

IO - February 2008

Issue 2008-02
Eugene Astronomical Society

Eugene Astronomical Society
Annual Club Dues \$25
President: Sam Pitts - 688-7330
Secretary: Jerry Oltion - 343-4758
Additional Board members:
Jacob Strandlien, Tony Dandurand,
Tommy Lightning Bolt.

www.eugeneastro.org

EAS is a proud member of:

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



FEBRUARY 14TH MEETING: “Show and Tell”

Bring your winter project, Christmas presents, cool new gadget, or whatever you want to show the club. Jerry Oltion will demonstrate mirror grinding and show off the trackball telescope he's building for the club. Several others will show their winter projects. If there's time afterward, we'll watch the Milky Way and Andromeda galaxies collide on the BBC program, “The Sky at Night.”

We always encourage audience participation during our meetings. EAS meetings are traditionally times when we learn about astronomy and share others' experiences and knowledge of astronomy and the night sky. If you have something to share with the group, please do so!

Come and enjoy the wonders of the night sky with the Eugene Astronomical Society. After the meeting we can gather at The North Bank for dinner and conversation.

NEW MEETING PLACE

Due to logistical difficulties with the Science Factory, EAS meetings will now be held at EWEB, 500 E. 4th Avenue in Eugene.

OUR NEXT MEETING WILL BE ON THURSDAY, FEBRUARY 14TH AT 7:00 IN THE NORTH BUILDING'S TRAINING CENTER ROOM. This is the middle of the three wedge-shaped rooms in the semicircular building to the north of the fountain at EWEB's main campus on the east end of 4th Avenue.

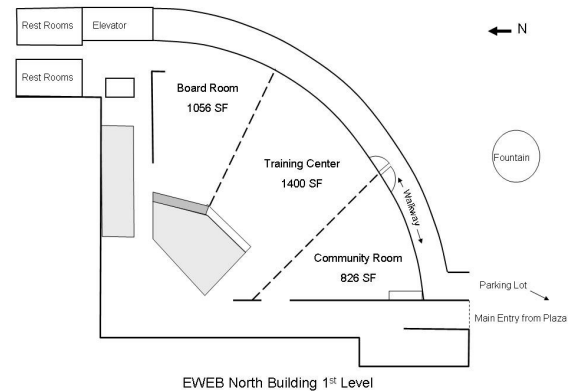
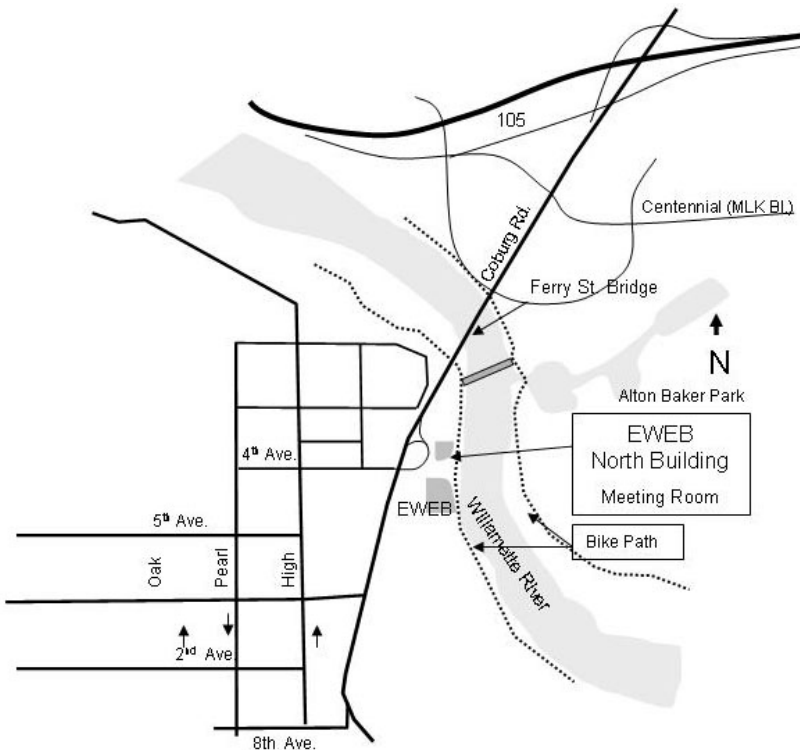
Why the switch? The Science Factory had to pay an employee to open up the building and be there during our meetings, and they wanted us to pick up that expense as well as move our meeting time earlier in the day. We countered with an offer to volunteer to run planetarium shows in exchange for a key so we could let ourselves in, but they either wouldn't or couldn't go for that. We would have had to raise our dues to meet the expense of paying for the meeting space, so we looked for alternative space and EWEB was available for free. For the first year we won't have the same day every month, but as soon as a regular meeting time opens up, we'll standardize our meeting days again. In the meantime, here's the meeting schedule for 2008. All meetings begin at 7:00.

