

IO – June 2006

Issue # 2006-06

www.eugeneastro.org

Eugene Astronomical Society, Annual Club Dues \$25, Board Members: President: Richard Boyd- checkerkit@comcast.net, Stephen Caruana, Fred Domineack, Jacob Stranlien Sam Pitts- IO editor- sampitts@comcast.net 688-7330 Io (*EYE-oh*) is nearest to Jupiter and fastest orbiting of the four Galilean moons

EAS is a Proud Member of:



Monday- June 5th MEETING EUGENE ASTRONOMICAL SOCIETY At The Science Factory Planetarium

The meeting will begin at **7:00 PM** in the Planetarium. Discuss what's up and out for viewing in June. Update & discussion on the latest ITS (Imaging the Sky Conference) held June 3rd. 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 that share a passion for the night skies.

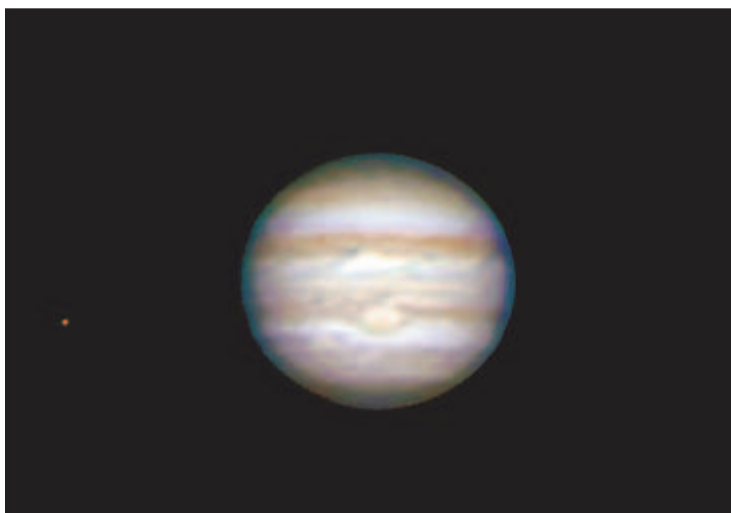
Come early and help others learn about their scopes. Those of you, who are new or not sure about your equipment, show up early and some of our members will assist you in understanding your equipment better. If you are planning on getting a scope please come out and ask questions, we're glad to assist 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

Jupiter & Great Red Spot

By Jeff Phillips ©



Club member and imager/observer Jeff Phillips continues to push the capabilities of his 8" Meade SCT. Here is Jeff's most recent shot of Jupiter and the Great Red Spot, with an accompanying Jovian Moon. This is a great shot of Jupiter rivaling images taken with much larger instruments. Jeff uses a Web camera and RegiStax 3 to take and stack images from an avi file to produce this spectacular view of Jupiter. Ask Jeff to show you his other great images of, Mars, Saturn & the Moon. Hopefully Jeff could do another presentation in the future as to the techniques and expertise needed to accomplish such fine results.



June 3	June 11	June 18	June 25
First Quarter	Full Moon	Last Quarter	New Moon
Sunset: 8:50 PM	Sunset: 8:55 PM	Sunset: 8:58 PM	Sunset: 8:59 PM
Sunrise 5:31 AM	Sunrise 5:28 AM	Sunrise 5:28 AM	Sunrise 5:30 AM
Moon Set 1:45 AM	Moon Rise 09:43 PM	Moon Rise 01:17 AM	Moon Rise 00:00 AM
Mercury Set 10:22 PM	Mercury Set 10:41 PM	Mercury Set 10:40 PM	Mercury Set 10:24 PM
Venus Rise 3:53 AM	Venus Rise 3:45 AM	Venus Rise 3:40 AM	Venus Rise 3:37 AM
Mars Set 12:06 AM	Mars Set 11:49 PM	Mars Set 11:33 PM	Mars Set 11:17 PM
Jupiter Set 4:07 AM	Jupiter Set 3:34 AM	Jupiter Set 3:05 AM	Jupiter Set 2:37 AM
Saturn Set 12:23 AM	Saturn Set 11:54 PM	Saturn Set 11:29 PM	Saturn Set 11:03 PM
Uranus Rise 1:49 AM	Uranus Rise 1:18 AM	Uranus Rise 12:50 AM	Uranus Rise 12:23 AM
Neptune Rise 12:47 AM	Neptune Rise 12:16 AM	Neptune Rise 11:48 PM	Neptune Rise 11:20 PM
Pluto Rise 9:04 PM	Pluto Rise 8:32 PM	Pluto Rise 8:03 PM	Pluto Rise 7:35 PM

