

The High Desert Observer

January 2023



This Month's Meeting - Jan 27th

IN-PERSON & Zoom, Friday at 7 p.m.
Mesilla Valley Radio Clubhouse
6609 Jefferson Ave. Las Cruces, NM

At the corner of Wilt and Jefferson -- take the Porter exit from US 70, about 5 miles east from the I-25 interchange. Go south on Porter until you come to Jefferson. From there, turn left and go to the corner of Jefferson and Wilt. The meeting will also be available to members via Zoom.

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Tombaugh Lecture Series Speaker for the Month



Dr. Kelly Lepo

Space Telescope Science Institute

Webb's First Look at the Universe

The James Webb Space Telescope, NASA's latest flagship space observatory, released its first spectacular color images in July 2022. In this presentation, Dr. Kelly Lepo will give an update on Webb's latest discoveries. She will also discuss infrared astronomy, the big questions that Webb is helping to answer, and what to expect in the rest of Webb's first year of science.

Dr. Kelly Lepo is an Education and Outreach Scientist at the Space Telescope Science Institute, where she supports outreach efforts for the James Webb Space Telescope. She received a PhD in Astronomy and Astrophysics from the University of Toronto. During her time in Canada, she made numerous local and national media appearances to talk about everything from the 2012 Mayan Apocalypse to the Super Blue Blood Moon. She previously served as the Coordinator of the McGill Space Institute, taught physics at Gonzaga University, and helped build the Large Hadron Collider at CERN.

My Field of View

Tim Kostelecky

Harbingers of Doom! That's what many cultures historically have thought of comets. This doesn't bode well for my initial foray into the presidency of the ASLC, but comets also bring about delightful meteor showers, so I'll look at it in that light.



Comet C/2022 E3 (ZTF) is garnering quite a bit of interest right now, and is putting on a pretty good show in the morning sky. By Tuesday, Jan 24th, it will become circumpolar at our latitude and quickly show itself in the evening sky, initially in Draco and Ursa Minor. However, the waxing moon will hinder its appearance during early February as it climbs higher. On the night of February 11th we'll have our next Leasburg outreach, and the waning moon will pretty much be out of the way as we showcase Comet C/2022 E3's close conjunction with Mars. There will also be a celebration of the observatory's 10th anniversary, as well as presenting a new plaque that's been put in place honoring the facility's renaming as the Walter H. Haas Memorial Observatory. Walter Haas was one of our club's founding members and noted amateur astronomer. I encourage members to join us for this public event on January 11th at Leasburg.

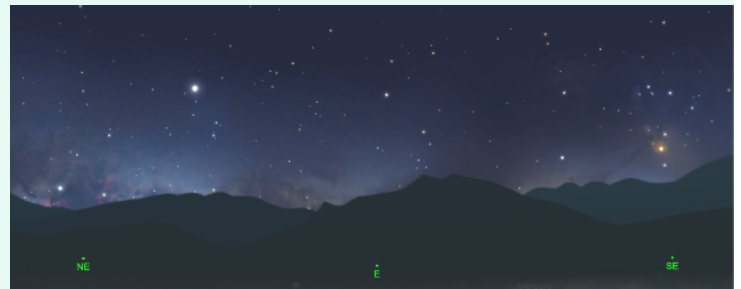
Speaking of Leasburg, our recent outreach event there on January 14th was well attended under partly cloudy skies, and of course there was great interest with the fine positioning of Mars, Jupiter, Saturn and Venus. As Steve Barkes and Mark Gorman were attending to the Haas Observatory scope, Steve Wood and I were in the open area with the 11" SCT and 4" refractor showing many of the sky's showpieces. It's always rewarding to hear the "Wows" from participants, many of whom had rarely looked through a telescope before, but I'd

particularly like to note the reaction from a young man, I guess in his early twenties, who sat at my refractor to take a look at Saturn. I had the ringed planet at a moderate power, about 100x, which gave it a nice sharp appearance, hanging like a pendent on a blackened background. This apparent astro-newbie took an initial gaze, then sat back like he'd seen a ghost, looked at me and asked "Is this real?" Then taking another look through the eyepiece exclaimed enthusiastically, "OMG this is INSANE!". That tops my list of reactions of someone seeing Saturn in person for the first time.