February 14 (Thursday) in Training Center (middle room)
March 13 (Thursday) in Training Center
April 24 (Thursday) in Community Room (first room)

Join the EAS mail list at <http://eugeneastro.org/mailman/listinfo/org.eugeneastro.general>

EAS Meeting dates (continued)

- May 29 (Thursday) in Community Room (first room)
- June 26 (Thursday) in Community Room
- July 24 (Thursday) in Community Room
- August 28 (Thursday) in Community Room
- September 30 (**Tuesday**) in Community Room
- October 23 (Thursday) in Community Room
- November 10 (**Monday**) in Community Room
- December 18 (Thursday) in Community Room



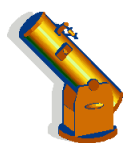
EWEB is located at 500 E. 4th Avenue. Our meetings will be in either the first or the second room in the semicircular building to the north of the fountain.

Total Lunar Eclipse Star Party February 20

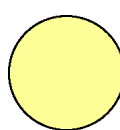
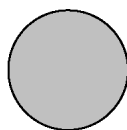
There will be a total eclipse of the Moon on the evening of Wednesday February 20th, beginning just minutes after Moonrise (5:40 p.m.) and going until 9:09 p.m. Totality runs from 7:00 to 7:52.

EAS will be hosting a star party on the College Hill Reservoir for this event. Bring your telescopes, binoculars, lawn chairs, and warm mittens and let's make this a great event for the public as well as for ourselves. This will be the last good eclipse visible from the Northwest for several years, so don't miss it!

The College Hill Reservoir is at 24th and Lawrence in Eugene.



Observing in February



February 6	February 13	February 20	February 28
Mercury Rise 7:07 AM	Mercury Rise 6:21 AM	Mercury Rise 5:56 AM	Mercury Rise 5:45 AM
Venus Rise 5:46 AM	Venus Rise 5:51 AM	Venus Rise 5:53 AM	Venus Rise 5:52 AM
Mars Set 4:22 AM	Mars Set 4:18 AM	Mars Set 3:56 AM	Mars Set 3:33 AM
Jupiter Rise 5:29 AM	Jupiter Rise 5:07 AM	Jupiter Rise 4:44 AM	Jupiter Rise 4:18 AM
Saturn Rise 6:55 PM	Saturn Rise 6:25 PM	Saturn Rise 5:55 PM	Saturn Rise 5:20 PM
Uranus Set 7:59 PM	Uranus Rise 8:13 AM	Uranus Rise 7:46 AM	Uranus Rise 7:16 AM
Neptune Rise 7:38 AM	Neptune Rise 7:11 AM	Neptune Rise 6:45 AM	Neptune Rise 6:14 AM
Pluto Rise 4:15 AM	Pluto Rise 3:48 AM	Pluto Rise 3:21 AM	Pluto Rise 2:50 AM

All times: Pacific Standard Time (Nov.-March) = UT-8 or U.S. Pacific Daylight Time (March 11-November 4, 2007) = UT - 7 hours.

