



Volume 22 / Issue 2

NEWSLETTER

Summer 2023

The poster for the 14th Annual Galaxy Forum features a dark blue background with a digital rain effect of binary code. A satellite is in the upper right, and a radio telescope is in the lower left. A small moon is visible on the left side. The text is white and blue, with some elements in italics.

Sponsored by Ad Astra Kansas Foundation

14th Annual

GALAXY FORUM

Asteroids, EXO-planets & More

August 26 / 1-3 p.m. CDT

At the Cosmosphere

FREE / open to the public

also livestreamed

More information coming!

Quick Question: What year was the first exoplanet discovery confirmed?

Answer: 1995

By 2023, according to NASA, over 5,000 exoplanets have been confirmed--watery, volcano-studded, rocky, gaseous, icy--the types go on and on.

How do scientists find them? Characterize them? What have they discovered? Jonathan Brande, a Ph.D. candidate in the KU Physics and Astronomy Department's renowned EXOLab, will share the lab's work in this fascinating area of astrophysics with us. [\(Bio here\)](#)

Two asteroid missions are on the docket in 2023. In 2022 we had the DART (crash, remember?) mission. September brings the return of soil samples taken by the OSIRIS-REx mission from the near-Earth asteroid Bennu. Also, the Psyche mission launches in October to the asteroid 16 Psyche currently in the Libra constellation. Is it made of nickel and iron as is suspected? Ph.D. candidate Sarah Lamm, of the KU Department of Geology will give an overview of these missions and why they are important. [\(Bio here\)](#)

Other topics include the upcoming solar eclipses (October '23 and April '24) and an update on AAKF's projects (one of which is an interstellar university.)

More GF information coming!



Students find interstellar seminar thought-provoking

By Jeanette Steinert

It wasn't what Lindsey Choi expected.

“My expectations were simple topics, little depth. Many speakers challenged that by providing behind-the-scenes views of the science involved,” said the WSU senior of Wichita State’s initial Interstellar Seminar course this past spring.

The 1-credit seminar, which included twenty speakers from six universities, four NASA centers and four commercial space companies, was a broad non-technical course to introduce interstellar studies.

First up—where are we, where do we want to go? How do we get there? And, BTW, where is “there”?

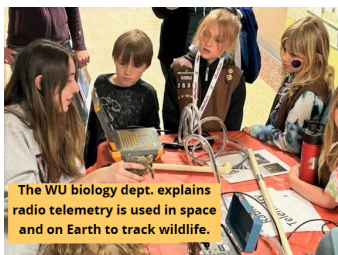
Well, if it’s Proxima Centauri, it’s 25 trillion miles (4.2 light years) from Earth. The Andromeda Galaxy is 2.5 million light years away. Mars’ average distance from Earth is 140 million miles ...

[Read more](#)

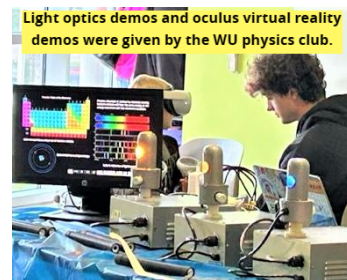
AAK Space Celebration gets four stars



Mapping the Moon's phases with the Topeka / Shawnee Co. Library



The WU biology dept. explains radio telemetry is used in space and on Earth to track wildlife.



Light optics demos and oculus virtual reality demos were given by the WU physics club.



Playing a laser-based communications game with Solar System Ambassador Hallie Hatfield



Concentrating on a logic game with KU STEMTeach



The WU physics club's oculus virtual reality glasses were a popular demo

Thank you to Washburn University for its co-sponsorship of our annual space celebration on April 22. Over 200 attended.

Also, gratitude to the Cosmosphere, Flint Hills Discovery Center, Foundation for Aeronautic Education, Kansas Children's Discovery Center, KSN meteorologist Ryan Matoush , K-State Salina Tech, Kansas Water Office, KU STEMTeach Club, Northeast Kansas Amateur Astronomers League (NEKAAL), Ben Reed and the WU Biology Dept., Space Age Publishing Co., Topeka/Shawnee County Library, Washburn U. Dept of Chemistry/Chemistry Club, WU Dept. of Geology, WU Dept. of Science Education, WU Physics Club, NASA Solar System Ambassadors (SSA) Jeanette Bosch, Brenda

Culbertson, Hallie Hatfield and Sarah Lamm, plus the 501st Legion Star Wars Explorers and many more.



Did you know?

