SJAA EPHEMERIS

SJAA Activities Calendar

Jim Van Nuland

(late) July

19 **General Meeting at Houge Park**. 8 p.m. Our speaker is John Dillon on "When Astronomy Became a Science: The Museum of Alexandria."

25 Houge Park star party. Sunset 8:21 p.m., 43% moon rises 12:13 a.m. Star party hours: 9:30 until midnight.

25 Astronomy Class at Houge Park. 7:30 p.m. TBA

26 Coyote Lake County Park public star party. Sunset 8:20 p.m., 33% moon rises 12:53 a.m.

August

2 Dark Sky weekend. Sunset 8:14 p.m., 4% moon sets 9:07 p.m. Henry Coe Park's "Astronomy" lot has been reserved.

8 Houge Park star party. Sunset 8:07 p.m., 53% moon sets 11:50 p.m. Star party hours: 9:00 until midnight.

16 **General Meeting at Houge Park**. 8 p.m. Our speaker is UCB astronomer Dr. Frank Marchis, on the topic of Binary Asteroids.

22 Astronomy Class at Houge Park. 7:30 p.m. TBA

22 Houge Park star party. Sunset 7:50 p.m., 59% moon rises 10:53 p.m. Star party hours: 9:00 until midnight.

23 Coyote Lake County Park public star party. Sunset 7:48 p.m., 47% moon rises 11:38 p.m.

30 Dark Sky weekend. Sunset 7:39 p.m., 0% moon sets 7:33 p.m.

September

5 Houge Park star party. Sunset 7:30 p.m., 37% moon sets 10:24 p.m. Star party hours: 8:30 until 11:30.

13 **General Meeting at Houge Park**. 8 p.m. Slide and Equipment night. Latest images, latest equipment, being made by our members.

19 Astronomy Class at Houge Park. 7:30 p.m. TBA

19 Houge Park star party. Sunset 7:08 p.m., 72% moon rises 9:37 p.m. Star party hours: 8:00 until 11:00.

20 Coyote Lake County Park public star party. Sunset 7:07 p.m., 61% moon rises 10:30 p.m.

22 Autumnal Equinox. 8:44 a.m.

25-27 Cal-Star star party at Lake San Antonio County Park

27 Dark Sky weekend. Sunset 6:56 p.m., 1% moon rises 6:24 p.m.

The Board of Directors meets before each general meeting. Call the hotline for the exact time.

August General Meeting

Frank Marchis

Houge Park, 8 p.m.
August 16, 2008

Dr. Frank Marchis of UC Berkeley will address the SJAA general meeting on August 16. The topic will be "Binary Asteroids". Actually, binary is an understatement. Dr. Marchis and his colleagues at the Paris Observatory have been studying asteroids that are large enough to be considered minor planets, using the European Southern Observatory with adaptive optics. They found that the 187-mile-diameter planetoid 87 Sylvia has a satellite asteroid 11 miles across, orbiting about 860 miles away. And it has a 4.4 mile diameter satellite 450 miles out. They think Sylvia may have as many as 10 moonlets! A study of the orbital motions of these bodies suggests that Sylvia is likely a loose rubble pile with about 50% voids. It may be a reaggregation of fragments created in a shattering collision.

The Future of Houge Park

The future of Houge Park and how SJAA uses the park will be decided over the next few weeks. The change is motivated by budgetary considerations – both the city of San Jose's and ours. The article on page 2 describes this in more detail.

The club has a critical need for an attorney. If you can help, please contact Rob Hawley at president@sjaa.net.

Fremont Peak Star-B-Q

This year's Fremont Peak Star-B-Q is on August 2. See the article on page 3. Not mentioned in that article is the raffle. Grand prize, valued at $1,149 MSRP, a Meade ETX 90PE UHTC Telescope Premier Edition w/ Tripod, AutoStar GOTO Controller, AutoAlign and SmartFinder. Other prizes include a personalized, autographed copy of "Meteor Showers and their Parent Comets" by Dr. Peter Jenniskens.

