



Vol. 60, No. 1 – January 2012

San Francisco Amateur Astronomers Annual Awards Dinner

Saturday, January 21, 2012 6:00 p.m. - No-host Bar 7:00 p.m. – Dinner

L'Olivier

465 Davis Court, San Francisco 94111
(415) 981-7824 (between Jackson and Washington)
Map and directions: <http://lolivierrestaurant.com/location.html>

Appetizer

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

Entrée

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

Dessert

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

\$32.00 per person; \$18.00 per child - pay online using PayPal at [Annual Dinner](#)
http://www.sfaa-astronomy.org/dinner_page.php or by check.

Note: For Children, you will need to pay separately at PayPal!

Checks should be made payable to "SAN FRANCISCO AMATEUR ASTRONOMERS"
to address set forth below before Tuesday, January 17, 2012.

SFAA
PO Box 15097
San Francisco, CA 94115

Please direct any questions to Vivian White at
vicepresident@sfaa-astronomy.org with "Awards Dinner" in the subject line.

For directions to L'Olivier, see the full event page: [Directions to L'Olivier Restaurant](#)



San Francisco Amateur Astronomers

Upcoming Lectures and Lecturers

Randall Museum Theater . Randall Museum
199 Museum Way

San Francisco

7:30 p.m. . Free & Open to the Public

FEBRUARY 15, 2012

FARIDE KHALAF

Space Exploration and Aviation Specialist

SATURN V – THE FIRST 700 SECONDS

Join Faride Khalaf for a presentation on *Saturn V – The First 700 Seconds*. This presentation will highlight some of the interesting and little known technical aspects of the various Saturn missions. Khalaf will re-examine the Apollo program, focusing on some of the details starting from launch preparation to the last rocket blast that sent the gallant crew and their spacecraft to the moon.

President's Message – January

Who is loving these clear nights? Here in Marin we've been fortunate to have some lovely clear weather, and were able to entertain friends over the Holiday Season with a scope or two out on our deck. The mornings have been beautiful too, with the unseasonably dry atmosphere meaning I've yet to use my brand new dew shield. (Of course now that I've written this, you'll all have me to blame for the change of weather that's sure to occur as punishment for my hubris! Oooops)

Upcoming Events

I hope you are all able to join us on Saturday 21st for our Annual Awards Dinner. This is a hugely fun evening where our new 2012 Board is invested and a great chance for our members to come together under proper lighting and have full conversations that may, or may not, be about upgrading our telescopes!

Public Outreach in 2012

One of the greatest accomplishments in last year's calendar was the increased number of school and community outreach events the club hosted. Our members are tireless in their generosity, spending hours visiting schools and universities to share the night sky wonders with budding astronomy enthusiasts.

I fervently hope that 2012 sees us building on the groundwork laid to date, with middle and high school programs added to the elementary and university programs in place.

Club Improvements

For our members, 2012 will see even more fun trips as well as an upgrade in our club communications. We're busy planning a schedule of events for club members, including trips to local observatories. Plus, we are right in the middle of redesigning our website, and it's much needed facelift is planned to debut in January 2012.

Elections

If you have not yet voted there is still time...just! Please contact secretary@sfaa-astronomy.org for a ballot and to submit your votes.

Our January Meeting is a Party!

See you at L'Olivier Restaurant, 6pm – Saturday January 21st, 2012. Tickets \$32 Adults and \$18 per child.

Book online at http://www.sfaa-astronomy.org/dinner_page.php

Sue-Ellen Speight

SFAA President 2011

Annular Eclipse Road Trip

**May
2012**

The SFAA is planning a road trip for the May 20, 2012 annular eclipse that will be visible across the western US. We are going to camp in Northern California at a location to be determined along the eclipse track. The eclipse takes place near sunset on Sunday 20th. We plan to spend Sunday at the campsite, enjoy the eclipse, and spend the evening having a celebratory star party and overnight camping event. We'll return to the Bay Area on Monday 21st.

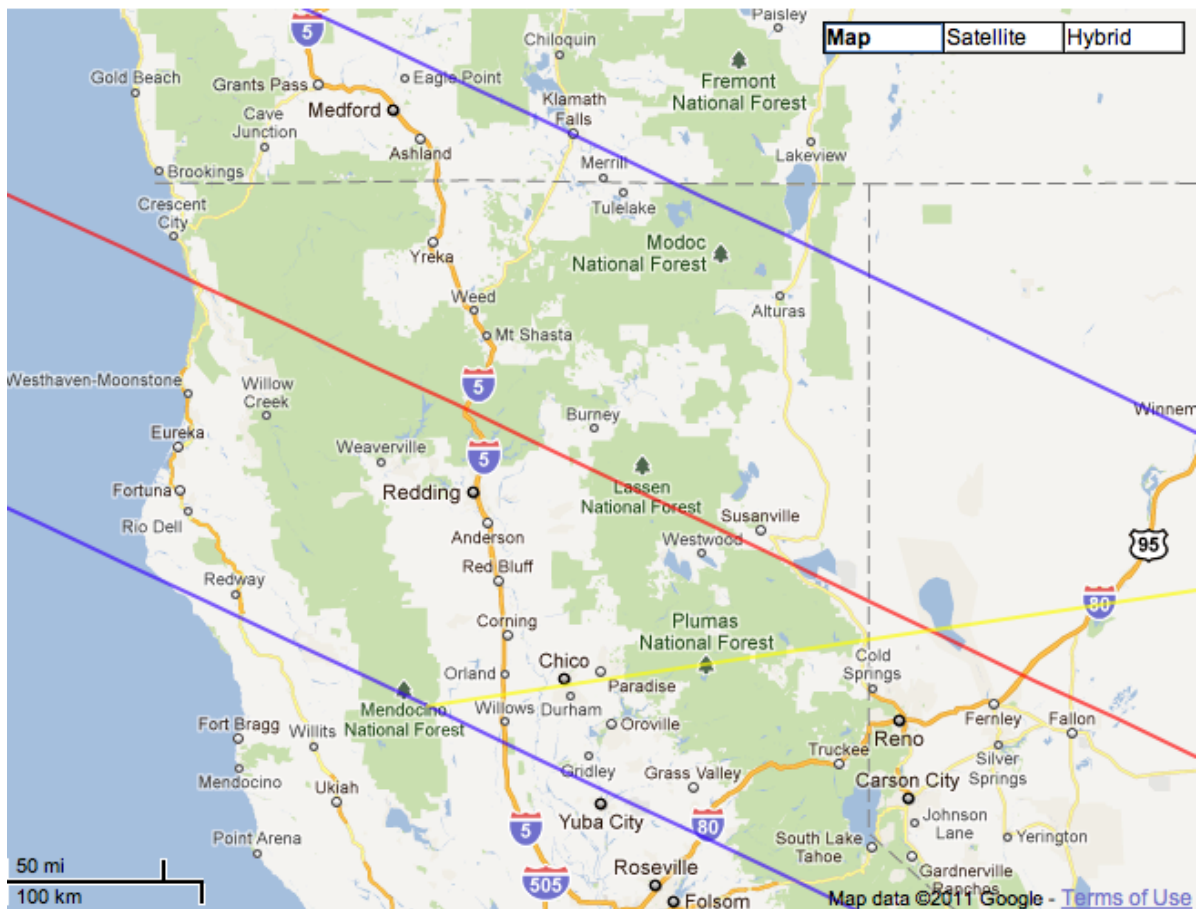
If you'd like to join the road trip, or if you have questions or ideas, send an email to:

roadtrip@sfaa-astronomy.org

Hope to see you there!