Just one more note: I was up early last Saturday morning at 5:15, not to see the comet, but to let the dog out to do his duty. Looking eastward on this moonless morning I could see Vega and some of the familiar summer constellations rising above the Organ Mountains, but oddly, there was an unusual ethereal glow behind the peaks. My initial half-awake thought was there was something going on at the WSMR. But with Cygnus sitting on its side I quickly realized...I was watching the Milky Way rising. Fully horizontal from the northeast toward Cepheus, to Scorpius in the southeast. The dark morning sky with our home galaxy's positioning behind the jagged landscape had an awesome visual effect - and my appreciation. I thought of how lucky we are to live in an area where seeing this type of stellar display is still possible.

Clear Skies to All,

Tim



Depiction of the Milky Way rising, courtesy of SkySafari software

ASLC-West Outreach

Mike Nuss

November: On the 18th, we had 17 brave souls for our presentation at Rockhound. It was cold and windy. Nov 19th we had 45 to 50 even tougher, braver persons for our City of Rocks presentation. It was miserably cold & windy!

I hope that the twenty or so Scouts, through chattering teeth, will have a favorable memory of what they saw in later life! After I got home that night, I dug out my Arctic Black Lined Carhartts ice-fishing bibs for next month's presentation.

December the 16th, we were clouded out at Rockhound. On December 17, we had 25~30 at City of Rocks. With about 15 being of scouting age.

January: We had ten souls at Rockhound on Friday the 20th. Nine were sheared off after the presentation because of the cold wind. But we got surprisingly good planet viewing before the presentation.

25 attended at City of Rocks on Saturday the 21st. Most of our guests stayed after the presentation and we got some good dark sky viewing in, but the seeing was not good. Met a fellow astronomer, Barry Young, from the Colorado Springs club, whom came down with his wife to get some low southerly imaging that they can't reach from Colorado. He is very proactive and enthusiastic, and welcomes visits to the Springs if anyone is interested. Barry is very instrumental in getting the Rocky Mountain Star Stare going each year and is willing to offer a beginners imaging online class if we would be interested. Wonderful couple.

The Astronomical Society of Las Cruces

(ASLC) is dedicated to expanding public awareness and understanding of the wonders of the universe. ASLC holds frequent observing sessions and star parties, providing opportunities to work on Society and public educational projects. Members receive electronic delivery of The High Desert Observer, our monthly newsletter, plus membership in the Astronomical League including their quarterly publication, Reflector, available in either paper or digital format. ASLC members are also entitled to a discount on a subscription to Sky and Telescope magazine. Annual Individual Dues are \$36; Family \$42; Student (Full Time) \$24. Dues are payable in January and partial year prorated for new members. Please contact our Treasurer, Patricia Conley, treasurer@aslc-nm.org for further information.

Coming Events

Monthly, on an evening close to the first-quarter moon, ASLC hosts a public "MoonGaze" observing session in Las Cruces. We also hold periodic special evening sessions at Tombaugh Observatory on the NMSU campus.

Also monthly, the ASLC welcomes public viewing at the Walter Haas Observatory in Leasburg Dam State Park, located just 20 miles north of Las Cruces. Our 16-inch Meade LX200 telescope at this site is used to observe under rather dark skies.

Keep updated on the dates, times, and locations through this [link](#) with additional information available at our website www.aslc-nm.org as well as our [Facebook](#) page.

Featured Article

Spot the Young Stars of the Hyades and Pleiades

This article is distributed by NASA Night Sky Network. The Night Sky Network program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit <https://nightsky.jpl.nasa.gov/> to find local clubs, events, and more.



By David Prosper

Orion is the last of a trio of striking star patterns to rise during the late fall and early winter months, preceded by the diminutive Pleiades and larger Hyades in Taurus. All three are easily spotted rising in the east in early January evenings, and are textbook examples of stars in different stages of development.

