

IO – February 2005

Issue # 2005-02

www.eugeneastro.org

Eugene Astronomical Society, Annual Club Dues \$25, President: AC Illig, Treasurer: Roscco Wright, Secretary Alicia McGraw
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Io (*EYE-oh*) is nearest to Jupiter and fastest orbiting of the four Galilean moons

EAS is a Proud Member of:

The Astronomical League
The World's Largest Federation of Amateur Astronomers

Monday- February 7th MEETING EUGENE ASTRONOMICAL SOCIETY At The Science Factory Planetarium

The meeting will begin at **7:00 PM** in the Planetarium, Rick Kang will present an update on the Cassini Project, among other presentations.. 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

Messier Marathon

Even though we are still in winter, it's time to start thinking of some nice Clear March nights, pursuing the Messier Objects. There are a total of 110 various objects that in late March, can all be viewed from our latitude. Given a clear night and dark sky location with generous horizons. Whether you decide to tackle them with a good pair of binoculars or a scope, it really helps to plan ahead.

If you are just interested in seeing as many Messier objects as possible I recommend Sky & Telescopes Messier Card and a set of good star charts. Computer-based star atlases are a great help and you can plan you star hoping on the screen and then print the charts. This is really helpful for twilight will be a busy time try to locate and observe the faint objects to the West before they set. And of course early morning before the Sun washes the remaining objects out. In between is a nice night of star hoping, making observations and conversing with fellow observers.

Should the urge strike for a little more in-depth observing of the Messier objects strike you. Take detailed notes of your observations and apply for one of the Messier Certificates the Astronomical League has to offer. Locate, observe and describe your observations in a notebook and after cataloging 70 objects correctly earn your Messier Club Certificate. When you have completed all 110, earn your Honorary Messier Club Certificate. Remember you have to star hope (No GoTo's) to locate all the objects and then describe the object and your observation times, location, etc. I believe fellow EAS member Mel Bartels earned the very first such certificate. This is a great way to learn the skies.

--Clear Skies Sam--

Magazine subscriptions go to Richard Boyd: checkerkit@comcast.net

 Join the user List!

Keep in-touch with Members and Events!

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

What's Out This Month

Comet Machholz continues to move Northward through Perseus heading for URSA Major (The Big Dipper). The tail is evident through telescopes as it begins to fade in magnitude. Some local EAS members have been able to get some good pictures of this comet.

Orion continues to show off its splendor with Sirius and Canis Major to the East & South. This is a time to seek dark skies and low horizons. On a recent trip to Panther Creek, one could observe the full extend of the Milky Way from horizon to horizon. She stretches from Cygnus & Deneb in the NW, all the way to the SE, brushing along side of Canis Major and Orion.

Saturn is nice and high at dusk shimmering brightly near Pollux, with Castor a little further West, in Gemini. West of the twins is Auriga straddling the Milky Way with its nice open clusters M36, M37 & M38. Look North, and it is an ideal time to view M 81 & M82 in the Big Dipper, as they climb high overhead.

Later in the evening Leo is rising in the East with Jupiter. Virgo and the Virgo cluster of galaxies are not far behind. Scopus is showing in the SE, a sign of Spring and summer skies ahead. This is a great time to spend all night under the stars. Now all we have to do is have clear skies!

Sam

Jupiter's Red Spot Centered PST

02/01	01:05	20:56		02/16	08:22	18:18
02/02	06:52	00:00		02/17	04:14	00:00
02/03	02:43	22:34		02/18	00:05	19:56
02/04	08:30	18:25		02/19	05:52	00:00
02/05	04:21	00:00		02/20	01:43	21:34
02/06	00:12	20:03		02/21	07:30	00:00
02/07	05:59	00:00		02/22	03:21	23:12
02/08	01:50	21:41		02/23	09:08	19:03
02/09	07:37	17:33		02/24	04:59	00:00
02/10	03:28	23:19		02/25	00:50	20:41
02/11	09:15	19:11		02/26	07:37	17:32
02/12	05:06	00:00		02/27	02:28	22:19
02/13	00:58	20:49		02/28	08:15	00:00
02/14	06:44	00:00		00/00	00:00	00:00
02/15	02:36	22:27		00/00	00:00	00:00
				00-00	00:00	00:00

