Eugene Astronomical Society, Annual Club Dues $25, President: Tracy Stephensen  tracystephensen@comcast.net or 541-338-6647, Secretary & Treasurer: Richard Boyd; IO editor, Sam Potts, sampotts@comcast.net:  
Io (EYE-oh) is nearest to Jupiter and fastest orbiting of the four Galilean moons

MEETING
Saturday-September 11th
EUGENE ASTRONOMICAL SOCIETY

Instead of the September meeting, we will hold our Annual EAS Picnic on

Sept. 11th, at the Elijah Bristow State Park in Dexter. It starts at noon.

We have the same location as last year for potluck dinner and fun through the afternoon. And then we have the Park all night long to ourselves, by special permission. The Skies are very good. Bring family and scopes, and food. There will be more info here soon.

See you there.

From I-5 Southbound:
Take the OR-58/WILLAMETTE HWY. exit, number 188A, towards OAKRIDGE/KLAMATH FALLS (0.2 miles)
Keep LEFT at the fork in the ramp. (0.1 miles)
Merge onto OR-58. (0.1 miles)
OR-58 becomes OR-58/OR-99 N. Stay straight to go onto OR-58. (9.1 miles)
Past Pleasant Hill
Turn LEFT onto WHEELER RD. (0.3 miles)
You're in the vicinity of the State Park. Look for the state park shield or name on a sign along the roadway.

We will have signs up near the Picnic Area

Magazine subscriptions go to  Rocasyd@aol.com

Join the user List! Keep in-touch with Members and Events!
http://lists.cmc.net/cgi-bin/mailman/listinfo/eugeneastro
September Nights

September is full of astronomical delights for the avid observer. As the sunsets and astronomical twilight sets in, the summer constellations are near the zenith for good observing. The milk way stretches from the south with Scopius & Sagittarius all the way to the Northeast passing bay Cassiopeia and Perseus. This is an excellent time of the year to take a cot to a dark sky site and lay back with binoculars and take in. Stay up all night and the winter constellations begin to appear with Taurus, Auriga and Orion coming into view.

A bright glow rising behind the trees in the east lights up that region of sky, it’s –4.2 Magnitude Venus at its finest (20.5”). Saturn will be already up near Pollux in Gemini. Saturn will be at +0.2 & 17” and continues to rise earlier each night. Mercury will join it just before dawn as an 8.9” crescent. Mercury will be near Regulus in Leo just before dawn during the second week of September. On the 17th Mercury will reach it’s brightest.

The great square of Pegasus will be over head after midnight and the Andromeda (M31) and Pinwheel (M33) galaxies will be well placed for viewing and imaging.

The clubs Picnic and star party will enjoy great views of the night sky, weather gods permitting. The moon will be a waning crescent in the early dawn, lining up nicely with Saturn, Venus & Mercury. Good time to bring out those cameras and tripods for some nice shots. Try a 50mm lens for 20 seconds with 400-800 asa film. Use a wider lens, 35mm and go for 30 seconds. Be sure to take many shots and bracket them against various times and f-stops to get that one good shot.

Web camera buffs should also try and get some shots of the planets, especially the elusive Mercury. Mercury will be at its best for our latitude in years. You can continue to track mercury and try to get enough frames to stack and see if detail on the planet’s surface is captured.

A nice way to plan for the night sky outing is to preplan some of your observations and print finder charts from your favorite star atlas software. This really saves time and helps in star hoping from one object to another.

Watch the EAS user list, if you’re not on it now join. I am sure more information will be posted as the Picnic draws closer. Don’t forget to bring plenty of ice and keep perishable items cold. Especially bring a good supply of insect repellant (high in Deet) for misquotes, West Nile Virus is now in Oregon.

I usually have a list I keep in a plastic sheet holder of all the items I need to take on an outing. I go over the list, before and after I have packed everything, to make sure nothing is left behind. You may want to consider getting some boxes or plastic totes to store the important items and have them numbered. Its not fun to reach a dark sky site and start to setup and discover you forgot your eyepieces, counter weights or other essential items. I also bring a fire extinguisher, fist aid kit and other essentials just in case. Hope you enjoy the September skies. See you at the Picnic.

-Sam Pitts-

In Memory…of Jim Girard

We lost Jim Girard last month. Jim was a fellow astronomer from Corvallis and was instrumental in the success of the Imaging The Sky (ITS) conferences. The conferences have been held in Salem for many years and enjoyed worldwide recognition and attendance. Jim also participated and helped with many other amateur astronomy events throughout Oregon including the Oregon Start Party. Never looking for recognition - only looking to help others learn about astronomy, imaging and enjoying the glories of the night sky. We will miss you.

http://www.stargazing.net/david/DennisLuse/argo.htm

It has been said, all the creatures of the world start to die the moment they are born, some just die sooner then others. Enjoy the journey.

