FEBRUARY 2019

UPCOMING EVENTS

Monday, February 4 - Star party @ 7:00 PM at the Hassayampa Inn.

Wednesday, February 6 - Regular PAC meeting @ 6:30 PM at Touchmark Grand Lodge, 3180 Touchmark Blvd., Prescott, across from the Gateway Mall. John Carter, club president, will present ‘Celestial Beings in the Constellations’.

Wednesday, February 13 - METASIG @ 5:00 PM at local restaurant. Sign up at February 6 regular meeting.

2019 VICE PRESIDENT

David Covey was nominated for and elected 2019 club Vice President at the January 9 regular club meeting. The club now has a full board of directors for 2019.

RAFFLE OF CELESTRON LUMINOS PREMIUM EYEPiece

At the February 6 general meeting, we will be raffling a Celestron 23mm Luminos Premium Eyepiece donated to the club by member David Viscio. This eyepiece has a 23 mm focal length with a 2" barrel and an 82 degree angular field of view.

Raffle tickets will be on sale at the beginning of the meeting and are $2.00 a piece or 6 tickets for $10.00. The raffle will take place during the meeting. Good Luck!
APOLLO 11 MOON LANDING 50TH ANNIVERSARY

July 20, 2019 will be the 50th anniversary of the Apollo 11 moon landing. National Informal STEM Education Network, NISE, has a dedicated web page with links to special websites for the Apollo 11 50th Anniversary.

http://nisenet.org/moon50

HIGHLANDS CENTER EDUCATION ENRICHMENT PROGRAM
By Brenda Smith, Education Enrichment Program Volunteer Coordinator, 570-204-0899

I am the Education Enrichment Program Volunteer Coordinator at the Highlands Center for Natural History and your organization was given to me as a resource for possible speakers for our Ed Enrichment Program.

For some background, the Ed Enrichment Program is a series of free presentations for all the volunteer naturalists and docents at the Highlands Center. The purpose is to provide information, training, review and/or discussion on various topics of interest to naturalists and docents in order to provide additional knowledge, skills and experience. The program began in 2015 and we have had many of our own docents and naturalists as presenters during this time.

Our presentations take place at the Highlands Center in an indoor classroom, the outdoor ramada, on the trails, or even off-site, generally whatever will work for the presenter. We are now scheduling speakers for March, April, May, August, September, October and November of 2019. Presentations are usually between 1-2 hours, with 15-20 participants, and the meeting dates are the second Tuesday of each month. This is an all-voluntary program and there are no paid individuals. The topics are usually focused on natural history, but we’ve had others that include star gazing, constellations, and other subjects of interest to those who look beyond the earth for enrichment.

I am happy to answer any questions you may have and hope you can help us find volunteers that would like to join us as presenters.

GRAND CANYON STAR PARTY

Seeing the Grand Canyon is overwhelming enough. But attending a star party at the south rim of the Grand Canyon is a privilege that’s almost too good to be true. Discover how this annual event came to be, where it’s going, and the impression it
makes on those who attend it, including a Harley-riding biker as he got his first look at Saturn through a telescope...

https://cosmicpursuits.com/2325/the-grand-canyon-star-party/

Information about GCSP 2019 is found here:

https://www.nps.gov/grca/planyourvisit/grand-canyon-star-party.htm

For anyone wishing to attend GCSP 2019 and reserve a campsite, please contact Jim O’Connor at taaa.gcsp@gmail.com, and the sooner the better.

WHAT’S UP? FEBRUARY – THE HEART OF PLUTO
By Adam England

February 14th we celebrate Valentine’s Day and the birthday of our Great State of Arizona. One astronomical discovery in early Arizona history is that of Pluto at Flagstaff’s Lowell Observatory in 1930. Percival Lowell had begun the hunt for his “Planet X” in 1906, and died in 1916 unaware that he had actually imaged Pluto. 23 year old Clyde Tombaugh continued taking photographs and comparing them under a blink-comparator, eventually locating what would later be called Pluto on Feb. 18th 1930.

In 2006, NASA launched the New Horizons probe to explore Pluto, which culminated in the July 2015 flyby of the dwarf-planet and its five moons. As the probe approached the planet, it began to take images, and the Heart of Pluto immediately stood out. Named the Tombaugh Regio, it is a smooth area of mostly nitrogen ice, surrounded by rock and ice mountains soaring over 11,000ft from the surface. Data revealed glacial activity along these mountain ranges, similar to what we see on earth in the polar climates.