As discussed in last month's Notes, the famous Orion Nebula (M42), found in Orion's "Sword," is a celestial nursery full of newly-born "baby stars" and still-incubating "protostars," surrounded by the gas from which they were born. Next to Orion we find the Hyades, in Taurus, with their distinctive "V" shape. The Hyades are young but mature stars, hundreds of millions of years old and widely dispersed. Imagine them as "young adult" stars venturing out from their hometown into their new galactic apartments. Bright orange Aldebaran stands out in this group, but is not actually a member; it just happens to be in between us and the Hyades.

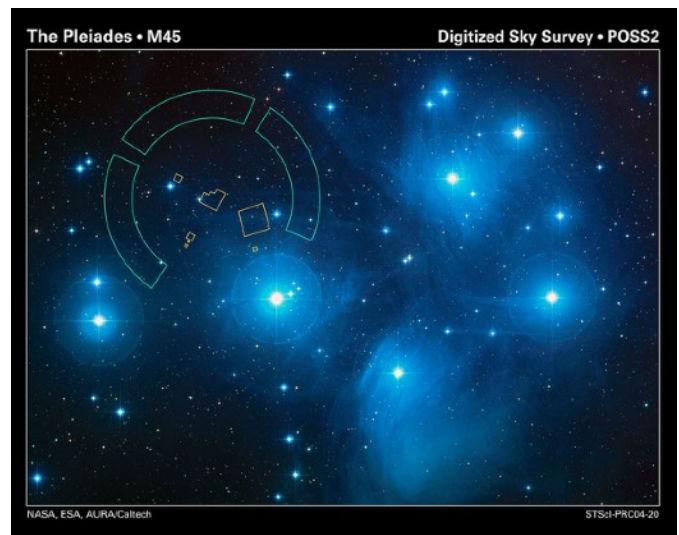
Traveling from Orion to the Hyades we then find the small, almost dipper-shaped Pleiades star cluster (M45). These are "teenage stars," younger than the Hyades, but older than the newborn stars of the Orion Nebula. These bright young stars are still relatively close together, but have dispersed their birth cocoon of stellar gas, like teenagers venturing around the neighborhood with friends and wearing their own clothes, but still remaining close to home - for now. Astronomers have

studied this trio in great detail in order to learn more about stellar evolution.

Figuring the exact distance of the Pleiades from Earth is an interesting problem in astrometry, the study of the exact positions of stars in space. Knowing their exact distance away is a necessary step in determining many other facts about the Pleiades. The European Space Agency's Hipparcos satellite determined their distance to about 392 light years away, around 43 light years closer than previous estimates. However, subsequent measurements by NASA's Hubble Space Telescope indicated a distance of 440 light years, much closer to pre-Hipparcos estimates.

Then, using a powerful technique called Very Long Baseline Interferometry (VLBI), which combines the power of radio telescopes from around the world, the distance of the Pleiades was calculated to 443 light years. The ESA's Gaia satellite, a successor to Hipparcos, recently released its first two sets of data, which among other findings show the distance close to the values found by Hubble and VLBI, possibly settling the long-running "Pleiades Controversy" and helping firm up the foundation for follow-up studies about the nature of the stars of the Pleiades.

You can learn more about the Pleiades in the Universe Discovery Guide at bit.ly/UDGMarch, and find out about missions helping to measure our universe at nasa.gov.



Monthly Meeting Minutes November 2022

John McCullough - Secretary

Call to Order:

Ed Montes, President, Astronomical Society of Las Cruces (ASLC, the Society), called the November 2022 meeting to order at 7:01 pm on 18 November 2022 at the Mesilla Valley Radio Clubhouse. There were ten (10) members, spouses and guests in attendance, as well as twelve (12) attendees via ZOOM at the start of the meeting.

Ed welcomed the group to tonight's meeting and noted the Society is meeting one week earlier to not interfere with the Thanksgiving holiday weekend. In-person attendance at tonight's meeting was affected by several vehicular accidents on area roadways. Ed also announced that the minutes from the October 2022 meeting (thanks to John McCullough, Secretary) were published in the November issue of the Society newsletter, the High Desert Observer (HDO) (thanks to Tim Kostelecky, HDO Editor). Ed asked if there were any required additions, deletions, or corrections to the minutes as submitted. Rani Bush noted that submittal of Apparel Committee funds to the Treasurer was misreported in the minutes and clarified the amounts involved. A motion to accept the October 2022 minutes as amended/corrected was offered by Tracy Stuart and seconded by Steve Barks. There being no objections, the motion was passed by acclamation.