-Sam Pitts-
Resisting Retirement:
Earth Observing 1
by Patrick L. Barry

The Hubble Space Telescope isn't the only satellite that scientists have fought to keep alive beyond its scheduled retirement. Scientists also went to bat for a satellite called EO-1, short for Earth Observing 1, back in 2001 when the end of its one-year mission was looming.

The motivation in both cases was similar: like Hubble, EO-1 represents a "quantum leap" over its predecessors. Losing EO-1 would have been a great loss for the scientific community. EO-1, which gazes back at Earth's surface instead of out at the stars, provides about 20 times more detail about the spectrum of light reflecting from the landscape below than other Earth-watching satellites, such as Landsat 7.

That spectral information is important, because as sunlight reflects off forests and crops and waterways, the caldron of chemicals within these objects leave their "fingerprints" in the light's spectrum of colors. Analyzing that spectrum is a powerful way for scientists to study the environment and assess its health, whether it's measuring nitrate fertilizers polluting a lake or a calcium deficiency stressing acres of wheat fields.

Landsat 7 measures only 8 points along the spectrum; in contrast, EO-1 measures 220 points (with wavelengths between 0.4 to 2.5 µm) thanks to the prototype Hyperion "hyperspectral" sensor onboard. That means that EO-1 can detect much more subtle fingerprints than Landsat and reveal a more complete picture of the chemicals that comprise the environment.

As a NASA New Millennium Program mission, the original purpose for EO-1 was just to "test drive" this next-generation Hyperion sensor and other cutting-edge satellite technologies, so that future satellites could use the technologies without the risk of flying them for the first time. It was never meant to be a science data-gathering mission.

But it has become one. "We were the only hyperspectral sensor flying in space, so it was advantageous to keep us up there," says Dr. Thomas Brakke, EO-1 Mission Deputy Scientist at NASA's Goddard Space Flight Center.

Now, almost three years after it was scheduled to be de-orbited, EO-1 is still collecting valuable data about our planet's natural ecosystems. Scientists have begun more than a dozen environmental studies to take advantage of EO-1's extended mission. Topics range from mapping harmful invasive plant species to documenting the impacts of cattle grazing in Argentina to monitoring bush fires in Australia.

Not bad for a satellite in retirement.

Read about EO1 at eo1.gsfc.nasa.gov. See sample EO-1 images at http://eo1.usgs.gov/samples.php. Budding young astronomers can learn more at spaceplace.nasa.gov/eo1_1.htm.

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

EAS Membership Dues
October

Please fill out new membership forms and submit your dues in October to EAS. See Roscoe at the next meeting. Applications are on the Web site: www.eugeneastro.org
A team of planet-hunters will announce their discovery of a new class of planets beyond our solar system at a NASA Science Update at 1 p.m. EDT on Tuesday, August 31. Their discovery represents a significant and much-anticipated advance in the hunt for extrasolar planets.

Panelists include:

- Dr. Geoffrey Marcy, University of California, Berkeley
- Dr. R. Paul Butler, Department of Terrestrial Magnetism, Carnegie Institution of Washington
- Dr. Barbara McArthur, University of Texas, Austin
- Dr. Alan Boss, staff research astronomer, Department of Terrestrial Magnetism, Carnegie Institution of Washington
- Dr. Anne Kinney, moderator, director, Universe Division, Science Mission Directorate, NASA, Washington

The news conference will be carried live on NASA Television and webcast live at:


Some of the most exciting news deals with the future of amateur astronomers in the hunt for such extrasolar planets. Another new object (TrES-1) was discovered with a new transit method made in California, Arizona, Massachusetts & the Carney Islands. This new method was developed by the “National Center for Atmospheric Research team, in conjunction with other institutions. This new method used amateur sized telescopes to capture and compile the data. The dimming of the brightness caused by the planets passage across the face of a bright star were collected with small telescopes and off the shelf CCD cameras. The Jupiter size planet crossed the path of a bright star, 500 light years distant, in the constellation of Lyra. The final observations were done by large interments. Right now, over 50 astronomical groups and institutions are gearing up for the New Era of Planetary Discoveries ahead. Many amateur astronomers are stepping up to the plate to assist in the search for new Extrasolar Planets.

You may want to look at the constellation of Pegasus and locate 51 Pegasus. See page #5 for a finder chart. The first extrasolar planet was found orbiting this star in 1995.