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

Events

JUNE

2	Asteroid 2004 VM24 Near-Earth Flyby (0.046 AU)
3	Asteroid 2004 DC Near-Earth Flyby (0.026 AU) 00 14.93 +09 02.8 (2000)
3	40th Anniversary (1966), Gemini 9 Launch (Thomas Stafford & Eugene Cernan), ITS Conferance, Portland, OR
10	Asteroid 2003 YN107 Near-Earth Flyby (0.022 AU)
13	Asteroid 2006 HQ30 Near-Earth Flyby (0.038 AU) 19 31.70 -10 15.4 (2000)
16	Asteroid 1844 Susilva Occults HIP 58069 (7.8 Magnitude Star)
17	Grand Canyon Star Party, Grand Canyon, Arizona
17	Mars Passes 0.6 Degrees from Saturn
19	Conference: The First Stars and Evolution of the Early Universe, Seattle, Washington
21	Summer Solstice, 12:26 UT ; Mercury At Its Greatest Eastern Elongation; 6th Annual Bryce Canyon Astronomy Festival, Bryce Canyon, Utah; 2006 Shingletown Star Party, Shingletown, California
22	Rocky Mountain Star Stare 2006, Pike National Forest, Colorado
28	Asteroid 2003 OS13 Near-Earth Flyby (0.089 AU)
30	Anniversary (1971), Death of 3 Cosmonauts in Soyuz 11

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

On June 17th at 11:25 PM Saturn & Mars are 33' apart in the great Beehive Cluster in Cancer.
June 26 Mercury, Mars, Saturn & Crescent moon will offer some great photographic opportunities at Dusk

Jupiter's Great Red Spot Visible: 5/31/06-22:27; 6/3-00:05; 6/6-19:57; 6/5-01:44, 21:35; 6/7-23:13; 6/10-00:51-20:43; 6/12-2:30 & 22:21; 6/14-23:59; 6/17-01:38 & 21:29; 6/19-23:08; 6/22-00:46; 6/23-20:37; 6/24-22:16, 6/26-23:54, 6/29-01:33 & 21:24

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Fred Domineck

**A Very Dear Member of EAS
Suffered a Stroke & Aneurysm Saturday March 18th**

Let us all take a moment and think of Fred and Pray for his continuing recovery.

Our wishes and prays are with you Fred & Bonnie.

Obviously, Fred and Bonnie have been off work since Saturday when Fred's stroke occurred. This tragedy will leave them with some immediate financial need, and in this spirit (and with Bennie's approval); close friends Tanja & Steve have established a contributory account to assist them during this time. For those wishing to make a personal financial donation please refer to the information below:

**Visit *any branch* of Oregon Community Credit Union (formerly known as UlaneO)
ask to donate to the "Fred Domineck and Bonnie Murdock" Benefit Fund"**

**If you're out of town, you can send checks payable to: Fred Domineck and Bonnie Murdock
Benefit Fund
mailing address:**

**OCCU
PO Box 77002
Eugene, OR 97401-0146**

**Cards & letters can be sent in C/ O Fred & Bonnie to:
5232 Wales Drive
Eugene, OR 97402**

Imaging The Sky Conference 2006

**New Era for Astroimaging,
Affordable Dedicated Astroimaging CCD Cameras**

Saturday

June 3, 2006

**Oregon Museum of Science and Industry (OMSI)
1945 SE Water Street**

Portland, Oregon Registration

Register early because seating is limited. Registration is \$30.00 by April 30, 2006 and in May and June it is \$40.00. To register send your name, address, email address and registration money (check made out to Imaging The Sky) to

**Imaging The Sky Conference
Rick Kang,
PO Box 5795**

Eugene, Oregon 97405

<http://www.stargazing.net/david/ITS/>

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Opportunity to Participate at Professional Observatory

University of Oregon's Pine Mountain Observatory, east of Bend, will host public visitors again this summer, and needs the assistance of dedicated amateur astronomers to conduct tours on Friday and Saturday evenings, May 26th through September 30th. There are a wide variety of "jobs", from meeter-greeters (minimal astronomical knowledge necessary) to operators of the large telescopes, to lecturers, to gift shop sales staff. Benefits include access to observing through large professional instruments and availability of the astronomers' residence for dormitory facility. This is a great opportunity to learn first hand about observatory operations, learn more about astrophysics, and to share your knowledge and enthusiasm with the general public.

Training/certification sessions occur in late April and May. If you can commit for even just two or three weekends during the summer, that's a huge help, and we're encouraging tour guides to bring their own scopes if they wish. **Contact Tour Chair, Greg Hogue, 541-771-6987, ghogue@bendcable.com**, in Bend, see the FOPMO website, <http://pmo-sun.uoregon.edu/~pmo/>, or contact Rick Kang, rkang@efn.org, 541-683-1381, for information. Amateur astronomers from Bend, Eugene, and Portland have been the mainstay of the Tour-Guide team the past decade; we're always looking for new people!

