

Sonoma Skies

The Newsletter of the Sonoma County Astronomical Society
a non-profit scientific and educational organization

October 2003

Volume XXVII No. 10

October 8 Program:

IS ANYBODY OUT THERE?

The Search for Extraterrestrial
Civilizations With Help from Four
Million 'SETI@home' Volunteers

Dan Werthimer of the University of California, Berkeley will speak at the SCAS meeting on October 8 at Proctor Terrace School. He will discuss the possibility of life in the universe and the search for optical and radio signals from other civilizations. Werthimer will present results from several optical and radio searches, including the SETI@home search at the world's largest radio telescope. The SETI@home project uses desktop computers from more than four million volunteers in 226 countries. SETI@home participants have contributed one million years of computer time so far and have formed Earth's most powerful supercomputer. Users have the small but captivating possibility that their computer will detect the first signal from a civilization beyond Earth. More information can be found at <http://seti.berkeley.edu>.

Dan Werthimer directs the SETI program at the University of California, Berkeley; he is principal investigator of SETI@home and several optical and radio SETI programs. Werthimer was associate professor in the engineering and physics departments of San Francisco State University and has been a visiting professor at Beijing Normal University, the University of St. Charles in Marseille, Eotvos University in Budapest, and taught at universities in Peru, Egypt, Ghana, Ethiopia, Zimbabwe, Uganda and

Few 2004 Striking Sparks Sponsorships Still Available

by Coby LaFayette, Program Coordinator

Several people have already contacted me about sponsoring a Sparks Telescope in 2004. Most of the 2004 scopes now have sponsors (which is, of course, a good thing). For those of you who plan on sponsoring a telescope but haven't yet contacted me, I can be reached by phone at 829-2219 or by email at arpgal@sonic.net. Telescope sponsorship for 2004 costs \$200. If you would like to enjoy the benefit of a 2004 sponsorship on your 2003 tax return, I will be happy to receive your check this year! Thanks to ALL past, present and future Sparks Telescope Sponsors...we couldn't do it without you!

Year 2004 Calendars

These are on order and some of what we have ordered will arrive in time for the general meeting on October 8. Quantities are very limited so if you want one of the items listed, let Len Nelson know soon. SCAS sells calendars to members at cost. The items on order and their estimated costs are:

RASC Observer's Hand Book 2004 at \$14.50

RASC Observer's Calendar 2004 at \$7.50

Astronomical Calendar by Ottewell at \$20.00

Year in Space (desk calendar) at \$9.00

Kenya. Werthimer has published numerous papers in the fields of SETI, radio astronomy, instrumentation and science education; he is co-author of "SETI 2020" and editor of "Astronomical and Biochemical Origins and the Search for Life in the Universe."

SCAS Membership, Renewals and Subscription Information

SCAS new membership dues are \$25 from June 1st through November 30th; and \$12.50 from December 1st through May 31st. SCAS annual renewal membership dues are \$25 per year; due and payable on June 1st each year. Membership is dropped if dues become delinquent.

SCAS Membership and Meetings

As a benefit of membership, discount subscriptions to *Sky & Telescope* and *Astronomy* magazines are available. Membership meetings take place on the second Wednesday of each month at 7:30 pm in the Multipurpose Room of Proctor Terrace Elementary School on Bryden Lane near Fourth Street in Santa Rosa unless otherwise announced in this publication. Star Parties are meetings held each month at our viewing site on the Saturday evening nearest to the new moon. The Public is invited to both.

New or renewal subscriptions for *Sky & Telescope* through SCAS: send your \$29.95 subscription check (**payable to SCAS**) along with your complete mailing address (for new subscriptions) or the *Sky & Telescope* **renewal card** and **return envelope** provided by *Sky & Telescope* (for renewals) directly to **Larry McCune, 544 Thyme Place, San Rafael, CA 94903**.

Subscriptions to *Astronomy* through SCAS occur yearly around October. Check *Sonoma Skies* for details.

Telescopes Available

As a benefit of membership, SCAS members are eligible to borrow telescopes for a \$5 a week donation. Four telescopes are available: a Celestron 8" SCT and a 5" Celestron SCT, complete with clock drive and inverter; an 8-inch Newtonian on Dobsonian mount; and a 80 mm refractor on a motorized equatorial mount. Contact Joan Thornton at 707-762-0594

Access To Palmieri Observing Site

The Palmieri Observing Site is locked to public access. For use during monthly star parties, SCAS members can obtain the combination to the gate lock to the site by contacting any board member listed to the right.

