LAS Meeting March 15th

Andrew will do a reprise of a talk he did on the Moon three years ago, discussing its history, formation, and the many fascinating objects that can be seen with even a small telescope. If you have a telescope that’s been gathering dust because you’re not sure what to do with it, or have been considering buying a telescope, Andrew will show you how the Moon is an easy object that will keep you and your telescope busy for years. Andrew has written a book on the Moon, “What’s Hot on the Moon Tonight?” After the presentation there will be a book signing and an opportunity to purchase the book.

Andrew Planck has been an enthusiastic amateur astronomer for over 50 years and a regular volunteer at the Little Thompson Observatory for the past fifteen years. He is a retired middle school teacher and is an accomplished musician whose diverse musical skills include the piano, autoharp, didgeridoo, musical spoons, alphorn, and Highland bagpipe. Andrew was the Pipe Major of the award winning City of Denver Bagpipe Band for 12 years.

Retiring from teaching French to middle school students, he was a recipient of the Young Educator Award given by the Colorado Congress of Foreign Language Teachers in 1984. He holds double B.A. degrees in French and English Literature. Using a scholarship he won from the University of Colorado, Denver, he spent a year studying in France. Andrew has two daughters and a granddaughter and lives with his wife, Susan, in Boulder, Colorado. What’s Hot on the Moon Tonight? is his first book.

The meeting will be at the IHOP Restaurant, 2040 Ken Pratt Boulevard, Longmont, Please join us for coffee, dinner or just desert around 6 pm; The general meeting and presentation will begin at 7 pm.

Upcoming Star Parties
Friday, March 23rd 6:30 to 8 pm at the Sandstone Ranch Visitor Center. Bill Tschumy will give a talk at 6:30 and followed by a star party beginning about 7:15 pm.

February 15th  Meeting Notes
by Vern Raben

Thursday, February 15, 2018 at 7 pm MST.

Vern Raben opened the meeting and apologized for confusing everyone about the date of Andrew Planck’s presentation “What’s Hot on the Moon Tonight. That presentation will be
at the March 15 meeting.

Officers in attendance:
• Vern Raben - President
• Gary Garzone - Vice President
• Marty Butley – Treasurer
• Brian Kimball – Board Member
• Jim Elkins – Board Member
• Tally O’Donnel – Board Member
Received gold comet award

Open Forum Presentations:
Wayne Green
Mike Roos
Paul Robinson

Marty Butley gave the treasurer’s report prepared by Mike Fellows. Marty has been appointed as the LAS treasurer this year.

March Solar System Highlights

Moon

Full moon: Mar. 1\textsuperscript{st} 5:52 pm
Last quarter: Mar. 9\textsuperscript{th} 4:21 am
New moon: Mar. 16\textsuperscript{th} 7:13 am
First quarter: Mar. 24\textsuperscript{th} 9:36 am
Full moon: Mar 30\textsuperscript{th} 6:38 am

Mercury
Mercury is visible in the morning sky from March 7 through the 18\textsuperscript{th}. It is in the constellation Pisces. It dims from magnitude -1 to +0.4 as its disk increases in apparent size from 6 arc sec to 8 arc sec.

Venus
Venus is visible in the morning sky in constellation Pisces. It is magnitude -3.9 and 10 arc sec across.

Mars
Mars is visible in the morning sky in constellation Ophiuchus until the 11\textsuperscript{th} when moves into constellation Sagittarius; it increases in brightness from magnitude 0.8 to 0.2. The disk
increases in size from 7 to 8.5 arc sec across. Best time to view now (Mar 1) is about 5:04 am. Mars will be at opposition with Earth on July 27th.

**Jupiter**

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Jupiter is visible in the morning sky in constellation Libra. It is about magnitude -2.2 magnitude in brightness and increases to magnitude -2.4 by month end. The disc increases in apparent size from 39 arc sec across to 43 arc sec across.

The table at the left shows Great Red Spot Mid Transits this month based on longitude of 289° (See [http://jupos.privat.t-online.de/rGrs.htm](http://jupos.privat.t-online.de/rGrs.htm))

**Saturn**

Saturn is visible in the morning sky in the constellation Sagittarius and magnitude 0.6 in brightness. Its disk is 16 arc sec across.

**Uranus**

Uranus is visible in the early evening sky in constellation Pisces. It magnitude 5.9 in brightness and its disk is 3.4 arc sec across.

