

IO – November 2006

Issue 2006-10

Eugene Astronomical Society,
Annual Club Dues \$25, Board Members:
President: Sam Pitts - 688-7330
Jacob Stranlien, Jerry Oltion

www.eugeneastro.org

EAS is a Proud Member of:



IO editor- sampitts@comcast.net 688-7330
Io (*EYE-oh*) is nearest to Jupiter and fastest orbiting of the four Galilean moons

Monday- November 6th MEETING EUGENE ASTRONOMICAL SOCIETY At The Science Factory Planetarium

November Meeting will have presentations about current Astronomical events and a program with audience participation on discussing new equipment and what to get if you're just staring out in astronomy. Jim Jackson will talk about his favorite southern objects.

The meeting will begin at **7:00 PM** in the Planetarium. It is time to pay your Membership Dues. Special raffle for EAS Members for an 8" telescope, raffle will continue until 100 tickets are sold to EAS members. Tickets are \$ 5.00 each or 5 tickets for \$20.00 for a chance for club members to win and Orion 8" Dobsonian Telescope. Come on out and visit with fellow astronomers and discuss and plan future events and star parties.

EAS & its members are dedicated to having fun while pursuing the hobby of Astronomy, so come on out and have some fun visiting with others who share a passion for the night skies.

Come early and help others learn about their scopes. Individuals who are new to the hobby or not sure about your equipment, should show up early, EAS members will assist you in understanding your equipment better. If you are planning on purchasing a scope in the near future, please come to a meeting and learn more about astronomical equipment. EAS has knowledgeable members with first hand experience regarding all types of telescopes & mounts, they would be glad to assist you in making a good solid choice to maximize your viewing pleasure.

The Science Factory is at 2300 Leo Harris Parkway, behind Autzen Stadium.

Check EAS WEB site for up to the minute Information
www.eugeneastro.org

New Club Officers

Jacob Stranlien & Sam Pitts continue their 2-year term and Jerry Oltion is elected to the Board. The Board elected Sam Pitts as President and Jerry Oltion Secretary. Thanks to the previous Board and past President Richard Boyd for guiding the club for the past year. The new board looks forward to a great year of continued public education and sharing the night skies with everyone.

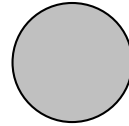
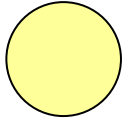
December 4th Meeting

The December meeting will host a white elephant/ swap meet sale. It's time to look over your astronomy equipment and bring it to the December meeting to sell or swap it with others. Members are also requested to bring in their Astro-photos, preferably in jpeg, gif or tiff format to share with other with the club's LCD projector and give a short talk about their endeavors over the past year. After the meeting we can meet at the North Bank Restaurant for a snack and conversation.

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Observing in October



November 5	November 12	November 20	November 27
Mercury PM	Mercury Set PM	Mercury Rise 5:32 AM	Mercury Rise 5:35AM
Venus AM	Venus AM	Venus Rise 7:46 AM	Venus Rise 8:03 AM
Mars PM	Mars PM	Mars Rise 6:28 AM	Mars Rise 6:26 AM
Jupiter Set 5:31 PM	Jupiter Set 5:11 PM	Jupiter Rise 7:18 AM	Jupiter Rise 6:58 AM
Saturn Rise 11:53 PM	Saturn Rise 11:31 PM	Saturn Rise 11:01 PM	Saturn Rise 10:34 PM
Uranus Set 1:32 AM	Uranus Set 1:08 AM	Uranus Set 12:36 AM	Uranus Set 12:09 AM
Neptune Set 11:24 PM	Neptune Set 11:01 PM	Neptune Set 10:30 PM	Neptune Set 10:03 PM
Pluto Set 7:44 PM	Pluto Set 7:21 PM	Pluto Set 6:50 PM	Pluto Set 6:24 PM

All times: U.S. Pacific Daylight Time (May-October) = UT - 7 hours. Pacific Standard Time (Nov.-April) = UT-8



Set Clocks Back 1 Hour

"Sunday"

At 2:00 AM October 29th, 2006

Pacific Standard Time

+ 8 UT

Friday 3 November 2006

Sunrise 6:52 a.m.
Sunset 5:00 p.m.
Moonset 4:31 a.m.
Moonrise 3:53 p.m.

