Enchanted Skies Star Party 2025
Lecture Program Schedule

Magdalena Astronomical Society, Inc.
Cosponsored by the Southwest Region of the Astronomical League, Inc.

Montosa Ranch Campground Chapel, Highway 60
October 14-19, 2025
ESSP has run annually and continuously since 1994.

First Light from Bob's Remote Observatory (BRO) in Magdalena – M24, The Small Sagittarius Star Cloud, and Neighbors

Here is one of several images taken during the first few nights of operations at Bob Fugate's new remote observatory near Magdalena, NM. The image was made with a Takahashi Epsilon 160ED astrograph on an Astro-Physics Mach 2 GTO mount. The camera is a full frame, cooled, monochrome CMOS Sony sensor in a ZWO ASI6200MM camera. A set of Chroma filters and Optec Hercules focuser/rotator round out the optical train. The image was created from 2 hours and 56 minutes of total exposure, 53 2 min LRGB subs and 7 10-min H-alpha subs on the night of July 25, 2025. The dark skies of the Route 60 corridor make images like this so easy. Full resolution version as well as an annotated version can be found on Bob Fugate's website at https://www.rqfphoto.com/Astrophotography/Magdalena-Mini-Observatory/Bobs-Remote-Observatory-Images/i-sCvhmxD/A

Daily Schedule 2025

Tuesday, October 14

Participants arrive and set up throughout the day.

Wednesday, October 15

1:00 - 2:00 **Robotic Astrophotography**
Dr. Robert Q. Fugate, Magdalena Astronomical Society

2:00 - 3:00 **A NEW (Old) Way of Looking at the Sun**
Lee Maisel, Quemado, New Mexico

3:00 - 3:15 Coffee Break

3:15 - 4:15 **E. E. Barnard and His Dark Nebulae**
Larry McHenry, Kiski Astronomers and the Oil Region Astronomical Society

Larry's presentation will be accompanied by a special display of Barnard artifacts prepared from the collection of the Astronomical Lyceum in Magdalena, New Mexico.

4:15 - 5:15 **Infrared Astronomy from Herschel to Webb — and Beyond**
Dr. Richard Tresch Fienberg, *Sky & Telescope* / American Astronomical Society

Thursday, October 16

1:00 - 2:00 **Beginning Solar System Imaging**
Dan Llewellyn, Deerlick Astronomy Village, Georgia

2:00 - 3:00 **Apache Point Observatory (APO)**
Bill Ketzeback, Director of Operations, Apache Point Observatory

3:00 - 3:15 Coffee Break

3:15 - 4:15 **IOTA and the Development of Occultation Science**
Dr. David Dunham, Founder, International Occultation Timing Association

4:15 - 5:15 **Observing the Occultations of New Horizons KBO Target, 486958 Arrokoth**
Dr. Larry Wasserman, Lowell Observatory

8:00 - 9:30 **Demonstration of Planetary Imaging (set up near lecture hall)**
Dan Llewellyn, Deerlick Astronomy Village, Georgia

Friday, October 17

1:00 - 2:00 **Observing Occultations is for Everyone**
Dr. Joan Dunham, International Occultation Timing Association

2:00 - 6:00 **Friday "Twilight Talks" – (A Tradition from Stellafane)**
Fast-paced informal contributed presentations featuring work-in-progress, observatories, recent results, favorite images, special projects, show-and-tell, etc. Limited to 15 minutes and/or 15 images. Contact John W. Briggs to join the list: 970-343-0618.

Saturday, October 18

9:00 - 12:00 **Swap Meet!**
This will be conducted near the camp kitchen where outdoor tables exist under cover.

1:00 - 2:00 **Starting a Tradition — The Founding of ESSP**
Dave Finley & Jon Spargo, National Radio Astronomy Observatory

2:00 - 3:00 **Not Dark, Alive With Light: Science at the Cosmic Campground International DarkSky Sanctuary**
Dr. Albert D. Grauer, Catalina Sky Survey, University of Arizona

3:00 - 3:15 Coffee Break

3:15 - 4:15 **The Astronomical League, Its Southwest Region, and Its Wonderful Observing Programs**
Edward Flaspoehler, Astronomical League Southwest Region Representative,
Gary J. Carter, Chair, Astronomical League Southwest Region, and
Viola Sanchez, Vice Chair, Astronomical League Southwest Region

4:15 - 5:15 **"All he cares about are his damned stars."**
Dr. David Levy, Jarnac Observatory, Vail, Arizona

6:30 **Distribution of Door Prizes**
This will be conducted near the camp kitchen. Prizes were very generously contributed by **Tele Vue Optics, Celestron International,** and **S&S Optika.**

Sunday, October 19

Participants break camp throughout the morning. Please carry-out trash whenever possible to save labor for the very small host team from Magdalena Astronomical Society. **Thank you for your interest and participation, and we'll hope to see you next year!**

Please see the following pages for abstracts and brief biographies.

Robotic Astrophotography

Abstract: This talk summarizes lessons learned in operating a robotic telescope for astrophotography remotely over the Internet. I will describe my experiences as I progressed through 4 stages of remote operation – a pier in my backyard in Albuquerque, an automated mini-observatory in my backyard in Phoenix, a telescope deployed at Starfront Observatories in central Texas, and my new remote, automated observatory near Magdalena, NM. I'll discuss the hardware and software choices for automation, safety issues, bandwidth considerations, and provide some thoughts on observatory design. My goal is to share my experiences so far in the hope it will be useful to others.