24 hour news and information hotline:
(408) 559-1221
http://www.sjaa.net

Copyright © 2008 San Jose Astronomical Association, Inc.
Volume 19 Number 8 Official publication of the San Jose Astronomical Association, August 2008

Continued Use of Houge Park Uncertain

Rob Hawley

Background

In November 2000 the voters of San Jose approved construction of new community centers. However, with the dot-com bust the city could not afford to operate both the new and the old facilities. Starting in 2005 Parks, Recreation, and Neighborhoods (PRN), the City of San Jose department that controls Houge, circulated a plan to close all of the older centers (including Houge). Mike Koop met with the PRN on several occasions to explain our use of Houge and why it should continue. PRN presented its plan to the council in winter of 2006. The council's response was "wrong answer!" PRN approached the council for a second time in April 2008 with a plan to "reuse" the older centers. "Reuse" means they will try to get other groups to make use of the facilities. For example, Houge is located next to a day care center. By all indications the day care center has arranged to use the uncontested Houge Building 2 (where the rest rooms are located).

"At this point the board has a critical need for an attorney."

The ReUse Proposal

The PRN released the Request for Proposal (RFP) for reuse on July 15. It imposes extremely tight deadlines to respond. The board is required to submit its response by August 22 with no possibility for extension.

At this point the board has a critical need for an attorney. This is a contract and we need to be sure we understand and have dealt with all of the issues.

During the next month the club must meet a tight schedule of required meetings. It must also put together a proposal that is compelling enough so PRN allow us to remain at Houge. We are also required to give an oral presentation in September. It is likely the day care center will also bid for building one.

What Happens if Our Proposal is not Accepted

Thanks to some lobbying on my part, an outside party will not be able to take possession of Houge until Fall 2009. At that point though, all SJAA programs at Houge would stop. The club would have to find a new home for its meetings and principal star parties.

The future of the SJAA and it use of Houge Park will be decided in the next few weeks.

What Happens if our Proposal is Accepted?

Our relationship with the city will change in ways that will not be apparent to members or the public. We will be using Houge on a contractual basis and not by reservation. That sounds lawyery, but it means that several agreements that we depend on will be converted from handshakes into a formal legal contract. Thus, while the next month is going to be busy, it could ultimately insure the long term future for the club.

What Can I do?

For the moment – nothing. The window to have the council resolve this closed in April. If you are an attorney see above. Other members are free to offer any information on our history at Houge that we can add to the proposal.

Beyond that then please hope that our proposal is accepted.

This is the real deal. The future of the club – as we now know it – will be decided in the next few weeks.

The Shallow Sky

Join the Summer Twilight Dance

Akkana Peck

August opens with a bang with a total solar eclipse on the 1st. But there's a whimper too: you have to be in China, Mongolia, arctic Canada, Greenland or Siberia to see it. In our hemisphere we don't get to see as much as a sliver, and will have to make do with webcasts. The same is true for the partial lunar eclipse on the 16th, visible from parts of every continent ... except North America.

Saturn is low in the evening twilight sky, and starting about a week into August, it takes part in a dance with Venus and Mercury. First Venus approaches, climbing upward in the sky to meet almost Saturn on the night of the 12th, when the pair will be separated by only about half a degree. They slip past each other the next morning (ambitious observers might want to try for them in the morning – they'll be only a fifth of a degree apart). By the night of the 13th they're back to the half-degree separation of the previous night, but with their positions reversed.

Meanwhile, while Venus and Saturn are dancing, Mercury waits in the wings. Having followed Venus in its rise out of the twilight glare, it's a bit under three degrees away while its larger and brighter cohorts make their close pass. But Mercury gets a turn with Saturn too: on the night of the 15th it passes Saturn with a separation of about three-quarters of a degree, then pulls nearly even with Venus by the 19th. The two promenade for about a week from Leo into Virgo, staying about a degree apart, until by the month's end Mercury finally begins to pull slowly away. (But keep watching as September opens: the pair will be joined by a slim crescent moon on September 1.)

Even aside from its nice dance with Saturn and Venus, this is the best evening look at Mercury we'll get all year, lasting through at least the first half of September.