Friday 10 November 2006

Sunrise 7:01 a.m.
Sunset 4:51 p.m.
Moonrise 9:30 p.m.
Moonset 12:39 p.m.

Friday 17 November 2006

Sunrise 7:10 a.m.
Sunset 4:44 p.m.
Moonrise 3:58 a.m.
Moonset 3:00 p.m.

Friday 24 November 2006

Sunrise 7:19 a.m.
Sunset 4:39 p.m.
Moonrise 11:18 a.m.
Moonset 7:49 p.m.

Friday 1 December 2006

Sunrise 7:27 a.m.
Sunset 4:35 p.m.
Moonset 3:29 a.m.

All times are for Eugene, Oregon Latitude 44° 3' 8" Longitude 123° 5' 8" for listed Date

Events

November 2006

3	Taurids Meteor Shower Peak; Griffith Observatory Reopens
4	Asteroid 1 Ceres Occults TYC 6946-00734-1 (10.0 Magnitude Star); Asteroid 2000 VZ44 Near-Earth Flyby (0.052 AU)
6	Astronomy Visualization Workshop, Pasadena, California
7	10th Anniversary (1996), Mars Global Surveyor Launch: 40th Anniversary (1966), Lunar Orbiter 2 Launch
8	Mercury will pass directly in front the Sun. The transit begins at 2:12 pm EST (11:12 am PST); Edmund Halley's 350th Birthday (1656)
9	Comet Comet Urata-Niijima Closest Approach To Earth (0.591 AU)
11	40th Anniversary (1966), Gemini 12 Launch (Jim Lovell and Buzz Aldrin)
12	Asteroid 3667 Anne-Marie Occults HIP 115768 (6.3 Magnitude Star) Central US; 25th Anniversary (1981), Space Shuttle Columbia Launch (STS-2)
15	Comet Faye Perihelion (1.667 AU)
17	40th Anniversary (1966), Leonids Meteor Storm
18	Leonids Meteor Shower Peak
21	Asteroid 2001 WV1 Near-Earth Flyby (0.038 AU)
23	Asteroid 1381 Danubia Occults HIP 57681 (7.9 Magnitude Star)
24	Asteroid 1996 BG1 Near-Earth Flyby (0.096 AU)
25	Mercury at Greatest Western Elongation (20 Degrees); Comet Shoemaker-Levy 6 Closest Approach To Earth (0.773 AU)
29	Asteroid 2004 QD14 Near-Earth Flyby (0.062 AU); 45th Anniversary (1961), Mercury 5 Launch (Enos the Chimpanzee)

Crow High school Star Party a Success

A big Thank You to Jerry Oltion, Frank Szczepanski, and Tom Conlin!

We had four telescopes, all home made, and somewhere around 50 or 60 students, teachers and parents for last nights Star Party at Crow High School. I showed people some of my favorites, including the straight wall on the moon, the red giant Antares, the Double Cluster, and M31.

The students and teachers were delighted and eager to do it again sometime.

Jeff Phillips

College Hill Reservoir Star Parties

Several EAS members regularly go to this site on Lawrence & 25th St., Eugene, to observe the stars (mini-star parties) on clear evenings during the week. Local residents visit the site to peek through telescopes and get a glimpse of various celestial wonders. Sign onto the EAS list for up to date information:

<http://eugeneastro.org/mailman/listinfo/org.eugeneastro.general>

This is a self signup/sign-out list; keep your password so you can leave the list.