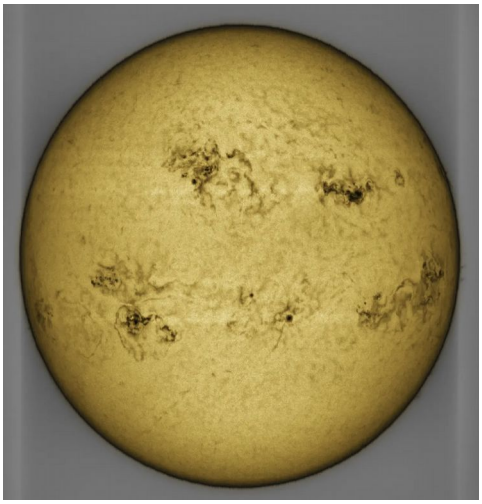
Dr. Robert Q. Fugate. Bob is a retired Senior Scientist living in Phoenix, AZ. He spent his professional career at the Air Force Research Laboratory building the Starfire Optical Range at Kirtland Air Force Base near Albuquerque, New Mexico, where he developed Laser Guide Star Adaptive Optics, a technology that has revolutionized international ground-based astronomy, providing clearer views of the Universe by Earth's largest telescopes. Dr. Fugate is a member of the National Academy of Engineering, received the Meritorious Presidential Rank Award, has an asteroid named in his honor, and is the author of over 100 publications in professional journals. Bob is an avid photographer and specializes in nature, landscapes – especially under the night sky – and deep-sky astrophotography. His work has been published on the covers of five magazines, three books, and two international journals, and has been featured at NASA's website *Astronomy Picture* (APOD) and *Earth Science Picture of the Day* (EPOD). He is an invited contributor to *Healing Images,* and was awarded the prestigious Photographic Society of America's Progress Medal.

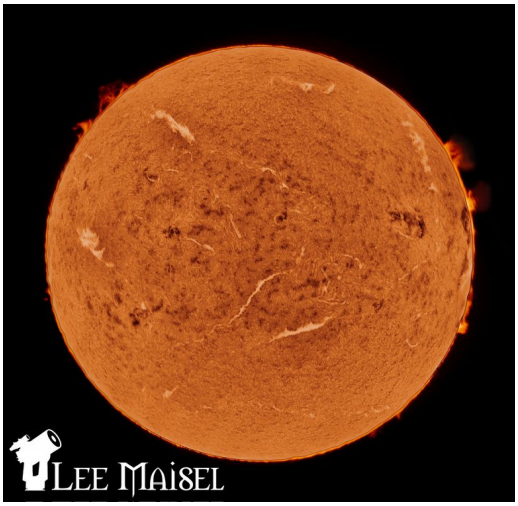
The new BRO facility in Magdalena, New Mexico.

A NEW (Old) Way of Looking at the Sun

Abstract: The presentation will review how a spectroheliograph works, a concept invented by George Ellery Hale as a college student about the year 1890. I'll relate specific details of the "MLAstro SHG," a newly available and affordable instrument made by MLAstro of Việt Nam that is now in its sixth production run. This instrument is already owned by at least three readers of the Magdalena Astronomical Society's email discussion group. Surprising amounts and different types of data are obtained with these interesting instruments.

Lee Maisel is retired as a network engineer who was active through the dawn of the Internet explosion. "The spectroheliograph is probably the most versatile tool for solar imaging, and I LOVE the thing!" he writes. "I don't have a professional background related to astronomy, physics or cosmology, but I have a lifelong interest in such matters, and I've spent a large portion of my free time studying such topics. I've retired to rural New Mexico and have built a reasonably sized observatory from which to learn more." Lee is a frequent participant at Magdalena Astronomical Society's informal monthly "Astronomers Breakfast" events at the Eagle Guest Ranch Restaurant in Datil, New Mexico. These gatherings draw astronomers from all along what we call the "Highway 60 Dark Sky Corridor."





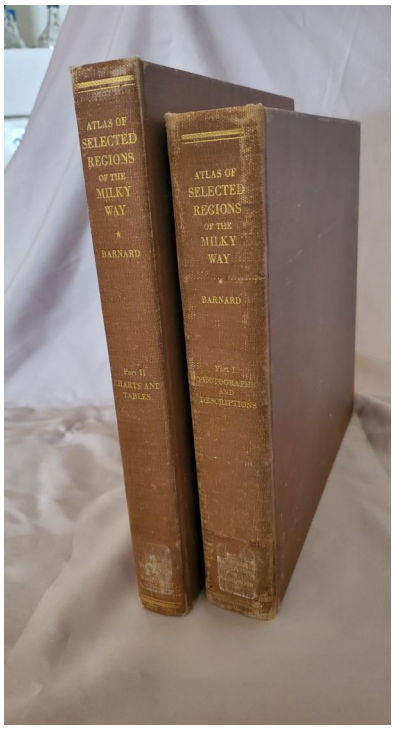
Lee Maisel's backyard observatory near Quemado, New Mexico.

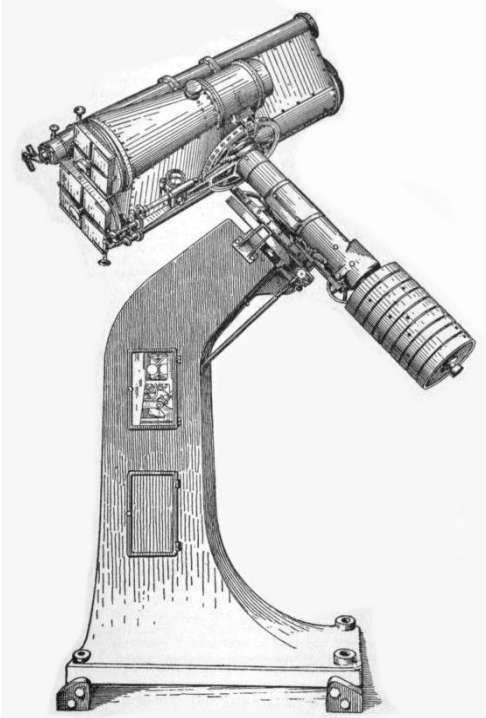
E. E. Barnard and His Dark Nebulae

Abstract: Edward Emerson Barnard (1857-1923) was a professor of astronomy at the University of Chicago's Yerkes Observatory. He is considered by some to be the last great Victorian classical visual observer, living at the dawn of the age of the "New Astronomy" – astrophysics. But Barnard was also one of the first pioneers of wide-field photography, studying the structure of the Milky Way. Today, we're going to look back on his life and accomplishments, including his famous *Photographic Atlas of Selected Regions of the Milky Way*, and also review amateur observations of his dark nebulae.

