

IO - March 2008

Issue 2008-03
Eugene Astronomical Society

Eugene Astronomical Society
Annual Club Dues \$25
President: Sam Pitts - 688-7330
Secretary: Jerry Olton - 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



MARCH 13TH MEETING: THE MESSIER MARATHON and A FOCUS ON THE VIRGO CLUSTER

March is the time of year when you can see all 110 Messier objects in one night. Sam Pitts will show us how to organize our night's viewing so we can catch them all.

Rick Kang will zero in on the Virgo Cluster of galaxies, which contains several Messier objects and a great deal more.

Jim Jackson will share his experiences in pursuing the elusive Herschel 400 list.

Jacob Strandlein will have his monthly astro-news presentation.

And Mikael Krummel, a reporter from *Eugene Magazine*, will be there to gather information about the EAS for the article he is writing on the club for the magazine's summer issue. It'll be a fun and informative meeting, so don't miss it!

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.

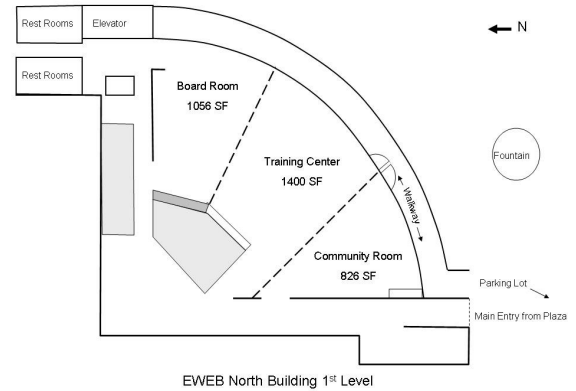
REMEMBER THAT WE NOW MEET AT EWEB 500 E. 4th Avenue in Eugene. (See map on next page)

OUR NEXT MEETING WILL BE ON THURSDAY, MARCH 13TH 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.

Meeting dates and times for the rest of the year:

April 24 (Thursday) in Community Room (first room)
May 29 (Thursday) in Community 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

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



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.

EAS Receives Generous Donation from George Towe Estate

Many of us were saddened when George Towe, one of our long time members, passed away last May. It turns out he had a special fondness for the EAS as well. His son, Robert Towe, recently wrote to say that George had remembered us in his will, and as executor of his father's estate, Robert sent us a check for \$2585. This nearly doubles our kitty, and it comes with no strings attached. George simply wanted us to have it.

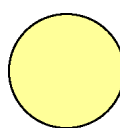
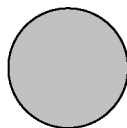
Robert wrote: "I am enormously proud to be able to send this check to you because I believe this donation is my father's way of saying that he enjoyed working with the people of your organization. In addition, I believe he hoped in some small way to contribute to the enjoyment or fulfillment of others who might also participate in the programs you have to offer. Thank you for having a positive and measurable impact on my father's life."

The EAS board of directors is considering what would be the best use for such a generous donation. We welcome members' suggestions, and we look forward to discussing the possibilities at upcoming meetings.

In the meantime, the Eugene Astronomical Society extends our sincerest thanks to the family of George Towe for this wonderful gift.



Observing in March



March 7	March 14	March 21	March 29
Mercury Rise 5:42 AM	Mercury Rise 6:40 AM	Mercury Rise 6:38 AM	Mercury Rise 6:36 AM
Venus Rise 5:48 AM	Venus Rise 6:43 AM	Venus Rise 6:36 AM	Venus Rise 6:27 AM
Mars Set 3:11 AM	Mars Set 3:54 AM	Mars Set 3:37 AM	Mars Set 3:19 AM
Jupiter Rise 3:52 AM	Jupiter Rise 4:29 AM	Jupiter Rise 4:05 AM	Jupiter Rise 3:37 AM
Saturn Set 6:26 AM	Saturn Set 6:57 AM	Saturn Set 6:28 AM	Saturn Set 5:56 AM
Uranus Rise 6:45 AM	Uranus Rise 7:19 AM	Uranus Rise 6:52 AM	Uranus Rise 6:21 AM
Neptune Rise 5:43 AM	Neptune Rise 6:16 AM	Neptune Rise 5:49 AM	Neptune Rise 5:19 AM
Pluto Rise 2:19 AM	Pluto Rise 2:52 AM	Pluto Rise 2:25 AM	Pluto Rise 1:53 AM

All times: Pacific Standard Time (Nov 4, 2007-March 9, 2008) = UT-8 or U.S. Pacific Daylight Time (March 9-November 2, 2008) = UT - 7 hours.

