

# IO – July 2005

Issue # 2005-07

[www.eugeneastro.org](http://www.eugeneastro.org)

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*Io (EYE-oh) is nearest to Jupiter and fastest orbiting of the four Galilean moons*

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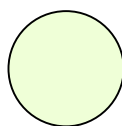
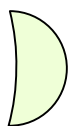
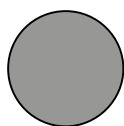
## Monday- July 11<sup>th</sup> MEETING EUGENE ASTRONOMICAL SOCIETY At The Science Factory Planetarium

The meeting will begin at **7:00 PM** in the Planetarium. **Guest Speaker is NASA Engineer Kenneth Hartman (retried)**. Mr. Hartman was involved with the Apollo project and will give first hand accounts of trials and tribulations trying to get a man on the Moon. This was when the only computer you had was the Slide-Rule in your hand.

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



July 6	July 14	July 21	July 27
New Moon	First Quarter	Full Moon	Last Quarter
Sunset: 8:57 PM	Sunset: 8:57 PM	Sunset: 8:59 PM	Sunset: 8:59 PM
Sunrise 5:36 AM	Sunrise 5:36 AM	Sunrise 5:29 AM	Sunrise 5:31 AM
Mercury Set 10:20 PM	Mercury Set 9:58 PM	Mercury Set 9:28 PM	Mercury Set 8:56 PM
Venus Set 10:28 PM	Venus Set 1:00 PM	Venus Set 10:15 PM	Venus Set 10:07 PM
Mars Rise 1:00 AM	Mars Rise 12:38 PM	Mars Rise 12:20 PM	Mars Rise 12:05 PM
Jupiter Set 12:42 AM	Jupiter Set 12:12 PM	Jupiter Set 11:47 PM	Jupiter Set 11:24 PM
Saturn Set 9:44 PM	Saturn Set 9:16 PM	Saturn Set 8:51 PM	Saturn Set 8:30 PM
Uranus Rise 11:29 PM	Uranus Rise 10:58 PM	Uranus Rise 10:30 PM	Uranus Rise 10:06 PM
Neptune Rise 10:29 PM	Neptune Rise 9:57 PM	Neptune Rise 9:29 PM	Neptune Rise 9:05 PM

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

Magazine subscriptions go to Richard Boyd: [checkerkit@comcast.net](mailto:checkerkit@comcast.net)



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Keep in-touch with Members and Events!



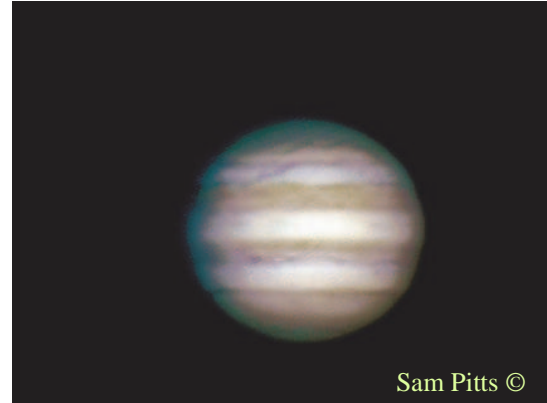
<http://lists.cmc.net/cgi-bin/mailman/listinfo/eugeneastro>

## What's Out This Month

July ushers in summer and the season for nebulas and Globular Cluster galore. It is time to dust off your CCD and other cameras for some nice imaging. The new digital SLR's should do nicely on some prime focus shots of nebulas like M16, M17, and others. Try your hand at M31 Andromeda which will fill the frame of a 35mm at 450mm or 300mm for a DSLR. Try some of the manual lenses out there for Nikon & Cannon. Some real good buys on 200mm & 300mm f/2.8 abound. A 10-12 minute exposure on E200 film will show M31 nicely or just a 3-4 minute exposure with DSLR. Some of these lenses, when couple with the new SBIG cameras will really capture some of the Nebulas and Globulars in just 60 seconds. The ST237a (used around \$800 with color filter) and New ST-402ME (\$1495.00 New w/CFW) are excellent performers at a reasonable cost. The ST-402ME utilizes the new ST7ME chip with a very high QE. Galaxies will show up in 30 seconds with f/5 and faster systems.

