

★ ABOVE THE FOG

• BULLETIN OF THE SAN FRANCISCO AMATEUR ASTRONOMERS •

VOL. 53, No. 8 – JULY 2005

August 17, 2005 – General Meeting

RANDALL MUSEUM 199 MUSEUM WAY SAN FRANCISCO
7:00 PM DOORS OPEN . 7:30 PM ANNOUNCEMENTS . 8:00 PM SPEAKER



DR. JANICE VOSS
Science Director, Kepler Spacecraft
NASA Ames Research Center

Astronauts have been taking pictures of the Earth since the first U.S. orbital flight by John Glenn on February 20, 1962. The archive of astronaut photographs currently includes more than 450,000 images. Dr. Voss will show a selection from recent spaceflights that illustrates what we can learn about the Earth from this unique perspective. In addition, Dr. Voss will talk about her current work with the Kepler project at NASA Ames, which is planned to identify the first Earth-like planets in other solar systems. Kepler is scheduled to launch on a Delta II rocket in June, 2008.

Selected by NASA in the January 1990 class of astronauts, Dr. Voss is a veteran of five space flights. She has logged over 49 days in space, traveling 18.8 million miles in 779 Earth orbits. She served aboard STS-57 in 1993, STS-63 in 1995, STS-83 & STS-94 in 1997, and STS-99 in 2000. Currently, Dr. Voss is at NASA Ames Research Center, where she is the Science Director for the Kepler spacecraft.

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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.



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 (<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>

CLUB TELESCOPES



The SFAA owns 4 club loaner telescopes, Dobsonian/Newtonian 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.

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>

ONLINE SERVICES FOR SFAA MEMBERS

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.

Through the Finder ...

Summer '05 is waning, but there are still some great things to mark in your calendar:

The AANC conference on Aug 27 at the Randall Museum will have something to appeal to all interests and all ages, for the entire day and part of the night. In the middle of it all there's the Celebration of John Dobson's 90th Birthday. Don't miss it! (John hasn't committed to attending the Party in 2005 for his 2nd set of 90 solar orbits - though I wouldn't rule it out.) And if you missed the Roxie Theater showing of "A Sidewalk Astronomer" it will be reshowed in the Randall Theater at 6pm on the 27th.

Our monthly membership meetings will be especially attractive in the coming months, thanks to the "stellar" effort of Linda Mahan, our Program Chair. This month we have Janice Voss, a veteran of FIVE space flights, followed in September by Sun Kwok, sharing his work in planetary nebulae, Geoff Marcey reviewing his epochal discoveries of exoplanets in October, and NASA's popular Chris McKay in November. This is quite a lineup - thank you Linda! Details will be found on the front pages of upcoming "Above the Fog" newsletters, but it's simpler to just circle the 3rd Wed of each month and plan on being there.

If you regret that your face was not among those in our "Midsummer Night's Dream" group photo at Glacier Point last month, you can make a note for next year OR sign up for the Camp Mather (Yosemite) "Astronomy" theme weekend, Sept. 8 - 12. Early enrollments were sufficient to keep staff on, and the Camp will stay open past Labor Day this year. Registration forms can be found at: www.parks.sfgov.org or call 415-831-2715.

Even optically challenged stay-at-homes can partake of celestial wonders this month. Pull out a lawn chair and stay up late (or better yet, get up early) on Aug. 12 (+/-). and see the Perseid meteors. It'll be even better if you can move your chair to a dark site. Cupholders optional.

And don't forget - your membership in SFAA allows you to join in the twice a month exclusive viewing from our Mt. Tam observing site. No excuses for not observing something. See you in the dark!

John Dillon, President of SFAA

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RUSS THOMAS LONG-TIME SFAA MEMBER

Long-time SFAA member, Russ Thomas, recently passed away. Russ could often be seen at the Mt. Tam Star Parties and at Lake Sonoma, set up near his good friend, Art Owens.

His memorial service was attended by Art and Chelle Owens, Norman and Linda Mahan, and Al and Rita Stern. Art spoke at the service of Russ' life-long interest in solar and deep sky observing.

Sympathies and remembrances may be forwarded to Russ' wife at the following address:

LORI THOMAS
329 St. Andrews Drive
Napa CA 94558

IMPORTANT UPCOMING DATES

SATURDAY, AUGUST 27, 2005, 10:00 AM – 5:00 PM

AANC-CON 2005

RANDALL MUSEUM . 199 MUSEUM WAY, SAN FRANCISCO

VOLUNTEERS NEEDED FOR THIS EVENT

BOARD MEETINGS

Tuesday, August 2

Tuesday, September 6

Tuesday, October 4

7:00-8:30 p.m.