- Paul Salazar and Jessica Santascy



NIGHT SKY NETWORK

January 2012 - The Evening Sky

Sky Map <http://www.skymaps.com/skymaps/tesmn1201.pdf>

Sky Calendar: <http://www.skymaps.com/articles/n1201.html>

BAY AREA ASTRONOMY EVENTS – Kenneth Lum

<p>Friday, 11/04 6:30 PM - 10:00 PM</p> <p>The Tech Museum of Innovation 201 South Market Street San Jose, CA 95113</p>	<p>Dinner and a Private Screening of 'Hubble' in IMAX with NASA Astronaut Megan McArthur</p> <p>Astronaut McArthur shares her stories from Space Shuttle Atlantis and the last Hubble mission. Enjoy dinner and a private screening of our IMAX movie Hubble introduced by Astronaut McArthur. Afterward, join our Astronaut on the rooftop terrace under the stars for space-themed treats, Q&A, and photo opportunities.</p> <p>Cost: \$39.99 Adult, \$19.99 Children, Discount for Member</p>
<p>Fri. 11/4 7:00 PM</p> <p>Chabot Space and Science Center 10000 Skyline Boulevard Oakland CA 94619-2450</p>	<p>The Telescope Makers' Workshop</p> <p>The Telescope Makers' Workshop is held every Friday night from 7pm - 10pm, excluding major holidays (e.g. Christmas Day and New Year's Day) that fall on Fridays. The Workshop is always closed on Memorial Day Weekend. Attendance every Friday night is not mandatory, and members work at their own pace. The Workshop meets at Chabot Space & Science Center, 10000 Skyline Blvd., Oakland. Contact us for more specific details:</p> <p>Contact: E-mail Richard Ozer (rozer@pacbell.net) or (510) 406-1914</p>
<p>Friday, 11/4 and Sat. 11/5</p> <p>Chabot Space and Science Center 10000 Skyline Boulevard Oakland, CA 94619-2450 (510) 336-7300</p>	<p>EXPLORE THE NIGHT SKIES AT THE CHABOT OBSERVATORIES for more information: http://www.chabotspace.org/</p> <p>Free Telescope Viewing Regular hours are every Friday & Saturday evening, weather permitting: 7:30pm - 10:30pm Come for spectacular night sky viewing the best kept secret in the Bay Area and see the magnificent our telescopes in action! Daytime Telescope Viewing On Saturday and Sunday afternoons come view the sun, moon, or Venus through Chabot's telescopes. Free with General Admission. (weather permitting) 12pm - 5pm: Observatories Open</p>
<p>Friday, 11/4 and Saturday, 11/5</p> <p>Chabot Space and Science Center Skies! 10000 Skyline Boulevard Oakland, CA 94619-2450 (510) 336-7300</p>	<p>Dinner, a Movie, and the Universe at Chabot Space Center 06:00 PM Chabot Space and Science Center, Oakland</p> <p>Join us for Chabot's unique evening social rendezvous. Start your night off with dinner and drinks, then cozy up in the planetarium as you're whisked to the edge of the universe and cap off the evening with telescope viewing featuring breathtaking views of the cosmos. Dinner: Buy advance tickets to ensure your dinner reservation. Purchase dinner separately at the cafe (\$15).</p> <p>ADVANCE TICKETS A Movie and the Universe: Admission to Chabot includes all access to our interactive exhibitions, a film in the MegaDome theater AND a show in the Digital Planetarium. Purchase your advanced tickets online or call the Box Office at (510) 336-7373.</p>

<p>Friday, 11/4 9PM</p> <p>Foothill Community College 12345 Moody Rd. Los Altos Hills CA</p>	<p>Foothill Observatory is open for public viewing every clear Friday evening from 7:00 p.m. until 11:00 p.m. Visitors can view the wonders of the universe through the observatory's new computer-controlled 16-inch Schmidt-Cassegrain telescope. Views of objects in our solar system may include craters and mountains on the moon, the moons and cloud-bands of Jupiter, the rings of Saturn, etc. The choice of targets for any evening's viewing depends on the season and what objects are currently in the sky.</p> <p>On clear, dark, moonless nights, the telescopes give visitors views into the deeper reaches of space. Star clusters, nebulae, and distant galaxies provide dramatic demonstrations of the vastness of the cosmos.</p> <p>The public viewing programs at Foothill are free of charge and are open to guests of all ages. Please note that the observatory is closed when the weather is cloudy. Also note that visitor parking permits are available from the machines in the parking lots for \$2.00.</p> <p>Come to Foothill Observatory and join us in the exploration of our Universe!</p> <p>Foothill Observatory is located on the campus of Foothill College in Los Altos Hills, CA. Take Highway 280 to the El Monte Rd exit. The observatory is next to parking lot 4. Parking at the college requires visitor parking permits that are available from the machines in the parking lots for \$2.00.</p>
<p>Friday, 11/4 – 7-10 PM Saturday, 11/5 – 7-10 PM</p> <p>San Jose Astronomical Association Houge Park San Jose</p>	<p>Two Star Parties On One Weekend! SJAA Star Party November 4, 7-10PM Bay Area Science Fair November 5, 7-10PM</p>
<p>Saturday, 11/05 09:30 AM - 01:00 PM</p> <p>The Tech Museum of Innovation 201 South Market St San Jose CA 95113</p> <p>Cost: Free</p>	<p>Teacher Open House with Astronaut Megan McArthur</p> <p>Join us for an extraordinary morning with NASA Astronaut Megan McArthur! Astronaut McArthur will introduce a screening of the IMAX movie Hubble, followed by a Q&A session detailing her experience with Hubble. Learn more about the space-related activities available for you in the museum, and in the classroom from NASA.</p> <p>Reservations required at (408) 294-8324</p>
<p>Saturday, 11/5 10AM 10AM-12PM if it is clear</p> <p>Foothill College Observatory Foothill Community College 12345 Moody Rd. Los Altos Hills CA</p> <p>Admission is free</p>	<p>Solar observing with a Hydrogen alpha solar telescope every clear Saturday morning. This allows for spectacular views of solar prominences and unusual surface features on the Sun not otherwise visible with regular white light telescopes.</p> <p>Foothill Observatory is located on the campus of Foothill College in Los Altos Hills, CA. Take Highway 280 to the El Monte Rd. exit. The observatory is next to parking lot 4. Parking at the college requires visitor parking permits that are available from the machines in the parking lots for \$ 2.00.</p>