It is time to get that Webcam out for lunar shots and a shot of Jupiter while it is still up. Mars will be close this year and trying to get some good Webcams of Mars, Uranus & Neptune should keep one busy. For use in Oregon try and get some wide vistas of the Milky Way Region around Sagittarius & Scopus.

Sam



## Transits of Jupiter's Moons



07/02	21:26	Io	Transit Begins
	23:37	Io	Transit Ends
07/04	16:56	Europa	Transit Begins
	19:38	Europa	Transit Ends
	22:10	Europa	Shadow Ends
07/06	19:27	Ganymede	Shadow Begins
	21:53	Ganymede	Shadow Ends
07/09	23:21	Io	Transit Begins
07/11	21:14	Io	Shadow Ends
	22:09	Europa	Shadow Begins
07/13	21:01	Ganymede	Transit Ends
	23:29	Ganymede	Shadow Begins
07/18	20:59	Io	Shadow Begins
	23:09	Io	Shadow Ends
07/20	22:24	Ganymede	Transit Begins
07/25	22:54	Io	Shadow Begins
	21:44	Io	Transit Begins
<b>07/27</b>	<b>23:24</b>	<b>Jupiter Sets</b>	

**Jupiter is only up for 4 hours or so in July. Try locating it early while the sun is out, detail can be seen during the day with an 8" scope.**

Shadows cast on Jupiter's disk by Transit of its moons may begin up to an hour or more before Transit Begins. The shadow usually ends before Transit Ends. Begin observing before Times listed. Actual times of events will vary depending on your precise location within time zones. Shadows start before transits and usually end before transits are over. Use your web cams and digital cameras to capture these inspiring events. If you have never witnessed a transit you are missing a special event.

## Jupiter's Red Spot Centered PST

07/01	00:00	00:00		07/16	00:00	23:11
07/02	01:42	<b>21:34</b>		07/17	00:00	<b>19:02</b>
07/03	17:25	00:00		07/18	00:00	00:00
07/04	00:00	<b>23:13</b>		07/19	00:50	<b>20:41</b>
07/05	<b>19:04</b>	00:00		07/20	00:00	00:00
07/06	00:51	00:00		07/21	00:00	<b>22:20</b>
07/07	<b>20:43</b>	00:00		07/22	00:00	<b>18:12</b>
07/08	00:00	16:35		07/23	00:00	23:59
07/09	02:30	<b>22:22</b>		07/24	00:00	19:51
07/10	00:00	18:14		07/25	00:00	00:00
07/11	00:00	00:00		07/26	01:39	<b>21:30</b>
07/12	00:01	19:53		07/27	00:00	17:22
07/13	00:00	00:00		07/28	00:00	23:09
07/14	01:40	<b>21:32</b>		07/29	00:00	<b>19:01</b>
07/15	00:00	17:23		07/30	00:00	00:00
				07/31	00:48	

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# Imaging the Sky 2005 Conference

**Saturday JULY 23, 2003**

Astroimaging with dedicated CCD cameras & digital SLR cameras What's right for you?

**Location**

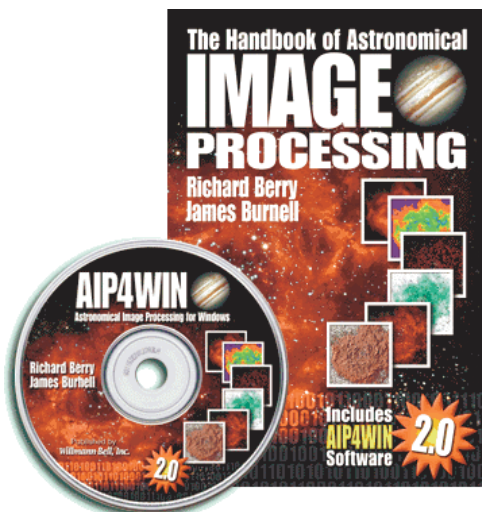
Visual Arts Theater  
Mt. Hood Community College (MHCC)  
26000 SE Stark Street  
Gresham, Oregon

**Registration :** Register early because seating is limited.

Registration is \$30.00 by June 31, 2004 and in July it is \$40.00.