Date	Moonrise	Moonset	Sunrise	Sunset	Twilight Begin	Twilight End
2/1/2008	03:41	12:01	07:31	17:22	05:51	19:01
2/2/2008	04:39	12:48	07:29	17:24	05:50	19:03
2/3/2008	05:32	13:45	07:28	17:25	05:49	19:04
2/4/2008	06:16	14:49	07:27	17:26	05:48	19:05
2/5/2008	06:52	16:00	07:26	17:28	05:47	19:06
2/6/2008	07:22	17:13	07:25	17:29	05:46	19:07
2/7/2008	07:46	18:27	07:23	17:31	05:45	19:09
2/8/2008	08:08	19:41	07:22	17:32	05:44	19:10
2/9/2008	08:28	20:54	07:21	17:33	05:43	19:11
2/10/2008	08:48	22:09	07:19	17:35	05:42	19:12
2/11/2008	09:11	23:27	07:18	17:36	05:41	19:14
2/12/2008	09:36	—	07:17	17:38	05:39	19:15
2/13/2008	10:07	00:45	07:15	17:39	05:38	19:16
2/14/2008	10:46	02:04	07:14	17:40	05:37	19:17
2/15/2008	11:37	03:19	07:12	17:42	05:36	19:19
2/16/2008	12:40	04:24	07:11	17:43	05:34	19:20
2/17/2008	13:53	05:17	07:09	17:44	05:33	19:21
2/18/2008	15:10	05:58	07:08	17:46	05:31	19:22
2/19/2008	16:26	06:29	07:06	17:47	05:30	19:24
2/20/2008	17:40	06:54	07:05	17:48	05:29	19:25
2/21/2008	18:50	07:16	07:03	17:50	05:27	19:26
2/22/2008	19:58	07:35	07:02	17:51	05:26	19:27
2/23/2008	21:05	07:53	07:00	17:52	05:24	19:29
2/24/2008	22:10	08:11	06:58	17:54	05:22	19:30
2/25/2008	23:16	08:31	06:57	17:55	05:21	19:31
2/26/2008	—	08:54	06:55	17:56	05:19	19:33
2/27/2008	00:22	09:22	06:53	17:58	05:18	19:34
2/28/2008	01:27	09:56	06:52	17:59	05:16	19:35
2/29/2008	02:27	10:38	06:50	18:00	05:14	19:36

Other Items of Interest This Month

All month: Last good chance at Mars for two years.
 Feb 1: Venus and Jupiter 0.6° apart at dawn, separating by 1°/day thereafter.
 Feb 20: **Total Lunar Eclipse**(Sunset to 9:09 p.m.)
 Feb 23: Saturn at opposition.



For Current Occultation Information

Visit Derek C. Breit's web site

"BREIT IDEAS Observatory"

<http://www.poyntsource.com/New/Regions/EAS.htm>

Go to Regional Events and click on the Eugene, Oregon section. This will take you to a current list of Lunar & asteroid events for the Eugene area. Breit continues to update and add to his site weekly if not daily. This is a site to place in your favorites list and visit often.

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

Astronomical Events – February 2008

- 01 - Venus Passes 1 Degree From Jupiter
- 02 - Comet 46P/Wirtanen Perihelion (1.057 AU)
- 05 - Progress M-63 Soyuz U Launch (International Space Station 28P)
- 06 - Asteroid 6 Hebe At Opposition (8.8 Magnitude)
- 07 - STS-122 Launch, Space Shuttle Atlantis, ESA's Columbus Laboratory (International Space Station 1E)
- 07 - Annular Solar Eclipse, Visible in Antarctica
- 08 - Cassini, Distant Flyby of Epimetheus, Pandora & Atlas
- 08 - Asteroid 2007 SP11 Near-Earth Flyby (0.091 AU)
- 08 - Kuiper Belt Object 55565 (2002 AW197) Closest Approach To Earth (45.696 AU)
- 10 - Asteroid 2006 DU62 Near-Earth Flyby (0.055 AU)
- 11 - Comet C/2007 Y1 (LINEAR) Closest Approach To Earth (2.401 AU)
- 11 - Asteroid 2007 RV9 Near-Earth Flyby (0.078 AU)
- 12 - Asteroid 2007 DA Near-Earth Flyby (0.025 AU)
- 13 - Asteroid 729 Watsonia Occults HIP 35699 (5.1 Magnitude Star)
- 14 - Comet C/2007 T1 (McNaught) Closest Approach To Earth (1.063 AU)
- 14 - 45th Anniversary (1963), Syncom 1 Launch (1st Geosynchronous Satellite)
- 15 - Winds H-2A Launch (Japan)
- 15 - Asteroid 162567 (2000 RW37) Near-Earth Flyby (0.072 AU)
- 16 - 60th Anniversary (1948), Gerard Kuiper's Discovery of Uranus Moon Miranda
- 17 - Comet 46P/Wirtanen Closest Approach To Earth (0.918 AU)
- 18 - Kuiper Belt Object 90482 Orcus Closest Approach To Earth (46.870 AU)
- 19 - Comet 79P/du Toit-Hartley Closest Approach To Earth (0.829 AU)
- 19 - Asteroid 4450 Pan Near-Earth Flyby (0.041 AU)
- 19 - Nicolas Copernicus' 535th Birthday (1473)
- 20 - Cassini, Distant Flyby of Pan, Prometheus, Pandora & Janus
- 20 - Uranus Ring Plane Crossing
- 20 - Total Lunar Eclipse
- 22 - Cassini, Titan Flyby
- 24 - Saturn At Opposition
- 24 - 40th Anniversary (1968), Jocelyn Bell's Discovery of Pulsars
- 26 - Comet 180P/NEAT Closest Approach To Earth (1.612 AU)
- 26 - Comet 194P/LINEAR Perihelion (1.709 AU)
- 26 - Asteroid 2002 TD66 Near-Earth Flyby (0.043 AU)
- 28 - GONETS D1/Jubilee Rokot KM-Briz Launch

