

The High Desert Observer

June 2023



This Month's Meeting - June 23rd

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



Nils Allen

Astronomical Society of Las Cruces

Star (Tourism) Wars: Volunteering & Beyond

What is life like serving as a National Park Service night-sky volunteer? And also as a professional star-tour guide? Take in the experiences of one amateur (and spouse) who spent 10 years roaming the Southwest doing astro-tourism, with telescope-for-hire (or for free, all-depending).

After getting hooked on stargazing during his undergraduate years, Nils got thrown in the deep end by teaching ASTRO 101 at N Tex St Univ as a graduate assistant in Physics. Then, by 1980 early in his DoD career, he had built his first large Dobsonian telescope. Soon he moved to WSMR and after many years (and kids raised) he got seriously involved with the ASLC around 2000. In addition to his on-going interest in telescope-making, he discovered a love for astro-outreach, sharing the wonder of the Cosmos with whoever would listen. After years as Outreach Chair, then club President in 2008, Nils retired & hit the road to see far his love for sharing the night sky might take him.

From the President

Tim Kostelecky

Sandy and I just finished a terrific two-week trip through NM, CO, NE, IA, MO, and OK with a little RV trailer that we've named Pluto. Like Pluto the planet, it's a small but very important part of our universe. And for the 31-hundred miles we traversed, I made it clear where my feelings lie regarding the International Astronomical Union's demotion for our beloved orb to dwarf-planet status. I think I can speak for most of us as members of ASLC, a group that has as a founder, Clyde Tombaugh, the discoverer of Pluto - Pluto IS a planet, and always will be.



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

Find A Ball of Stars – Messier 55



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.

Linda Shore, Ed.D

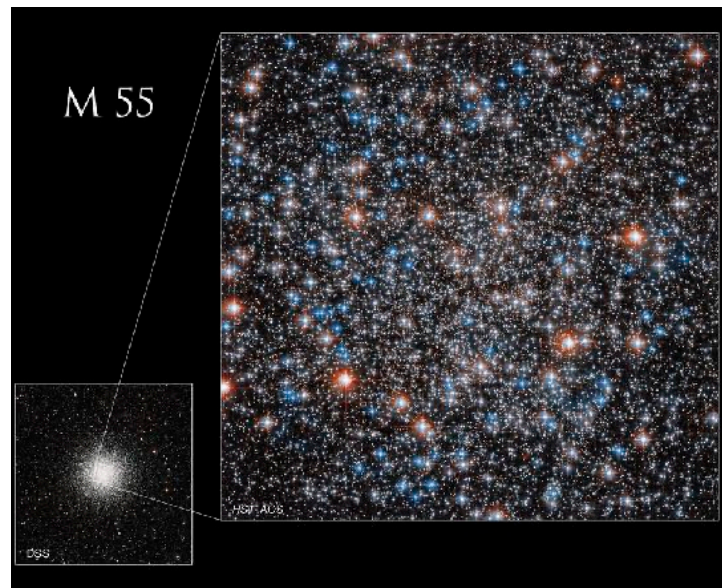
French astronomer Charles Messier cataloged over 100 fuzzy spots in the night sky in the 18th century while searching for comets – smudges that didn't move past the background stars so couldn't be comets. Too faint to be clearly seen using telescopes of the era, these objects were later identified as nebulae, distant galaxies, and star clusters as optics improved. Messier traveled the world to make his observations, assembling the descriptions and locations of all the objects he found in his Catalog of Nebulae and Star Clusters. Messier's work was critical to astronomers who came after him who relied on his catalog to study these little mysteries in the night sky, and not mistake them for comets.

Most easily spotted from the Southern Hemisphere, this “faint fuzzy” was first cataloged by another French astronomer, Nicholas Louis de Lacaille in 1752 from Southern Africa. After searching many years in vain through the atmospheric haze and light pollution of Paris, Charles Messier finally added it to his catalog in July of 1778. Identified as Messier 55

(M55), this large, diffuse object can be hard to distinguish unless it's well above the horizon and viewed far from city lights.

But July is great month for getting your own glimpse of M55 – especially if you live in the southern half of the US (or south of 39°N latitude). Also known as the “Summer Rose Star,” M55 will reach its highest point in northern hemisphere skies in mid-July. Looking towards the south with a pair of binoculars well after sunset, search for a dim (mag 6.3) cluster of stars below the handle of the “teapot” of the

M55 Images



The large image shows just the central portion of M55 taken by the Hubble Space Telescope. Above Earth's atmosphere, this magnificent view resolves many individual stars in this cluster. How many can you count through binoculars or a backyard telescope?