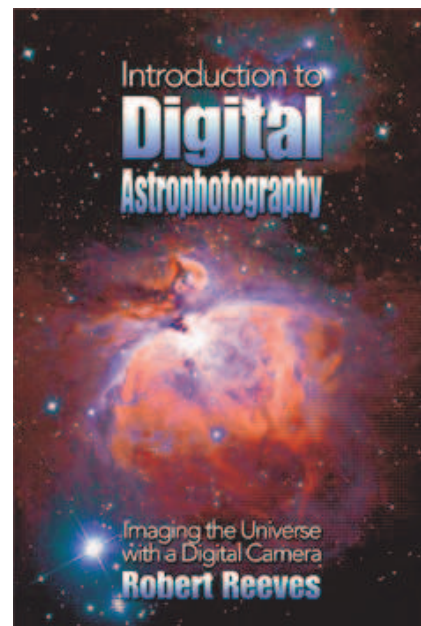
To register send your name, address, email address and registration money  
(check made out to Imaging The Sky) to

Imaging The Sky Conference  
Rick Kang  
PO Box 5795  
Eugene, OR 97405



New Version By: Richard Berry

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## NASA's Spitzer Telescope Sees Signs of Alien Asteroid Belt

NASA's Spitzer Space Telescope has spotted what may be the dusty spray of asteroids banging together in a belt that orbits a star like our Sun. The discovery offers astronomers a rare glimpse at a distant star system that resembles our home, and may represent a significant step toward learning if and where other Earths form.

"Asteroids are the leftover building blocks of rocky planets like Earth," said Dr. Charles Beichman of the California Institute of Technology, Pasadena, Calif. Beichman is lead author of a paper that will appear in the *Astrophysical Journal*. "We can't directly see other terrestrial planets, but now we can study their dusty fossils."

Asteroid belts are the junkyards of planetary systems. They are littered with the rocky scraps of failed planets, which occasionally crash into each other, kicking up plumes of dust. In our own solar system, asteroids have collided with Earth, the moon and other planets.

If confirmed, the new asteroid belt would be the first detected around a star about the same age and size as our Sun. The star, called HD69830, is located 41 light-years away from Earth. There are two other known distant asteroid belts, but they circle younger, more massive stars.

While this new belt is the closest known match to our own, it is not a perfect twin. It is thicker than our asteroid belt, with 25 times as much material. If our solar system had a belt this dense, its dust would light up the night skies as a brilliant band.

The alien belt is also much closer to its star. Our asteroid belt lies between the orbits of Mars and Jupiter, whereas this one is located inside an orbit equivalent to that of Venus.

Yet, the two belts may have one important trait in common. In our solar system, Jupiter acts as an outer wall to the asteroid belt, shepherding its debris into a series of bands. Similarly, an unseen planet the size of Saturn or smaller may be marshalling this star's rubble.



This artist's concept shows a massive asteroid belt in orbit around a star the same age and size as our Sun. A collision between two asteroids is depicted to the left above.

## NASA's Spitzer Telescope Sees Signs of Alien Asteroid Belt: Continued

One of NASA's future planet-hunting missions, SIM PlanetQuest, may ultimately identify such a planet orbiting HD 69830. The mission, which will detect planets as small as a few Earth masses, is scheduled to launch in 2011.

Beichman and colleagues used Spitzer's infrared spectrograph to observe 85 Sun-like stars. Only HD 69830 was found to possibly host an asteroid belt. They did not see the asteroids themselves, but detected a thick disk of warm dust confined to the inner portion of the star system. The dust most likely came from an asteroid belt in which dusty smash-ups occur relatively frequently, about every 1,000 years.