Transits of Jupiter's Moons



02/02	00:49	Europa	Transit Begins
	03:25	Europa	Transit Ends
02/04	06:53	Io	Transit Begins
	09:03	Io	Transit Ends
02/06	01:21	Io	Transit Begins
	03:30	Io	Transit Ends
02/08	19:48	Io	Transit Begins
	21:58	Io	Transit Ends
02/09	03:15	Europa	Transit Begins
	05:50	Europa	Ends
02/12	16:27	Europa	Transit Begins
	19:03	Europa	Transit Ends
02/13	03:09	Io	Transit Begins
	05:19	Io	Transit Ends
02/14	21:36	Io	Transit Begins
	23:46	Io	Transit Ends
02/16	05:38	Europa	Transit Begins
	08:14	Europa	Transit Ends
02/19	18:49	Europa	Transit Begins
	21:25	Europa	Transit Ends
02/20	04:56	Io	Transit Begins
	07:06	Io	Transit Ends
	18:43	Ganymede	Transit Begins
	20:56	Ganymede	Transit Ends
02/21	23:23	Io	Transit Begins
02/22	01:32	Io	Transit Ends
02/26	21:09	Europa	Transit Begins
	23:45	Europa	Transit Ends
02/27	06:42	Io	Transit Begins
	08:52	Io	Transit Ends
	22:11	Ganymede	Transit Begins
	23:24	Ganymede	Transit Ends

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.

Stardust Up Close

by Patrick L. Barry and Dr. Tony Phillips

Like discarded lumber and broken bricks around a construction site, comets scattered at the edge of our solar system are left-over bits from the "construction" of our solar system.

Studying comets, then, can help scientists understand how our solar system formed, and how it gave rise to a life-bearing planet like Earth.

But comets have long been frustratingly out of reach -- until recently. In January 2004 NASA's Stardust probe made a fly-by of the comet Wild 2 (pronounced "vilt"). This fly-by captured some of the best images and data on comets yet ... and the most surprising.

Scientists had thought that comets were basically "rubble piles" of ice and dust -- leftover "construction materials" held together by the comet's feeble gravity. But that's not what Stardust found. Photos of Wild 2 reveal a bizarre landscape of odd-shaped craters, tall cliffs, and overhangs. The comet looks like an alien world in miniature, not construction debris. To support these shapes against the pull of gravity, the comet must have a different consistency than scientists thought:

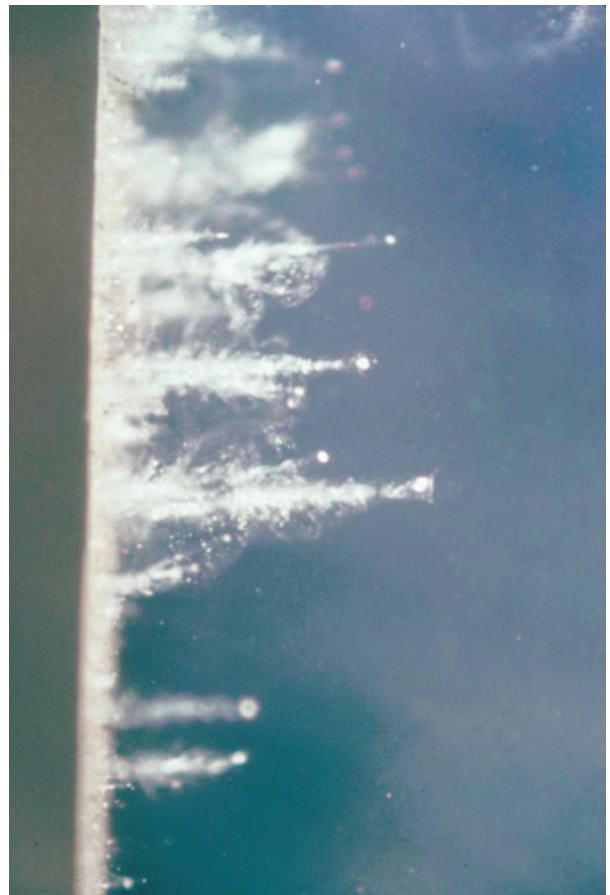
"Now we think the comet's surface might have a texture like freeze-dried ice cream, so-called 'astronaut ice cream': It's solid and can assume odd, gravity-defying shapes, but it's basically soft and crumbles easily," says Donald Brownlee of the University of Washington, principal investigator for Stardust.