Ed introduced tonight's speaker, Dennis M. Conti.

Presentation:

Tonight's Tombaugh Series speaker was retired telecommunications professional and amateur astronomer Dennis Conti. His topic was "The Wacky World of Exoplanets and How We Discover Them". Exoplanets (planets outside our solar system) are now known to come in all sizes, compositions, and orbital configurations around their host star. Some even appear to be free-

floating. Although there are several theories, it is still not known for certain how most exoplanets formed. However, what is certain is that the overall knowledge of these distant and strange worlds has grown exponentially in the last few years and amateur astronomers have played a key role in their discovery.

Mr. Conti's presentation reviewed: the role exoplanet discoveries play in the quest for life outside the solar system; some of the challenges discovering exoplanets; and how observations by amateur astronomers have been essential in making these discoveries.

Mr. Conti has a strong interest in exoplanet research. In 2015, he founded the American Association of Variable Star Observers' (AAVSO's) Exoplanet Section and has continued as section leader since.

Mr. Conti has worked closely with the Transiting Exoplanet Survey Satellite (TESS, a NASA mission to discover Earth-size worlds around nearby stars) Science Team to qualify AAVSO members as official participants in the TESS groundbased followup program, with over 26 AAVSO members now part of that program. He also developed the TESS submission guidelines and the software for detecting false positives, both of which have benefited the entire TESS team.

Mr. Conti is coauthor of over 25 exoplanet discovery papers and has given presentations at numerous conferences and local astronomy clubs, as well as online exoplanet courses. For his contributions to TESS and other exoplanet activities, Mr. Conti was awarded the American Astronomical Society's 2020 Chambliss Amateur Astronomy Achievement Award.

Officer/Committee Reports:

Treasurer:

Trish Conley, Treasurer, gave a report on accounts status. A total of \$545.95 had been spent since the last meeting, mostly on 2023 Royal Astronomical Society of Canada (RASC) handbooks, but also included \$263 for a plaque

for the Walter Haas Memorial Observatory at LDSP.

Outreach:

Stephen Wood, outreach coordinator, reported on recent events. There was a star party at Mission Academy on 03 November. The Moon Gaze on 05 November at the Downtown Plaza had to compete with a community dance party. Stephen and Rani Bush had telescopes out at the Plaza to view the lunar eclipse on 08 November. There was a STEM event at East Picacho Elementary School on 17 November. A 3rd Quarter Moon event is scheduled at LDSP on 19 November. Contact Stephen if you can support any or all events.

The Walter Haas Observatory at Leasburg Dam State Park (LDSP):

Steve Barkes, committee chairman, expects to have the observatory open tomorrow night, 19 November, weather permitting. Installation of the new memorial plaque is pending.

Tombaugh Observatory (NMSU):

Steven Shaffer has had to resign as observatory program coordinator. Steve Barkes is working to get keys and gate combinations for new coordinator, Preston Hager.

Apparel:

Rani Bush, committee chair, reported she continues to work on obtaining Adidas shirts, short-sleeved polos and long-sleeved ¼ zips, for \$5 and \$10, respectively, through the Las Cruces Space Festival. The ASLC logo can be added for an additional \$12. She is also obtaining estimates for caps and lapel pins. She will have an additional report next month.

ASLCWest:

Mike Nuss, committee chairman, was not present to provide a report.

Renaissance Arts Faire 2022:

Trish Conley reported a very successful event with approximately 1000 people looking through telescopes on Saturday and another 750 on Sunday. This was primarily because of the booth location near the event entrance. She would like to invest some funds in appearance of the Society's booth for future events. Donations amounting to \$43 were received for astro images donated by members.

Old Business:

Holiday Party – This year's party will start at 6:00 pm, 10 December at Ed Montes' house. The format will be a potluck dinner (Ed will provide a smoked brisket). More details to follow via email.