<p>Saturday, 11/5 2:00 – 11:00 PM</p> <p>College of San Mateo Building 36 1700 West Hillsdale Blvd San Mateo CA 94402</p>	<p>FAMILY SCIENCE AND ASTRONOMY FESTIVAL</p> <p>In conjunction with Bay Area Science Festival, College of San Mateo and San Mateo County Astronomical Society present Family Science and Astronomy Festival. Enjoy science and astronomy activities for the whole family. Events are free to the public. Free parking in Marie Curie Lot 5, and Beethoven Lot 2 by CSM Theatre.</p> <p>Photos: John Fiske & Ed Pieret, SMCAS Keynote speaker ALEX FILIPPENKO Jazz Under The S</p> <p>Schedule of events: College of San Mateo, Building 36, 1700 West Hillsdale Boulevard, San Mateo, CA 94402 2:00 pm: Planetarium show 2:30 to 4:30 pm: Science demonstrations by CSM science faculty (Biology, Geology, and Physics) 4:30 to 6:30 pm: Astronomy demonstrations, hands-on workshops, and planetarium shows. 7:00 to 8:30 pm: Keynote speaker: Dr. Alex Filippenko, Professor of Astronomy, UC Berkeley "Dark Energy and the Runaway Universe" CSM Theater (Building 3). 8:30 to 9:00 pm: Speaker reception in the Theater Lobby 9:15 to 11:00 pm: Telescope viewing of the night sky in our rooftop observatory. (Dress warmly!)</p>
<p>Sunday Nov. 6, 12:30PM</p> <p>AT & T Park San Francisco</p>	<p>Astronomer to Give Talk on What Happened to Pluto at AT&T Park During Science Festival</p> <p>Astronomer Andrew Fraknoi (Foothill College) will be one of the invited speakers/performers during the Family Science Discovery Day at AT&T Park, Sunday, Nov. 6th.</p> <p>The all-day event is part of the first-ever Bay Area Science Festival (100 events about science in 10 from Oct. 29 - Nov. 6, 2011).</p> <p>Fraknoi will speak from the Main Stage above the dugout in the park at 12:30 pm on the topic:</p> <p>"Whatever Happened to Pluto: Why It Got Kicked out of the Planet Club, and Why It Had It Cor</p> <p>The entire day is free and open to the public. There will be many dozens of booths, activities, and exhibits on science throughout AT&T Park. (The Physics Chanteuse will also perform.)</p> <p>The demotion of Pluto shocked the public and led to angry letters and even protests in some cities; the story of how Pluto became a dwarf started back in the year 1800 when a Sicilian astronomer made a dramatic cosmic discovery. Popular lecturer and frequent radio guest Andrew Fraknoi will fill everyone in on the behind-the-scenes history of Pluto and what really led to its being kicked out of the planet club. He will also describe the newer „dwarf planets%o Eris, Makemake, and Haumea, whose discovery contributed to Pluto's downfall.</p> <p>Andrew Fraknoi is the Chair of the Astronomy Department at Foothill College and the former Executive Director of the Astronomical Society of the Pacific. He was selected as the 2007 California Professor of the Year by the Carnegie Endowment and recently won the national Gemant Prize for work bringing the sciences into popular culture. You may have heard one of his regular appearances on Bay Area radio; he is a frequent guest on KGO and on the Forum program on KQED. He specializes in explaining astronomical ideas in everyday language. Asteroid 4859 has been named Asteroid Fraknoi in recognition of his contributions to the public understanding of science (but he is quick to reassure everyone that it is a very boring asteroid, and not one that could hit the Earth.)</p> <p>For more information about the Bay Area Science Festival, see: http://www.bayareascience.org/festival</p>

<p>Monday, 11/07/11 5:30 PM - 7:30 PM</p> <p>Commonwealth Club 595 Market Street 2nd Floor San Francisco CA 94105</p> <p>Cost: \$20 standard MEMBERS FREE \$7 students</p>	<p>DAVA SOBEL: A MORE PERFECT HEAVEN Speaker: Dava Sobel, Author, Longitude and Galileo's Daughter; Science Writer</p> <p>The bestselling author of Longitude and Galileo's Daughter tells the story of Nicolaus Copernicus : the revolution he inspired. By 1514, the reclusive cleric Copernicus had written an initial outline of heliocentric theory - in which he defied common sense and received wisdom to place the sun, not Earth, at the center of our universe. Over the next two decades Copernicus expanded his theory through hundreds of observations, while compiling in secret a book-length manuscript that tantalized mathematicians and scientists throughout Europe. Fearing ridicule, he refused to publish. More than years later, a young German mathematician finally unleashed Copernicus' ideas on the world. Sobel chronicle the conflicting personalities and extraordinary discoveries that shaped the Copernican revolution, giving us an unforgettable portrait of scientific achievement and of the persistent tension between science and faith.</p>
<p>Monday, 11/07/11 07:30 PM - 09:00 PM</p> <p>California Academy of Sciences 55 Music Concourse Dr. San Francisco CA 94118</p> <p>Cost: \$12 General \$6 Members</p>	<p>Benjamin Dean Lecture: Sun, Maize, and the Maya Calendar: Maya Astronomy and Enduring Traditions in Mesoamerica Speakers: Dr. Isabel Hawkins, Astronomer, Exploratorium Doña Maria Ávila Vera, Yucatec Maya Elder</p> <p>Mesoamerica's great pyramids excite our imagination with images of a fascinating civilization in the distant past, but they also provide a tangible link to the richness and enduring power of Maya culture expressed by the Maya people today. The infamous year 2012 gains astronomical and cultural significance in a calendar system that connects the Maya, corn, and the zenith passage of the Sun. The presenters will share experiences from recent research trips to Guatemala and Mexico, where they gathered content through the Maya people's own voice regarding the Calendar system and their cultural practices.</p>
<p>Wednesday, 11/9 - 7:00pm</p> <p>SETI Institute Colloquium Series 189 Bernardo Ave Mountain View, CA 94043</p>	<p>Past Climate In Antarctica: Looking Back to Our Future Stephen Pekar City University of New York</p> <p>Carbon dioxide levels are predicted to rise during this century to levels not seen in 25 to 50 million years. Back during this time, the Earth changed from a generally ice-free 'greenhouse world' to a much colder and heavily glaciated 'icehouse world'. Dr. Pekar will provide an overview of Antarctic climate changes when CO2 levels were similar to what is predicted for this century and also provide some of early results from IODP Wilkes Land Expedition.</p> <p>Dr. Pekar is traveling to the SETI Institute with the assistance of the Integrated Ocean Drilling Program Ocean Leadership Distinguished Lecturer Series.</p>
<p>Fri. 11/11 7:00 PM</p> <p>Chabot Space and Science Center 10000 Skyline Boulevard Oakland CA 94619-2450</p>	<p>The Telescope Makers' Workshop</p> <p>The Telescope Makers' Workshop is held every Friday night from 7pm - 10pm, excluding major holidays (e.g. Christmas Day and New Year's Day) that fall on Fridays. The Workshop is always closed on Memorial Day Weekend. Attendance every Friday night is not mandatory, and members work at their own pace. The Workshop meets at Chabot Space & Science Center, 10000 Skyline Blvd., Oakland. Contact us for more specific details:</p> <p>Contact: E-mail Richard Ozer (rozer@pacbell.net) or (510) 406-1914</p>