Publication

Sonoma Skies is the newsletter of the **Sonoma County Astronomical Society** (SCAS) and is published each month. Subscriptions to the newsletter are included as part of membership to the Society.

Articles, news items and member announcements for *Sonoma Skies* are welcome. The deadline for articles for November is the 31st of October. Submissions must be typed or, if on computer media, in a commonly used word processing and/or graphics format, and may have graphics (pictures, drawings, etc.) They are published on a FCFS basis, space permitting, and may be edited.

Editor: Ben Barker

benbarker@earthlink.net

Mail To: SCAS, P.O. Box 183, Santa Rosa, CA 95402

SCAS Elected Board

President

Steven Alvernaz 762-2377

jaas1@comcast.net

Vice-President & Program Director

Lucy McMahon 763-2255 lucysonoma@aol.com

Treasurer

Larry McCune (415) 492-1426 llmccune@comcast.net

Secretary

Loren Cooper 525-8737 lorenc@sonic.net

Membership Director

Harry Linder 542-9167 harry@sonic.net

Community Activities Director

Len Nelson 763-8007 lennelsn@comcast.net

Publications Director

Ben Barker 838-0238 benbarker@earthlink.net

SCAS Appointed Positions

Amateur Telescope Making

Steve Follett 542-1561 sfollett@sonic.net

Young Astronomers Advisor

Gary Jordan SieraMolly@aol.com

Striking Sparks Program & Sparks Day Coordinator

Coby Lafayette 829-2219 arpgal@sonic.net

Librarian

Joan Thornton 762-0594 phonyjoanie@earthlink.net

Public Star Party Coordinator

Bruce Lotz 576-7833 ablotz@sonic.net

SCAS Library

Joan Thornton 762-0594

phonyjoanie@earthlink.net

SCAS has a library of over 70 books that may be checked out by SCAS members. A book may be checked out until the next meeting or for one month. Requirements to check out a book:

1. Be a SCAS member.
2. Give me (Joan Thornton) your name and phone number.

The Semi-Sirius Astronomer

by Herb Larsen



“Yep, it sure speeds things up on these public nights.”

SCAS "Public" Star Party

Bruce Lotz, Coordinator (707) 576-7833
ablottz@sonic.net

Location: Youth Community Park, located in Santa Rosa on the west side of Fulton Road, between Guerneville Road and Piner Road, just opposite Piner High School. Almanac data for the start party:

Saturday, November 1

Sunset: 5:11 p.m. PST

End Astronomical Twilight: 6:41 p.m. PST

Moonset: 12:15 a.m. PST (11/2/03)

SCAS Events Calendar

1. Bruce Lotz and Loren Cooper proposed that they trade offices. Since Bruce was elected by the membership and Loren appointed by the Board, Pres. Alvernaz and the remainder of the board undertook all the necessary motions, seconds, votes, appointments, etc. to perform the switch. So, please welcome Loren Cooper, Secretary and Bruce Lotz, Public Star Party Coordinator.

2. SCAS elections are only two months away, so start thinking about volunteering for an office. There is no need to recall anyone to create an opening! Several current officers will not be standing for reelection, so there will be plenty of room for all you folks willing to take a turn.

3. The Striking Sparks program has awarded 188 telescopes since it began. As the 200th telescope milestone is approaching rather quickly, the Board voted to begin planning for a special celebration, under the working title of "Sparks Jubilee." The picnic grounds and the Ferguson Observatory have been reserved for the event on May 22, 2004, so mark your calendars, too. The Jubilee will be an opportunity for winners and friends of the program from all years to gather and have a party.

Wed. October 8 7:30 pm General Meeting at Proctor Terrace Elementary, Santa Rosa

Thurs. October 16 Board meeting

Fri. October 17 7:30 p.m. Young Astronomers meet at Apple Blossom School (see YA page for details)

Sat. November 1 SCAS Public Star Party, Youth Community Park, Santa Rosa

Wed. November 12 7:30 pm General Meeting at Proctor Terrace Elementary, Santa Rosa

Fri. November 14 7:30 p.m. Young Astronomers meet at Apple Blossom School

Wed. December 10 7:30 pm General election and Meeting at Proctor Terrace Elementary, Santa Rosa

SCAS Membership

Harry Linder, Membership Director
harry@sonic.net

The SCAS is pleased to welcome the following new members, who have joined us since mid-year:

Kay Jablonsky, Guy Rowe, Dr. Vernon Lightfoot, Curtis Libor, Gerry Brown, Becca Massell, James Sloane, John Whitehouse, Eric Arnow, Nevia Chappell, Miklos Kara, Melissa Bates & Family, and Max Eliaser.