AU=Astronomical Unit (92,955,800 miles)



Thank You Castle Storage

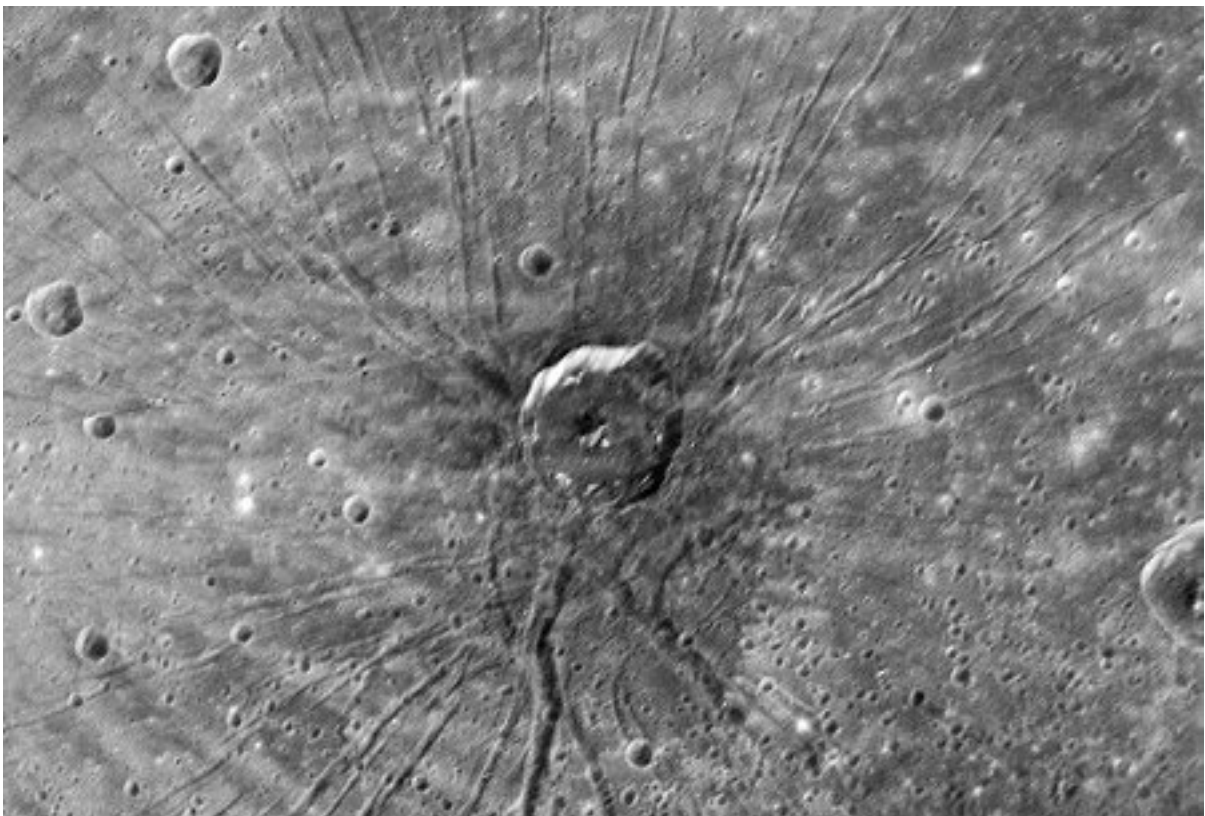
Board member Tommy Lightning Bolt was instrumental in getting a storage unit from the owners of Castle Storage for EAS to store its telescopes and equipment. EAS would like to thank Castle Storage for their generosity and support for our group. Please give them a call if you need a storage space and tell your friends. They are great people and offer secure and quality units.