<p>Friday, 11/11 Saturday, 11/12</p> <p>Chabot Space and Science Center 10000 Skyline Boulevard Oakland, CA 94619-2450 (510) 336-7300</p>	<p>EXPLORE THE NIGHT SKIES AT THE CHABOT OBSERVATORIES</p> <p>for more information: http://www.chabotspace.org/</p> <p>Free Telescope Viewing Regular hours are every Friday & Saturday evening, weather permitting: 7:30pm - 10:30pm Come for spectacular night sky viewing the best kept secret in the Bay Area and see the magnificent our telescopes in action! Daytime Telescope Viewing On Saturday and Sunday afternoons come view the sun, moon, or Ven through Chabot's telescopes. Free with General Admission. (weather permitting) 12pm - 5pm: Observatories Open</p>
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<p>Saturday, 11/11 9PM IF IT IS CLEAR</p> <p>Foothill College Observatory Foothill Community College 12345 Moody Rd. Los Altos Hills CA</p> <p>Admission is free</p>	<p>Foothill Observatory is open for public viewing every clear Friday evening from 9:00 p.m. until 11:00 p.m. Visitors can view the wonders of the universe through the observatory's new computer-controlled 16-inch Schmidt-Cassegrain telescope. Views of objects in our solar system may include craters and mountains on the moon, the moons and cloud-bands of Jupiter, the rings of Saturn, etc. The choice of targets for any evening's viewing depends on the season and what objects are currently in the sky.</p> <p>On clear, dark, moonless nights, the telescopes give visitors views into the deeper reaches of space. Clusters, nebulae, and distant galaxies provide dramatic demonstrations of the vastness of the cosmos.</p> <p>The public viewing programs at Foothill are free of charge and are open to guests of all ages. Please note that the observatory is closed when the weather is cloudy. Also note that visitor parking permits are available from the machines in the parking lots for \$2.00.</p> <p>Come to Foothill Observatory and join us in the exploration of our Universe!</p> <p>Foothill Observatory is located on the campus of Foothill College in Los Altos Hills, CA. Take Highway 280 to the El Monte Rd exit. The observatory is next to parking lot 4. Parking at the college requires visitor parking permits that are available from the machines in the parking lots for \$2.00.</p>
<p>Saturday, 11/12 10AM 10AM-12PM if it is clear</p> <p>Foothill College Observatory Foothill Community College 12345 Moody Rd. Los Altos Hills CA</p> <p>Admission is free</p>	<p>Solar observing with a Hydrogen alpha solar telescope every clear Saturday morning. This allows spectacular views of solar prominences and unusual surface features on the Sun not otherwise visible with regular white light telescopes.</p> <p>Foothill Observatory is located on the campus of Foothill College in Los Altos Hills, CA. Take Highway 280 to the El Monte Rd. exit. The observatory is next to parking lot 4. Parking at the college requires visitor parking permits that are available from the machines in the parking lots for \$ 2.00.</p>

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<p>Friday, 1/13 – 7-10 PM</p> <p>San Jose Astronomical Association Houge Park San Jose</p>	<p>Star Party Sunset 5:12 pm, 74% moon rises 10:22 pm.</p>
<p>Friday, 1/13 and Sat. 1/14</p> <p>Chabot Space and Science Center 10000 Skyline Boulevard Oakland, CA 94619-2450 (510) 336-7300</p>	<p>EXPLORE THE NIGHT SKIES AT THE CHABOT OBSERVATORIES for more information: http://www.chabotspace.org/</p> <p>Free Telescope Viewing Regular hours are every Friday & Saturday evening, weather permitting: 7:30pm - 10:30pm Come for spectacular night sky viewing the best kept secret in the Bay Area and see the magnificence of our telescopes in action! Daytime Telescope Viewing On Saturday and Sunday afternoons come view the sun, moon, or Venus through Chabot's telescopes. Free with General Admission. (weather permitting) 12pm - 5pm: Observatories Open</p>
<p>Saturday, 1/14 Sunset, 5:13 p.m.</p> <p>San Mateo Astronomical Society</p> <p>Crestview Park San Carlos</p>	<p>Star Parties At Crestview Park Come out and bring the kids for a mind expanding look at the universe</p> <p>The City of San Carlos Parks and Recreation Department and the San Mateo County Astronomical Society has open Star Parties twice a month. These events are held in Crestview Park, San Carlos California.</p> <p>Note that inclement weather (clouds, excessive wind and showers) will cause the event to be canceled without notice.</p> <p>For more information call Bob Black, (650)592-2166, or send an email to SMCAS@live.com or call Pieret at (650)862-9602.</p> <p>Reasons to Attend If you have kids interested in space or planets bring them here for a real life view of planets, nebulae, clusters and galaxies. If you are thinking of buying a telescope or want help using a telescope you own, come here to talk to experienced users. If you think you might have an interest in astronomy come and talk to experienced amateur astronomers.</p> <p>Cautions Dress warmly and wear a hat. Visitors should park on the street and walk into the park so your headlights don't affect the observer's dark adaptation. Only park in the parking lot if you are arriving before dark and plan to stay until the end of the event. You shouldn't need lights but if you feel you do, only bring a small flashlight with the lens covered!</p>

	<p>red cellophane or red balloon. Please respect the telescopes and ask permission from the owner if you wish to touch. Parents, please watch your children. The park is residential, and adjacent to homes and backyards, please keep noise to a minimum.</p> <p>Astronomers arrive to set up at around sunset. Observing starts at about one hour after sunset and continues for two to three hours.</p>
<p>Saturday, 1/13 9PM IF IT IS CLEAR</p> <p>Foothill College Observatory Foothill Community College 12345 Moody Rd. Los Altos Hills CA</p> <p>Admission is free</p>	<p>Foothill Observatory is open for public viewing every clear Friday evening from 9:00 p.m. until 11:00 p.m. Visitors can view the wonders of the universe through the observatory's new computer-controlled 16-inch Schmidt-Cassegrain telescope. Views of objects in our solar system may include craters and mountains on the moon, the moons and cloud-bands of Jupiter, the rings of Saturn, etc. The choice of targets for any evening's viewing depends on the season and what objects are currently in the sky.</p> <p>On clear, dark, moonless nights, the telescopes give visitors views into the deeper reaches of space. Clusters, nebulae, and distant galaxies provide dramatic demonstrations of the vastness of the cosmos.</p> <p>The public viewing programs at Foothill are free of charge and are open to guests of all ages. Please note that the observatory is closed when the weather is cloudy. Also note that visitor parking permits are available from the machines in the parking lots for \$2.00.</p> <p>Come to Foothill Observatory and join us in the exploration of our Universe!</p> <p>Foothill Observatory is located on the campus of Foothill College in Los Altos Hills, CA. Take Highway 280 to the El Monte Rd exit. The observatory is next to parking lot 4. Parking at the college requires visitor parking permits that are available from the machines in the parking lots for \$2.00.</p>
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<p>Wednesday, 1/18 7:00pm</p> <p>SETI Institute Colloquium Series 189 Bernardo Ave Mountain View, CA 94043</p>	<p>Scott, Amundsen and Science: A 100th Anniversary Retrospective on Antarctic Science Ed Larson Pepperdine University</p> <p>Marking the 100th anniversary of teams led by Roald Amundsen and Robert Scott reaching the South Pole, science historian Edward Larson will reexamine their so-called Race to the Pole in the light of their objectives. Amundsen and his men focused exclusively on reaching the pole and succeeded brilliantly. Scott and his men had multiple objectives, which included conducting a broad array of scientific research by teams of researchers that fanned out across the region. Larson will retell the story of these expeditions in context and contrast it with the conventional wisdom about them.</p>
<p>Thursday, 1/19</p>	