Larry McHenry of Pittsburgh, Pennsylvania, has been active in amateur astronomy for over 40 years and is a member of the Kiski Astronomers and the Oil Region Astronomical Society, both in Western Pennsylvania. In addition to being a frequent in-person presenter at both the Cherry Springs Star Party and the Black Forest Star Party held at the dark sky park of Cherry Springs State Park in Pennsylvania, Larry has also presented via *Zoom* to astronomy organizations around the country and internationally, including clubs in Boston, Rochester, Atlanta, Grand Junction, Houston, Stockton, Hawaii and Canada. Larry has published in the Astronomical League's *Reflector* magazine on topics including "Halton Arp and his Peculiar Galaxies," "Galileo the First Optical Astronomer," "Charles Messier – Ferret of Comets," "The Herschels and their Catalog," and "Edwin Hubble: Surveyor of the Universe." One of Larry's favorite astronomical activities is learning about the historical forefathers of today's amateur astronomers and observing their deep-sky objects. You can learn more about Larry's astronomical interests online at: http://www.stellar-journeys.org

Larry's presentation will be accompanied by a special display of Barnard artifacts prepared by **John W. Briggs** from the collection of the **Astronomical Lyceum** in Magdalena, New Mexico. John is curator of the Lyceum, an informal museum, library, lab, and lecture hall. John is the program chair for the ESSP as a member of Magdalena Astronomical Society and its ESSP Organizing Committee. John is the 2025 recipient of the G. Bruce Blair Medal of the Western Amateur Astronomers.





Infrared Astronomy from Herschel to Webb — and Beyond

Abstract: William Herschel's discovery in 1800 of invisible light beyond the red end of the visible spectrum opened the first of many new windows on the universe. Now called infrared radiation, Herschel's "calorific rays" have become an indispensable tool for probing celestial objects from dust grains to galaxies. But for the first 150 years after Herschel's breakthrough, astronomers could detect cosmic infrared radiation only within the solar system and from a few bright stars. Beginning in the 1950s, when sensitive solid-state detectors became available, infrared observations started revealing previously unseen and unknown phenomena across the cosmos. Today's most powerful orbiting observatory, the James Webb Space Telescope, operates exclusively in the infrared and has extended astronomers' view to unprecedented depths of space and time. In this presentation I'll trace the history of infrared astronomy both from the ground and from space, explain why infrared radiation is of such great interest to astronomers, share some of the field's most important accomplishments, and preview what the future holds.

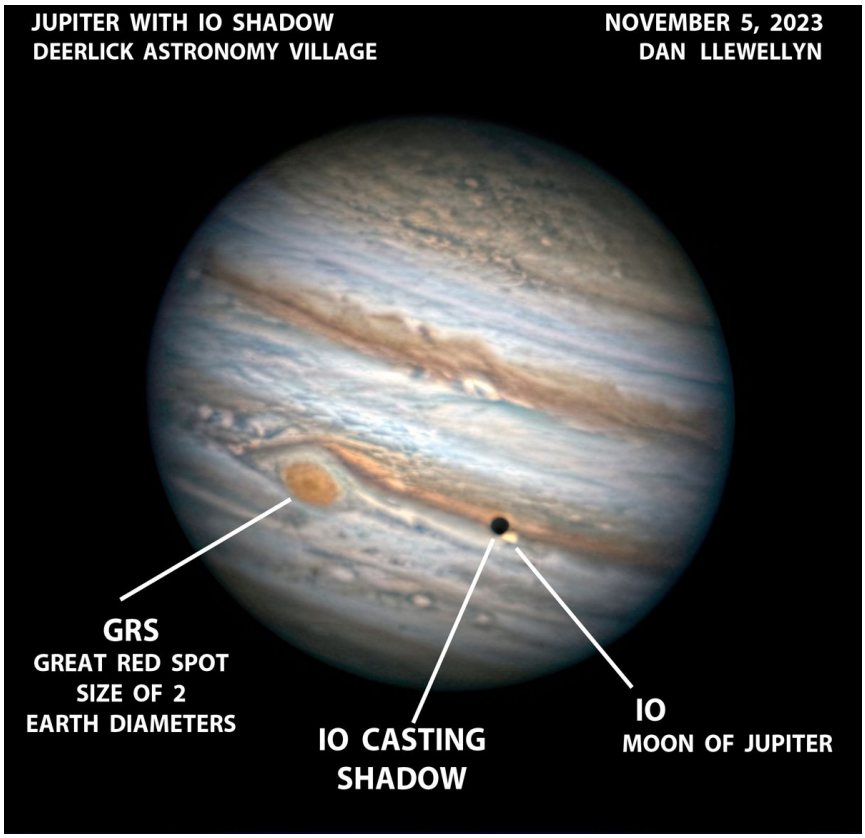
Dr. Rick Fienberg is an astronomer and science communicator who grew up in California, lived in Massachusetts and New Hampshire for 45 years, and now resides in New Mexico. He studied physics at Rice University and earned his doctorate in astronomy at Harvard University with a thesis on celestial imaging with an infrared array camera. He then spent 22 years at *Sky & Telescope* magazine, including 8 as Editor in Chief, followed by 12 years as Press Officer of the American Astronomical Society. The International Astronomical Union has bestowed the name Rickfienberg on asteroid 9983. NASA awarded its Exceptional Public Achievement Medal for his work promoting eye safety for the August 2017 U.S. solar eclipse, and the Astronomical Society of the Pacific honored him with the 2024 Klumpke-Roberts Award for outstanding contributions to the public understanding and appreciation of astronomy. Rick is co-author with Stephen P. Maran of *Astronomy For Dummies,* 5th edition (John Wiley & Sons, 2023).