We now have 155 regular members, plus then 2003 Striking Sparks winners.

Robert H. Ferguson Observatory Public Observing

Phone: (707) 833-6979
<http://www.rfo.org>

“Mars Mania” has subsided but the red planet is still offering fine views to smaller crowds. Autumn is a great time at the RFO, with all three scopes operating: the 14-inch SCT with a new CCD camera in the east wing, the 8-inch refractor under the dome, and the 24-inch Dobsonian in the west wing. The next public observing opportunity is:

October 25

Solar Viewing 12:00 noon - 4:00 pm
Night viewing 7:00 pm - midnight

There is no admission fee for the solar viewing, but donations are appreciated. The Park charges \$4 per vehicle for entry. A \$2 donation is requested for admission to the observatory during the night viewing sessions. SCAS members are welcome to set up telescopes in the observatory parking lot to assist with the public viewing. However, automobile access is closed at dusk, so arrivals after dusk will need to carry their equipment in from the parking area by the horse stables.

Binoculars For Sale

12 x 60 Stellarvue binocs, never been used (really!)
\$110 call Coby 829-2219 or email her:
arpgal@sonic.net

Lake County Observatory Reopens



Chuck Mansell of the Lake County Office of Education reports that the Taylor Observatory reopened on September 27. A modernization program is underway with help from the Ukiah Astronomical Society. The next public event is October 25. Check out www.taylorobservatory.org and www.stars-r-us.com.

SRJC Planetarium

<http://www.santarosa.edu/planetarium/>
(707) 527-4465 or 527-4371

Santa Rosa Campus, Lark Hall, Room 2001

Shows are on Fridays and Saturdays at 7:00 PM and 8:30 PM and Sundays at 1:30 PM and 3:00 PM during the regular Fall and Spring semesters. Admission is \$4 General; \$2 Students and Seniors. Tickets are sold at the door only, beginning 30 minutes before show time. No children under five, please.

A parking permit is now required at SRJC and is included in the Planetarium show admission price. Pick up a parking permit at the planetarium when you pay admission. Please arrive early enough to place your permit on your vehicle's dashboard before the show starts.

Through Oct. 12: Terrestrial Tour

See the Moon and the terrestrial planets: Mercury, Venus, Earth, and Mars. Learn why the Moon and Mercury look so much alike, why Venus is so hot and what makes Mars red.

October 17 - November 23: Jovian Journey

Explore the four outer gas planets, Jupiter, Saturn, Uranus and Neptune, and the small ice world of Pluto. Learn about their many strange and fascinating moons. Learn why Triton is most likely not a natural satellite of Neptune, discover the strange motion of Uranus and see the rings of Saturn close-up.

SSU Dept. of Physics & Astronomy Observatory - Public Viewing

(707) 664-2267

October 17:

8:00 - 10:00 p.m. Bubble Nebula, Stephen's Quintet
The observatory is inside the football field at the SE corner of the campus, East Cotati Avenue and Petaluma Hill Road, 2 miles east of U.S. 101 at Cotati.

SSU Lecture Series "What Physicists Do"

<http://www.phys-astro.sonoma.edu/wpd/>
(707) 664-2119

Mondays at 4:00 p.m. Darwin Hall Room 108
Coffee at 3:30 p.m.

OCT 13 THE GAMMA-RAY BURST-SUPERNOVA CONNECTION

Dr. Daniel E. Reichart of the University of North Carolina

OCT 20 PROBING HIGH TEMPERATURE SUPERCONDUCTORS

Dr. Alessandra Lanzara of the U. C. Berkeley

OCT 27 FLYING MAGNETS

Dr. Paul Doherty of the Exploratorium

NOV 3 CAN SCIENTISTS DESCRIBE REALITY WITH COMPUTER SIMULATIONS?

Dr. Jennifer Young Vandersall of the Lawrence Livermore National Laboratory and Sonoma State University

NOV 10 CRAWLING AND SEARCHING: RESEARCH ROBOTS AT JPL

Robert Hogg of the Jet Propulsion Laboratory.