<p>4:15PM - 5:15PM</p> <p>Lockheed Martin Colloquia 3251 Hanover St ATC Auditorium in Building 202 Palo Alto, CA 94304</p>	<p>Meteorite Threats to Spacecraft Speaker: Dr. Sigrid Close, Stanford University</p> <p>Cost: Free</p>
<p>Friday, 1/20 7:00-10:00 PM</p> <p>Chabot Space and Science Center 10000 Skyline Boulevard Oakland CA 94619-2450</p>	<p>The Telescope Makers' Workshop</p> <p>The Telescope Makers' Workshop is held every Friday night from 7pm - 10pm, excluding major holidays (e.g. Christmas Day and New Year's Day) that fall on Fridays. The Workshop is always closed on Memorial Day Weekend. Attendance every Friday night is not mandatory, and members work at their own pace.</p> <p>Contact: E-mail Richard Ozer (rozer@pacbell.net) or (510) 406-1914</p>
<p>Friday, 1/20 9:00 PM – 11:00 PM</p> <p>Foothill College Observatory Foothill Community College 12345 Moody Rd. Los Altos Hills CA</p> <p>Admission is free</p>	<p>Foothill Observatory is open for public viewing every clear Friday evening from 9:00 p.m. until 11:00 p.m. Visitors can view the wonders of the universe through the observatory's new computer-controlled 16-inch Schmidt-Cassegrain telescope. Views of objects in our solar system may include craters and mountains on the moon, the moons and cloud-bands of Jupiter, the rings of Saturn, etc. The choice of targets for any evening's viewing depends on the season and what objects are currently in the sky.</p> <p>On clear, dark, moonless nights, the telescopes give visitors views into the deeper reaches of space. Clusters, nebulae, and distant galaxies provide dramatic demonstrations of the vastness of the cosmos.</p> <p>The public viewing programs at Foothill are free of charge and are open to guests of all ages. Please note that the observatory is closed when the weather is cloudy. Also note that visitor parking permits are available from the machines in the parking lots for \$2.00.</p> <p>Come to Foothill Observatory and join us in the exploration of our Universe!</p> <p>Foothill Observatory is located on the campus of Foothill College in Los Altos Hills, CA. Take Highway 280 to the El Monte Rd exit. The observatory is next to parking lot 4. Parking at the college requires visitor parking permits that are available from the machines in the parking lots for \$2.00.</p>
<p>Saturday, 1/21 10AM IF IT IS CLEAR</p> <p>Foothill Community College 12345 Moody Rd. Los Altos Hills</p> <p>Admission is free</p>	<p>Solar observing with a Hydrogen alpha solar telescope every clear Saturday morning. This allows spectacular views of solar prominences and unusual surface features on the Sun not otherwise visible with regular white light telescopes.</p> <p>Foothill Observatory is located on the campus of Foothill College in Los Altos Hills, CA. Take Highway 280 to the El Monte Rd. exit. The observatory is next to parking lot 4. Parking at the college requires visitor parking permits that are available from the machines in the parking lots for \$ 2.00.</p>
<p>Saturday, 1/21</p>	<p>The Quest for the Higgs Boson at Large Hadron Collider</p>

<p>11:00 AM – 12:00 Noon</p> <p>UC Berkeley Evans Hall, Room 10 Berkeley CA 94720</p> <p>Cost: Free</p>	<p>The Large Hadron Collider (LHC) was built in the past decade near Geneva at the border of Switzerland and France, and is now operating since last year at the world's highest energy. A primary objective of the LHC is to either discover or dispute the so-called Higgs boson. The Higgs boson was first hypothesized nearly 50 years ago in 1964 in order to find a mechanism by which all particles that make up the matter in our Universe acquire mass. Just in the last year the LHC has made significant progress in its search for the Higgs boson. Particularly at the end of 2011 initial search results were observed that show tantalizing hints that a discovery might be very near which received a broad echo within the scientific community and the popular press. In my lecture will describe the LHC and its experiments, the relevance of the Higgs boson and the current state of the experimental searches.</p> <p>Beate Heinemann received her Diploma and PhD from the University of Hamburg in Germany, worked on the HERA electron-proton collider. From 2006-2006 she was a fellow at the University of Liverpool in the United Kingdom, working with the Tevatron near Chicago. In 2006 she was appointed Associate Professor of Physics at the University of California, Berkeley. She works both on precision measurements of known processes, and on searches for new unknown particles, e.g. for the Higgs boson, supersymmetric particles and extra dimensions.</p> <p>This free public talk is presented as part of the monthly "Science@Cal Lecture Series". Please note the venue is different from the usual location.</p>
<p>Friday, 1/20 and Sat. 1/21</p> <p>Chabot Space and Science Center 10000 Skyline Boulevard Oakland, CA 94619-2450 (510) 336-7300</p>	<p>EXPLORE THE NIGHT SKIES AT THE CHABOT OBSERVATORIES</p> <p>for more information: http://www.chabotspace.org/</p> <p>Free Telescope Viewing</p> <p>Regular hours are every Friday & Saturday evening, weather permitting: 7:30pm - 10:30pm Come for spectacular night sky viewing the best kept secret in the Bay Area and see the magnificent our telescopes in action!</p> <p>Daytime Telescope Viewing On Saturday and Sunday afternoons come view the sun, moon, or Venus through Chabot's telescopes. Free with General Admission. (weather permitting) 12pm - 5pm: Observatories Open</p>
<p>Saturday, 1/21 Sunset, 5:21 p.m.</p> <p>San Mateo Astronomical Society</p> <p>Crestview Park San Carlos</p>	<p>Star Parties At Crestview Park Come out and bring the kids for a mind expanding look at the universe</p> <p>The City of San Carlos Parks and Recreation Department and the San Mateo County Astronomical Society has open Star Parties twice a month. These events are held in Crestview Park, San Carlos California.</p> <p>Note that inclement weather (clouds, excessive wind and showers) will cause the event to be canceled without notice.</p> <p>For more information call Bob Black, (650)592-2166, or send an email to SMCAS@live.com or call Pieret at (650)862-9602.</p> <p>Reasons to Attend</p> <p>If you have kids interested in space or planets bring them here for a real life view of planets, nebulae, clusters and galaxies.</p> <p>If you are thinking of buying a telescope or want help using a telescope you own, come here to talk to experienced users.</p> <p>If you think you might have an interest in astronomy come and talk to experienced amateur astronomers.</p> <p>Cautions</p> <p>Dress warmly and wear a hat.</p> <p>Visitors should park on the street and walk into the park so your headlights don't affect the observer's dark adaptation.</p> <p>Only park in the parking lot if you are arriving before dark and plan to stay until the end of the event.</p>

