

IO - March 2009

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

www.eugeneastro.org

EAS is a proud member of:

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

Issue 2009-03
Eugene Astronomical Society



Next Meeting: March 26th

Prelude to a Night of Observing by Sam Pitts and Jerry Oltion

At our March meeting Sam Pitts will talk about the things a person should consider when getting ready for a night's observing. He'll also cover how to find what you're looking for in the sky, and since March is the Messier month (when all 110 Messier objects are visible to dedicated all-nighters) he'll discuss the best strategy for observing those as well.

Since Jerry couldn't make it to the February meeting, he will do his collimation and mirror cleaning demonstrations at the March meeting.

We'll also have a "What's up" program on what else besides the Messier objects are visible in the March sky, and Jacob Strandlien will present the news in astronomy covering the last few months.

And as always, we encourage the sharing of astronomy-related questions, news, or projects with other members of the club.



Next First Quarter Friday: March 6th

Our next First Quarter Friday star party will be March 6th. Bring your scope to the College Hill Reservoir (24th and Lawrence in Eugene) and share the view with whoever shows up.

Here are the dates through December of 2009.

March 6, 2009
April 3, 2009
May 1, 2009
May 29, 2009

June 26, 2009
July 31, 2009
August 28, 2009
September 25, 2009

October 23, 2009
November 27, 2009
December 25, 2009

The Eugene Astronomical Society meets at EWEB

500 E. 4th Avenue in Eugene.

Our next meeting will be on Thursday, March 26th at 7:00 in the north building's Community Room. This is in the semicircular building to the north of the fountain at EWEB's main campus on the east end of 4th Avenue.

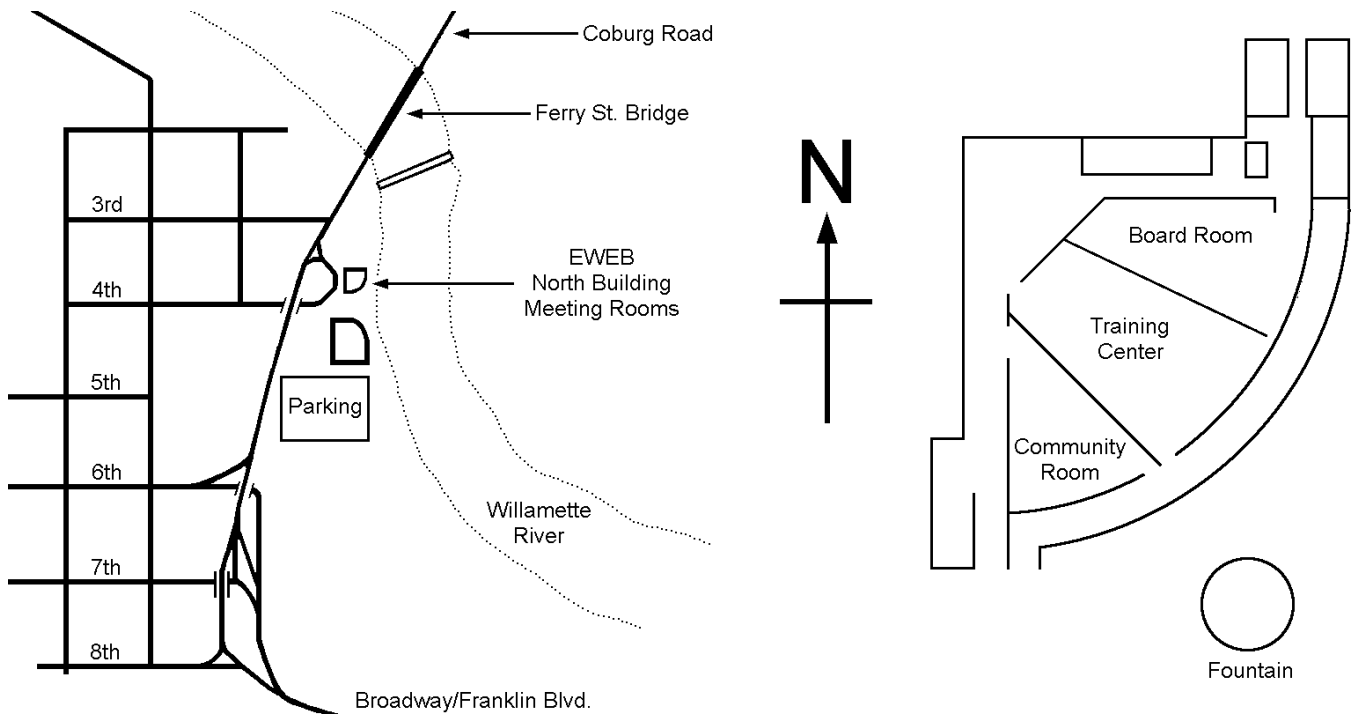
Meeting dates for 2009: (All meetings are at 7:00 in the Community Room)

