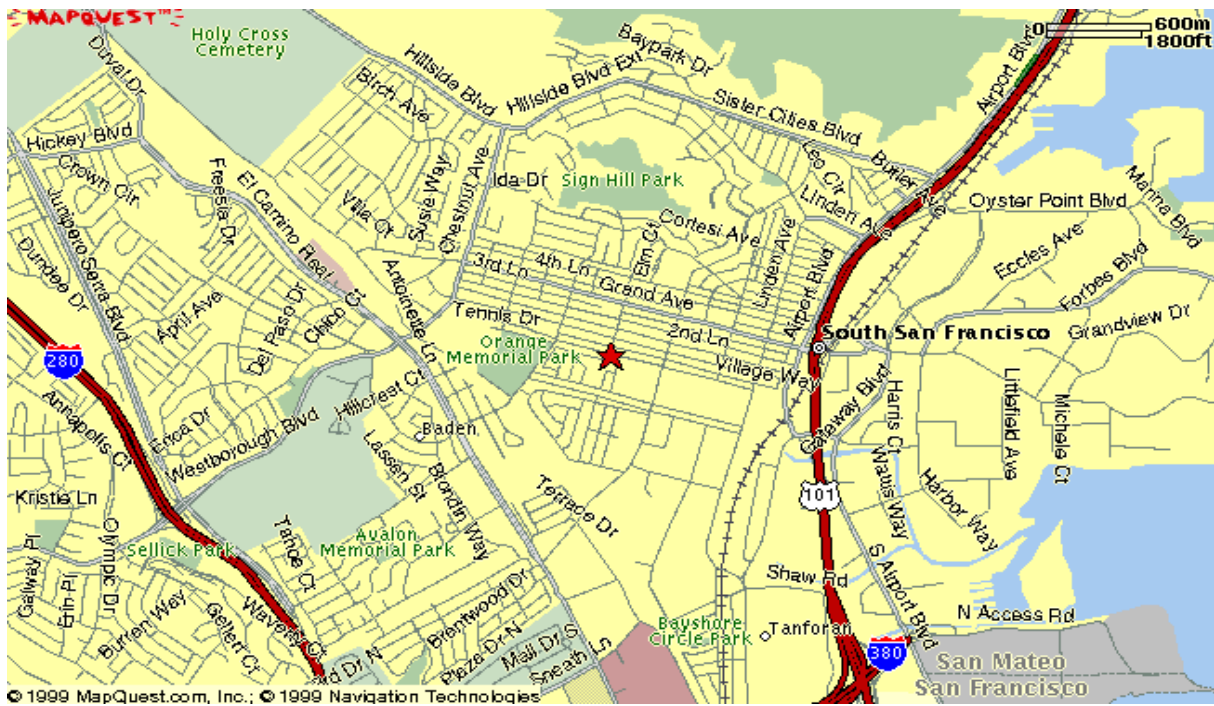
Please send a check or money order, along with your choice of entrée, to Lorrie Boen at 765 Geary Street #302, San Francisco, CA 94109 by **January 9, 2004**. Any requests received after this date cannot be guaranteed.

**Basque Cultural Center From Highway 280:** Take Highway 280 North to the Avalon Drive Exit in South San Francisco. Continue on Junipero Serra Boulevard to Westborough Blvd. Turn right and proceed to El Camino Real. Turn right and proceed to Orange Blvd. Turn left., and proceed to Railroad Ave. Turn right. Continue to 599 and turn right into parking lot.

From San Francisco, take Highway 280 South. From Highway 280, take the Westborough Exit, following the same directions as above after Westborough Blvd.

**Basque Cultural Center From Highway 101:** Take Highway 101 North to South San Francisco Grand Avenue Exit, turn right.. Turn right on East Grand Avenue, then left on Grand Avenue. Turn left on Magnolia and proceed for two blocks. Cross Railroad Avenue into the Basque Cultural Center parking lot.

From San Francisco, take Highway 101 South to the Grand Avenue Exit in South San Francisco. Continue on Grand Avenue. Turn left on Magnolia and proceed two blocks. Cross Railroad Avenue into the Basque Cultural Center parking lot.



### *Astrophotography Award*

Members are encouraged to submit astrophotographs (up to three entries per member) for judging in the astrophotography award. Submissions are accepted October, November or at the December general meeting. All entries will be exhibited at the December meeting and voted upon by the general membership. Entries must have been taken this year (2003) and be of an astronomical theme. Size should be reasonable (11' x 14' or less), mounted or unmounted.

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### *The Astronomical Arts Award*

This contest is open to all members and will be judged by the membership at the December General Meeting. We had several fine entries at the inaugural competition last year. Any art related to astronomy is welcome. Your drawings of astronomical objects are worth sharing with other club members, as well as craftwork, sculpture, jewelry, and paintings. There are almost no restrictions here. Size is a consideration since we have to fit all entries, and club members, in the Planetarium, alongside the Astrophotography Award entries. Also, no living critters, please. The Academy may frown on any living, breathing things that are not part of official exhibits. Live acts are restricted to the human kind. Please bring your entries to the Meeting on December 17, 2003. Any questions can be directed to club officers, listed on page two in this bulletin.

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### *Observer of the Year Award*

The Observer of the Year Award is given for noteworthy observing accomplishments during the year, such as qualifying for the Messier Award, the Herschel Club, observing all the planets, getting articles or photographs published, etc. Nominations will be accepted in October and November. Members may submit their own name or the names of anyone they feel is qualified. Candidates should prepare a list of their observing accomplishments in 2002 for judging by the December meeting.

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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, 765 Geary St., #302, San Francisco CA 94109**  
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:**

Name: \_\_\_\_\_ Telephone: \_\_\_\_\_

Address: \_\_\_\_\_

Email address: \_\_\_\_\_

## San Francisco Amateur Astronomers Membership Application

**San Francisco Amateur Astronomers**  
c/ Morrison Planetarium  
California Academy of Sciences  
Golden Gate Park, San Francisco, CA 94118



Information Hotline: (415) 289-6636

Web Page: [www.sfaa-astronomy.org](http://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.