	<p>You shouldn't need lights but if you feel you do, only bring a small flashlight with the lens covered in red cellophane or red balloon.</p> <p>Please respect the telescopes and ask permission from the owner if you wish to touch.</p> <p>Parents, please watch your children.</p> <p>The park is residential, and adjacent to homes and backyards, please keep noise to a minimum.</p> <p>Astronomers arrive to set up at around sunset. Observing starts at about one hour after sunset and continues for two to three hours.</p>
<p>Saturday, 01/21/12 8:00 PM - 10:00 PM</p> <p>Lawrence Hall of Science 1 Centennial Drive Berkeley, CA 94720</p> <p>Cost: Free</p>	<p>Saturday Night Stargazing See the Moon, Planets, Stars, Galaxies and More</p> <ul style="list-style-type: none"> * Stargaze through astronomical telescopes * Ask questions and talk with amateur astronomers * Learn how to use a star map to find constellations * Share in the wonder of the universe with your friends <p>Stargazing is always weather permitting-be sure to dress warmly. Foggy and overcast skies can cancel stargazing at the last minute.</p>

NASA SCIENCE NEWS

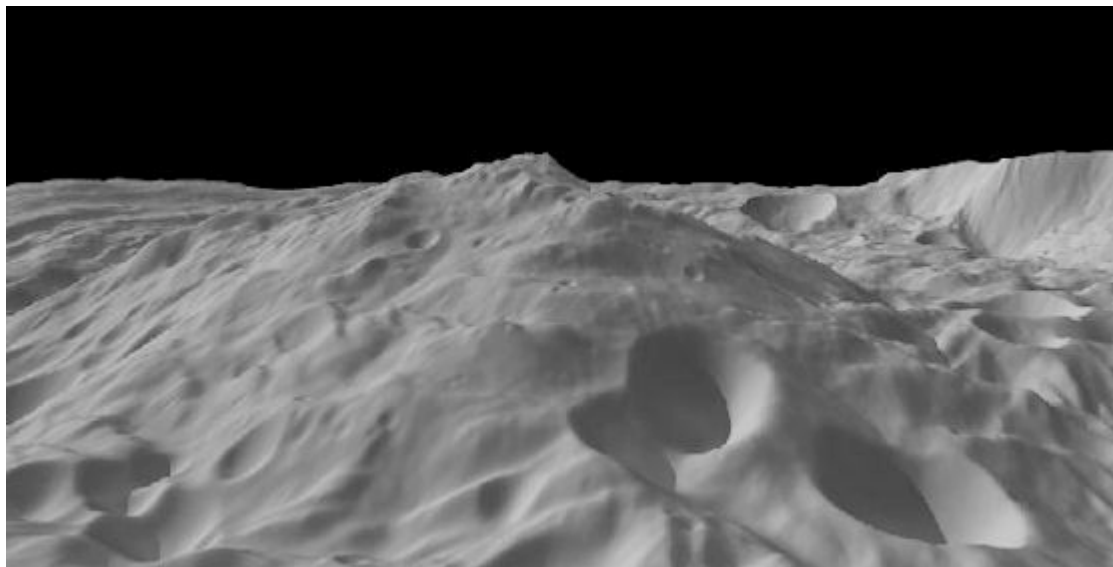
The Science@NASA team is pleased to announce a new product: the ScienceCast. Every week, we produce a short video highlighting a topic in NASA science news. A complete list of ScienceCast episodes may be found on Science@NASA's Youtube channel: <http://www.youtube.com/user/ScienceAtNASA> . Enjoy!

<http://science.nasa.gov/science-news/>

Space Mountain Produces Terrestrial Meteorites

Dec. 30, 2011: When NASA's Dawn spacecraft entered orbit around giant asteroid Vesta in July, scientists fully expected the probe to reveal some surprising sights. But no one expected a 13-mile high mountain, two and a half times higher than Mount Everest, to be one of them.

The existence of this towering peak could solve a longstanding mystery: How did so many pieces of Vesta end up right here on our own planet?



A side view of Vesta's great south polar mountain. [[more](#)]

For many years, researchers have been collecting Vesta meteorites from "fall sites" around the world. The rocks' chemical fingerprints leave little doubt that they came from the giant asteroid. Earth has been peppered by so many fragments of Vesta, that people have actually witnessed fireballs caused by the meteoroids tearing through our atmosphere. Recent examples include falls near the African village of Bilanga Yanga in October 1999 and outside Millbillillie, Australia, in October 1960.

"Those meteorites just might be pieces of the basin excavated when Vesta's giant mountain formed," says Dawn PI Chris Russell of UCLA.



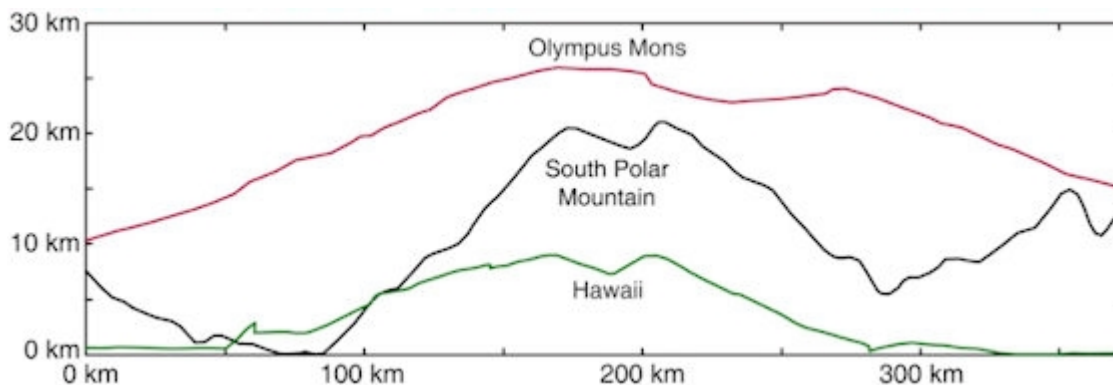
Russell believes the mountain was created by a 'big bad impact' with a smaller body; material displaced in the smashup rebounded and expanded upward to form a towering peak. The same tremendous collision that created the mountain might have hurled splinters of Vesta toward Earth.

"Some of the meteorites in our museums and labs," he says, "could be fragments of Vesta formed in the impact -- pieces of the same stuff the mountain itself is made of."

To confirm the theory, Dawn's science team will try to prove that Vesta's meteorites came from the mountain's vicinity. It's a "match game" involving both age and chemistry.