Mars, too, is in the picture: all this time it's been hovering in eastern Virgo, waiting for its turn to dance with Venus and Mercury (a turn that will come in early September, starting on the first when all three planets plus a slim crescent moon come together). Mars is quite distant and small now, so it will be hard to see much detail on the planet, but it can still give us some lovely low-power and naked eye views.

While all this twilight dancing is going on, of course the real shallow show is Jupiter, a month past opposition and hanging bright in the southern sky all evening. It won't ever get high during this pass – this month it's just 30° up at its highest – but you can still see plenty of detail in the swirls of its bands, as well as watch another dance, that of its four bright Galilean moons.

Neptune reaches opposition on the 15th of August and is available all month for observers wanting an outer solar system fix. You probably won't want to go after it on the 15th, with the moon one day short of full and hanging only a few degrees away, but by later in the month its small blue disk should make a fine target. Uranus is not so easily placed: it lags a couple of hours behind Neptune in Aquarius, and doesn't transit until 3am, though its larger, brighter green disk should be findable even before it's high in the sky. Pluto is in northwestern Scorpius, in the heart of the Milky Way ... you'll have plenty of field stars to compare with, but also plenty of field stars to confuse with Pluto! But if you get frustrated, at least there are plenty other objects to look at during your Pluto hunt.

*

Star-B-Q 2008

August 2

Doug Brown

Potluck Picnic, Super Star Party, and Annual Meeting Saturday, August 2, 2008 at Fremont Peak State Park. This is a GREAT way to meet amateur astronomers and enjoy the fun side of astronomy.

YOU ARE INVITED Anyone interested in astronomy or Fremont Peak State Park is welcome. You do not have to be a member of any particular organization to attend.

POTLUCK Begins at 5:00 p.m. in the area below the observatory. We will provide meat (hamburgers and chicken), condiments, soft drinks and utensils. Please bring a side dish, dessert, salad or your favorite dish to share.

DISTINGUISHED KEYNOTE SPEAKER Dr. Peter Jenniskens, Research Scientist with the Carl Sagan Center at the SETI Institute and NASA/Ames Research Center, will present "Meteor Showers and their Parent Comets". Bring your own pads for seating on the amphitheater steps.

RSVP EARLY FOR FREE RAFFLE ENTRY Call (831) 623-2465 or e-mail info@fpoa.net with your name, number of guests and number of cars. RSVP's by Monday, July 28, will be entered for the grand prize drawing! Pay $4 state park parking fee.

ASTRONOMICAL-GASTRONOMICAL CONTEST Your astronomically-themed dish may win a prize! Entries will be judged based on culinary ingenuity, looks, and astronomical relevance! Please enter before 6:00 pm, by placing your dish-suitably labeled-on the food table. Entries arriving late may be consumed without judging!

GETTING THERE See http://www.sjaa.net/directions.html#Fremont_Peak_

SEE WONDERS OF THE NIGHT SKY! After dark you can look through the 30-inch Challenger Telescope and see stars and stuff in the sky as you have never seen them before, especially if it's clear.

FOR MORE INFO http://fpoa.net/starbq2008/SBQ2008Announcement.pdf

Space Buoys

Dr. Tony Phillips

Congratulations! You're an oceanographer and you've just received a big grant to investigate the Pacific Ocean. Your task: Map the mighty Pacific's wind and waves, monitor its deep currents, and keep track of continent-sized temperature oscillations that shape weather around the world. Funds are available and you may start immediately.

Oh, there's just one problem: You've got to do this work using no more than one ocean buoy.

"That would be impossible," says Dr. Guan Le of the Goddard Space Flight Center. "The Pacific's too big to understand by studying just one location."

Yet, for Le and her space scientist colleagues, this was exactly what they have been expected to accomplish in their own studies of Earth's magnetosphere. The magnetosphere is an "ocean" of magnetism and plasma surrounding our planet. Its shores are defined by the outer bounds of Earth's magnetic field and it contains a bewildering mix of matter-energy waves, electrical currents and plasma oscillations spread across a volume billions of times greater than the Pacific Ocean itself.

