2025 MIDSOUTH STAR GAZE & ASTRONOMY CONFERENCE SCHEDULE

Space Art and Astrophotography exhibit on display at the Welcome Center's Main Street Art Gallery in downtown French Camp, Mississippi, 10am-3pm Monday-Friday

Wednesday: April 23

Setting Up, Solar Observing, Fellowship, Sightseeing
Sunset-Until: Observing

Thursday: April 24

Solar Observing, Fellowship, Sightseeing
12:00pm: Lunch on your own *(Council House Restaurant)*
2:00pm: Lecture: Dave Teske, *"Sailing the Southern Seas or More Adventures in Moon Gazing!"*
5:00 pm: Supper on your own *(Council House Restaurant)*
Sunset-Until: Observing

Friday: April 25

Solar Observing, Fellowship, Sightseeing
12:00pm: Lunch on your own *(Council House Restaurant)*
1:00pm: Lecture, Edwin Faughn, *"Exoplanets: Worlds Beyond Our Own!*
3:00 pm: Lecture: Dr. William Keel
5:00 pm Supper on your own *(Council House Restaurant)*
7:30 pm: Lecture: "Sky Lore in the Planetarium" with Dave Teske
Sunset-Until: Observing

Saturday: April 26

Solar Observing, Fellowship, Sightseeing
12:00pm: Lunch on your own *(Council House Restaurant)*
3:00 pm: Lecture: Dr. William Keel, Astrophysics? *It's all about the spectrum.*
5:00 pm: Supper on your own *(Council House Restaurant)*
Sunset-Until: Observing

LECTURE ABSTRACTS

Dr. William C. Keel

Lectures:

Astrophysics? *It's all about the spectrum.*

Astronomy delivers fantastic images - visible light, infrared, radio, X-ray... But most of our information about the distant Universe cones from analyzing the exact pattern of radiation with wavelength - the spectrum. The interaction of light and matter to the finest scales leaves connections between these spectral patterns and the atoms and molecules involved with the light. This allows us to work out the chemical makeup, temperature, Doppler shift, density, and other conditions of even the most distant objects, and test for whether the constants of physics change over cosmic time. This talk will show how these connections happen, and demonstrate a few of them live.

Little red dots, dusty shrouds, and black-hole seeds – *JWST takes on the early Universe*

One of the goals of the James Webb Space Telescope was to bring our understanding of galaxies closer to their formation, showing how today's zoo of spiral, elliptical, and irregular galaxies took shape from starless clouds of hydrogen and helium. With important assists from Hubble, the ALMA radio array, and gravitational lensing by galaxy clusters, this hope is being realized. Among early galaxies, many were tiny compared to what we see today, and some of those have such massive central black holes that once-silly ideas for their formation start to make a lot of sense. There was a whole population of galaxies so dusty that we wouldn't see their blue light if standing next to them (how the dust got all around the galaxies remains a puzzle). We see star-forming clumps, merging protogalaxies, and rotating spirals earlier than we would have guessed. We are starting to learn better questions to ask of these amazing data.

Bio:

Dr. Keel is a Professor Emeritus and galaxy research astronomer from the University of Alabama. He has conducted research on some of the most powerful telescopes in the world such as Lick Observatory, Mount Lemmon, Kitt Peak, Lowell Observatory, La Palma, Bol'shoi Teleskop Azimutal'nyi, Cerro Tololo, European Southern Observatory, NASA, Infrared Telescope Facility Mauna Kea, MMT, Mt. Hopkins, Arizona, MDM Observatory, Palomar Mountain, SARA Observatory, Kitt Peak and Cerro Tololo ARC 3.5m telescope, Apache Point Observatory, New Mexico Gemini Observatory Mauna Kea and Cerro Pachon, NRAO: Very Large Array telescope, James Clerk Maxwell Telescope Mauna Kea, Low Earth orbit, Hubble Space,Telescope, ROSAT, IRAS, STS-95 Starlite, FUSE, GALEX, Swift, Suzaku, High Earth orbit, ISO, Chandra, XMM-Newton, Geosynchronous orbit, IUE Solar escape orbit, Voyager 2. He has also published two books - The Road to Galaxy Formation and The Sky at Einstein's Feet.

David Teske

Lectures:

More Adventures of the Lunar Observer: Sailing the Southern Seas.

David Teske, the Coordinator of the Lunar Topographic Studies Section of the Association of Lunar and Planetary Observers, will present a talk about the ALPO, with emphasis on the Lunar Topographic Section. This will include a look at the demographics of lunar observers throughout the world, equipment used and most importantly, how YOU can contribute to the ALPO Lunar Section (and ALPO in general). Also, Teske will discuss an intriguing Mare, Mare Australe, and show images of it that he has taken with his modest observing equipment. Teske will also introduce the audience to a citizen science project that all can do with CoCoRhs.