"Vesta formed at the dawn of the solar system," says Russell. "Billions of years of collisions with other space rocks have given it a densely cratered surface."

The surface around the mountain, however, is tellingly smooth. Russell believes the impact wiped out the entire history of cratering in the vicinity. By counting craters that have accumulated since then, researchers can estimate the age of the landscape.



Cross-section of the south polar mountain on Vesta with the cross sections of Olympus Mons on Mars, the largest mountain in the solar system, and the Big Island of Hawaii as measured from the floor of the Pacific, the largest mountain on Earth. These latter two mountains are both shield volcanoes. Credit: Russell et. al. (2011), EPSC

"In this way we can figure out the approximate age of the mountain's surface. Using radioactive dating, we can also tell when the meteorites were 'liberated' from Vesta. A match between those dates would be compelling evidence of a meteorite-mountain connection."

For more proof, the scientists will compare the meteorites' chemical makeup to that of the mountain area.

"Vesta is intrinsically but subtly colorful. Dawn's sensors can detect slight color variations in Vesta's minerals, so we can map regions of chemicals and minerals that have emerged on the surface. Then we'll compare these colors to those of the meteorites."

Could an impact on Vesta really fill so many museum display cases on Earth? Stay tuned for answers..

Author: [Dauna Coulter](#) | Editor: [Dr. Tony Phillips](#) | Credit: [Science@NASA](#)

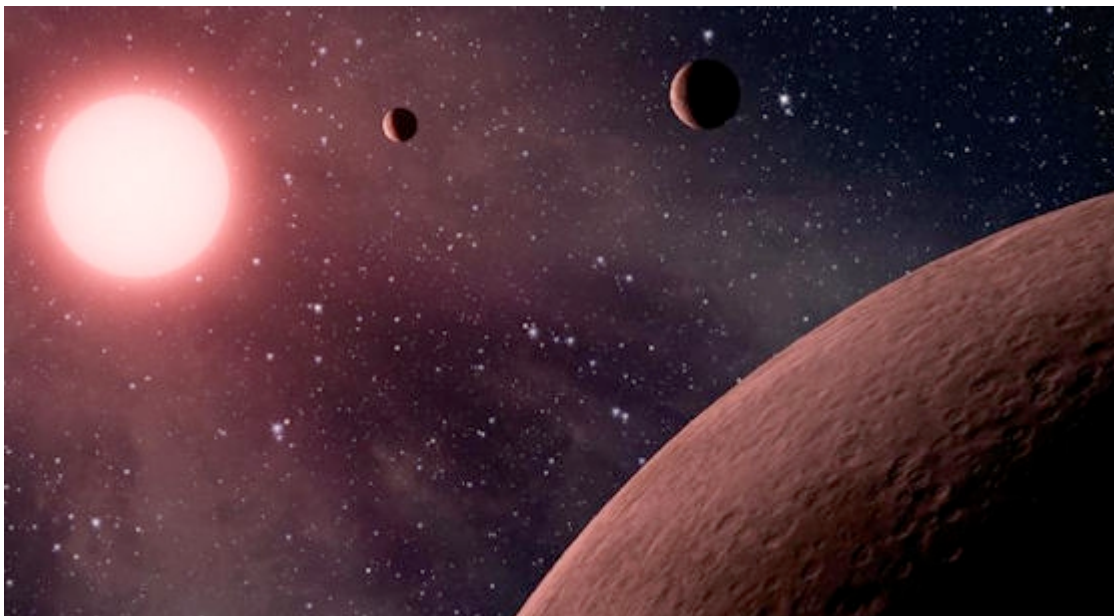
More Information

After revealing more Vesta surprises, Dawn will depart next summer for Ceres, where it will arrive in 2015. Dawn's mission to Vesta and Ceres is managed by the Jet Propulsion Laboratory, Pasadena, Calif., for NASA's Science Mission Directorate in Washington. JPL is a division of the California Institute of Technology in Pasadena. Dawn is a project of the directorate's Discovery Program, managed by NASA's Marshall Space Flight Center in Huntsville, Ala. UCLA is responsible for overall Dawn mission science. Orbital Sciences Corp. in Dulles, Va., designed and built the spacecraft. The German Aerospace Center, the Max Planck Institute for Solar System Research, the Italian Space Agency and the Italian National Astrophysical Institute are international partners on the mission team. More information about the Dawn mission is at: <http://www.nasa.gov/dawn> and <http://dawn.jpl.nasa.gov>. To follow the mission on Twitter, visit: http://www.twitter.com/NASA_Dawn.

Kepler Discovers a Tiny Solar System

Jan. 11, 2012: Astronomers using data from NASA's Kepler mission have discovered the three smallest planets yet detected orbiting a star beyond our sun. The planets orbit a single star, called KOI-961, and are 0.78, 0.73 and 0.57 times the radius of Earth. The smallest is about the size of Mars.

"This is the tiniest solar system found so far," said John Johnson, the principal investigator of the research from NASA's Exoplanet Science Institute at the California Institute of Technology in Pasadena. "It's actually more similar to Jupiter and its moons in scale than any other planetary system. The discovery is further proof of the diversity of planetary systems in our galaxy."



This artist's concept depicts an itty bitty planetary system -- so compact, in fact, that it's more like Jupiter and its moons than a star and its planets. Astronomers using data from NASA's Kepler mission

and ground-based telescopes recently confirmed that the system, called KOI-961, hosts the three smallest exoplanets known so far to orbit a star other than our sun. [\[more\]](#)

All three planets are thought to be rocky like Earth, but orbit close to their star. That makes them too hot to be in the habitable zone, which is the region where liquid water could exist. Of the more than 700 planets confirmed to orbit other stars -- called exoplanets -- only a handful are known to be rocky.