Randall Museum, 199 Museum Way

(Near 14th Street and Roosevelt)

SFAA GENERAL MEETINGS & LECTURES

Wednesday, August 17

Wednesday, September 21

Wednesday, October 19

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)

CITY STAR PARTIES

Saturday, August 27 – 8:00 p.m. – At the RANDALL MUSEUM to compliment the AANC Conference

Saturday, September 24 - 7:00 p.m. – Telescope Clinic 6:00 p.m. – At Land's End, San Francisco

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

MOUNT TAM PUBLIC STAR PARTIES

Saturday, August 13, 8:00 p.m.

Saturday, September 10, 8:00 p.m.

Saturday, October 8, 7:30 p.m.

SAN FRANCISCO AMATEUR ASTRONOMER'S ROCK SPRINGS

MEMBERS ONLY EVENTS (AT OR NEAR NEW MOON)

MOUNT TAMALPAIS – ROCK SPRINGS

Saturday, August 6 - 7:00 p.m.

Saturday, October 1 – 7:00 p.m. – PRECEDED BY ANUAL SFAA BOOTJACK STAR-B-QUE (MEMBERS ONLY) AT 3:00 P.M.

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Saturday, August 6, 7:00 pm

**SFAA SPECIAL USE
PERMIT
MEMBERS ONLY
NIGHT**

Neptune Opposition
is the theme
for this night's viewing.

Saturday, August 13, 8:00pm

**2005 MT. TAM
ASTRONOMY PROGRAMS
Mountain Theater on Mt Tam**

**DR. EMMA BAKES
NASA-Ames Research Center
EXPLORING THE MEANING OF LIFE**

What evidence is there for the universal
formation of life throughout the cosmos.

Tinka Ross

Saturday, August 27, 2005

AANC-CON 2005

Randall Museum, 199 Museum Way, San Francisco, CA 94114

Hosted by

Sponsored by



The AANC is pleased to announce "AANC-CON 2005" conference and workshops to be held SATURDAY, August 27th, 2005 10:00 AM TO 5:00 PM. The conference will be hosted by us, the San Francisco Amateur Astronomers, the San Francisco Sidewalk Astronomers, and sponsored by both AANC and the Western Amateur Astronomers.

This year's theme is "Celebrating Bay Area Astronomy" and we have an impressive lineup of speakers and activities. We will also be celebrating John Dobson's 90th birthday!

Our speakers include Timothy Ferris, Lynette Cook, Steve Gottlieb and Richard Crisp; with additional presentations by Bob Schalk and ASP's Marni Berendsen. The \$25 registration fee will include all speakers and workshops plus lunch.

That evening, we'll have a star party at the Randall and deliver our 2005 awards. In addition, we hope to have a workshop on astronomy clubs and land use issues; focusing on the relationships (good and bad) between the park systems and amateur astronomers. Visit the conference web site at http://www.planitarium.net/aanc/aanc-con2005/program_guide/

The \$25 registration fee includes admission to all speakers and workshops, as well as a boxed lunch. We appreciate pre-registration, as it helps us plan the number of meals needed. We ask that you register for the event either online via PayPal or send your \$25 check, payable to "AANC-CON 2005" to: Don Stone, AANC Treasurer, 19047 Robinson Rd., Sonoma, CA 95476-5517. If you wish to pay at the door, please notify us in advance by emailing aancregistration@pacbell.net.

The AANC acts as a forum for communication to the Astronomy Community, funds public outreach events, seed money for educational programs, and is once again holding its annual conference and awards. We invite you to this conference and historic 90th birthday celebration for John Dobson our SFAA Emeritus Board Member.

VOLUNTEERS...we need 'em. Contact Stacy Jo McDermott at aanc2005volunteers@hotmail.com.

The Amateur Astronomer Community's volunteers will handle the following:

- Speaker helpers - 3 Memory book helper - 1
- Valley of the Dobs - 3 people to watch the dobs while unattended by their owners
- Set up on Friday - 3 to help out with Randall folks
- Saturday Tear down - 6 Vendor helpers - 2
- Star party helpers - 6 Art and construction projects for kids 6
- Dob in a Day - to assist Richard Ozer from the Telescope Makers Workshop
- Misc - 6 (2 shifts of 3 people)

Since we're hosting this event, it'd be nice if we had a good SFAA turnout to help - besides, you get to hear all the speakers and attend the workshops for free!