Scientists are currently assembling a 3-D computer model of this surface from the photos that Stardust took. Those photos show the sunlit side of the comet from many angles, so its 3-dimensional shape can be inferred by analyzing the images. The result will be a "virtual comet" that scientists can examine from any angle. They can even perform a virtual fly-by. Using this 3-D model to study the comet's shape in detail, the scientists will learn a lot about the material from which the comet is made: how strong or dense or brittle it is, for example.

Soon, the Stardust team will get their hands on some of that material. In January 2006, a capsule from Stardust will parachute down to Earth carrying samples of comet dust captured during the flyby. Once scientists get these tiny grains under their microscopes, they'll get their first glimpse at the primordial makings of the solar system.



NATIONAL AERONAUTICS
AND SPACE ADMINISTRATION



The Stardust spacecraft used a grid holding aerogel to capture dust particles from comet Wild 2. In this test, high velocity dust particles are stopped unharmed at the end of cone shaped tracks in a sample of aerogel

It's heading our way: ancient, hard-won, possibly surprising and definitely precious dust from the construction zone.

Find out more about the Stardust mission at stardust.jpl.nasa.gov. Kids can read about comets, play the "Tails of Wonder" game about comets, and hear a rhyming story about aerogel at

<http://spaceplace.nasa.gov/en/kids/stardust/>.

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

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NASA's ISS EarthKAM Program Seeks Participants for February and April 2005 Missions

ISS EarthKAM is recruiting middle school educators who would like to involve their students in an innovative and exciting NASA education program that gives students the opportunity to take images of Earth from the International Space Station. ISS EarthKAM picture taking missions are scheduled for February 1-4, 2005 and late April 2005.

ISS EarthKAM (Earth Knowledge Acquired by Middle schools) is NASA's unique educational initiative that gives students direct access to, and control of, a digital camera mounted in an Earth viewing window of the International Space Station (ISS). Students participating in ISS EarthKAM identify places on Earth they want to photograph from space; use the ISS EarthKAM Web-based interface to calculate exactly when the ISS EarthKAM digital camera should take its pictures; submit their image requests to the ISS; track their image requests; and then analyze their images. The students' images of Earth can be downloaded for analysis and exploration within hours of being taken.

Students use their images of Earth to study topics such as changes on Earth's surface, human land use patterns, and geologic processes. ISS EarthKAM is designed to enhance students' science, math, technology, and geography knowledge. All of the ISS EarthKAM images, as well as various activities and educator guides keyed to national standards, are publicly available on the ISS EarthKAM Web site.

Teachers interested in involving their students in ISS EarthKAM can register through the ISS EarthKAM online registration system at <http://datasystem.earthkam.ucsd.edu/ekReg/ekRegistration.shtml>.

The next ISS EarthKAM missions are scheduled for February 1-4, 2005 and late April 2005. Participation is free. All of the existing (16,000 +) ISS EarthKAM images can be accessed through the Datasystem: <http://datasystem.earthkam.ucsd.edu/>