Kansas has a NASA Moon Tree

In 1971, 400 - 500 seeds were transported to the moon and back by Apollo 14 astronaut Stuart Roosa. After being germinated by the U.S. Forestry Service, the resulting seedlings given away over a number of years to locations both domestic and foreign, including the International Forest of Friendship in Atchison, Kansas. This particular moon tree (a sycamore), was planted in 1986 by Kansas Apollo 17 astronaut Ron Evans, and is dedicated to the seventeen astronauts who died while advancing space exploration. (photo: IFOF website)

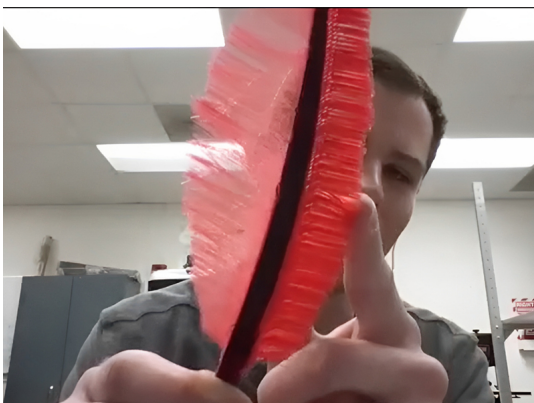
There is actually a NASA Moon Trees Quest initiative which seeks to have citizen scientists find and measure the heights of Apollo 14 Moon Trees across the U.S. [For information](#)

KU junior awarded an Astronaut Scholarship



LAWRENCE--Audrey Rips-Goodwin, a KU junior majoring in math and chemistry with a minor in psychology, is one of 68 students nationwide to be awarded a 2023 Astronaut Scholarship worth up to \$15,000. (KU press release photo)

[Read More](#)



WSU AeroFeathers target quiet flight

WICHITA--With the aid of an \$82,000 NASA University Student Research Challenge (USRC) grant, the WSU AeroFeathers student team is studying owl-feather technology to develop "new propeller blades and fixed wing design concepts that mimic the features of an owl feather and

provide substantial noise reduction benefits."

The AeroFeathers team is comprised of seven Shockers, who are all part of the Mechanics, Acoustics and Dynamics Lab (MADLab).

[Read More](#)

Above: Primary investigator Will Johnston holds up a 3D printed owl feather. *WSU news release photo*



NASA grant enables WSU Team to study microbes

WICHITA--A \$377,000 NASA grant will allow Dr. Mark Schneegurt, professor of biology, and his team to study microbes likely to be carried by spaceships that are capable of living "on cold and arid world's and in the pressurized brines of ocean worlds" in outer space. "It's very important, if we're going to make a claim of life on another world, we're certain it came from another worlds. One of the easiest ways to mess up your experiment is to bring life from Earth." (photo credit: WSU)

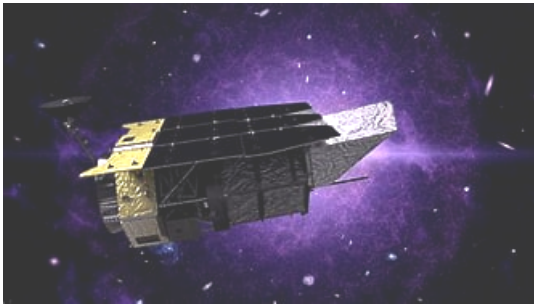
[Read more](#)



FHSU College of Education awarded NASA grants

HAYS--Dr. Janet Stramel and Dr. Paul Adams of Fort Hays State University have been awarded several NASA grants via the Kansas Space Grant Consortium to support teacher training and professional development in Western Kansas. The funding will enable a series of teacher workshops in the fall of 2023. The focuses will be middle school robotics, FHSU high-altitude ballooning and the upcoming solar eclipses. Image: FHSU press release

[Read more](#)



Sunlite tackles radiation

LAWRENCE--Space electronics have it tough. Size, weight and power are usually limited. Then add radiation, many a mission's death knell.

Sunlite Science & Technology, Inc. of Lawrence has been awarded a NASA SBIR 2023 Phase I award to develop a "radiation resistance enhanced High Voltage amplifier-array Integrated circuit (IC) that could be used in a space coronagraphic instrument", possibly such as the Roman Space Telescope scheduled for 2027. (image credit: NASA)

A coronagraph is a telescopic attachment designed to block out direct light from a star so that nearby objects can be observed. A key element is its "deformable mirrors" (DM) which flex in real time and compensate for tiny flaws or changes in the optics.

Sunlite's radiation-hardened amplifier-array IC could be used to build a DM driver for the coronagraph. This is Sunlite's third SBIR award addressing exoplanet detection and characterization technologies.

Source: NASA SBIR Phase I Awards 2023

UPCOMING EVENTS

July 29--AstronomyPalooza Learn about October's solar eclipse from the Kansas Astronomical Observers Club at the Topeka & Shawnee County Library. Free solar glasses. Go to [Information](#)

Now until August 13--Sunflower Summer-- statewide program allowing Kansas children grades pre-K through 12 to visit over 115 venues in Kansas for free. Go to sunflowersummer.org for information.

Now until September 10--"Mission Aerospace" exhibit at the Flint Hills Discovery Center in Manhattan. [Information](#)

August 19--Rocks and Rockets-- fun science outreach at the Colby Event Center, Colby, Kansas. 1-4 p.m. Free event. [Information](#)

August 26--Ad Astra Galaxy Forum--"Asteroids, EXO-planets & More" From 1-3 p.m. at the Cosmosphere in Hutchinson. Free. To attend,

send name /# of attendees to contact@adastra-ks.org. The forum will also be live on our Facebook page.

September 1-4--AirFest 29--Kloubusters High Powered Rocketry Event at Argonia (1 hour s.w. of Wichita). [Information](#)

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