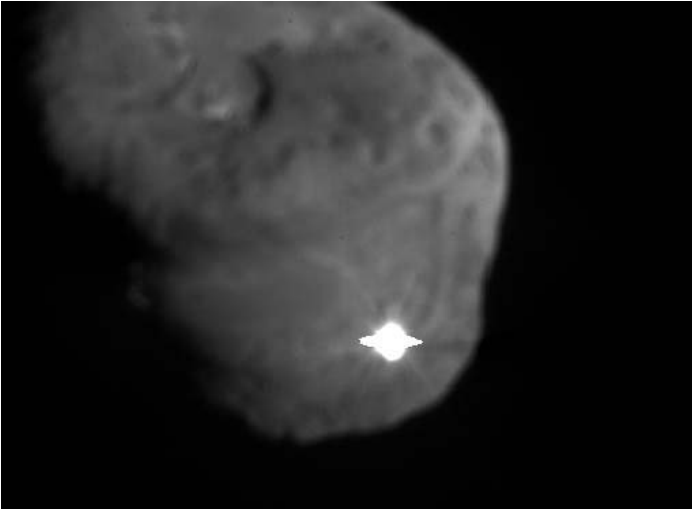
Thank you for your support.

Richard Ozer and Kenneth Frank, Co-Chairs . AANC Conference Committee



Participating Member Clubs

Mon, 4 Jul 2005 21:34:20 -0700
Observing Comet Tempel 1
Jane Houston Jones



The image depicts the first moments after Deep Impact's probe interfaced with comet Tempel 1. The illuminated -- and possibly incandescent -- debris is expanding from the impact site. The rough-hewn edges at the top and bottom of the flash are a result of light given off at impact saturating some of the pixels in the camera's imager. The pixels "bleed" excess electronic charge onto adjacent pixels in the same column. This image was taken by Deep Impact's high-resolution camera. Image credit: NASA/JPL-Caltech/UMD

Mojo and I wanted to be part of the community of worldwide eyes observing Comet 9P Tempel 1 last night, and we also hoped to share the view, if possible, with others. We showed the comet each night during the Grand Canyon Star party June 4 - 10 in the high altitude dark skies of northern Arizona when the comet was brighter and higher in the sky. But where could we observe it near our home in Monrovia, CA? A glance out the window of our guest room provided the answer: Mount Wilson Observatory!

We belong to the Mount Wilson Observatory Association and have been wanting to volunteer at the 60-inch (152.4 cm) for some time. So I asked if the telescope would be available on the nights of the 3rd and 4th. The answer? Nope, the telescope isn't designed to be operated that low in the sky, plus high surface brightness objects look best, not faint comets, through this historic instrument.

So I offered to give a short talk about the Deep Impact Mission and which observatories, space telescopes and amateur astronomer networks would observe the comet before, during and after impact. I suggested we bring our portable 17.5 (44.5 cm) and 14.5 (36.8 cm) inchers and set them up someplace with a view to the southwest at 10:52 p.m. PDT (05:52 UT July 4) last night. Last night was the first night of the annual two-week CUREA program on Mt. Wilson <http://www.curea.org/>, so we had a ready-made audience of enthusiasts to hear about Deep Impact and hopefully view the comet.

While waiting for the marine layer to swallow some of Los Angeles nearly 6,000 feet below and to the south of us, we first observed Mercury and Venus low in the west. Farewell Saturn! It was already below the horizon at 8:30 p.m. when we began observing. Jupiter was our next target, then we aimed at a few deep sky objects such as the supernova 2005cs in M51. We each started to prepare for Comet Tempel 1. We brought printed charts using Skytools for the comet's position in Telrad, 80mm finder and eyepieces.

It was easy to star hop to the comet's general vicinity as it was framed nicely by two magnitude 5 stars, 76 and 82 Virginis. Whenever I got lost, or let the object drift out of my 223x field of view, it wasn't hard to get back, because the eyepiece view also contained two nice asterisms. Southeast (up in my reflector view) was a little Sagitta-shaped wedge which pointed right to the comet.

Although neither of the software programs we used indicate a double star here, I think magnitude 10.74 TYC 55486-782-1 (BD-0803601 on Skytools) is a double star, or there was another similar magnitude star right next to it that is not charted on Skymap or Skytools. Just southwest (up in my view) of these two stars was a mag 12.22 star, TYC 05546-15581 completing the duncecap or Sagitta wedge. On the northeast side of the comet (down in my eyepiece) was another asterism, another triangle comprised of three mag 11 stars, TYC 05546: 0882-1, 1397-1 and 1273-1. There were lots of other road signs too, for example a "V" as in Virgo asterism with magnitude 8 TYC 5546-067-1 masquerading as a faint Vindemiatrix imposter.