Silicon Valley Astronomy Lecture Series

<http://www.foothill.edu/ast/>
(650) 949-7888

Wednesday, October 8, 2003, 7 pm

The Mars Exploration Rover Mission: Following the Water

Dr. David Des Marais of NASA's Ames Research Center will give a non-technical illustrated talk in the Smithwick Theater, Foothill College, Los Altos Hills.

SCAS "Geysers" Star Party

Location: Palmieri Observatory, Mercuryville, CA
(on the slopes of Geysers Peak near The Geysers)

Altitude: ~2700 feet

Longitude: 122deg 49min

Latitude: 38deg 46min

The next "new Moon" night will be October 25. Moderate temperatures and more than 10 hours of full darkness could combine with good weather to make this a great night for viewing or astrophotography. Please call Len Nelson if you plan to attend, especially if you are going for the first time. The almanac data for October 25:

Sunset - 6:20 p.m. PDT

Moonset - 6:39 p.m. PDT

End of twilight - 7:48 p.m. PDT

Begin twilight - 5:02 a.m. PST (10/26 - remember?)

Chabot Space and Science Center

<http://www.chabotspace.org>

(510) 336-7373

Thursday, October 16, 7:30 pm

Dr. Wil van Breugel,

Lawrence Livermore National Laboratories

Bright Lights, Big City: How the Most Massive Galaxies and Black Holes Live Together

Dr. van Breugel will take on an exploration of two of the most powerful celestial bodies known today—black holes and galaxies—and how they interact within our universe.

Morrison Planetarium

Dean Lecture Series

<http://www.calacademy.org/planetarium/>
(415) 750-7141

October 21

Dr. Janna Levin, Cambridge University "How the Universe Got Its Spots"

Our universe appears to stretch nearly thirty billion light years across. As far as the eye can see, there is no visible bound to space-time. Still the universe may not be infinite. A tenable possibility is that space itself is not only curved, as Einstein suggested, but that it is also connected, compact and finite. By searching for the shape and extent of space we are trying to locate ourselves in the cosmos.

(un)Fasten your Seatbelts

by Patrick Barry and Tony Phillips

The “fasten seatbelts” light turns off, and you get up to ask the stewardess for a pillow; it’s going to be a long flight. Only a kilometer ahead in the cloudless sky, a downward draft of sheering winds looms. When the plane hits these winds, the “turbulence” will shake the cabin violently and you could be seriously hurt.

You don’t know about those winds, of course, and neither does the pilot. Today’s weather satellites can’t see winds in clear skies: they rely on the motion of clouds to infer which way the winds are blowing.

“Believe it or not, their best indication of wind sheer right now is warnings from aircraft that have gone through it ahead of them,” says Bill Smith of NASA’s Langley Research Center.

But a new satellite technology being pioneered by NASA and NOAA could improve this shaky situation. It’s called GIFTS, short for Geosynchronous Imaging Fourier Transform Spectrometer. GIFTS is an infra-red sensor that can detect winds in cloudless skies by watching the motions of atmospheric water vapor. Water vapor is mostly invisible to the human eye, but it reveals itself to GIFTS by the infra-red radiation it absorbs.

Smith is the lead scientist for EO-3, a satellite designed to test out this new technology. Slated for launch in 2005 or 2006, EO-3 will carry GIFTS to Earth orbit where it can produce 3-dimensional movies of winds in the atmosphere below.

These wind data will not only improve safety, but also help the airlines save money. Knowing the winds along a flight route allows airlines to adjust the plane’s fuel load accordingly, thus reducing the weight that the engines must lift. Saved fuel means saved money and less pollution.

GIFTS can help planes avoid another potentially lethal problem, too: Ice forming on their wings. If a cloud contains “supercooled” water droplets whose temperature is below freezing, those droplets will form ice on the wings of planes that pass through it. By looking at about 1700 different frequencies of the light coming from clouds, GIFTS can measure the temperature of the cloud top and determine whether it contains water droplets that could



EO-3, carrying the GIFTS instrument, will be in a geosynchronous orbit for extended monitoring of large regions of our planet and enabling observation of weather patterns at higher resolution than possible with existing geostationary satellites.

cause aircraft icing. With information from GIFTS in hand, pilots can simply avoid clouds that appear dangerous.