Dr. Rick Fienberg's new backyard observatory under construction in New Mexico.

Beginning Solar System Imaging

Abstract: How to get up and running: Solar System Imaging. Surprisingly, imaging the Sun, Moon, planets, and comets is far easier than you think. Using modest equipment and free or inexpensive software, you can capture fantastic near-object images even in light polluted skies without breaking the bank. Methods to optimize imaging elements including telescopes, filters, cameras, and software will be presented. Processing is demonstrated in a straightforward workflow with minimal time disruption, bypassing overly complicated and unnecessary programs. Non-imaging Astro enthusiasts will also find this informative and interesting.

Dan Llewellyn has been a planetary & deep-sky imager for over 25 years. He authored an article in the April, 2014, issue of *Sky & Telescope* entitled "Redeeming Color Planetary Cameras." His images have been featured in *Sky & Telescope*, *Photonics Spectra*, *The Atlanta Journal & Constitution* (Picture of the Year, 2010), *Journal of the British Astronomical Association*, and in publications of the Association of Lunar and Planetary Observers, the Astronomical League, and Fernbank Science Center. Dan has lectured at the Northeast Astro Imaging Conference, Georgia Tech, the ALPO and ALCON conferences, the Peach State Star Gaze, the Mid-South Star Gaze, the Chiefland Star Party, the Atlanta Astronomy Club, previously here at the Enchanted Skies Star Party, and at Dragon Con in the Science Trek. His Saturn and Jupiter results are published in the November, 2023, and August, 2024, issues of *Sky & Telescope* magazine respectively. His Mars image just made the November, 2025, issue of *Sky & Telescope*.



Apache Point Observatory (APO)

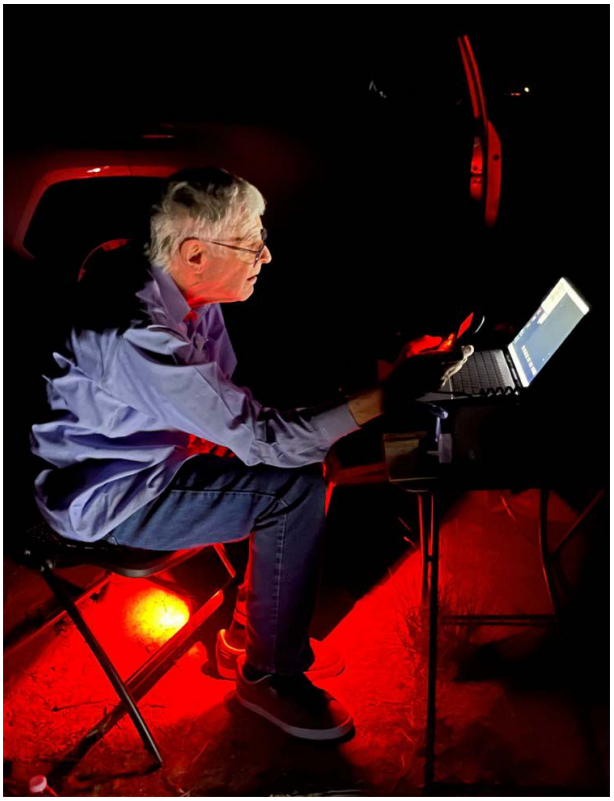
Abstract: Apache Point Observatory, located in the Sacramento Mountains of southern New Mexico and overlooking White Sands Missile Range, is situated near Alamogordo, Cloudcroft, and adjacent to Sunspot. The observatory is home to four research telescopes of varying apertures and supports a wide range of astronomical investigations. This presentation will provide an overview of the observatory's history, its past and present institutional partnerships, its telescopes and scientific instrumentation, and several of the ongoing research projects. Apache Point is the northern hemisphere site of the Sloan Digital Sky Surveys (SDSS I–V), with the 2.5-meter telescope at the center of one of the most frequently cited scientific projects in history. In addition, the facility hosts the Astrophysical Research Consortium 3.5-meter telescope, a 1.0-meter telescope operated by New Mexico State University and the SONG project, and a 0.5-meter (20-inch) telescope, collectively making Apache Point Observatory a hub of collaborative astronomical research.