"Sky Lore in the Planetarium"

Bio:

David Teske is a long-time amateur astronomer who specializes in lunar and solar astronomy, as well as public outreach. He has worked as the assistant planetarium at the Alworth Planetarium in Duluth, Minnesota, the assistant director at the Davis Planetarium in Jackson, Mississippi, and has presented numerous astronomy programs at the Rainwater Observatory, nature centers, and schools. He recently retired as a science teacher who has been the recipient of numerous awards for teaching including STAR teacher twice, teacher of the year from Parents for Public Schools, and recognition from NASA and the Air Force Association for teaching. NASA awarded Teske for Mission Home, for incorporating science applications to Earthly applications. The Air Force Association awarded Teske the Christa McAuliffe Teacher of the Year for his teaching of air and space sciences in middle school. Currently, Teske is the Coordinator of the Lunar Topographic Studies Program of the Association of Lunar and Planetary Observers. [*https://alpo-astronomy.org/content/Lunar/Publications/TLO/2025/tlo202504.pdf*](https://alpo-astronomy.org/content/Lunar/Publications/TLO/2025/tlo202504.pdf)

Edwin Faughn

Lecture:

"EXOPLANETS: *Worlds Beyond Our Own!*"

This fascinating, educational, and visually intensive presentation explores the history, science fiction and science fact of worlds beyond our Earth. To date there are now over 5500 confirmed extrasolar planets that have been discovered orbiting other stars in our Milkyway Galaxy! That number will eventually be in the trillions in years to come! These discoveries are exciting, tantalizing and reveal that the universe is far greater and more spectacular than anything we can even begin to comprehend! Come join us as we explore these beautiful and exotic worlds beyond our own!

Bio.

Edwin has presented hundreds of programs to diverse audiences including universities, museums, schools, aviation firms, conferences, churches, civic groups, senior and youth groups, scouts and various other organizations such as NASA's Space Grant Consortium, Winthrop Rockefeller Institute, Federal Express World Headquarters, Millington Naval Air Station (National Prayer Breakfast), Pink Palace Family Of Museums CTI Imax Theater (75th Anniversary Celebration), Sharpe Planetarium, Lichterman Nature Center, Germantown Performing Arts Center, Arkansas State University (Distinguished Alumni Speaker), University Of Mississippi (conference keynote speaker), Arkansas State University keynote speaker for NASA's STEAM Initiative (STEM with Art + Design) and Crew Training International (CTI is one of the leading providers of Cockpit/Crew Resource Management training for the world's military aviators).

His original artwork has been featured in and on the covers of leading international space science magazines, exhibitions and planetarium productions. A few of his credits include but are not limited to Scientific American, Astronomy, Sky and Telescope, Science News, Federal Express World Headquarters, the world premiere of Titanic: The Exhibition, Crew Training International, the International Association of Astronomical Artists (IAAA) world tour exhibition "The Artist's Universe" and the Planetary Report magazine of the Planetary Society.

He served nearly 20 years as the art director for the Sharpe Planetarium of the Pink Palace Family of Museums in Memphis, Tennessee and is now the director of Rainwater Observatory in French Camp, Mississippi which is one of the largest public observatories in the southeast. His work has been seen on NASA's Ames Research Center main KEPLER website, www.edwinfaughn.com and www.rainwaterobservatory.org

“ASTROPHOTOGRAPHY AND SPACE ARTWORK EXHIBITION” Monday-Friday 10am-3pm

This exhibition is currently on exhibit at the Welcome Center in the town of French Camp and contains astrophotography and astronomical or space artwork. The two are related but different in purpose and technique. Astrophotography is the art of photographing anything not on this earth. Subjects include the planets, Sun, Moon, asteroids, comets, the Milky Way galaxy and other galaxies, planetary nebulae, globular star clusters and supernova remnants. Astrophotography also requires tedious and often lengthy time exposures to capture faint objects in space. These exposure times range from minutes to hours, so the astrophotographer must rely on complex polar aligned telescope mounts, fast precision telescope optics, and other sensitive photographic equipment and computer software.

The astrophotographers whose work is reflected in these two panels come here from around the United States to capture these spectacular images under our beautiful dark skies. Their names are Fred Howell, Bill Kennedy, Jon Talbot www.starscapeimaging.com, David Teske, Stephen Winkler, Jim Turpin, Dr. Philip Mintz, Freddy Diaz, Nick Barrett, John Meile, Matt McAlilly, Carlos Flores, Dr. Jarrod Marsh, and Jim Swiger. Their highly skilled, amazing, and complex work spans several years and the images on these two panels were taken here at Rainwater Observatory in French Camp, Mississippi. More of their work can be seen at: www.rainwaterobservatory.com

Space art is a combination of science and art but is not science fiction or fantasy and depicts real astronomical phenomena throughout the universe. This unique art is informed by science and requires extensive research to maintain accuracy. It often depicts celestial events that are extremely remote, exposed to unimaginably intense radiation, gravity, or temperature extremes.

The space artwork in this exhibit was created by Edwin Faughn using a combination of oils, acrylics, and digital media and more of it can be seen at: http://www.edwinfaughn.com
Edwin is a space science artist and lecturer and currently serves as the director of Rainwater Observatory here in French Camp, Mississippi.