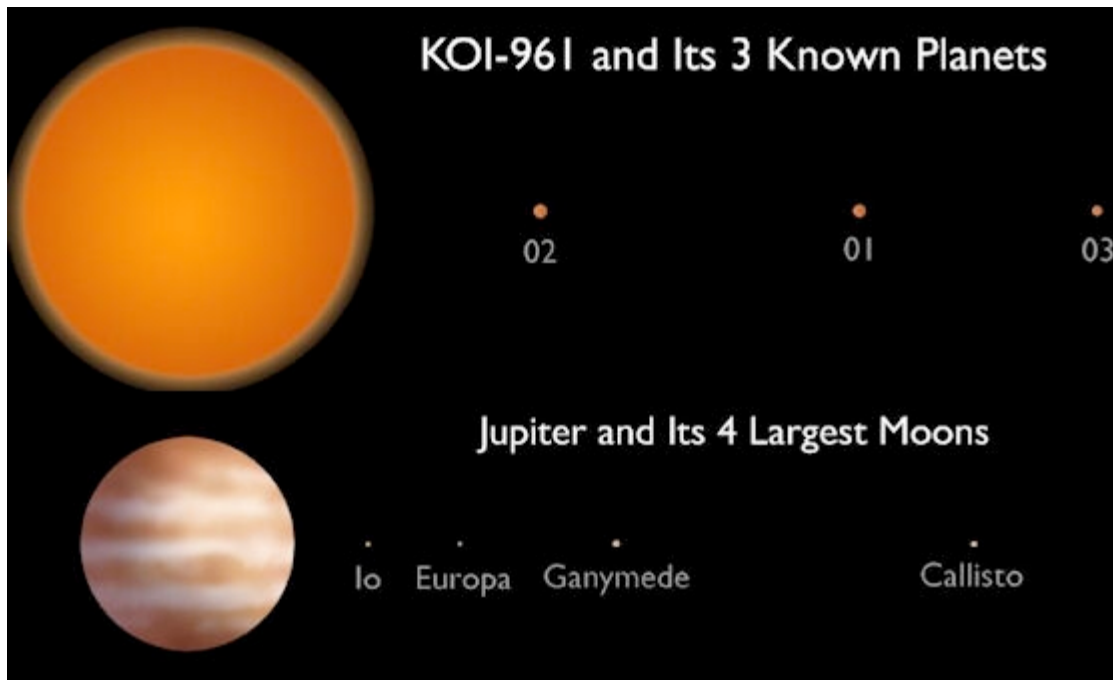
"Astronomers are just beginning to confirm thousands of planet candidates uncovered by Kepler so far," said Doug Hudgins, Kepler program scientist at NASA Headquarters in Washington. "Finding one as small as Mars is amazing, and hints that there may be a bounty of rocky planets all around us."



Kepler searches for planets by continuously monitoring more than 150,000 stars, looking for telltale dips in their brightness caused by crossing, or transiting, planets. At least three transits are required to verify a signal as a planet. Follow-up observations from ground-based telescopes also are needed to confirm the discoveries.

The latest discovery comes from a team led by astronomers at the California Institute of Technology in Pasadena. The team used data publicly released by the Kepler mission, along with follow-up observations from the Palomar Observatory, near San Diego, and the W.M. Keck Observatory atop Mauna Kea in Hawaii. Their measurements dramatically revised the sizes of the planets from what originally was estimated.

The three planets are very close to their star, taking less than two days to orbit around it. The KOI-961 star is a red dwarf with a diameter one-sixth that of our sun, making it just 70 percent bigger than Jupiter.



'Honey I Shrunk the Planetary System': This artist's concept compares the KOI-961 planetary system to Jupiter and the largest four of its many moons. Image credit: NASA/JPL-Caltech [\[more\]](#)

Red dwarfs are the most common kind of star in our Milky Way galaxy. The discovery of three rocky planets around one red dwarf suggests that the galaxy could be teeming with similar rocky planets.

"These types of systems could be ubiquitous in the universe," said Phil Muirhead, lead author of the new study from Caltech. "This is a really exciting time for planet hunters."

For more information about the Kepler mission, visit: <http://www.nasa.gov/kepler>

Production Editor: [Dr. Tony Phillips](#) | Credit: Science@NASA

More Information

The discovery reported in this story follows a string of recent milestones for the Kepler mission. In December 2011, scientists announced the mission's first confirmed planet in the habitable zone of a sun-like star: a planet 2.4 times the size of Earth called Kepler-22b. Later in the month, the team announced the discovery of the first Earth-size planets orbiting a sun-like star outside our solar system, called Kepler-20e and Kepler-20f.

For the latest discovery, the team obtained the sizes of the three planets called KOI-961.01, KOI-961.02 and KOI-961.03 with the help of a well-studied twin star to KOI-961, or Barnard's Star. By better understanding the KOI-961 star, they then could determine how big the planets must be to have caused the observed dips in starlight. In addition to the Kepler observations and ground-based telescope measurements, the team used modeling techniques to confirm the planet discoveries.

Prior to these confirmed planets, only six other planets had been confirmed using the Kepler public data.

Credits: NASA's Ames Research Center manages Kepler's ground system development, mission operations and science data analysis. NASA's Jet Propulsion Laboratory in Pasadena, Calif., managed Kepler mission development. Ball Aerospace and Technologies Corp. in Boulder, Colo., developed the Kepler flight system and supports mission operations with the Laboratory for Atmospheric and Space Physics at the University of Colorado in Boulder. The Space Telescope Science Institute in Baltimore archives, hosts and distributes the Kepler science data. Kepler is NASA's 10th Discovery Mission and is funded by NASA's Science Mission Directorate at the agency's headquarters.

2010 CLUB OFFICERS & CONTACTS

<i>President</i>	SUE-ELLEN SPEIGHT	sfaapresident@sfaa- astronomy.org
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<i>Bulletin Editor</i>	Annette Gabrielli	editor@sfaa-astronomy.org
<i>Telescope Loans</i>	Pete Goldie	telescopes@sfaa-astronomy.org
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	Doug Smith	
	Matthew Jones	sfaa@strider.com
	Anil Chopra	
	Mitchell	webmaster@sfaa-astronomy.org
<i>1st Alternate</i>	Schoenbrun	wbmstr@sfaa-astronomy.org
<i>2nd Alternate</i>	Chris Coffin	daveg@SFAA-Astronomy.org
<i>Webmaster</i>	Mitchell	wbmstr@sfaa-astronomy.org
	Schoenbrun	
	Matthew Jones	

CLUB TELESCOPES

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

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

CLUB ASTRONOMY VIDEOS

The SFAA owns a series of astronomy videotapes featuring Filippenko, a world-renowned professor of astronomy at Berkeley. The videotapes provide an introduction to astronomy and cover topics such as the Solar System, the lifecycles of stars, the nature of galaxies, and the birth of the Universe. The SFAA loans the tapes free to all members. If you are interested in viewing these tapes, you may check them out at any of the SFAA General Meetings. These tapes were kindly donated to the SFAA by Bert Katzung. For information on the course to take themselves:

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

MEMBERSHIP DUES

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

SFAA WEBSITE AND ONLINE SERVICES

The SFAA web site at sfaa-astronomy.org is provided to our members and the general public for the sharing of club information and services. The web site contains links for club [star parties](#), [events](#), [newsletters](#), [lectures](#) and [meetings](#). If you wish to interact with other people who are interested in astronomy, the SFAA web site offers public and members only [bulletin board forums](#). If you wish to remain up-to-date on club activities, then we encourage you to subscribe to one or both of our public [mailing lists](#), which will allow you to receive our newsletter and/or club announcements via email. Other useful and interesting information and services are available on the web site such as [observing location reviews](#), member [astronomy photos](#), and [members only telescope loans](#). Information about SFAA membership, organization and by-laws are available at the club's online public document [archive](#). If you need to contact a representative of the SFAA, then please visit our [contacts](#) page to help in finding the right person to answer your questions.

Above the Fog is the official bulletin of the San Francisco Amateur Astronomers. It is the forum in which club members may share their experiences, ideas, and observations. We encourage you to participate by submitting your articles, announcements, letters, photos and drawings. We would also like to hear from our new members. Tell us about yourself – what you have done in the past and with other clubs you have joined. **The deadline for the next issue is the 25th day of the month.** Send your articles to Editor@sfaa-astronomy.org

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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.