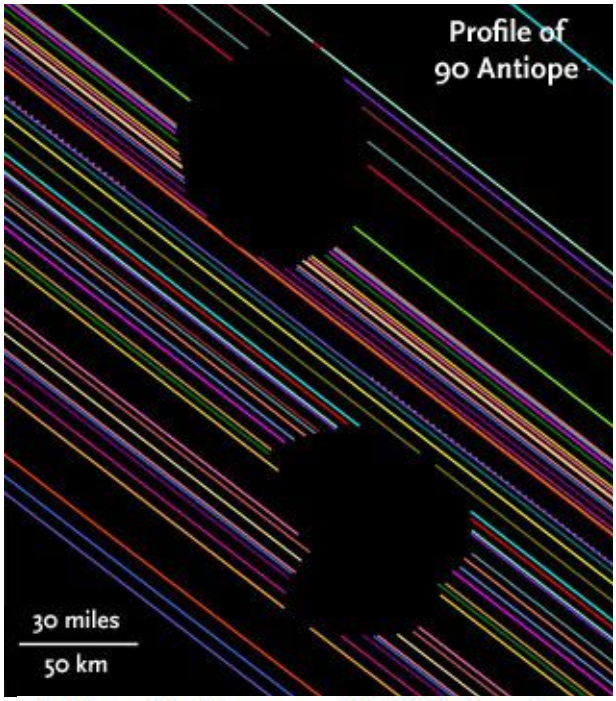
Bill Ketzeback is the Director of Operations at Apache Point Observatory. He holds a B.S. in Astrophysics from the University of Minnesota and an M.S. in Physics with an Astronomy concentration from the University of Wyoming. Bill's career spans a diverse range of observatories, including the University of Minnesota's O'Brien Observatory, the University of Wyoming's WIRO and Red Buttes Observatories, the NRAO Very Large Array, the U.S. Naval Observatory's Navy Precision Optical Interferometer before joining APO in 2002.

IOTA and the Development of Occultation Science

Abstract: Occultations have been observed for hundreds of years, centuries if solar eclipses are included. This presentation includes a short history of the formation and development of IOTA and then focuses on the modern era of occultation observing, highlighting some of the more notable accomplishments. With occultations, we can split close double stars, find and measure asteroidal moonlets, define asteroids shapes, and improve the orbits of potentially hazardous asteroids. And doing all of this is within the reach of the average amateur astronomer, using modest equipment, and with the support of many other enthusiasts who volunteer their time and talent to develop equipment and software tools specifically designed for occultation observers. Some future notable occultations will be highlighted, along with resources for local predictions.

Dr. David Dunham is the founder and past president of the International Occultation Timing Association (IOTA). His interest in astronomy began as a child living temporarily in Pakistan where it was too hot for outdoor activities during the day but fine at night. He continued pursing this hobby as a teenager in California and became interested in observing occultations, using the predictions presented in the 1950's and 60's issues of *Sky and Telescope* magazine. Eventually that interest led to undergraduate and graduate degrees in astronomy from UC Berkeley and Yale, and a profession in artificial satellite dynamics. From his undergraduate days to today, David has encouraged and assisted others in observing occultations: stars by the Moon and, as prediction capabilities improved, by asteroids; the Sun by the Moon (solar eclipse under another name); planets by the Moon, even some attempts at occultations of stars by comets.





Outline of the binary asteroid (90) Antiope from observations of its occultation of the red giant star, LQ Aquarii, on July 19, 2011.

Observing the Occultations of New Horizons KBO Target, 486958 Arrokoth

Abstract: The first "mass participation" occultation observations were of 486958 Arrokoth, the Kuiper belt object (KBO) that the New Horizons spacecraft flew by on 1-January-2019. Before Arrokoth, most occultations were usually observed by only a small number of observers. In this case, NASA sent 25 telescopes and 50 observers to Argentina (twice) and then to Senegal. Why? They needed to know the albedo of the object in order to properly expose the images from the flyby. And, to get the albedo, you need to know the size of the object. Arrokoth was expected to be a small object (perhaps 20 km) and contrary to the idea that you need a small number of telescopes to determine the size of such a small object, you actually need a lot of telescopes. I will explain why and discuss how all of these huge events worked out (not once, but three times).

Dr. Larry Wasserman is the longest-tenured astronomer at Lowell Observatory, having begun working there in September 1974. As a graduate student at Cornell he worked with Dr. Carl Sagan, who was formally his thesis advisor, though he worked more closely with Dr. Joe Veverka and others.

Beginning in 1998, Dr. Wasserman was part of a team of astronomers that conducted the Deep Ecliptic Survey, a systematic search of the Kuiper belt, a large area beyond Neptune that is populated with tens of thousands of so-called Kuiper belt objects (KBOs). The team worked to learn about the structure, dimension and characteristics of this little-known area of the solar system. In seven years, they found about 500 KBOs using telescopes at Kitt Peak National Observatory near Tucson and Cerro Tololo Inter-American Observatory in Chile.

Dr. Wasserman is using the Lowell Discovery Telescope to refine the current orbits of as many KBOs as possible. These objects have very long orbital periods (hundreds of years) but many of them have been observed for only a relatively short time (10 years or less). As a result, their orbits are not well known which makes it difficult to find these objects for further research purposes. He is also working with Dr. Nick Moskovitz on the Astorb data base. He maintains and updates the orbit file for all the asteroids (currently about 1,100,000 objects).

Dr. Wasserman has written most of the software that runs Lowell's telescopes, and created programs that allow the telescopes to track moving objects. His software has also been used by Lowell astronomers to determine asteroid and cometary orbits.

Dr. Wasserman has traveled the world to chase occultations and in so doing co-discovered the rings of Uranus and the atmosphere of Pluto.

Demonstration of Planetary Imaging (set up outdoors near lecture hall)

Abstract: This session will allow a hands-on demonstration of planetary imaging targeting Saturn that will be at an altitude of 40 degrees as the session starts at 8:00 PM. We anticipate that the outdoor setup location will be near the lecture hall (the camp's chapel), possibly behind the building, to minimize interference to other observers. The event will run Thursday evening weather permitting, but it will be rescheduled to Friday or Saturday as necessary given weather conditions. The equipment for the practicum is being provided by **Eric Toops** of the Magdalena Astronomical Society. For some years now, session leader **Dan Llewellyn** has been a regular visitor to the Magdalena area, coming from the Deerlick Astronomy Village in Georgia. Dan is a nationally recognized authority in astrophotography who has a special interest for describing techniques that are encouraging to beginners, and he has been a frequent contributor at the ESSP conference series, as well as at many others.