Original Image and Credits: NASA, ESA, A. Sarajedini (Florida Atlantic University), and M. Libralato (STScI, ESA, JWST); Smaller image: Digital Sky Survey; Image Processing: Gladys Kober

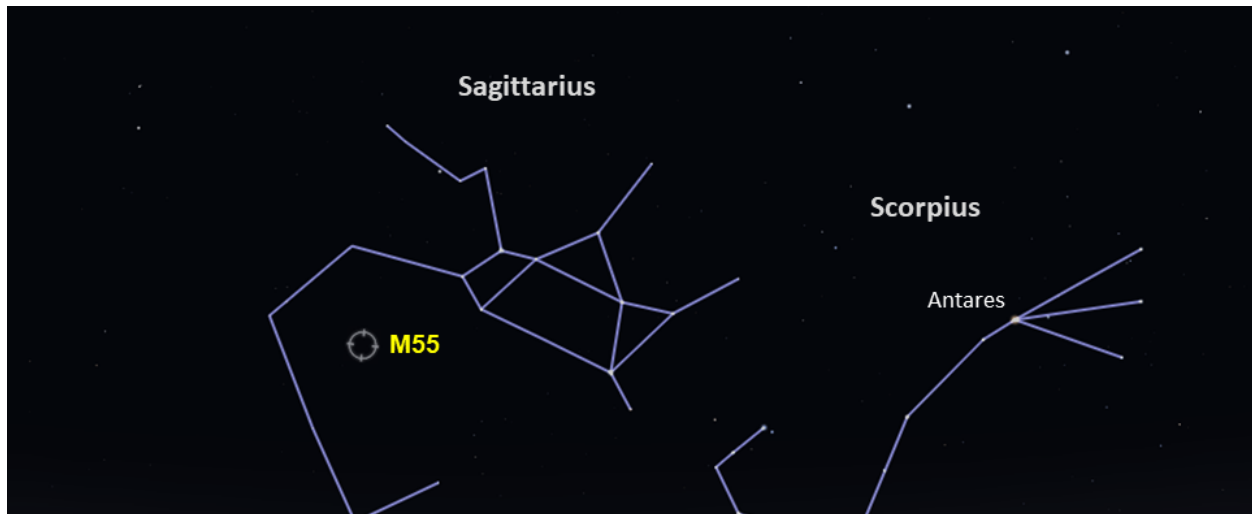
constellation Sagittarius. This loose collection of stars appears about 2/3 as large as the full Moon. A small telescope may resolve the individual stars, but M55 lacks the dense core of stars found in most globular clusters. With binoculars, let your eyes wander the “steam” coming from the teapot-shaped Sagittarius (actually the plane of the Milky Way Galaxy) to find many more nebulas and clusters.

As optics improved, this fuzzy patch was discovered to be a globular cluster of over 100,000 stars that formed more than 12 billion years ago, early in the history of the Universe. Located 20,000 light years from Earth, this ball of ancient stars has a diameter of 100 light years. Recently, NASA released a magnificent image of M55 from the Hubble Space Telescope, revealing just a small portion of the larger

cluster. This is an image that Charles Messier could only dream of and would have marveled at! By observing high above the Earth’s atmosphere, Hubble reveals stars inside the cluster impossible to resolve from ground-based telescopes. The spectacular colors in this image correspond to the surface temperatures of the stars; red stars being cooler than the white ones; white stars being cooler than the blue ones. These stars help us learn more about the early Universe. Discover even more: <https://www.nasa.gov/feature/goddard/2023/hubble-messier-55>

The Hubble Space Telescope has captured magnificent images of most of Messier’s objects. Explore them all: <https://www.nasa.gov/content/goddard/hubble-s-messier-catalog/>

M55 in Sagittarius



Look to the south in July and August to see the teapot asterism of Sagittarius. Below the handle you’ll see a faint smudge of M55 through binoculars. More “faint fuzzies” can be found in the steam of the Milky Way, appearing to rise up from the kettle.

Image created with assistance from Stellarium: stellarium.org

ASLC West Outreach Update - Mike Nuss

We got clouded out for the additional presentation at Rockhound park on Friday, June 9th. But we were able to hold on at City of Rocks, on June 10th. We had 25 viewing that night, with John Gilkison giving the presentation, Charles ran the observatory scope and I had my 10" DOB.

We will resume the presentations in early fall.