-Sam Pitts-
New NOVA Presentation
Origins:
Universe, Galaxy, Earth Etc.

PBS/OPB is airing a special two-part four-hour version of NOVA, 800 PM, Tuesday and Wednesday, September 28th and 29th. Topic is Origins, covering ideas about origin of Universe, Galaxy, Earth, and life. Host is Neil deGrasse Tyson, Director of Hayden Planetarium in New York.

- Rick Kang-

Oregon Star Party
Many EAS members attended the OSP this year, to enjoy the cloudy nights. Thursday was hot until evening when clouds started to form. Some holes popped open for short glimpses of the dark skies. Early Friday morning proofed good till dawn then more clouds formed and viewing was out. Showers came and went through Saturday and the sun appeared during the door prize giveaway. I understand Allen has a complete set of the Real Sky he won. Saturday evening brought more clouds and surrounds thunder & lightening, which thankfully kept it’s distance. We had some great sunsets.
Affordable Film Equipment

The world of amateur astronomy is changing faster than most of us can keep up with. Film is still a viable media to capture wide vistas of the night sky. See the impressive images in the new EAS Image Gallery on page 7. There are great buys on used manual SLR cameras, lenses and equipment. In part, this is due to the rapidly changing world of CCD/CMOS cameras available to the average consumer and professional alike.

Many can now take advantage of the low prices for used equipment and pick up large telephoto lenses that rival expensive APO’s in performance. Many of these lenses have Fluorite or ED elements at a fraction of the cost of APO’s.

Great CCD Camera Buys

CCD cameras are also in a state of flux with many models on the used market coming down in price. Models that sold for $3000-$6000 2-5 years ago can now be purchased on the used market at 1/3rd of their original price tags. This is due to the new larger chips and one-shot color CCD’s hitting the market. SBIG has the one shot color-2000 XM for $3000.00 and Meade has announced a New one shot color CCD imager for $299.00. SBIG will be announcing a couple of New one-shot color models in the near future.

Time will tell if these new cameras fulfill the needs of the amateur astronomy market. The 2000 generates impressive images, visit the official SBIG web site. The Meade “Deep Sky Imager” boasts a 510x492 pixel, 16 bit, High Sensitivity Sony Super-Had Color CCD chip. This imager connects to your computer via USB (1.1 or 2.0) to transfers data from the 9.6 (W) x7.5 (H) micron pixels. Check out the October issue of Sky & Telescope, pages 28-29, for Meade’s ad. Keep an eye out for up-coming reviews.

Check out the low prices on used equipment at Astro-Mart, the place to buy and sell your used astronomy equipment.

Digital Cameras

Digital cameras are coming down in price and offer great a-focal results with fixed lenses. The new DSLR’s, Digital Single Lens Reflex, cameras have taken hold and are capturing some amazing nightscapes. Astronomy magazines are full of very impressive images captured with these semi-pro and pro cameras.

Canon seems to be the leader for astronomical use, with the D30 making it’s debut in 2000. Soon there after came the D60 and EOS Digital Rebel for the semi-pro/consumer and the 1-Ds for the pros. The Canon 10D hit the market, offering a 22.7 x 15.1 6.3 megapixel (7.4 micron) CMOS chip that works great for Astro-imaging. Check out June 2004 S & T article on page 130 and the great images taken with this camera.

Well, for those of you who want the latest, Canon is introducing the 20D in September with 8.3 Megapixels, lower noise and Dark Frame subtraction. Sounds like they are going after the astronomy market as well as the semi-pros and pros alike. The resolution (6.4 Microns) is capable of 20x30 enlargements and the noise levels are said to be below the 10D at a given ISO setting. Claims are 2-stops better.

I wonder if Canon’s CMOS sensor will find its way into traditional “CCD” imaging cameras? Time will tell, and the used market continues to offer some great buys.

- Sam Pitts-
New Feature

EAS Gallery

Please submit your photos, images & drawings

Image by Richard Boyd® Taken from Eagles Rest with a G11 Gemini and C 9.25” E 200 Film. This is a great shot of Orion’s depicting many of our favorite objects. In the sword, The Great Orion Nebula M42 and adjacent M43. At the belt is the Horsehead and Flame Nebula and towards the Red Arc of Bernard’s Loop in Faint M78.

Image by Richard Boyd® Taken from Eagles Rest with a G11 Gemini and C 9.25” E 200 Film. URSA Major “The Big Dipper, Lots of detail and data were recorded in this image and when enlarged M51 and it’s connected companion galaxy are visible.