Observing Occultations is for Everyone

Abstract: The primary goal of IOTA occultation observing is to acquire well-timed events from locations whose positions can be determined and reported. Various camera and recording systems which can provide scientifically useful results are currently available, many at accessible costs. This discussion will mention the systems of the past, some of them still presented in documents on observing occultations, which once were quite prevalent but now are no longer recommended. Modern systems in current use and others in development are described. Of particular interest are accessories which, when added to the astrophotographers' kit, then can aid in occultation timing and capture.

Accompanying this presentation will be evening demonstrations of several of these systems. We have prepared predictions for events with some, although small, chance of being observable from within the ESSP. Our plan is to attempt them and provide a live demonstration of some occultation observing techniques. We will demonstrate 3 separate observing systems:

SharpCap Pro, a flexible tool which can capture data from multiple different digital and analog video cameras, QHY 174GPS, Player One Mars 662M, ZWO ASI174, and many other similar planetary cameras.

Astrid, a user-designed Raspberry Pi-based, self-contained GPS-equipped astronomy imaging device; and

Two older analog video cameras, the Watec 910HX and the RunCam III, whose data capture can be automated with the IOTA Video Capture and, with the addition of the IOTA Video Time Inserter, stamp the video images with GPS time.

Dr. Joan Dunham's interest in astronomy began in childhood, encouraged by her parents and a holiday gift of a department store telescope. She majored in astronomy as an undergraduate and took her first professional job as an astronomer at the US Naval Observatory working in the Nautical Almanac Division. There she learned to observe occultations and also met her future husband, David Dunham who was a summer intern at USNO. She left that job for graduate school at the University of Texas in Aerospace Engineering, getting graduate degrees in theoretical celestial mechanics. Her professional career was primarily in consulting companies supporting NASA missions at Goddard Space Flight Center. Now retired, she is the IOTA Treasurer and an enthusiastic occultation observer.

Starting a Tradition — The Founding of ESSP

Abstract: The Enchanted Skies Star Party was born in a casual office conversation in the Spring of 1994. Founders Jon Spargo and Dave Finley, both employees of the National Radio Astronomy Observatory (NRAO), simultaneously realized that Socorro and the surrounding area had excellent resources and potential for a national star party. Over the following months, they navigated multiple bureaucracies to gain necessary permissions and funding; recruited speakers, volunteers, vendors, and sponsors; and completed a variety of tasks – ranging from a massive boneyard cleanup using heavy equipment to convincing local businesses to turn off lights – to successfully start a completely new event that autumn. That first event featured famed telescope maker John Dobson as the keynote speaker, followed in the next two years by comet discoverers Dr. Alan Hale and Tom Bopp, and Apollo 17 astronaut Dr. Harrison "Jack" Schmitt. Spargo and Finley will recount many of the challenges and adventures they met along the way to establishing a now three-decade-old tradition.

Dave Finley got his first telescope in the fourth grade. In 2023, he retired as Public Information Officer for the National Radio Astronomy Observatory after 30 years of bringing to the public the excitement of discoveries coming from the world's premier radio telescopes — the VLA, VLBA, ALMA, and the Green Bank Telescope. A former science/medicine editor for *The Miami Herald*, he is a widely-published author and lecturer on topics including astronomy, geology, science writing, amateur radio, and history. He taught astronomy and geology at Florida International University, and has lectured at universities, observatories, star parties, clubs, and aboard cruise ships. He served on the board of directors of Miami's Southern Cross Astronomical Society and helped them found the Winter Star Party. He is a past president of The Albuquerque Astronomical Society and led the fundraising drive to construct their General Nathan Twining Observatory. He is a veteran of the U.S. Marine Corps, a private pilot, an amateur radio operator, and currently serves as historian for the six-state Southwest Region of the Civil Air Patrol.

Starting a Tradition — The Founding of ESSP (continued)