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

Other Items of Interest This Month

- All month: Excellent time to view Saturn
- Mar 14: Moon 1° from Mars
- Mar 19 (dawn): Moon between Regulus and Saturn
- Mar 19: Iapetus passes just north of Saturn
- Mar 22-31: Asteroid Ceres near Pleiades
- Mar 28: Comet 46P/Wirtanen near M36 in Auriga



For Current Occultation Information

Visit Derek C. Breit's web site

"BREIT IDEAS Observatory"

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

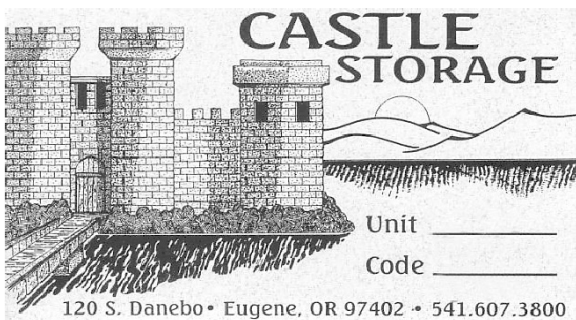
Go to Regional Events and click on the Eugene, Oregon section. This will take you to a current list of Lunar & asteroid events for the Eugene area. Breit continues to update and add to his site weekly if not daily. This is a site to place in your favorites list and visit often.

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

Astronomical Events – March 2008

- Mar 01 - Cassini, Distant Prometheus Flyby
- Mar 01 - Comet 183P/Korlevic-Juric Closest Approach To Earth (2.925 AU)
- Mar 02 - Comet 172P/Yeung Closest Approach To Earth (1.744 AU)
- Mar 03 - Mercury At Its Greatest Western Elongation (27 Degrees)
- Mar 04 - Patrick Moore's 85th Birthday (1923)
- Mar 05 - Moon Occults Mercury
- Mar 05 - Moon Occults Venus
- Mar 09 - Daylight Saving - Set Clock Ahead 1 Hour (United States)
- Mar 09 - Comet 70P/Kojima Closest Approach To Earth (1.398 AU)
- Mar 10 - Cassini, Distant Titan Flyby
- Mar 11 - STS-123 Launch, Space Shuttle Endeavour
- Mar 11 - Asteroid 2005 EY169 Near-Earth Flyby (0.071 AU)
- Mar 12 - Cassini, Enceladus Flyby
- Mar 13 - Comet C/2008 C1 (Chen-Gao) Closest Approach To Earth (1.301 AU)
- Mar 14 - Asteroid 2003 TM1 Near-Earth Flyby (0.081 AU)
- Mar 14 - Kuiper Belt Object 136472 (2005 FY9) Closest Approach To Earth (51.178 AU)
- Mar 17 - Asteroid 2005 EA Near-Earth Flyby (0.080 AU)
- Mar 17 - Asteroid 2006 DM63 Near-Mercury Flyby (0.038 AU)
- Mar 17 - Asteroid 2005 YQ96 Near-Mercury Flyby (0.045 AU)
- Mar 17 - Asteroid 1620 Geographos Near-Earth Flyby (0.125 AU)
- Mar 17 - 50th Anniversary (1958), Vanguard 1 Launch
- Mar 18 - Comet Mrkos Closest Approach To Earth (0.717 AU)
- Mar 18 - Asteroid 2002 FW1 Near-Earth Flyby (0.079 AU)
- Mar 20 - Vernal Equinox, 05:48 UT
- Mar 21 - Asteroid 2003 FY6 Near-Earth Flyby (0.016 AU)
- Mar 22 - Asteroid 2007 DD Near-Earth Flyby (0.084 AU)
- Mar 23 - Cassini, Distant Flyby of Pallene, Epimetheus & Methone
- Mar 23 - Comet Grigg-Skjellerup Closest Approach To Earth (0.559 AU)
- Mar 24 - Wilhelm Baade's 115th Birthday (1893)
- Mar 25 - Cassini, Titan Flyby
- Mar 26 - Comet C/2007 P1 (McNaught) Perihelion (0.633 AU)
- Mar 29 - Asteroid 2003 WP25 Near-Earth Flyby (0.077 AU)
- Mar 30 - Asteroid 2002 VX91 Near-Earth Flyby (0.079 AU)
- Mar 31 - Comet C/2007 M2 (Catalina) Closest Approach To Earth (3.255 AU)

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.