"Because this belt has more asteroids than ours, collisions are larger and more frequent, which is why Spitzer could detect the belt," said Dr. George Rieke, University of Arizona, Tucson, co- author of the paper. "Our present-day solar system is a quieter place, with impacts of the scale that killed the dinosaurs occurring only every 100 million years or so."

To confirm that the dust detected by Spitzer is indeed ground-up asteroids, a second less-likely theory will have to be ruled out. According to the astronomers, it is possible a giant comet, almost as big as Pluto, got knocked into the inner solar system and is slowly boiling away, leaving a trail of dust. This hypothesis came about when the astronomers discovered the dust around the star consists of small silicate crystals like those found in comet Hale-Bopp. One of these crystals is the bright green-colored gem called forsterite.

"The 'super comet' theory is more of a long shot," Beichman said, "but we'll know soon enough." Future observations of the star using Spitzer and ground-based telescopes are expected to conclude whether asteroids or comets are the source of the dust.

Other authors of this study include G. Bryden, T. Gautier, K. Stapelfeldt and M. Werner of NASA's Jet Propulsion Laboratory, Pasadena, Calif.; and K. Misselt, J. Stansberry and D. Trilling of the University of Arizona.

The Jet Propulsion Laboratory manages the Spitzer Space Telescope mission for NASA's Science Mission Directorate, Washington. Science operations are conducted at the Spitzer Science Center, at the California Institute of Technology in Pasadena. Caltech manages JPL for NASA. Spitzer's infrared spectrograph was built by Cornell University, Ithaca, N.Y. Its development was led by Dr. Jim Houck of Cornell.

For artist's concepts and more information, visit: [www.spitzer.caltech.edu/spitzer](http://www.spitzer.caltech.edu/spitzer).