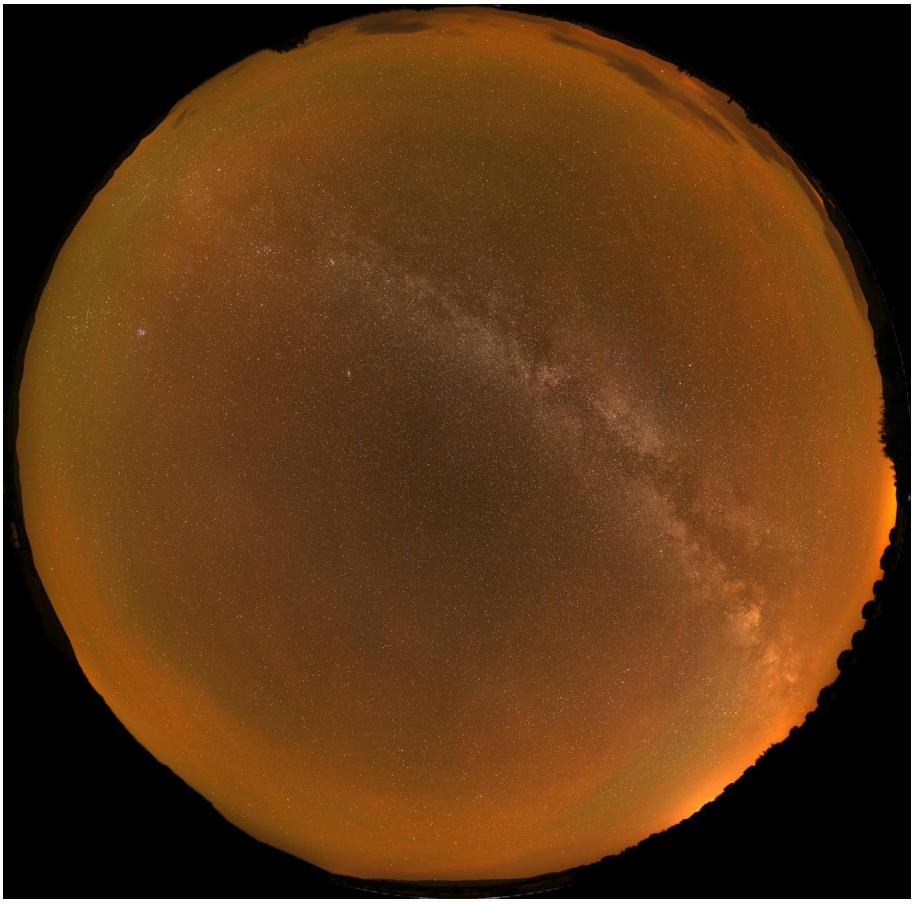
Jon Spargo received his first telescope in 1953, a 3-inch reflector, after a visit to the famed Hayden Planetarium in New York City. After a 4-year stint in the Air Force, as a missile guidance technician, Jon decided to pursue his interest in astronomy in 1967 by accepting a position as a Telescope Operator at the National Radio Astronomy Observatory in Green Bank, West Virginia. There, he operated the 300-ft meridian transit telescope and the 3-element interferometer that was the prototype for the Very Large Array (VLA). While in Green Bank he was present for many discoveries including the pulsar found in the Crab Nebula. While operating the 300-ft telescope he appeared in an episode of NOVA about the Crab Pulsar. During that period, he had the pleasure of getting to know and work for four Nobel Laureates. In 1975 Jon was transferred to Socorro, New Mexico, as part of one of the first cadre from NRAO to build the VLA. Jon spent 30 of his 38 years with NRAO working at the VLA. Along the way he helped establish the Operations Group, built a maintenance management system, did weather instrumentation, worked on radio communications, worked on a data archive project and helped with the Voyager 2 Neptune project. For that he received a special commendation from the NASA Deep Space Tracking Network. He also served 20 years as the Observatory Safety Officer. In 1978 he was the host to Dr. Carl Sagan and KCET from Los Angeles for the filming of a *Cosmos: A Personal Voyage* episode. Since retiring in 2004 Jon has pursued a number of interests that included helping to run the ongoing ESSP. He also designed and supervised the construction of the Etscorn Campus Observatory at New Mexico Tech. For that, Tech awarded him a Master of Astronomical Instrumentation degree. He also writes a monthly astronomy column which is published in two newspapers. Other interests include model railroading and the restoration of a giant steam engine in Albuquerque NM. As a licensed Amateur Radio Operator, KC5NTW, he also teaches an after-school Ham Radio Licensing Class at the local Charter School.

Students at Jon Spargo's Etscorn Observatory facility, New Mexico Tech, Socorro.

Not Dark, Alive With Light: Science at the Cosmic Campground International DarkSky Sanctuary

Abstract: The natural night sky is not dark. It is alive with its own lights. There is intrinsic illumination from the moon, stars, planets, nebulae, star clusters, galaxies, the zodiacal light, gegenschein, and many forms of airglow. At New Mexico's Cosmic Campground IDSS measurements of night sky brightness have produced three peer-reviewed scientific papers. These data are the gold standard in efforts to measure and mitigate light pollution.

Dr. Albert D. Grauer is an observational astronomer with 52 years of experience. He has observed at professional observatories in Arizona, Hawaii, Chile, Australia, and Louisiana. He was a Professor of Astronomy at the University of Arkansas at Little Rock for 30 years and is currently employed by the Catalina Sky Survey at the University of Arizona. As a member of the Catalina Sky Survey team he discovered two comets and is co-discoverer of tens of thousands of asteroids. He has published more than 75 papers in peer-reviewed scientific journals. His wife, Patricia A. Grauer, and he collected data and wrote the application which resulted in the Cosmic Campground becoming the first International DarkSky Sanctuary in North America. He continues to study night sky brightness and has published two scientific papers on the subject. His podcast "Travelers In the Night" has aired more than 6,600 times on more than 60 radio stations and has more than 860,000 plays on the Internet.



A night with moderately strong airglow at the Cosmic Campground IDSS. Credit: Zoltán Kolláth

The Astronomical League, Its Southwest Region, and Its Wonderful Observing Programs

Abstract: In a tag-team presentation, Edward Flaspoehler, a former editor of the Astronomical League's *Reflector,* will briefly review the Astronomical League, its history, and mission; regional Chair Gary J. Carter will continue regarding the League's Southwest Region that includes Texas, New Mexico, and the lower half of Oklahoma; and Viola Sanchez, the Region's Vice Chair, will describe the League's very popular observing programs in her role as Astronomical League Coordinator for The Albuquerque Astronomical Society.

Edward P. Flaspoehler, Jr. is a data processing and graphic design professional who has served as editor of the Astronomical League's *Reflector.* He authored *The Astronomer's Journal, The Astronomer's Herschel 400 Journal,* and other publications, and he is active with the Texas Astronomical Society of Dallas. In 1990 he received the G. R. Wright Award of the Astronomical League for service "above and beyond the call of duty."

Gary J. Carter became an amateur astronomer in the late 1960s, inspired by books written by Percival Lowell on Mars, by Clyde Tombaugh on the discovery of Pluto, and by Edwin Hubble regarding the galaxies in the Universe – all while NASA's Gemini and Apollo programs drove our nation's manned exploration of space. Gary has been a member of the Texas Astronomical Society of Dallas (TAS), and thus a member of the Astronomical League, since the late 1980s. He has held several positions within TAS over many years. Gary is Chair of the Southwest Region of the Astronomical League that represents astronomical societies in New Mexico, southern Oklahoma, and Texas. A proponent of education and public outreach, Gary organizes observing events for schools, scouts, and the general public with support from other dedicated TAS volunteers. In an additional informal presentation, Gary plans to describe how powerfully the new "Smart Telescopes" facilitate public outreach and visual observing under urban skies negatively affected by the onslaught of light pollution.