Surprises from Mercury

From Science@NASA (<http://science.nasa.gov>)

January 30, 2008: After a journey of more than 2 billion miles and three and a half years, NASA's MESSENGER spacecraft flew by Mercury on Jan. 14, 2008, and it has beamed back some surprises.

"This flyby allowed us to see a part of the planet never before viewed by spacecraft, and our little craft has returned a gold mine of exciting data," said Sean Solomon, MESSENGER's principal investigator at the Carnegie Institution of Washington. The spacecraft's cameras and other sensors collected more than 1,200 images and made the first up-close measurements of Mercury since Mariner 10 visited the planet in the mid-1970s.



Above: The "Spider crater" located on the floor and near the center of Mercury's giant Caloris basin.

Researchers once thought Mercury to be much like Earth's moon, but MESSENGER has found many differences. For instance, unlike the moon, Mercury has huge cliffs with structures snaking hundreds of miles across the planet's face. The spacecraft also revealed impact craters that appear very different from lunar craters. One particularly curious crater has been dubbed "The Spider."

This formation never has been seen on Mercury before and nothing like it has been observed on the moon. It lies in the middle of a huge impact crater called the Caloris basin and consists of more than 100 narrow, flat-floored troughs radiating from a complex central region.

"The Spider has a crater near its center, but whether that crater is related to the original formation or came later is not clear at this time," said James Head, science team co-investigator at Brown University, Providence, R.I.

When Mariner 10 flew by Mercury in the 1970s, it saw only a portion of Caloris basin. Now that MESSENGER has shown scientists the basin's full extent, its diameter has been revised upward from the Mariner 10 estimate of 800 miles to perhaps as large as 960 miles from rim to rim. Researchers already knew that Caloris was one of the largest impact craters in the solar system; MESSENGER has shown it is even bigger than they thought!

Turning to Mercury's magnetic field, MESSENGER found it to be different compared to Mariner 10 observations 30 years ago. While the magnetic field was generally quiet (no magnetic storms) on Jan. 14th, it showed several signs of significant internal pressure. Additional flybys by MESSENGER in late 2008 and 2009 plus a yearlong orbital phase beginning in 2011 will shed more light on the stability and dynamics of Mercury's magnetic cocoon.

MESSENGER's suite of instruments also detected ultraviolet emissions from sodium, calcium and hydrogen in Mercury's exosphere. (An exosphere is a super-low-density atmosphere probably formed, in this case, from atoms sputtering off Mercury's surface. The sputtering may be caused by contact with hot plasma trapped in Mercury's magnetic field.) MESSENGER encountered Mercury's sodium-rich exospheric "tail" which extends more than 25,000 miles from the planet and also discovered a hydrogen tail of similar dimensions.

"We should keep this treasure trove of data in perspective," said project scientist Ralph McNutt of the Applied Physics Laboratory, Laurel, Md. "With two flybys to come and an intensive orbital mission to follow, we are just getting started to go where no one has been before."



Messenger's departing shots



Random Notes

- Asteroid 2007 WD5 missed Mars by 6.5 planetary radii (14,000 miles) on January 30.
- The 2008 Golden Gate Star Party will be held July 2 to July 6 at their new site near Adin, California. (This site is not that far from Oregon!) GSSP is one of the premier star parties in California featuring the darkest skies, plenty of room and accommodations for camping and RVs, on-site food services, showers, sanitary facilities, ice, and water. For more information, visit their website at <<http://www.goldenstatestarparty.org/>> or contact info@goldenstatestarparty.org.
- Astronomics.com is offering a discount to members of the Cloudy Nights online forum. Provide your Cloudy Nights log-in name for verification when you place an order at Astronomics and you'll get the discount.