Once EO-3 demonstrates the accuracy of GIFTS, airlines will be able to capitalize on this potential to make flying a cheaper and safer experience.

Learn more about the GIFTS instrument and other advanced technologies being tested on the EO-3 mission at nmp.jpl.nasa.gov/eo3. Kids can go to The Space Place to play a data compression game related to EO-3 at spaceplace.nasa.gov/eo3_compression.htm.

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

PBS-NOVA astro program scheduled

Merlin Combs noticed an upcoming TV program that sounds interesting to astronomers. A three-part PBS NOVA series, it is entitled “The Elegant Universe: Einstein’s Dream/The String’s the Thing.” The first episode will start at 8 PM Oct. 28 on KQED. The second and third shows will probably be on Nov. 4 and 11, but they aren’t posted on KQED’s web schedule yet.

KRCB will air the first episode at 1 p.m. on November 25th. They haven’t published their December schedule yet, but it will probably run at the same time on the same day of the week for the following two weeks.

Young Astronomers September Meeting Report

The new meeting site at Apple Blossom Elementary School just outside Sebastopol is ideally suited for the Young Astronomers. Over 60 astronomers of all ages came on September 12 to hear Len Nelson give an interesting and informative Power Point presentation on the Moon. He discussed theories of the Moon's origin as well as its surface features: craters, mountains, rilles, scarps, ridges and seas.

After the meeting & Moon presentation, many people headed up the hill to see what was being shown in the telescopes. But, first there was an Iridium Flare to see. At 9:22 p.m., just below Polaris - there it was, just as Len had said it would be. Len confessed that he accomplished this feat of prescience with the help of the website www.Heavens-Above.com.

Then, it was on to viewing Mars through Len's 5" refractor where the polar cap could be made out. The 11 day Moon rose over the eastern horizon and became the subject of interest. Sparks winner Blake Pepper-Tunick had his scope along and viewed the Moon. Len Nelson had his digital camera along and took the picture below of the Moon through Blake's scope.



It was a fun evening under good sky conditions. Hopefully the sky will be great when we next meet on October 17. Jane Houston Jones has an exciting Milky Way presentation you'll want to hear (see page 8). Afterward, we hope to see the many wonders of the Milky Way through several scopes. If you didn't come to the September meeting you missed a good one! Don't miss the next one.....remember October 17th.

Brendan's Off To Stanford



Len Nelson photo

Rumor has it that dinosaurs still ruled the Earth when Brendan Wells joined the Young Astronomers. He has been the club's most faithful member and became YA President about five years ago. But even Brendan had to graduate eventually, so we cheerfully wish him all the best as he moves on to college. Here to present him with a certificate of appreciation are (l-r) Cindy Megill, founding YA adult adviser and long-time Sparks coordinator, Brendan, Melissa Downey, new YA President, and Gary Jordan, new YA adult adviser.

Young Astronomers' Calendar

Oct. 17 **The Milky Way** - Presenter, Jane Houston Jones Note: this is on the **3rd** Friday of the month.

Nov. 14 - **The Leonids Meteor Shower** - Presenter, Jane Houston Jones

Dec. 12 - **Auroras** - Presenters, Merlin Combs and Len Nelson

Meetings start at 7:30 p.m. at Apple Blossom School, 700 Water Trough Road, Sebastopol. The multi-purpose hall is the 'large' building on the right side of the school that one sees from the main parking lot.

Oct. Young Astronomers Program:

The Milky Way

with Jane Houston Jones

The Milky Way is a special galaxy. Our own solar system is located in it. It's our home. In the summer and fall, we see a white ribbon of stars overhead, and we call it the Milky Way. This is the Sagittarius arm of the Milky Way, the arm we see when we look inwards, toward the center of our galaxy. We live in the next arm out, the Orion Arm. In the fall and winter, when we look away from the galactic

center, we see the Perseus spiral arm, the next arm out toward the edge of our galaxy. What else is there to see besides the ribbon of stars? A halo of 146 globular clusters encircles the galactic disk. These are the oldest stars in our galaxy, formed 10-15 billion years ago. And closer to the galactic center are star forming regions, dark lanes of dust, exploded stars, galactic clusters of stars and much more. Join Jane Houston Jones October 17 for a night of learning and observing our own Milky Way Galaxy. Don't forget to bring your own telescope. We'll take the telescopes out and observe our own galaxy after the talk.