March 26
April 23
May 28

June 25
July 23
August 27

September 24
October 22
November 19

December 17



EWEB is located at 500 E. 4th Avenue.

EAS meets in the first room in the semicircular building to the north of the fountain.

CASTLE STORAGE

Unit _____
Code _____

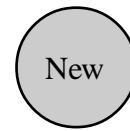
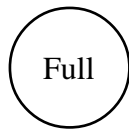
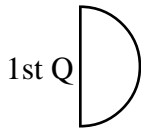
120 S. Danebo • Eugene, OR 97402 • 541.607.3800

Thank You Castle Storage

For over a year now, Castle Storage has generously provided EAS a place 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 storage units.



Observing in March



March 4	March 10	March 18	March 26
Mercury Rise: 6:07 AM	Mercury Rise: 7:08 AM	Mercury Rise: 7:06 AM	Mercury behind Sun
Venus Set: 8:58 PM	Venus Set: 9:35 PM	Venus Set: 8:50 PM	Venus visible at Sunrise & set
Mars Rise 5:59 AM	Mars Rise 6:47 AM	Mars Rise 6:30 AM	Mars Rise 6:13 AM
Jupiter Rise: 5:34 AM	Jupiter Rise 6:14 AM	Jupiter Rise 5:47 AM	Jupiter Rise 5:20 AM
Saturn Rise: 8:14 PM	Saturn Set: 7:49 AM	Saturn Set: 7:16 AM	Saturn Set: 6:43 AM
Uranus Set: 6:41 PM	Uranus behind Sun	Uranus behind Sun	Uranus Rise: 6:42 AM
Neptune Rise: 6:02 AM	Neptune Rise: 6:39 AM	Neptune Rise: 6:08 AM	Neptune Rise: 5:37 AM
Pluto Rise: 2:44 AM	Pluto Rise 3:21 AM	Pluto Rise: 2:50 AM	Pluto Rise: 2:19 AM

All times: Pacific Standard Time (Nov 2, 2008-March 8, 2009) = UT -8 hours or U.S. Pacific Daylight Time (March 8-November 1, 2009) = UT -7 hours.

Daylight Savings time begins

Date	Moonrise	Moonset	Sunrise	Sunset	Twilight Begin	Twilight End
3/1/2009	08:30	23:49	06:49	18:01	05:13	19:37
3/2/2009	09:04		06:47	18:03	05:11	19:39
3/3/2009	09:47	01:03	06:45	18:04	05:10	19:40
3/4/2009	10:41	02:13	06:44	18:05	05:08	19:41
3/5/2009	11:48	03:15	06:42	18:06	05:06	19:42
3/6/2009	13:03	04:05	06:40	18:08	05:04	19:44
3/7/2009	14:23	04:45	06:38	18:09	05:03	19:45
3/8/2009	16:42	06:17	07:37	19:10	06:01	20:46
3/9/2009	18:00	06:44	07:35	19:11	05:59	20:48
3/10/2009	19:15	07:07	07:33	19:13	05:57	20:49
3/11/2009	20:28	07:29	07:31	19:14	05:55	20:50
3/12/2009	21:40	07:51	07:30	19:15	05:53	20:52
3/13/2009	22:51	08:14	07:28	19:17	05:52	20:53
3/14/2009		08:40	07:26	19:18	05:50	20:54
3/15/2009	24:00	09:11	07:24	19:19	05:48	20:56
3/16/2009	01:07	09:48	07:22	19:20	05:46	20:57
3/17/2009	02:07	10:32	07:20	19:22	05:44	20:58
3/18/2009	03:01	11:23	07:19	19:23	05:42	21:00
3/19/2009	03:46	12:21	07:17	19:24	05:40	21:01
3/20/2009	04:24	13:23	07:15	19:25	05:38	21:03
3/21/2009	04:55	14:28	07:13	19:26	05:36	21:04
3/22/2009	05:21	15:34	07:11	19:28	05:34	21:05
3/23/2009	05:43	16:40	07:10	19:29	05:32	21:07
3/24/2009	06:04	17:47	07:08	19:30	05:30	21:08
3/25/2009	06:24	18:56	07:06	19:31	05:28	21:10
3/26/2009	06:45	20:07	07:04	19:33	05:26	21:11
3/27/2009	07:07	21:20	07:02	19:34	05:24	21:13
3/28/2009	07:34	22:36	07:00	19:35	05:22	21:14
3/29/2009	08:06	23:52	06:59	19:36	05:20	21:16
3/30/2009	08:46		06:57	19:37	05:17	21:17
3/31/2009	09:38	01:05	06:55	19:39	05:15	21:19