New Horizons continues to operate, and recently flew past Ultima Thule, an object 25% further from us than Pluto. Data continues to come in from the edges of our Solar System, with the initial images showing a snowman shaped object likely from the collision of two separate objects. A third mission is currently being proposed to explore even further distant worlds.
NASA’S NIGHT SKY NOTES

The NASA’s Night Sky Notes article for February was not available.

The Night Sky Network program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit nightsky.jpl.nasa.org to find local clubs, events, and more!

LET'S PARTY FOR FEBRUARY
Astrophysical objects for public (and private) star parties.
by Fulton Wright, Jr.

Flashy, deep-sky objects, visible in the middle of the month, at the end of astronomical twilight, 7:15 PM in February, (when it really gets dark). This list customized for Prescott, Arizona, should work well anywhere in the state, and be usable anywhere in the old 48 states.

Double Stars (2 or 3 stars, close together)

Sigma Orionis (SAO 132406, triple star, another double nearby)
Mag: 3.8, 6.3, 6.6, Sep: 13 arc-sec, 42 arc-sec
R.A.: 5hrs 39min, Dec.: -2deg 36'

Alpha Gemini (Castor, SAO 60198)
Mag: 1.6 & 3.0, Sep: 5 arc-sec
R.A.: 7hr 35min, Dec.: 31deg 53'

Gamma Andromedae (Almach, SAO 37734)
Mag: 2.1 & 5.0, Sep: 10 arc-sec
R.A.: 2hr 5min, Dec.: +42deg 45'

Gamma Arietis (Mesarthim, SAO 92681)
Mag: 3.9 & 4.6, Sep: 7 arc-sec
R.A.: 1hr 55min, Dec.: +19deg 23'

Open Clusters (about 50 bright stars)

Double Cluster (NGC 869 and NGC 884)
Mag: 5.3 and 6.1, Size: 18 and 18 arc-min, centers 28 arc-min apart
R.A.: 2hr 22min, Dec.: +57deg 12'

M 37 (NGC 2099)
Mag: 5.6, Size: 14 arc-min
R.A.: 5hr 53min, Dec.: +32deg 33'

M 45 (Pleiades, binocular object)
Mag: 1.5, Size: 120 arc-min
R.A.: 3hr 48min, Dec.: +24deg 10'

Globular Clusters (about 200,000 dim stars)

M 79 (NGC1904)
Mag: 7.7, Size: 10 arc-min
R.A.: 5hrs 25min, Dec.: +24deg 31'

Galaxies (about 200,000,000 very dim and distant stars)

M 31 (Andromeda galaxy with M 32 & M 110)
Mag: 3.4 (7.9 & 8.0), Size: 180 x 70 arc-min (8 x 5 & 16 x 10)
R.A.: 0hr 44min, Dec.: +41deg 22'

M 82 and M 81 (Bode's nebula, NGC 3031 and NGC 3034)
Mag: 6.8 and 8.1, Size: 21 x 11, 11 x 5 arc-min, 37 arc-min apart
R.A.: 9hrs 55min, Dec.: +69deg 55'

M 77 (Cetus A)
Mag: 9.0, Size: 6 x 6 arc-min
R.A.: 2hr 44min, Dec.: +0deg 4'

Diffuse Nebulae (gas and dust lit by a nearby star)
(The Orion Nebula is by far the best.)

M 42 (Orion Nebula)
Size: 85 x 60 arc-min
R.A.: 5hrs 36min, Dec.: -5deg 26'

NGC 2261 (Hubble's Variable Nebula, small and dim)
Mag: 9, Size: 4 x 2 arc-min
R.A.: 6hrs 39min, Dec.: +8deg 45'

NGC 2024 (Flame Nebula)
Mag: 10, Size: 8 x 7 arc-min
R.A.: 5hrs 42min, Dec.: -1deg 52'
Planetary Nebulae (gas shell from exploding star, looks like Uranus in telescope)

NGC 2392 (Eskimo Nebula)
Mag: 9.2, Size: 0.8 arc-min
R.A.: 7hrs 29min, Dec.: +20deg 55'

NGC 1535 (Cleopatra's Eye)
Mag: 9.4, Size: 0.8 arc-min
R.A.: 4hr 15min, Dec.: -12deg 42'

NGC 246 (Skull Nebula)
Mag: 10.4, Size: 3.7 arc-min
R.A.: 0hrs 47min, Dec.: -11deg 52'

Miscellaneous (Supernova Remnant)

M 1 (Crab Nebula)
Mag: 8.4, Size: 6 arc-min
R.A.: 5hrs 34min, Dec.: 22deg 01'

For additional information, see: www.dso-browser.com

FOR SALE - MEADE 12 ½” STARFINDER DOBSONIAN

The Prescott Astronomy Club is offering for sale a Meade 12 ½-inch Starfinder Dobsonian telescope and accessories. Members who wish to buy it should submit a sealed bid to John Baesemann (7295 N. Viewscape Drive, Prescott Valley, AZ 86315).