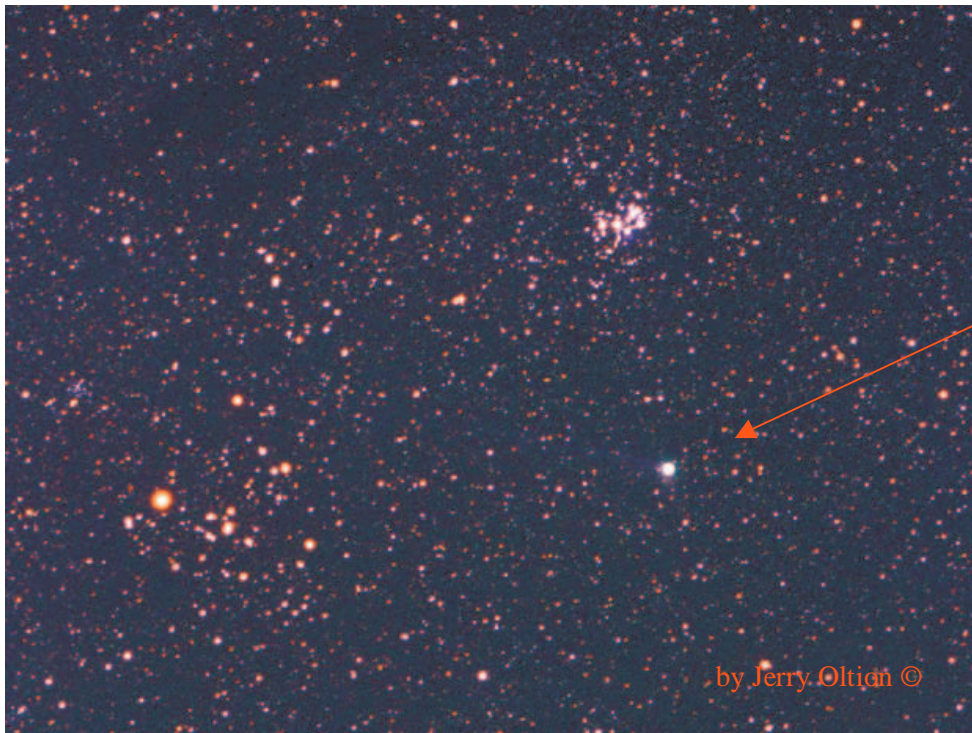
ISS EarthKAM Web site: <http://www.earthkam.ucsd.edu>

For additional information contact:

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EAS Member Images Comet

Image of Comet Machholz , and
Open Star Clusters:
The Pleiades and Hyades.

Image Taken By Jerry Oltion ©
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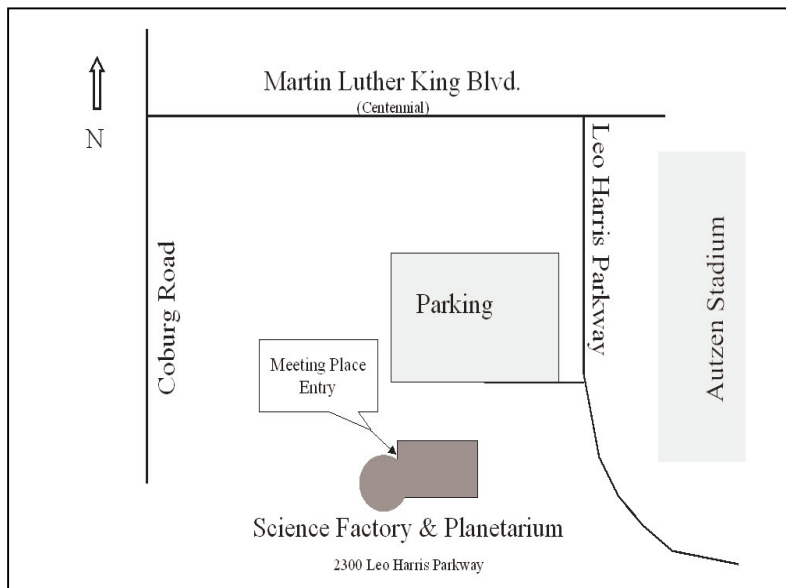
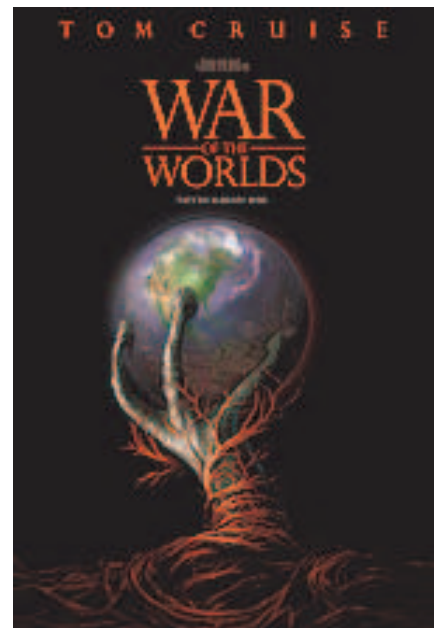
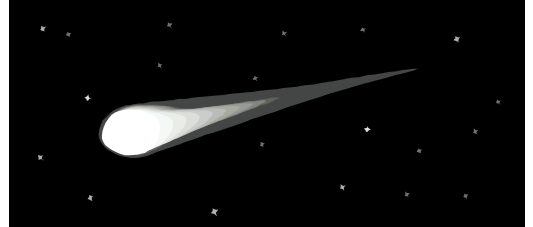
by Jerry Oltion ©