Other Items of Interest This Month

- All month: Best chance to observe Saturn
- All month: Ceres visible in Leo
- 3/5 Comet Lulin near Beehive Cluster
- 3/6 First Quarter Friday Star Party**
- 3/8 Saturn at opposition
- 3/12 Titan's shadow transits Saturn in early AM
- 3/14 Comet Lulin near Eskimo Nebula
- Mid-late March: Zodiacal light visible 1.5 - 2 hrs after Sunset
- 3/25 Venus is both an Evening and Morning Star and is nearly 1 arc-minute across
- 3/28 Titan's Shadow transits Saturn early AM

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' Longitude 123° 06' for listed date

Observing Highlight: The Christmas Tree Cluster

It's supposedly easy. High up in Monoceros, so close to the Cone Nebula that they share the same NGC number (2264), lies the Christmas Tree Cluster. Big, bright, you can't miss it, right? Right. I don't know how many times I've stared at that region of space and tried to make the stars form a tree shape. Maybe it's upside down? Sideways? How big is it, anyway? And where's that confounded Cone Nebula that's supposed to be so obvious?

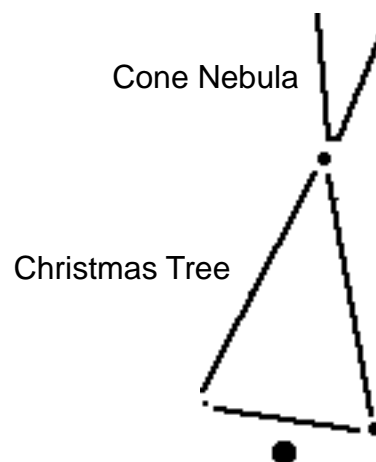
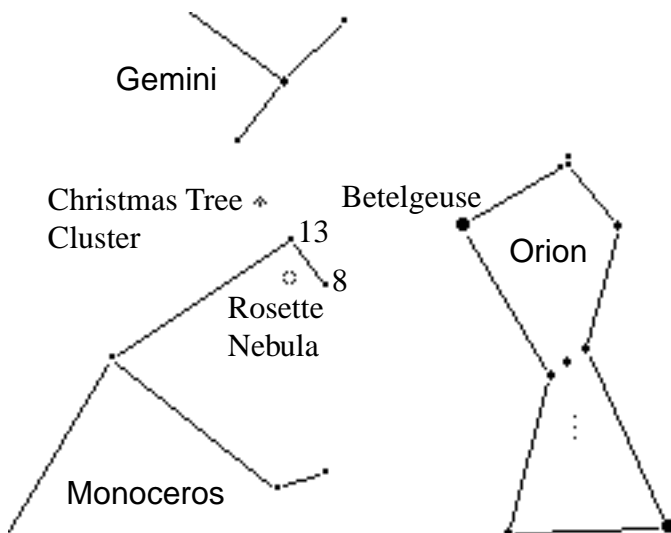
The Christmas Tree can be one of the most frustrating objects in the sky, but don't be holding anything heavy when you finally spot it, because the instinctive forehead-slap could leave a dent. Once you see it you'll wonder how you ever missed it.