Monthly Meeting Minutes

May 2023

John McCullough - Secretary

Call to Order:

Tim Kostelecky, President, Astronomical Society of Las Cruces (ASLC, the Society), called the May 2023 meeting to order at 7:00 pm on 26 May 2023 at the Mesilla Valley Radio Clubhouse. There were fifteen (15) members, spouses, and guests in attendance, as well as thirteen (13) attendees via Zoom at the start of the meeting.

Tim welcomed the group to tonight's meeting and announced that the minutes from the April 2023 meeting (thanks to John McCullough, Secretary) were published in the May 2023 issue of the Society newsletter, the High Desert Observer (HDO). Tim asked if there were any required additions, deletions, or corrections to the minutes as submitted. A motion to accept the April 2023 minutes as submitted was offered by Bernie Jezercak and seconded by Steve Barkes. There being no objections, the motion was passed by acclamation.

Tim also recognized several guests in attendance at tonight's meeting.

Presentation:

Tonight's Tombaugh Series speaker was New Mexico State University (NMSU) Department of Astronomy Associate Professor, Dr. Wladimir Lyra, PhD. His presentation was titled: "How Do Planets Form?". During the first million years of the universe's evolution, young planetary systems were surrounded by dense clouds of gas shaped like disks. These disk-like clouds were prone to many different processes related to the movement of fluids, which led to turbulence and allowed the gas to accrete onto the forming star. At the same time, tiny grains of dust within the disk were getting bigger as they stuck together to form pebbles and rocks. Turbulence had a positive impact on these pebbles, making them come together in areas of high pressure long enough for them to collapse due to gravity. This collapse resulted in the formation of kilometer-sized objects, called planetesimals, which were the building blocks of planets. Some parts of the disk may have had large storm systems like Jupiter's Great Red Spot. These regions were especially good at collecting pebbles, leading to the formation of terrestrial planets and the cores of giant planets. Dr. Lyra talked about the latest developments and recent progress in the study of planet formation. He also addressed some other issues, such as the structures seen in high-resolution sub-millimeter images of these disk-like clouds, and how to understand and explain these structures.

Officer/Committee Reports:

Treasurer:

Trish Conley, Treasurer, reported on the status of the Society's accounts. She reported net income of \$166 for the last month and a positive \$678 for the current fiscal year.

Outreach:

Stephen Wood, outreach coordinator, reported on recent events.

The Moon Gaze on 29 April at the Plaza de Las Cruces had approximately 500 attendees in conjunction with Spring Festival. A private event at Berino Elementary on 04 May had approximately 110 kids in attendance. The Leasburg Dam State Park (LDSP) event on 13 May was clouded out.

There will be another Moon Gaze on 27 May and a 3rd Quarter Moon event at LDSP on 10 June. There will be a daytime event at the Museum of Nature and Science on 27 May from 10:00 am to 1:00 pm. A Sally's Night event will be held at the Museum on 21 June from 5:00 pm to 7:00 pm. Contact Stephen if you can support any or all events.

ASLCWest:

Mike Nuss, committee chairman, reported on events in the Deming area. Last week's star party at City of Rocks State Park, in addition to a good turnout of the public, was attended by a writer for New Mexico magazine. There were a lot of clouds at both City of Rocks and Rockhound State Parks this month. The Deming group will try one more weekend of events on 09 and 10 June if the monsoons hold off.

Gary Starkweather hosted another Dark Sky event on 20 May (New Moon).

New Business:

There was no new business offered for discussion.

The May 2023 meeting was adjourned at 8:21 pm.

-Respectfully submitted:

John McCullough
Secretary, ASLC

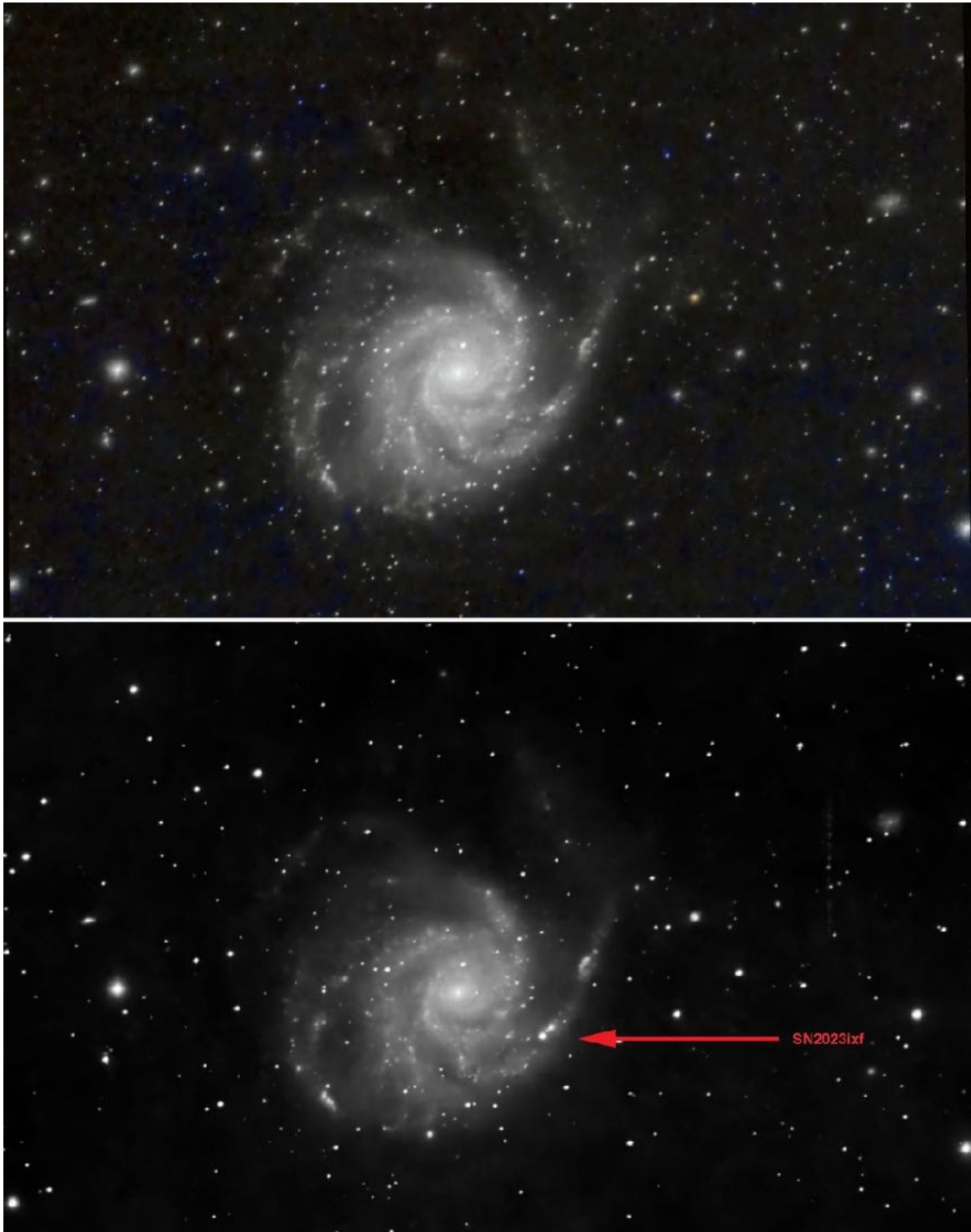
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HDO Editor:	Tim Kostelecky	HDO@aslc-nm.org

Super Nova SN2023ixd in M101 - Pinwheel Galaxy - Bob Kimball



Fairly recently, we on earth became aware of a catastrophe explosion that happened 21 million years ago. A star exploded in M101! Here is one of the first images I took in 2014 compared to a test image I took last week. I have placed a red arrow pointing to the Super Nova.

M20 Trifid Nebula in Lum+H-alpha - Jeff Johnson

Here is 50Lum/50Ha channels only for one of those (uncalibrated result for now)... this is the Trifid nebula! (approx 4,100 light years away, give or take). The faint bright spots around edges of frame are real photons and picked up with Ha filter which improves S:N for that bandwidth. This is 4x5minHa, 16x5minLum - TOA-130F (5" refractor), AP1100GTO, QSI690wsg @-10C --- had to go up to -10C as warmer at night!

NGC4157 in Ursa Major - Chuck Sterling



Welcome to 2023! This is from the first images acquired this year, since last June actually, using my bent up abused Astro Tech 8" f/4 Newtonian, my tempermental well-used Celestron CGE mount and a Canon 60Da camera. NGC 4157 used 30 subframes shot at ISO1600 for 90 seconds each. Autoguiding was through an Orion 80ED refractor and a \$5 Meade DSI Pro I with PHDGuide v2.6.11 beta-something. Post-processing was done with Images Plus 6.5 and Photoshop CS4.