New Business:

There was no new business offered for discussion.

Announcements:

Tonight's meeting was Ed Montes' last to conduct as serving Society President. He thanked the officers, board members, and Society members for their support during his term and encouraged all to support Tim Kostecky as incoming President, as well as support the other 2023 officers and members of the Board of Directors.

The November 2022 meeting was adjourned at 8:25 pm.

-Respectfully submitted:

John McCullough
Secretary, ASLC

ASLC Board of Directors

		board@aslc-nm.org
President:	Tim Kostelecky	president@aslc-nm.org
Vice President:	Ranimo Bush	vp@acslc-nm.org
Treasurer:	Patricia Conley	treasurer@aslc-nm.org
Secretary:	John McCullough	secretary@aslc-nm.org
Director:	Mark Gorman	director1@aslc-nm.org
Director:	Steve Barkes	director2@aslc-nm.org
Past Pres:	Ed Montes	PastPres2@aslc-nm.org

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Calendar:	Stephen Wood	Outreach@aslc-nm.org
Education:	Rich Richins	education@aslc-nm.org
Loaner Program:	Tim Kostelecky	LoanerScopes@aslc-nm.org
Observatories:		
Leasburg Dam:	Steve Barkes	LDSPObservatory@aslc-nm.org
Tombaugh:	Preston Hager	ASLCObservatory@aslc-nm.org
Outreach:	Stephen Wood	Outreach@aslc-nm.org
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HDO Editor:	Tim Kostelecky	HDO@aslc-nm.org

Member Images

Comet C/2022 E3 (ZTF) - Bob Kimball



Jan 19, 2023 #697
This is a RGB image 50 mins. each channel.

Comet C/2022 E3 (ZTF) - Dave Doctor



Apparently strong solar wind from a coronal mass ejection caused a disconnection event in the ion tail of the comet on January 17, making it appear broken. I took this on the 21st from Las Cruces just before 5am and you can still see the break (white arrow in the image).

Comet C/2022 E3 (ZTF) & NGC5907 “Splinter Galaxy” In Draco Rich Richins



Here's my contribution to the C/2022 E3 (ZTF) collection. I took my C11/Hyperstar out to Leasburg Dam SP on Saturday night, and camped out in the observatory warm room. Gorgeous, but cold evening of imaging the comet. The coma was 2.03° from the Splinter Galaxy (upper left) to give some scale for the tail length. 45" subs @ ISO 1600 with the trusty old Canon 450D.

Lunar Occultation of Mars - Ranimo Bush



Here's the one decent picture I got with my iPhone about 10 minutes after the Mars occultation. Thank the cloud gods for allowing it to be visible. It was great watching Mars slip behind the moon with my telescope. The moon is so bright, it took a bit to make out Mars with my eyes.

A Dusky Region in Orion - Kent DeGross



These objects are located the northern portion of the constellation Orion. In this image, Lynd's Bright Nebula 879 with an embedded 9th magnitude star, is at lower left. LBN 878 is the large red area in the middle. Barnard's dark nebula, B 35, is the dark area around LBN 879. This field of view shows a combination of bright and dark nebulae over the whole area. The red is due to H-Alpha, blue areas are reflection nebulae and dust shows up as darker and brownish. This is not a very photographed region, being quite faint.

NGC2174 “Monkey Head Nebula” in Orion - Mike Sherick



Imaged from the Sagrada Observatory 2021. Image data reprocessed 1-11-23
Telescope: 24" f8 RC; CCD Camera: FLI-PL-09000 3nm Filters. NGC2174 is an emission nebula located in the constellation Orion, about 6,500 light years distant from Earth. Within this object is the open star cluster NGC2175.

M74 Galaxy in Pieces - Jeff Johnson



Here is galaxy M74 taken from my backyard in Las Cruces. I combined data from two different nights for this (13 Oct 2022... and also Lum data from back in 2018 from my backyard of my previous house). TOA-130F; EM200; QSI 690wsg; 14x10min L (bin1x1), 13x5min L (bin1x1), 4x5min ea RGB (bin2x2).