The key is to forget the Cone Nebula and just look for the cluster. William Herschel discovered it in 1784, and he didn't spot the nebula for another year. Another key: look for something big. At 20 arc-minutes across, it's $\frac{2}{3}$ the size of the full Moon. The trunk is the brightest of its stars by a wide margin, and four others make a decent outline on the right side of the tree, while the left is more ragged. If you do spot the Cone Nebula, it'll be upside down with respect to the tree and pointing at the tip of it. The cluster itself is upside-down in the sky, so your view in a standard Newtonian scope should be right side up.

To find the Christmas Tree Cluster, start at the head of Orion and go southeast through Betelgeuse and onward about the same distance until you reach 4th-magnitude epsilon (also 8 on some charts) Monoceros. From there go northeast thru 4th-magnitude 13 Mon. and continue on the same distance to the cluster. For go-to-ers, the RA is 06:41.1 and the Dec is +9:53.



NGC 2264: The Christmas Tree Cluster and Cone Nebula
Photo courtesy NASA



Shadow Transits of Titan

During Saturn's ring-plane crossing this summer, we get to see another relatively rare event: transits of Titan's shadow across the face of the planet. In January the *Io* listed times for eclipses of one moon by another, but we neglected to include Titan's shadow transits, which may be easier to spot. March has two very well-timed transits, and there are one or two each month thereafter. (Titan's orbital period is 16 days minus an hour, so its transits occur an hour earlier each time.) Here's a chart of their times. (These are LOCAL Eugene times.)

Date	Begin	End	Comments
3/12	2:23 AM	6:08 AM 3/12	(Titan transits as well as its shadow)
3/28	1:17 AM	5:35 AM 3/28	
4/13	0:16 AM	5:00 AM 4/13	
4/28	11:17 PM	4:23 AM 4/29	
5/14	10:21 PM	3:46 AM 5/15	Saturn sets at 3:25 AM
5/30	9:27 PM	3:05 AM 5/31	Saturn sets at 2:23 AM
6/15	8:35 PM	2:24 AM 6/16	Saturn sets at 1:21 AM
7/01	7:45 PM	1:41 AM 7/02	Sun sets at 7:59 PM, Saturn sets at 00:20 AM
7/17	6:57 PM	0:58 AM 7/18	Sun sets at 7:51 PM, Saturn sets at 11:16 PM



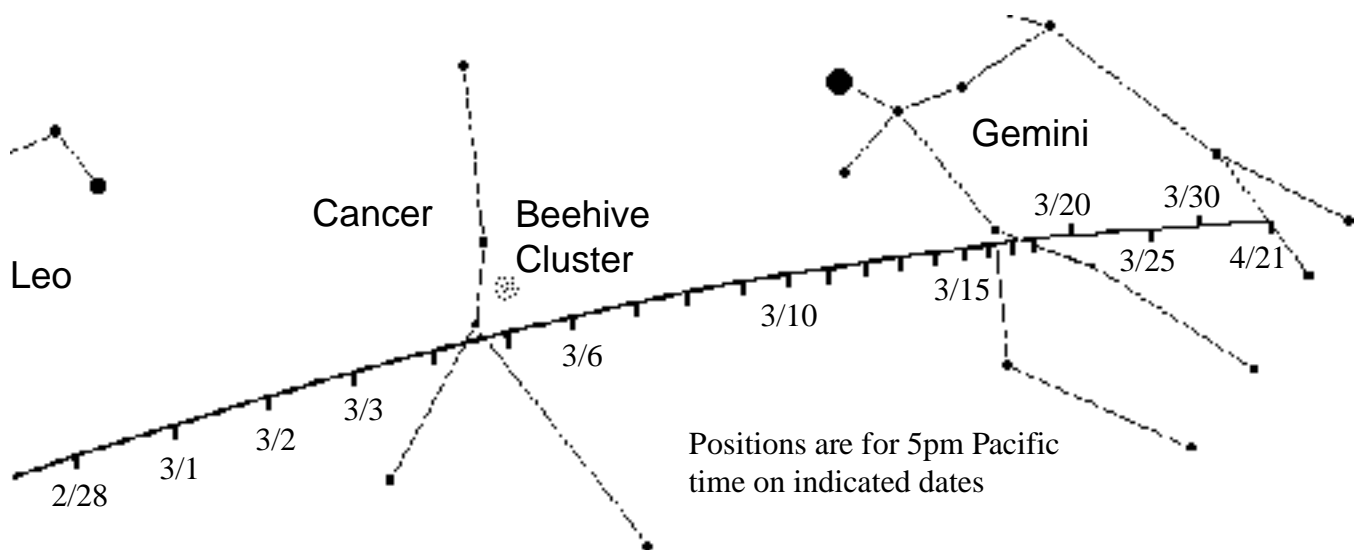
EAS member Jeff Phillips took this beautiful image of the crescent Moon and Venus on February 27th