GALEX Reveals More to Galaxies Than Meets the Eye

From NASA/JPL-Caltech/DSS/GALEX

When Dr. David Thilker of Johns Hopkins University, Baltimore, Md., looked at an image of nearby spiral galaxy NGC 2841 taken by the panoramic ultraviolet eyes of NASA's Galaxy Evolution Explorer (GALEX), it first seemed the scale of the image was incorrect. Then, he realized something far more interesting was happening.

"This particular galaxy's disk looks more than three times bigger in our sensitive GALEX ultraviolet observations than it does in visible-light," said Thilker.

He believes the excess comes from new star formation occurring in an unexpected area outside of the galaxy's dense main disk where most of its stars live. According to Thilker, up to 20 percent of all nearby galaxies observed with GALEX show some degree of this ultraviolet excess, which scientists call an "extended ultraviolet disk".

Astronomers suspect this excess light may offer valuable insights into the mystery of how galaxies grow and how our universe's first stars formed.

"Few telescopes have the wide view to study the peripheral environments of nearby galaxies, so there is not very much known about these regions," said Dr. Armando Gil de Paz, of the Universidad Complutense de Madrid, Spain.

"GALEX was the first telescope to see an extended UV disk. Its unique ultraviolet range and wide field of view make it an excellent tool to study the extended features of nearby galaxies," added Thilker.

Currently, nobody knows precisely why galaxies look the way they do. How modern galaxies got their shapes, sizes, and colors has been a focus of astronomical research ever since galaxies were first discovered.



NGC 1512 in visible light



NGC 1512 in ultraviolet light

According to one widely accepted astronomical model, galaxies grow from the inside out - meaning that a galaxy's first stars form near its center, and subsequent generations of stars form along the edge of that galaxy's disk. Now, astronomers suspect that GALEX images of extended ultraviolet disks are providing observational evidence confirming that this is indeed how galaxies grow.

The extended disk consists of faint ultraviolet emission from newly forming stars. In most galaxies, the extended disk continues the structure of the galaxy's well-defined spiral arms, which consists of both old and young stars. It is this older stellar population that astronomers see in visible-light images, and what they consider to be the

galaxies' "main disk." The key difference between a galaxy's main and extended disk is the relative scarcity of older stars in the outer disk.

According to Gil de Paz, the stars in the extended ultraviolet disks observed by GALEX all formed relatively recently, less than one billion years ago. In comparison, our Sun is about 4.5 billion years old and the universe is approximately 14 billion years old.

"The timescale for this extended star formation is very short," said Gil de Paz. "Many galaxies across the universe may have already passed this extended UV disk phase, and perhaps the stars now seen in their main disk formed in an extended UV disk."

"By imaging extended UV disks, GALEX provides us with snapshots of the galaxy formation process and shows what may have happened in all spiral galaxies at any earlier epoch," added Thilker.

In addition to insights about galactic growth, astronomers are also learning a lot about star formation from extended ultraviolet disks. Like raindrops, scientists usually see stars form when dense patches of gas and dust collapse under immense pressure deep inside a cosmic cloud. According to Thilker, the extended ultraviolet disk environment is very different from the typical star-forming environments previously observed by astronomers. He notes that gas in the extended disk is more diffuse overall, in comparison to the main disk, and that the dense gaseous condensations needed for star formation become progressively rare.

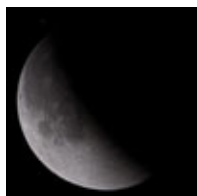
"Before GALEX, astronomers would have considered a cosmic environment with such low gas density a relatively unlikely site for star formation, but evidently the conditions do allow some clouds to collapse," said Thilker. "The UV observations now show that star formation in this type of environment is surprisingly common. This finding will give astronomers across the field a better idea of the threshold conditions necessary for star formation," he added.

So far, astronomers have found extended ultraviolet disks mainly around interacting galaxies, leading Thilker and Gil de Paz to suspect that shockwaves from the interaction are triggering star formation in the outskirts of the galaxies. However, both note that this notion is still very controversial and more research needs to be done.

"Another interesting aspect of the extended UV environment is that it is relatively unpolluted," said Gil de Paz.