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The MOON Up-Close

By Jeff Phillips



I never really liked the moon; it was just a source of light pollution that kept me from seeing galaxies. Then I discovered imaging.

The moon is an ideal target for learning astrophotography because the same cameras and techniques that work here on earth can be used to image the moon. After all, the moon is the same distance from the Sun as we are, so the exposure settings you and I are used to using work for imaging the moon as well. As any photographer will tell you, getting the exposure right is the key to getting a high contrast image.

I've had good results using digital cameras, digital webcams, and even holding a small camera up to the eyepiece and clicking the shutter. Because the moon is so bright, even a ten dollar web cam can take nice shots, and you don't need a motorized telescope.

I got some pretty shots of the last quarter moon the other morning by using a Celestron NexImage webcam and a C5 telescope. The telescope was mounted on a low cost computerized Alt/Az mount that originally came with a Celestron NexStar 60mm refractor. For each picture I made a 20 second video of one region of the moon, using a frame rate of ten frames per second. Each frame was exposed for 1/75 second and the electronic gain was set to its lowest setting to reduce electronic "snow" in the image. Then I processed the 20 second video using the free software program Registax 3. The software allows me to pick out the sharpest 40 or 50 frames from a video of 200 frames and stack these to create the final image.



The resulting pictures have a beautiful "you are there" quality that rivals the best amateur photos taken with film cameras just a few years ago. Now that I've discovered imaging, the moon has become a fascinating place, full of craterlets and rills and mountain ranges that I never noticed before!

Thanks Jeff for sharing these great images with us.

Planet-Finding by Numbers

More than a decade after the first planets beyond our solar system were found, astronomers have discovered about 200 of these "extrasolar planets," as they're called. Using a common-sense definition of potentially habitable planets, coupled with extensive computer simulations, scientists have calculated how many potentially habitable planets might be detected around other stars by the SIM PlanetQuest mission. ("SIM" stands for Space Interferometry Mission.)

The mission, scheduled for a launch in the next decade, will target planets with specific traits in common with Earth: a similar mass and an orbit in the "habitable zone," not too close and not too far from its parent star. With this mass and location, it's believed a planet could have liquid water on its surface and an atmosphere -- conditions considered necessary for life to gain a foothold.

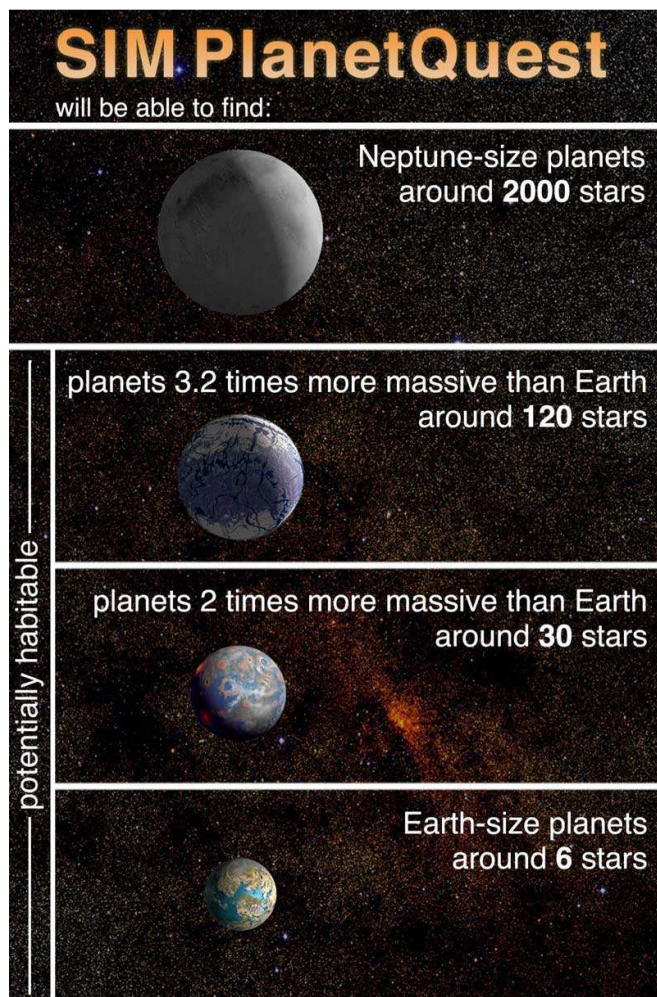
The science team has shown that, in a survey of the best 120 candidate stars for hosting such planets, SIM PlanetQuest would have the sensitivity to find:

- Planets smaller than Earth around six stars
- Planets smaller than twice Earth's mass around 24 stars
- Planets smaller than about triple Earth's mass around every star in the survey group

All planets discovered by the mission would be on a short list of targets for the future Terrestrial Planet Finder mission, which would look for direct signatures of habitable environments and even of life itself.

The roster of six stars where SIM PlanetQuest could find Earth-like planets, if they exist, includes some familiar names, visible in the nighttime sky:

- Sirius, in the constellation Canis Major, the closest star visible with the naked eye from the northern hemisphere's mid-latitudes, seen in winter along a line extending from Orion's belt
- Altair, forming one corner of the "Summer Triangle"



Artist's concept of a planet 3.2 times more massive than Earth. This image is part of a graph that shows the number of potentially habitable planets the Space Interferometry Mission PlanetQuest would have the sensitivity to find. Click on the link below for the full graph. Image credit: NASA/JPL



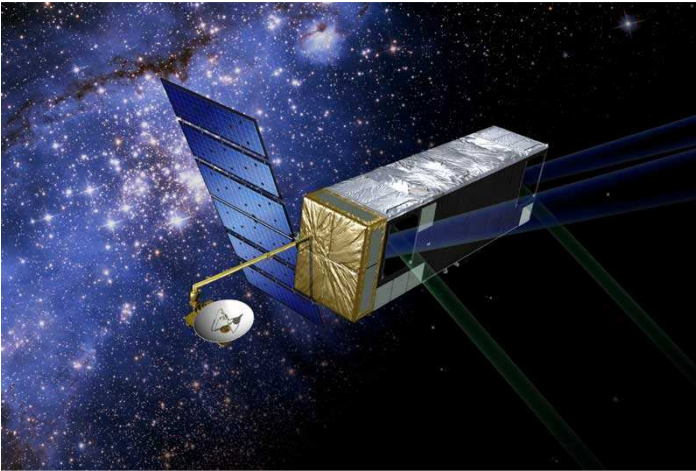
- Alpha Centauri, the closest bright star to Earth, visible from southernmost Texas, Florida, Hawaii and the southern hemisphere

The research is contained in a paper published September 2006 in Publications of the Astronomical Society of the Pacific. Its authors are Joseph Catanzarite and Drs. Michael Shao, Stephen Unwin, Angelle Tanner, and Jeffrey Yu, all from JPL.

More information on SIM PlanetQuest is available at:
http://planetquest.jpl.nasa.gov/SIM/sim_index.cfm .

Artist concept of Sim PlanetQuest. Image credit: NASA/JPL

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Sirius, the closest star visible with the naked eye from the northern hemisphere's mid-latitudes, seen in winter along a line extending from Orion's belt. Image credit: NASA/JPL

Image from Eagles Rest



On Saturday night, October 21, 2006 a small group met at Eagles Rest to enjoy the dark skies. Astro-imager Frank Casebolt captured this excellent image of the Horsehead during the early morning hours. The Horsehead is located in the constellation of Orion, just under the left belt star Alnitak. The famous absorption or Dark Nebula (IC 434) is 1200 light years from earth. This image rivals the image taken by the 200" reflector at Mt. Palomar Observatory listed on page 1340 "Burnham's Celestial Handbook". A Modern CCD camera and 5.5" triplet APO was used.