Comet Lulin

Comet C/2007 N1 (Lulin) has been putting on a nice show for the last few weeks, and will be visible throughout March as it heads out into the outer solar system. It grew to naked-eye visibility in late February (under dark sky) and should remain an easy telescope target through March. Since it's going almost directly away from us with the Sun at our backs, we see the ion tail on one side and the dust tail on the other (probably not in a telescope unless you've got lots of aperture!) Here's a finder chart to help you locate it through April, by which time it should have faded from sight in all but the biggest telescopes. In late April it reaches its farthest westward extent and reverses course, heading back toward Cancer.



Photo © Joseph Brimacombe, Cairns, Australia.



“Big Orange” It Is

A vote at the February 26th meeting settled the question of what to call the big orange dob that Tony Dandurand recently rebuilt. “Big Orange” won over “10-inch Pumpkin” by a wide margin. So the scope is officially the “Big Orange,” and it's ready for adoption. Tony reports that it's a sweet scope and offers excellent — and now stable! — views. Check it out and see for yourself.



Book Review

Women Astronomers: Reaching for the Stars

By Mabel Armstrong

When people think of famous astronomers throughout history, they probably think of names like Ptolemy, Copernicus, Galileo, and Hubble. Most of the names that come to mind are male. Local writer Mabel Armstrong has set out to change that. In *Women Astronomers: Reaching for the Stars*, she illustrates the lives and the accomplishments of dozens of women who have contributed immensely to the science of astronomy.

Armstrong begins with EnHeduanna, Chief Astronomer Priestess of Babylonia around 2350 BC, and works her way forward to the present, offering great insight into what it takes to be a female scientist in a male-dominated profession, and also delivering an exciting account of the advances each of these women has made in the field.

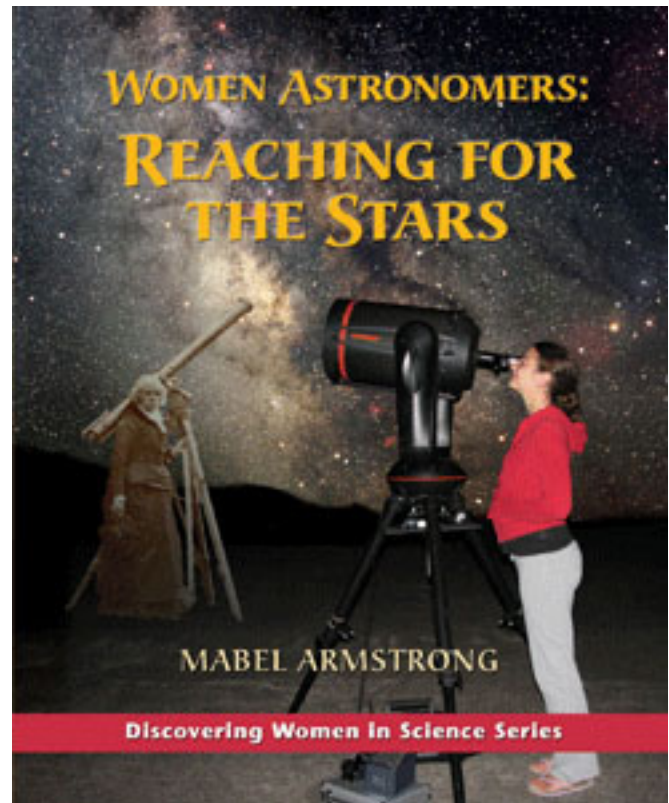
You'll find a few familiar names, such as Carolyn Herschel (discoverer of many open clusters, galaxies, and comets) and Jocelyn Bell (discoverer of pulsars), but you'll also learn about people like Williamina Fleming, the first female "computer" at Harvard University, who worked out a stellar classification system using stars' absorption spectra, and who discovered white dwarf stars. All the way to the present, you'll learn about the many vital contributions made to our field by women.