Did we ever see the comet? I thought I did several times with averted vision, and I made a rough sketch on my eyepiece chart, showing where I thought the comet was moving and which direction (if any) the tail was. Maybe I was using averted imagination, but I did think I saw the wedge shaped glow several times, and I confirmed the motion this morning.

Some of the 15 or so viewers thought they saw the comet, but some did not. Mojo, using his 14.5 (36.8 cm) reflector, 19mm Panoptic and 2x Barlow (about 200x) felt the same way, unsure but suspecting a glimpse at the comet. But at a little after 11:00 p.m., Mojo announced to the group that he detected a faint star in the comet position, or what looked like a barely detectable faint grouping of stars -- one star with a faint compact glow around it. We all had a look. We felt sure we had seen the comet brighten, but then again, the marine layer was seething below. Our view seems to match other reports from similar instruments.

Driving home, we heard radio reports of the mission success. What a thrill to view Comet Tempel 1!

Observers: Jane and Morris Jones and CUREA staff and instructors
Date: July 3/4, 2005
Location: Mount Wilson, San Gabriel Mountains 34 13.6N 118 3.4W
Altitude: 5,715 feet (1742 meters)
Instrument: 17.5 inch f/4.5 (44.5 cm) and 14.5 (36.8) inch f/4.8 Litebox Reflectors up to 223x
Oculars 9 Nagler for 223x (Jane), and 19 Panoptic plus 2X barlow for 200x (Mojo)
Seeing: good
Transparency: LM 3-4, depending on marine layer obscuring some of LA

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San Francisco Amateur Astronomers Speaker Schedule

Randall Museum, 199 Museum Way, S.F. 7:30 pm

Be sure to attend the fine talks scheduled for the balance of this year.



August 17th Our speaker will be **Janice Voss**, a veteran of five space flights, logging over 49 days in space. Currently at NASA Ames, she is the Science Director of the Kepler Spacecraft mission. She will share her fantastic images of Earth from space and her personal experiences with NASA as an astronaut. Bring the family to this one.



September 21st **Sun Kwok**, University of Calgary, will speak on planetary nebulae, or "Cosmic Butterflies". He is an investigator of sub-millimeter wave astronomy on the Odin Space Mission. He has also written two books on planetary nebulae: "The Origins and Evolution of Planetary Nebulae" and "Cosmic Butterflies." He also has written articles for Sky and Telescope and Astronomy magazine. Bring your books for signing. We are fortunate to have him speak to us while he is at NASA Ames this month.



October 19th **Geoff Marcy** will talk to us about his Cal Berkeley team's experiences in the discovery of 107 of the 160 known Extra-Solar Planet, using the 120 inch Lick Observatory telescope and the 10 meter Keck Telescope in Hawaii. His topic is entitled "The Hunt for Habitable Worlds". SFAA is pleased he is taking time to be with us.



November 16th **Chris McKay** spoke to SFAA two years ago, to a large attendance and promised an exciting new talk that he will announce to us soon.

December 21st Member's Night. This is a special night to begin thinking about now. Plan to submit your work of Astronomy related Art, or Astronomical Photography, using any kind of camera. Consider giving a presentation at the meeting, or submit ideas for all the members to discuss. We will have a longer time for snacks and judging member's works. Be sure to attend. To give a talk, contact Linda Mahan at doublestar@comcast.net

January 2006. Annual Awards Banquet Night. You do not need to be a potential contest winner or incoming Officer or Board Member to come and enjoy this night. Many have been attending for years, and many more members will find a night with SFAA friends, good food and drink and time to talk together the perfect way to begin our Astronomical Year.

If you have any comments or suggestions, contact Linda Mahan at doublestar@comcast.net Thank you.

THE 2005 GRAND CANYON STAR PARTY

Michael Portuesi



Our setup at the Yavapai Observation Point parking lot for the star party.

My partner Jim and I, together with SFAA expatriates Jane Houston Jones and Morris Jones, Barry Peckham (of LITEBOX Telescopes, Honolulu, HI) and John Dobson, all converged on the Grand Canyon Star Party, June 4-11, 2005, to show the public the cosmos.