Everyone knows this is a Comet

Not so many decades ago, when all you had was a radio. One summer night, Orson Wells made a radio broadcast depicting these cylinders from another world-Mars. The invasion began and people panicked in the streets it was so real. Then came Gene Berry and the Movie War of the Worlds in the 1950's.

Will now, Tom Cruise, Tim Robbins, Miranda Otto, Dakota Fanning, Justin Chatwin, Director Steven Spielberg along with Paramount Pictures and DreamWorks will release War of The Worlds - June 29th 2005.

Based on the Novel By: H.G. Wells



← **EAS Meeting Location**
Meetings 1st Monday of the Month
7:00PM Come Early & Visit

Mead Announces a new Line of Telescopes

RCX400

After carefully evaluating the merits of every telescope design, Meade engineers concluded the Ritchey-Chrétien was the optimal design. A fast (f/8) RC design produces a large, coma-free field of view from edge-to-edge, allowing astrophotographers to use the latest in imaging technology to capture tack sharp images over a wider field. Visual observers can view pinpoint stars and extended objects across the larger field of view. In fact, almost every professional reflector telescope in the world's observatories is a Ritchey-Chrétien, even the Hubble Space Telescope. Go to The Meade Site and check it out!

<http://www.meade.com/rcx400/>

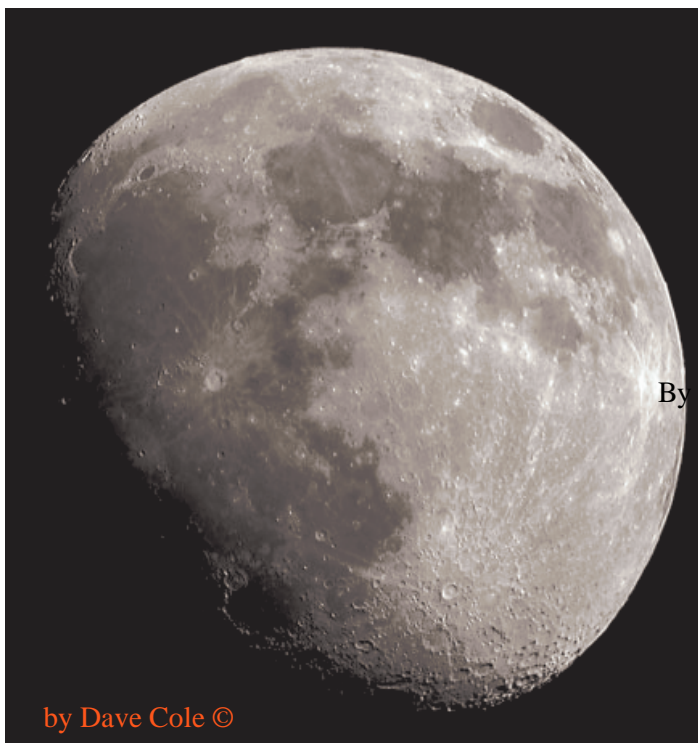
IO Photo/Image Gallery



Great Orion Nebula M42

Constellation of Orion

Great shots by Jerry Oltion ©



Nice Sharp Moon Image

By Dave Cole ©

Submit your images for IO to: sampitts@comcast.net