You'll also discover the degree of discrimination that these women fought just to be allowed to work in their chosen fields. Armstrong doesn't sugar-coat their experiences, many of which were brutal. But these women persevered and ultimately showed the world what they were made of — and what the universe is made of as well.



Mabel Armstrong is a lifelong resident of the Willamette Valley. She is a graduate of Cottage Grove High School, and she taught chemistry at LCC for 25 years. When looking for a cover photo for her book, she went to the EAS's very own Sam Pitts, who provided her with one of his fabulous pictures of the Milky Way. The girl stretching to reach the eyepiece of the telescope is looking into former EAS member Dave Cole's Nexstar 11 during a star party on the College Hill Reservoir.

Surprisingly, Armstrong is not an avid amateur astronomer. She is much more interested in women in science. Indeed this book is the first of a long series entitled just that: the "Women in Science" series. She started with astronomy because it begins with "A." Lucky for us, because this book is an excellent read for a cloudy night.



– Reviewed by Jerry Olton

Solar Eclipse Photographed from Moon

From Science@ NASA.gov

For the first time, a spacecraft from Earth has captured hi-resolution images of a solar eclipse while orbiting another world. Japan's Kaguya lunar orbiter accomplished the feat on Feb. 9, 2009, when the Sun, Earth and Moon lined up in a nearly perfect row. From Kaguya's point of view, Earth moved in front of the Sun, producing an otherworldly "diamond-ring" eclipse.



The Earth eclipses the Sun as seen from the Moon

Kaguya is the largest mission to the Moon since the Apollo program. Launched in late 2007, the spacecraft consists of a mother ship plus two smaller orbiters that work together to relay data to Earth even from the Moon's farside. Kaguya bristles with 13 scientific instruments powered by 3.5 kilowatts of electricity, enough to light up a good-sized home on Earth. So far the spacecraft has laser-mapped the Moon's surface in 3D, searched polar craters for signs of lunar ice, probed the gravitational field of the farside of the Moon—and much more.

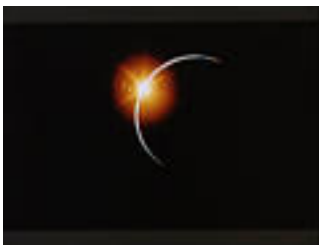
The eclipse images are a bonus. Strictly speaking, Kaguya's HDTV cameras (there are two of them) are not part of the scientific payload. They were included on the spacecraft as a means of outreach—to share Kaguya's view with Japanese citizens. Near real-time transmissions broadcast on Japanese public television are reportedly very popular.

Kaguya's cameras would have come in handy forty years ago. On April 24, 1967, NASA's Surveyor 3 lunar lander witnessed an Earth-eclipse of the Sun from a crater in Mare Cognitium. Only a crude snapshot, right, chronicles the event.

In Nov. 1969, Apollo 12 astronauts saw their own diamond ring. It was "a marvelous sight," said Alan Bean. He was flying home from the Moon along with crewmates Pete Conrad and Dick Gordon when their spaceship flew through Earth's shadow. "Our home planet [eclipsed] our own star," he marveled. Bean's photo of the event improved upon Surveyor 3's, but couldn't match Kaguya's modern video.



Surveyor 3's view of a solar eclipse



Apollo 12's view

Later this year, NASA will up the ante with the launch of its Lunar Reconnaissance Orbiter (LRO). The probe carries its own suite of advanced scientific instruments including a camera powerful enough to capture the outlines of moonbuggies and other hardware left behind on the lunar surface by Apollo astronauts. Not even Hubble has been able to do that.

When LRO reaches the Moon, it will join Japan's Kaguya, China's Chang'e-1 and India's Chandrayaan-1 missions already in orbit. Never before has such an international fleet assembled for lunar research. With so many spacecraft on duty, it is only a matter of time before Kaguya's eclipse is itself eclipsed by something even more marvelous. Stay tuned.