Viola Sanchez is a retired civil engineer who spent 29 years with the U.S. Bureau of Reclamation and five years with the U.S. Bureau of Indian Affairs in Albuquerque, New Mexico, working mainly in irrigation, water and reservoir operations, and Indian water rights. She has been a member of The Albuquerque Astronomical Society (TAAS) since 2013. Currently Viola is the Astronomical League coordinator for TAAS, attends star parties, and provides presentations once or twice a year for the TAAS Astronomy 101 lecture series. She serves as the vice chair of the Southwest Region of the Astronomical League. She has completed about 60 Astronomical League observing programs to date, observing most manually and visually with 10-inch and 16-inch Dobsonian telescopes, and she has begun astrophotography. In 2023 Viola achieved Gold Master Observer status in the elaborate program of Astronomical League Observing Awards.

"All he cares about are his damned stars."

Abstract: On Friday, July 19, 1963, the day before I saw the total eclipse on July 20, my Dad awoke from a nap in a terrible mood, looked at Mom and said those words. Years later he took them back, even though I assured him that he was right. "If I had known what you were going to do with your damned stars," he explained, "I would have been far more supportive."

This lecture is about family, both personal and celestial, from my beginnings as an observer on July 4, 1956, when I might have been the first to observe an Omicron Draconid meteor, to my beginning a comet search program in 1965, to where all that led. I will explore the two most important things that have happened to me; the second, which was my comet search, and the first, which was marrying Wendee. The lecture will end with an overview of my role in the saga of Comet Shoemaker-Levy 9.

Dr. David Levy was born in Montreal, Quebec, Canada, in 1948. He developed an interest in astronomy at an early age. However, he pursued and received bachelor's and master's degrees in English literature. Levy went on to discover 23 comets, either independently or with Gene and Carolyn Shoemaker. He has written 34 books, mostly on astronomical subjects, such as *The Quest for Comets,* a biography of Pluto-discoverer Clyde Tombaugh in 2006, and his tribute to Gene Shoemaker in *Shoemaker by Levy.* He has provided periodic articles for *Sky and Telescope* magazine, as well as *Parade* Magazine, *Sky News* and, most recently, *Astronomy* magazine. Periodic comets that Levy co-discovered include 118P/Shoemaker–Levy, 129P/Shoemaker–Levy, 135P/Shoemaker–Levy, 137P/Shoemaker–Levy, 138P/Shoemaker–Levy, 145P/Shoemaker–Levy, and 181P/Shoemaker–Levy. In addition, Levy is the sole discoverer of two periodic comets: 255P/Levy and P/1991 L3. On February 28, 2011, Levy was awarded a Ph.D. from the Hebrew University of Jerusalem for his successful completion of his thesis, "The Sky in Early Modern English Literature: A Study of Allusions to Celestial Events in Elizabethan and Jacobean Writing, 1572–1620." David was married to Wendee Levy from 1997 until her death in 2022.

The main-asteroid 3673 Levy was named in his honor. Levy was awarded the C.A. Chant Medal of the Royal Astronomical Society of Canada in 1980. Levy was recipient of the 1990 G. Bruce Blair Medal from the Western Amateur Astronomers. In 1993 he won the Amateur Achievement Award of the Astronomical Society of the Pacific. In 2007, Levy received the Smithsonian Astrophysical Observatory's Edgar Wilson Award for the discovery of comets. In 2008, a special edition telescope, "The Comet Hunter" was co-designed by Levy.

Levy's autobiography, *A Nightwatchman's Journey: The Road Not Taken,* was published in June, 2019, by the Royal Astronomical Society of Canada.

Special Notice

On **Monday, October 20**, the International Occultation Timing Association plans an **Occultation Science Workshop** in the Fireplace Room of the High Country Lodge motel in Magdalena, New Mexico. Presentations there will review and build upon the considerable discussion related to occultations that was included in the 2025 ESSP Program. If you are interested and can stay another day, please contact either Dr. Joan Dunham, IOTA Treasurer, or local organizer John W. Briggs of the MAS. John is at 970-343-0618, john.w.briggs@gmail.com.

Special Acknowledgment

ESSP organizers and program contributors, involving members of the Magdalena Astronomical Society, Inc., and local astronomers all along what we call New Mexico's "Highway 60 Dark-Sky Corridor," are grateful to Dale and Gale Armstrong, owners of the Montosa Ranch Campground, in the liberal arrangements for our use of the Camp for the first time in 2024 and continuing in 2025. We believe it has great potential for ongoing ESSP educational activities that began in 1994 and have run annually on or near Highway 60 ever since. Gale Armstrong serves as our current local State Representative at the New Mexico Roundhouse.

Additional notes regarding Bob Fugate's cover image:

Objects in the frame include Messier 24 near the center, Messier 18 an open cluster at lower left; many dark nebulae in the Lunds catalog, the prominent ones being LDN 323, 327, 328, 331 332, 337 as well as bright nebulae LBN 43, 46, 47, 49, 51, and 52; several objects from the second Sharpless catalog 2-35, 2-37, 2-39, 2-40, and 2-41; and some prominent emission and reflection nebulae IC 1284, NGC 6590, and NGC 6595. If you look closely you will see lots of dust as well. This area lies near the galactic center just below Messier 16 and Messier 17 and presents a wealth of interesting objects to the observer. Full-resolution version as well as an annotated version can be found on Bob Fugate's website at https://www.rqfphoto.com/Astrophotography/Magdalena-Mini-Observatory/Bobs-Remote-Observatory-Images/i-sCvhmxD/A