"For many years we've struggled to understand the magnetosphere using mostly single spacecraft," says Le. "To really make progress, we need many spacecraft spread through the magnetosphere, working together to understand the whole."

Enter Space Technology 5.

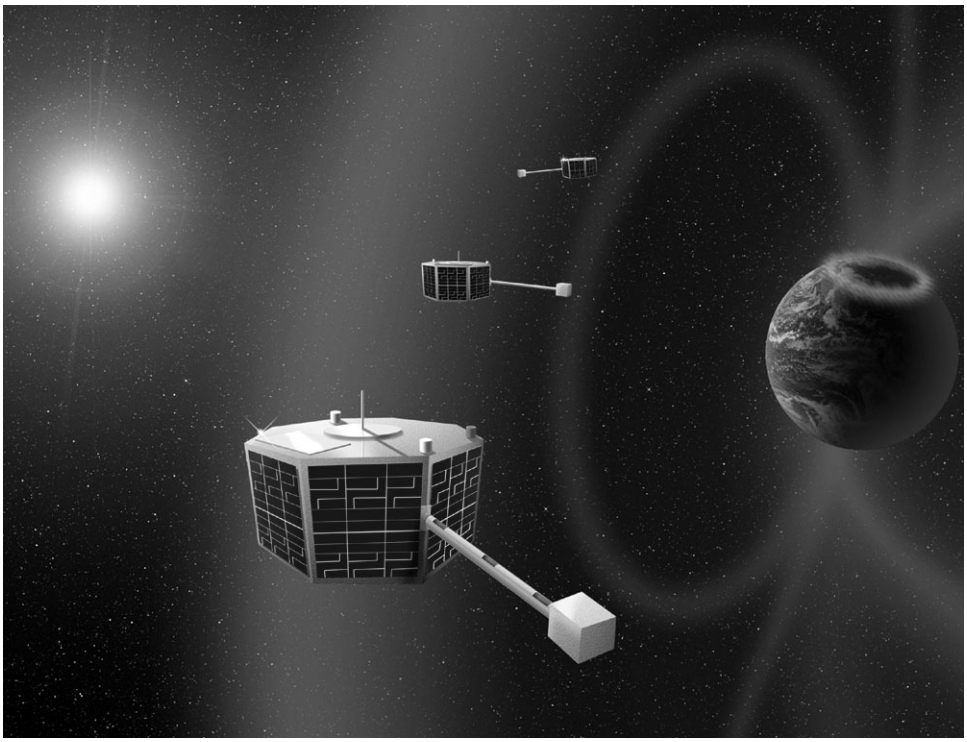
In March 2006 NASA launched a trio of experimental satellites to see what three "buoys" could accomplish. Because they weighed only 55 lbs. apiece and measured not much larger than a birthday cake, the three ST5 "micro-satellites" fit onboard a single Pegasus rocket. Above Earth's atmosphere, the three were flung like Frisbees from the rocket's body into the magnetosphere by a revolutionary micro-satellite launcher.

Space Technology 5 is a mission of NASA's New Millennium Program, which tests innovative technologies for use on future space missions. The 90-day flight of ST5 validated several devices crucial to space buoys: miniature magnetometers, high-efficiency solar arrays, and some strange-looking but effective micro-antennas designed from principles of Darwinian evolution. Also, ST5 showed that three satellites could maneuver together as a "constellation," spreading out to measure complex fields and currents.

"ST5 was able to measure the motion and thickness of current sheets in the magnetosphere," says Le, the mission's project scientist at Goddard. "This could not have been done with a single spacecraft, no matter how capable."

The ST5 mission is finished but the technology it tested will key future studies of the magnetosphere. Thanks to ST5, hopes Le, lonely buoys will soon be a thing of the past.

Learn more about ST5's miniaturized technologies at http://nmp.nasa.gov/st5. Kids (and grownups) can get a better understanding of the artificial evolutionary process used to design ST5's antennas at http://spaceplace.nasa.gov/en/kids/st5/emoticon.



The Space Technology 5 micro-satellites proved the feasibility of using a constellation of small spacecraft with miniature magnetometers to study Earth's magnetosphere.