Unlike most modern star formation regions inside dense clouds of gas and dust, Gil de Paz believes the extended disk area lacks, or is relatively "unpolluted," by many chemical elements heavier than hydrogen and helium. Because most chemical elements beyond hydrogen and helium are created by stars, astronomers believe the relatively pristine environment of an extended ultraviolet disk will provide insights into the conditions from which the universe's first stars formed.

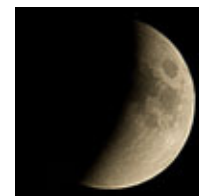
"Usually astronomers think that there is not much going on beyond the galaxy's main disk, but GALEX is showing that the area beyond the main disk is really dynamic," said Thilker.



Lunar Eclipse



Star Party



Our Lunar Eclipse star party on February 20th was a great success! The sky cleared by mid-afternoon and stayed clear all night. Thanks to a fortuitous meteor the day before, the EAS was in the news two days in a row, so we had quite a crowd. We had over a dozen telescopes on top of the College Hill Reservoir, and over a hundred visitors, including two more TV camera crews.

In addition to the eclipse, we offered views of Saturn, Mars, the Orion Nebula, many star clusters, double stars, and even some galaxies during totality. It was a great opportunity to share our enthusiasm for astronomy and to boost people's appreciation of the night sky.

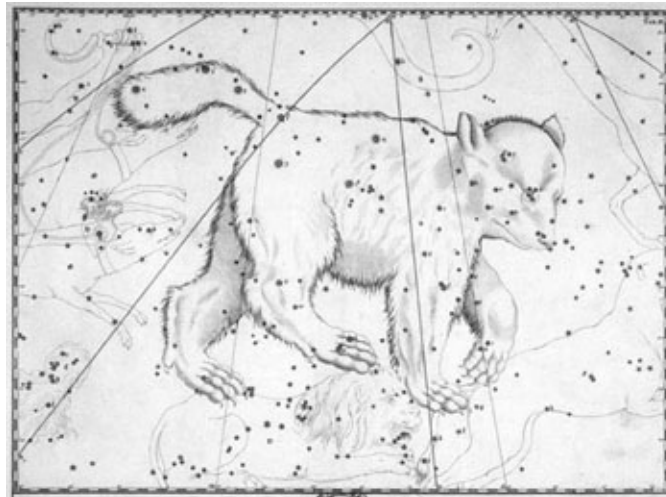
Thanks to everyone who brought telescopes, and to everyone who simply attended and enjoyed the eclipse with us. It'll be three years before we get another one this good, but the Moon gave us an excellent show to tide us over until next time.

How the Constellations Came to Be

Submitted by Tommy Lightning Bolt

The Navaho tell a story about the creation of the constellations. It happened a long time ago, before people walked the Earth. Back then, there were no stars in the night sky, and no Moon, either. The nights were so dark that the animals had to feel their way around. Finally they decided to ask Great Spirit for help.

The animals gathered and spoke to Great Spirit. They told Great Spirit that they were grateful for all they had, yet they wanted to be able to see at night. Great Spirit thought about this, then picked up a shiny stone from a stream and placed it in the sky, where it glittered brightly. “This is a star,” Great Spirit explained. “And this one is a special star. It does not move. Use it to find your way home when you are lost.”



“Now that you see how it’s done,” Great Spirit said, “you may add more stars yourselves. Collect shiny stones and carry them up into the sky and make pictures of yourselves.”

The animals began to do as he said, but they soon grew tired from carrying all those stones. So they went back to Great Spirit and asked for his help again. Great Spirit thought it was Coyote’s turn to help the animals, so he told them to go to Coyote. And so they asked Coyote for help placing stars in the sky.

Coyote thought he was better than the animals, and he didn’t want to waste his time helping them. Still, he didn’t want to offend Great Spirit, either. So coyote told the animals to leave their stones with him, and he would finish the job for them, but what he didn’t tell them was that he planned to use their stones to make a grand picture of himself in the sky. It would outshine all the others, and forever be a monument to the great Coyote.

But he took too long in planning his portrait, and he suddenly realized that the dawn was approaching, so he began tossing the stones into the air as best he could. The dawn approached too quickly, and at last he had to simply throw the stones without aiming at all. And that is why many constellations appear unfinished, and why some don’t look like what they are. And that is why Coyote howls at night, for in his haste he forgot to put up his own picture!



Daylight Savings Time March 9th

Remember that Daylight Savings time starts early this year. Your computer and/or planetarium program may not know that. Set your clocks forward one hour on the morning of Sunday, March 9th.