## Oregon Star Party 2005

<http://www.oregonstarparty.org/>

September 1-4

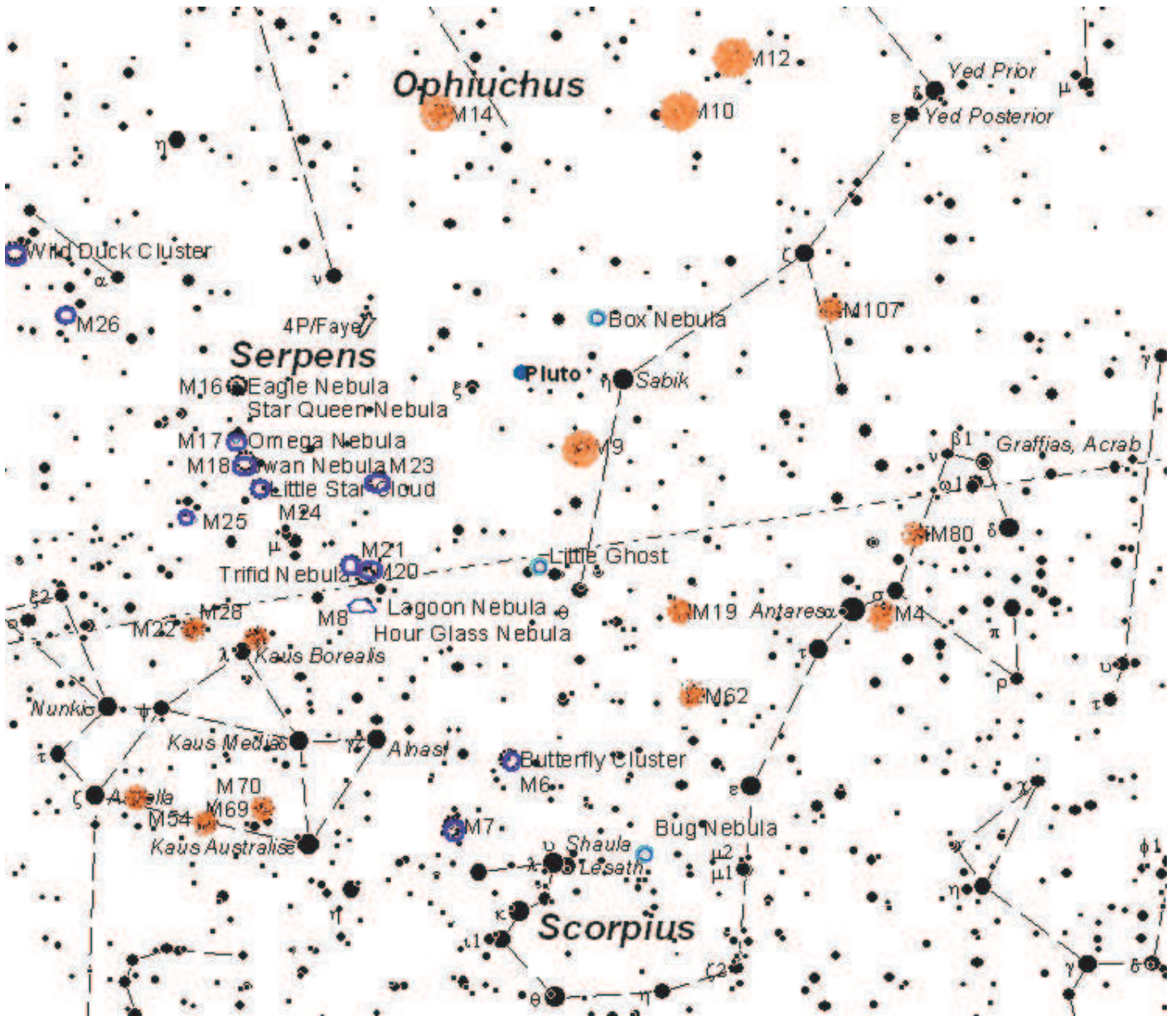


The Oregon Star Party is an astronomy adventure featuring quality deep sky viewing. It attracts intellectually curious outdoor lovers who enjoy the romance of a renaissance gathering. All ages enjoy camping among ponderosa, juniper, mountain mahogany, and sage. Past attendees have told us emphatically how much they have enjoyed the camaraderie and dark skies of Indian Trail Spring, and that they will return again!

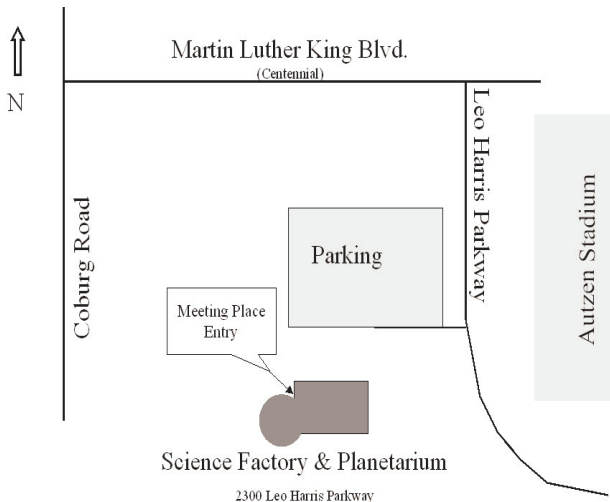
The Oregon Star Party operates under a Special Use Permit on the Ochoco National Forest. This institution is an equal opportunity provider. The site is located on primitive and undeveloped Forest Service land, approximately one hour's traveling time east of Prineville, Oregon, which is the nearest location for medical facilities, supplies, and gas.

Indian Trail Spring prairie has a panoramic horizon. Its 5000-foot altitude location has good air drainage, excellent sky transparency, steady air, and almost zero light glow from Bend (60 miles) and Prineville (35 miles.) Portland is 190 miles away. The roads are paved to within four miles. The graveled section is in excellent condition.

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Map for Mid July



**Star Party at Mt. Pisgah**  
**July 15, 2005**  
 Contact AC or Roscoe to volunteer.  
 Come to the July 11<sup>th</sup> meeting or visit the  
 EAS website for more information

← Map to Eugene Astronomical Society's  
 Monthly Meetings in Eugene, Oregon