The Grand Canyon Star Party is primarily a public event. Similar to the SFAA Yosemite trip, we act as park volunteers in the early evening, sharing sky views with park visitors. Once the public departs, we have the skies to ourselves the rest of the night for observing. We were there for six of the eight nights, since we took the drive there and back as a two-day trip in each direction, with stop-overs in Barstow, CA.

The star party itself was set up in the parking lot at Yavapai Observation Point. This area gets lots of visitors and is great for showing the universe to park guests. We had some wind most nights, which made the scopes difficult to control, but we still provided stunning views to everyone who stopped by our scopes. We showed M51, M57, M13, M92, M81/82, M104, NGC 4565, the Moon, Jupiter, Saturn, and more each night. Though it was windy, seeing was generally excellent, and we got crisp views of planets and deep sky objects

when the scopes were steady.



John Dobson wows the crowd at the telescopes.

The wind did make us cold rather quickly, so we retired with the crowd around 11 each night during the week. That didn't allow for much private observing, but it did make sure we were awake for our many daytime activities. Thursday brought an afternoon thunderstorm and rain that evening, so we had that night off from our duties. Friday night was



John Dobson holds court with other amateur astronomers.

very nice. We had good seeing, warm temperatures and no wind for the star party.

There were a few scattered clouds, but they weren't problematic after 11:30, when everything clouded over. So we packed up with the crowd that night, too. It rained a little that night, and there were scattered thunderstorms in the area when we departed for San Francisco the next day.



One of the many canyon views we enjoyed on the trip.

Though I didn't do much of my own observing, I do have one astronomical highlight from the trip. John Dobson showed me how to find Barnard 86 (dark nebula in Sagittarius) through my LITEBOX 15" telescope. This is one of John's favorite deep-sky objects, and it quickly became one of mine, as well as a moment I will treasure for some time to come.

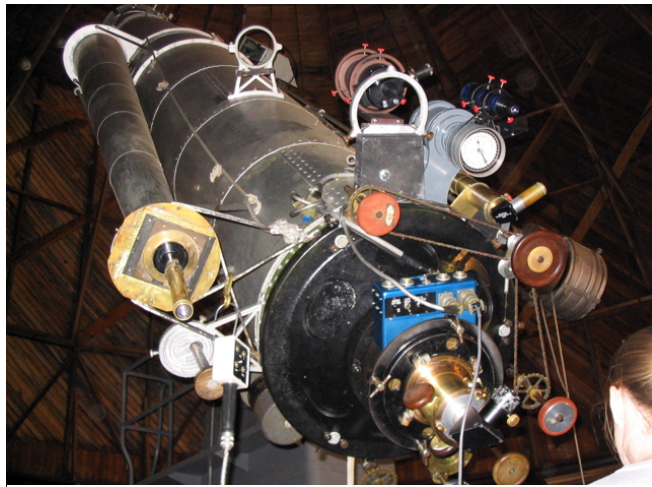
The canyon itself was quite grand. We hiked all of the south rim within the park, on three separate days. One of the days we hiked with Jane, Mojo, Barry, and John. John Dobson was very fond of eating all of the native plants and flowers we came across on the walk. He knows as much about the wildlife and geology as he does about astronomy.

On another day, we descended down steep trails about 1600 feet into the canyon, getting up close to the rock strata and layering that comprise the canyon walls. Our final rim hike was topped by relaxing with prickly pear margaritas, at the El

Tovar Hotel on the canyon rim. On one rim hike, we were greeted by condors swooping over us. We saw ten condors at once, which is about one-fifth of all condors in existence. They are curious about humans and like to observe us, as much as we observed them.

We also took a day trip to Flagstaff to visit the Lowell Observatory. Lowell Observatory was built in 1894 by Percival Lowell, the man who popularized the "canals" on Mars. The observatory still has the original dome, built to house a 24-inch Clark refractor telescope, still one of the largest of its type in the world today. The eyepiece end of the telescope is a strange mixture of Jules Verne-style control knobs, with more recent additions such as a Telrad finder and a Meade ETX-90 used as a guidescope.

Lowell used the scope to observe his famous "canals" on Mars. Lowell thought the canals he saw on Mars were indications of intelligent beings digging



The business end of Percival Lowell's 24-inch telescope at the Lowell Observatory



6-inch Clark refractor telescope in the Lowell Observatory Rotunda.

there. Though the telescope is over 100 years old, it is remarkably similar to instruments used by amateur astronomers today.