Astronomy Day 2006

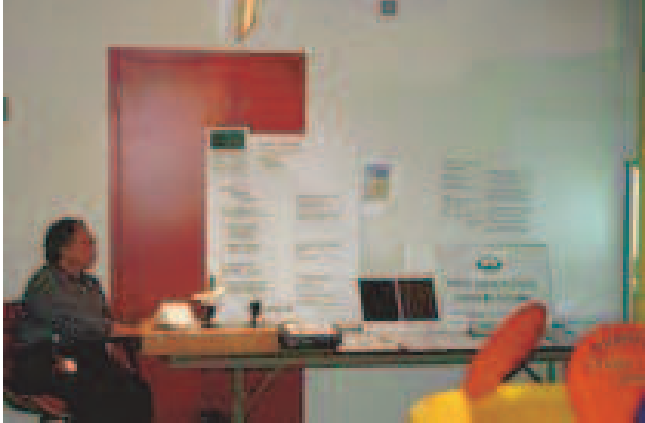
On May 6th, Eugene Astronomical Society in conjunction with the Science Factory hosted another successful Astronomy. Although the weather did not cooperate for an evening star party, the sun was out for solar viewing. The KEZI was on hand to film some solar viewing and interview Richard Boyd which appeared on television. EAS raffled away a nice new 8" telescope to another lucky attendee. I would like to thank everyone that attended & a special thanks to all the EAS members and their family & friends that make this event possible. EAS also appreciates and thanks The Science Factory for their support and assistance for this event.



Day-time Solar Viewing



Entry & Telescopes to be raffled



Dark Skies & PMO



Great Barn-Door Camera setup



Sunriver & lots of Astro-Goodies



**Jerry's display of great images & Telescope
Soon to be featured in Sky & Telescope**

In Memory of the Sacrifices made in Space Exploration

The Death of 3 Cosmonauts on Soyuz 11. Cosmonauts Georgi Dobrovolsky, Vladislav Volkov, Viktor Patsayev were launched in Soyuz 11 on June 6, 1971 and docked with the Salyut space station. They stayed 23 days in space, which was a new duration record at that time, but died on the flight back to Earth on June 30. Following the undocking sequence and retrorocket firing for reentry, communications with the descent capsule ended just prior to the usual blackout when a spacecraft enters the Earth's ionosphere. A USSR government commission found that a faulty valve had allowed all of the air to escape from the capsule, killing them 30 minutes before landing. The design of the Soyuz reentry module at that time did not allow enough room for the three cosmonauts to wear spacesuits. The cosmonauts were found dead in the Soyuz 11 capsule when it was opened after landing.

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The First Stars and Evolution of the Early Universe

Co-sponsored by LANL and JINA

June 19 to July 21, 2006



Artwork by Cynthia Brehmer

The first stars play an essential role in the evolution of the early universe. Prior to the formation of these stars, the universe mostly consists of neutral H and He atoms and it remains dark due to absorption of light by these atoms. The ultraviolet photons from the first stars contribute to the reionization of the early universe which marks the end of the "cosmic dark age." These stars also provide the first significant amounts of heavy elements in the universe. Their radiation, kinetic energy input by explosions, and nucleosynthesis products set the conditions for subsequent structure and star formation.

Modeling the formation of the first stars using ab initio cosmological simulations recently has become possible because of the rapid increase in available computing power and novel numerical techniques. Due to the

unique initial composition of these stars and possibly very large masses for some of them, their radiation spectra, evolution, explosions, and nucleosynthesis are very different from stars that form today. Several groups have studied the nucleosynthesis of these stars, but large uncertainties remain. Reionization and metal enrichment of the universe have been investigated by a number of groups. Direct simulations of metal enrichment by the first stars and formation of the second generation of stars will be feasible within the next few years.

On the observational side, WMAP and distant quasars discovered through SDSS have shed light on the reionization history of the universe. Observations of quasar absorption systems at high redshift and metal-poor stars in the Galaxy with large telescopes, such as VLT, Subaru, and Keck, have provided a multitude of data on metal abundances over a wide range of cosmic times. Extensive studies have been carried out for a large number of stars with iron abundances below 1% of the solar value, including two stars below 0.001% of the solar value. Such iron abundances, and the associated abundance patterns, are thought to arise from enrichment by the first few generations of stars. Other observational studies, such as HERES and SEGUE, promise to build up even more extensive and statistically complete databases of metal-poor stars.

In this program we bring together theorists, experimentalists, and observers with a wide range of expertise in cosmology and nuclear astrophysics to link theoretical, experimental, and observational studies. We will integrate the current knowledge into a form that can guide new theory and the next generation of numerical simulations and observational programs with high-sensitivity instruments. Our main goals are to address the following unresolved issues: What is the mass spectrum of the first stars? How do they evolve and die? How are their metals mixed into the intergalactic medium and eventually incorporated into the next generation of stars? Can their nucleosynthesis products be identified? How important are they to reionization of the universe? How do they affect subsequent structure and star formation?