**Neptune**

Neptune reappears in the morning sky after March 28th. It is in constellation Aquarius and is magnitude 8 and brightness and its disk is 2.2 arc seconds across.
Comets

*Comet C2017/T1 (Heinze)* is in constellation Pegasus and is magnitude 10.5; it dims to about 12.5th by the 19th when it gets too low to be visible.
Comet C/2016 R2 (PANSTARRS) is in constellation Perseus this month. It is about magnitude 11.5 in apparent brightness.
Navigating the March night sky: Simply start with what you know or with what you can easily find.

1. Above the northeast horizon rises the Big Dipper. Draw a line from its two end bowl stars upwards to the North Star. Its top bowl stars point west to Capella in Auriga, nearly overhead. Leo lies below the Dipper’s bowl.

2. From Capella jump northwestern along the Milky Way to Perseus, then to the “W” of Cassiopeia. Next jump southeastward from Capella to the twin stars of Castor and Pollux in Gemini.

3. Directly south of Capella stands the constellation of Orion with its three Belt Stars, its bright red star Betelgeuse, and its bright blue-white star Rigel.

4. Use Orion’s three Belt stars to point northwest to the red star Aldebaran and the Hyades star cluster, then to the Pleiades star cluster. Travel southeast from the Belt stars to the brightest star in the night sky, Sirius. It is a member of the Winter Triangle.

**Binocular Highlights**

- **A**: Between the “W” of Cassiopeia and Perseus lies the Double Cluster.
- **B**: Examine the stars of the Pleiades and Hyades, two naked eye star clusters.
- **C**: M42 in Orion is a star forming nebula.
- **D**: Look south of Sirius for the star cluster M41. E: M44, a star cluster barely visible to the naked eye, lies to the southeast of Pollux. F: Look high in the east for the loose star cluster of Coma Berenices.

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**Astronomical League** www.astroleague.org/outreach; duplication is allowed and encouraged for all free distribution.
If you can observe only one celestial event this month, see this one:

Mercury is relatively far, but appears as a gibbous phase. It is relatively bright.
Mercury appears in the bright twilight. Therefore, it is difficult to spot.

**Moon 3/18**

**Venus**

Greatest Eastern Elongation, Mar 15

Mar 9

Mar 20

Mar 9

Mercury is relatively close, but appears as a crescent. Therefore, it is dim.

Between Earth and the sun, Apr 1

Ecliptic

**March 2018:**
**Mercury forty minutes after sunset in the west**

**Mercury** appears about "1 fist width on a fully extended arm" above the true western horizon forty minutes after sunset.

**View through 10x50 binoculars on March 18**

**Mercury**

**Venus**

**Crescent**

**Moon**

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The Scene:
**Mercury in the evening twilight**

Have you ever spotted Mercury? Many stargazers have not. Early to mid March presents a good opportunity to catch the elusive little planet. Look low into the western twilight forty minutes after sunset.

Mercury comes between the sun and Earth on Feb. 17, then two weeks later it climbs higher above the western horizon each evening and moves away from the sun. Between March 9 and 16, it is bright enough and high enough in the twilight sky that it can be seen rather easily — if the sky is clear and if the horizon is unobstructed. After March 20, it dims significantly, making it again difficult to spot.

* Bright Venus is about 1/2 way to the horizon below the much dimmer Mercury and slightly to the left.
* Using binoculars, look on March 18 for the crescent moon entering the scene to the lower left of Mercury. Can you see Earthshine on the moon’s dark side?
If you can observe only one morning celestial event this month, see this one:

Mars slides between two nebulous clusters

As Mars marches to its late July conjunction, it continues to brighten daily. Around March 18, the Red Planet Mars matches the brightness of the ringed world Saturn as the planetary pair approaches each other in the morning sky. Of course, in three-dimensional space, they are always many hundreds of millions of miles apart. They will be the brightest star-like objects in that part of the sky.

March 18-21 finds Mars sliding between two star forming nebulae, M8 and M20. While M8 can be spotted as a dim glow from a dark location, M20 will likely need binoculars to see.

About the same dates, Saturn sits just above the large globular cluster, M22. Binoculars will show M22's dim round glow—the combined light of 500,000 distant stars. It won't be until April 1-2 before Mars catches Saturn, creeping between it and M22. (Unfortunately, the bright near-full moon will wash out the sky on those dates.)
Horsehead Nebula by Glenn Frank on Feb. 18

Flaming Star Nebula by Glenn Frank on Feb. 18
Virgo Clusters by Gary Garzone on Feb. 18

M97 Owl Nebula by Gary Garzone on Feb. 18
SAO 11402 by Stephen Garretson on Feb. 28