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

The Last 31 Days In Astronomy

JUL-11-2008 ***Little Red Spot Gone*** Jupiter's red spots, the Great Red Spot, Red Jr., and the Little Red Spot recently converged. The result is that the Little Red Spot appears to have been swallowed up by its larger and more established brothers. Such occurrences are probably not rare on Jupiter but the timing of this one, nearly simultaneous with the opposition of Jupiter, created more interest. http://www.skyandtelescope.com/observing/home/24453169.html

JUL-10-2008 ***Explosive Bolt Removed*** The astronauts on board the space station performed a space walk to remove an explosize bolt on the attached Soyuz. The last two times that the Soyuz returned to Earth, it had difficulties that resulted in off target landings with rougher than expected results. The explosive bolt might be the problem and Russian engineers want to take a look at the bolt back on Earth.http://www.nasa.gov/mission_pages/station/expeditions/expedition17/eva20a.html

JUL-8-2008 ***Last Launches Listed*** The last launches of the Space Shuttle have been scheduled. Granted, there is no fiction quite like a list of launch dates, but scheduling these flights makes the end of the shuttle quite apparent. The last shuttle flight is scheduled for May 31, 2010. The next shuttle flight is set for October 8 when Atlantis heads off to the unmanned space station called the Hubble telescope. http://www.skyandtelescope.com/news/wires?id=118969498&c=y

JUL-03-2008 ***STEREO View of heliosphere*** STEREO Creates First Images of the Solar System's Invisible Frontier: NASA's STEREO twin spacecraft detected particles from the edge of the solar system. Mapped were the engergized particles where the hot solar wind slams into the cold interstellar medium. http://www.nasa.gov/mission_pages/stereo/news/invisible_frontier.html

JUL-02-2008 ***Proposed GEMS for NASA*** A proposed NASA mission named Gravity and Extreme Magnetism (GEMS) will use a new technique to measure the polarization of X-rays emitted from black holes. This has not been attainable until now. http://www.universetoday.com/2008/07/01/proposed-mission-could-study-space-time-around-black-holes/

JUL-01-2008 ***SOHO discovers its 1500th comet*** The Solar and Heliospheric Observatory (SOHO) has discovered 1500 comets since starting this mission 13 years ago. It has been more successful than all other comet discoverers throughout history put together. http://www.astronomynow.com/080630SOHOdiscoversits1500thcomet.html

JUN-30-2008 ***Cassini starts second mission*** On June 30, 2008 the Cassini spacecraft completed it primary mission at Saturn. It will now embark on an extended two year mission. More closely studied will be Titan, Enceladus, and the interaction between Saturn's moons and rings. http://www.universetoday.com/2008/06/27/cassini-primary-mission-complete-ready-to-tackle-new-assignments/

Paul Barton

You may wish to include a notice in your next issue of Ephemeris that my dad, Paul Barton, passed away on July 4th after a long battle with pneumonia. He was 92. He was a long time member of SJAA and loved the evenings at Houge Park with all the children, as well as uncounted star parties at Grant Ranch with his friends.

He made many telescopes in his life including grinding the mirrors and designing the mounts. He had a strong personality and a great sense of humor. I'm sure many long-time members will remember him fondly.

Bonnie Sandler

2008

This year the SJAA had its annual Yosemite public star party on the July 4th weekend at Glacier point. The sky was a little hazy from the many wild fires around the state, but wasn't too bad.
There were few minor clouds threatening off on the horizon, but it was clear for us. We had two good nights with dark rich skies.
There weren't that many of the public there this year, probably because it being a national holiday and all. But we had a respectable attendance of scopes for those who did show up. The views through Michael's big 22" Dobsonian were especially nice.
In the photo above, the group is setting up, waiting for it to get dark. This is the wonderful view we get from the Glacier Point amphitheater. Even without the astronomy, it's worth the drive up there.
In the photo below, from left to right, left of and behind the big Dobsonian: Ron Rojeski,
top row: Hsin-I Huang, Michael Connelly, Bob Garfinkle, Jim Van Nuland, Paul Mancuso, Jim McClure, Gordon Reade, Wayne Loeb, Ron Rohde
bottom row: Cathy Ishida, Ken Frank, Kevin Hall, David Herbert, Gary Mitchell, Far right, in yellow Michigan sweater: Natalie McClure

YOSEMITE

Telescope Loaner Program

The loaner program offers members a means to try scopes of various sizes and technologies before you buy. It is one of the real jewels of being a member of the club. Scopes are available for all experience levels.