On our return trip, we got our kicks on Route 66 as we stopped to visit the Grand Canyon Caverns, an underground cavern with lots of interesting crystal formations. It was a nice cap to a trip filled with astronomy, telescopes, wildlife, flowers, and good times with friends.



Jim Mace is lost against the canyon during our trip descending 1600 feet into it.

irrigation ditches from the poles towards the equatorial regions. Today we know the canals were really an optical illusion, but Lowell wrote several popular books detailing his observations and speculating on Martian life.

Next, we went for a stroll on the Lowell Observatory Pluto Walk. This is a scale model of the Solar System, with posts representing each of the planets at scale size, positioned apart from each other by scale.

The Lowell's Pluto Observatory dome lies at the far end of the walk (where Pluto itself is). The Pluto Observatory dome at the Lowell Observatory houses the telescope used by Clyde Tombaugh to discover Pluto in 1930. The back of the scope accommodates a very large photographic plate. Exposures took hours in the cold.

Finally, we visited the observatory Rotunda, a kind of library and museum of sorts. We looked through the "blink comparator" used to discover Pluto on the photo plates. It rapidly switches views between two photos, so you can detect differences between them. Photos shot on different days will show Pluto in a slightly different position relative to background stars.

The Rotunda also houses a beautiful brass 6-inch refractor telescope built in 1892 by Alvan Clark and Sons, the finest telescope maker of the time. It was taken to the mountaintop where Lowell Observatory now sits, and used to evaluate atmospheric conditions before the decision was made to build the observatory



The Pluto Discovery Telescope, at Lowell Observatory.

**SFAA
Yosemite
Star Party
At
Glacier Point
July 8th & 9th, 2005**



Photo by Bryan Chan of the Los Angeles Times.



Kenneth Frank and Danny Christian get the finder aligned on a classic Meade newtonian.



Ranger Dick Ewart in the center talks with two park visitors.



Jane likes her 17.5-inch Litebox!



Mike Boyle with his classic C-11. Jinsook looking through the scope



Hugo Martin of the L.A. Times with his back to the camera, interviewing SFAA member Tim Gerk. That's Matt Miller behind Hugo.

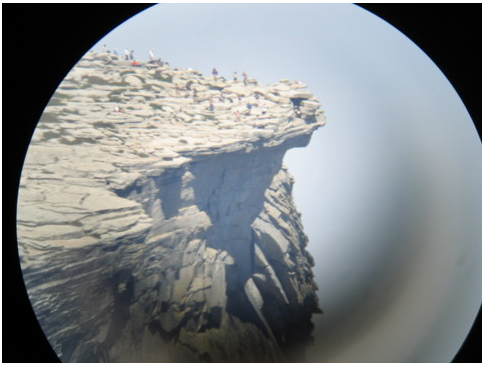


Ah, the master of the bino viewers!



Jennifer and Jeff Myers carried their tube on top of the car, hence the unique protective lid.

Event photos courtesy of Ken Frank, Jung Thomas, Morris Jones, Bryan Chan, Art Rosch.



Climbers taking a rest on top of Half Dome. Picture taken through eyepiece of telescope.



Gazing Astronomers. This was Bryan's photo shoot under Art's tutelage. He mounted his camera on Art's C-8 on a G-11 mount. www.artsdigitalphoto.com



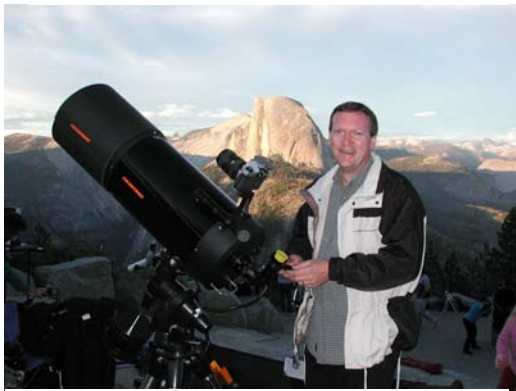
Katie (far right) offers views of the Moon to several park visitors in the 6-inch Dobsonian built with her roommate Elaine in John's class. Yes, they ground the mirror!



Telescopes look to the Moon, while the people admire Half Dome in the setting sunlight.



Stephanie Ulrey and her Starblast



Russ Cashin with a piggyback camera on his Celestron.



J.T. (Jung Thomas)



Aeddan Frank and Cory Schumacher



Mojo enjoys the thin crescent Moon in his 15-inch Litebox dob. That's Stephanie Ulrey's Orion Starblast on the granite steps.



Patrick McNichols



Mark Mickels

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:

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Name: Telephone:

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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.