Meade 12 ½-inch Starfinder Dobsonian Reflector
Right angle 8 x 50 finder scope with adjustable focus 1 ¼” reticle eyepiece
1 – 1 ¼” 26mm Plossl eyepiece

The base has trim pieces missing and there are some nicks on the tube.

The minimum bid price to members is $200.00. Anyone who is interested in seeing the telescope can contact John Baesemann (jbaesemann@q.com or 928-642-8004) for a mutually convenient time.
LET’S TALK ABOUT THE MOON
By John Carter, Sr.

Calling all members! Let’s have an open discussion on the Moon. The discussion can include:

1) Pictures with a DSLR and a tripod, single shot
2) Observing on vacation
3) Sharing the Moon with others
4) Get your birding binoculars out
5) Wherever the discussion goes

We’ll be asking for contributions during the short topic session at each meeting for the next few months. If you have pictures, bring them on a thumb drive to display on the big screen. For just talking about your experiences, the hand held mic will be passed around.
NEED TO KNOW - ASK A MEMBER

A new 15-minute segment is being added to the regular general meetings where members can have their ‘burning’ questions answered by other knowledgeable members. If you have an astronomy related question you would like explained, submit the question to Jeff Stillman (jstillman50@cableone.net). You can also bring up the question at the meeting.

BOOKS AND MAGAZINES

Over the years astronomy books have been donated to PAC. Boxes of these books will be available at the regular meetings. For a donation to PAC of $1 per book, anyone can have a book. Books that are not purchased at a regular meeting will be available at the following Third Thursday programs. Any remaining unsold books will be donated to the Friends of the Prescott Public Library. We also have copies of past Sky and Telescope magazine. These will be available to any member wishing to take them. Unclaimed magazines will be recycled.

FOR SALE

Please visit the Classified Ads section of the club website to view the items posted there for sale:

http://prescottastronomyclub.org/classified-ads/

New items are added now and then, so don’t miss out on something that you would like to get for yourself...or a friend.

PAC MENTORS

If you need advice on the purchase of astronomy equipment, setting up equipment, astrophotography, etc., contact a PAC mentor.

Jeff Stillman - Astrophotography - (928) 379-7088
David Viscio - General - (928) 775-2918
Greg Lutes - Visual Observing - (928) 445-4430
Joel Cohen - Beginner’s Astronomy: Selecting & Using a Telescope - (856) 889-6496
Bill McDonald - Video Observing
John Carter - Video Observing - (928) 458-0570

OBSERVING LISTS

Observing lists are available in PDF format on the PAC website to provide guidance and goals for visual and astrophotography programs.

Astroleague Lunar 100  Binocular Showpieces
Bright Nebulae          Caldwell
Dunlop 100              Face-On Spiral Galaxies
Globular Clusters       Herschel 400
Herschel II             Hidden Treasures
Messier                 Open Clusters
Planet Maps             Planetary Nebulae
Royal Astronomical Society of Canada Finest NGC
Saguaro Astronomy Club Best NGC  S&T Lunar 100
Telescope Showpieces    The Secret Deep

PAC WEBSITE & YAHOO GROUPS

Website:  http://www.prescottastronomyclub.org
E-mail:   pacinfo@prescottastronomyclub.org
Astrophotography special interest group:
https://groups.yahoo.com/neo/groups/pacastrophotography/info

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Third Thursday Coordinator: Cory Shaw & Pat Birck  
Webmaster: Russell Chappell
What star created this huge puffball? What's pictured is the hot expanding nebula of Tycho's supernova remnant, the result of a stellar explosion first recorded over 400 years ago by the famous astronomer Tycho Brahe. The featured image is a composite of three X-ray colors taken by the orbiting Chandra X-ray Observatory. The expanding gas cloud is extremely hot, while slightly different expansion speeds have given the cloud a puffy appearance. Although the star that created SN 1572, is likely completely gone, a star dubbed Tycho G, too dim to be discerned here, is thought to be a companion. Finding progenitor remnants of Tycho's supernova is particularly important because the supernova is of Type Ia, an important rung in the distance ladder that calibrates the scale of the visible universe. The peak brightness of Type Ia supernovas is thought to be well understood, making them quite valuable in exploring the relationship between faintness and farness in the distant universe.