The inventory is constantly changing. As of this writing (early July) these scopes were available. Note that the loaner program is temporarily on hold until August 7.

Scope Number	Scope Description
42	11x80 Binoculars
43	4.5" f/8 Orion XT Dob
44	4.5" f/8 Orion Skyview Newt
37	4" Celestron Flourite Refractor
32	5.5" f/7.6 Signature Dob
23	6" f/8 Edmund Newt on EQ Mount
13	6" f/8 Orion XT Dob
34	8" f/10 Dynamax S/C
29	8" Celestron S/C Astrophoto
14	8" f8.5 Homemade Dob
7	12.5" f/7 Homemade Dob
41	18 inch f/4.5 Sky Designs Dob
10	Star Spectroscope

For up to date information please see the loaner program web page: http://www.sjaa.net/loaners

Officers and Board of Directors

Pres Rob Hawley (408) 997-6526
VP Rich Neuschaefer
Sec Craig Scull (408) 292-9317
Tres Gary Mitchell (408) 265-2336
Dir Lee Hoglan
Dir Gordon Reade
Dir Robert Armstrong
Dir Phil Chambers

Ephemeris Staff

Editors Paul & Mary Kohlmiller (408) 848-9701
Circulation Gordon Reade
Printing Accuprint (408) 287-7200

School Star Party Chairman

Jim Van Nuland (408) 371-1307

SJAA Email Addresses

Board of Directors board@sjaa.net
Membership ?'s membership@sjaa.net
Astronomy ?'s questions@sjaa.net
President president@sjaa.net
Treasurer treasurer@sjaa.net
Announce sjaa-announce@sjaa.net
Secretary secretary@sjaa.net
School Star Parties schools@sjaa.net
Ephemeris ephemeris@sjaa.net
Web Page webmaster@sjaa.net
Circulation circulation@sjaa.net
Telescope Loaners loaner@sjaa.net
Members Email Lists:
http://www.sjaa.net/majordomo.html

Publication Statement
SJAA Ephemeris, newsletter of the San Jose Astronomical Association, is published monthly.

San Jose Astronomical Association,
P.O. Box 28243
San Jose, CA 95159-8243

The SJAA Ephemeris is published in three formats: hardcopy, Adobe Acrobat PDF, and HTML. The PDF and HTML versions are found at http://ephemeris.sjaa.net.

Articles for publication should be submitted by the 10th of the previous month. The PDF version is generally available by the 24th of the previous month and the HTML version by the last day of the previous month.

San Jose Astronomical Association
P.O. Box 28243
San Jose, CA 95159-8243

ADDRESS SERVICE REQUESTED

Nonprofit Organization
U.S. Postage Paid
San Jose, California
Permit No. 5381

San Jose Astronomical Association Membership Form

P.O. Box 28243 San Jose, CA 95159-8243

☐ **New** ☐ **Renewal** (Name only if no corrections)

Membership Type:

☐ Regular — $20
☐ Regular with Sky & Telescope — $53
☐ Junior (under 18) — $10
☐ Junior with Sky & Telescope — $43

Subscribing to Sky & Telescope magazine through the SJAA saves you $10 off the regular rate. (S&T will not accept multi-year subscriptions through the club program. Allow 2 months lead time.)

☐ **I'll get the Ephemeris newsletter online**
http://ephemeris.sjaa.net Questions?
Send e-mail to membership@sjaa.net

Bring this form to any SJAA Meeting
or send to the club address (above).

Please make checks payable to "SJAA".

You can join or renew online:
http://www.sjaa.net/SJAAmembership.html

Name: _____

Address: _____

City/ST/Zip: _____

Phone: _____

E-mail address: _____