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Summer 2025
Second Quarter

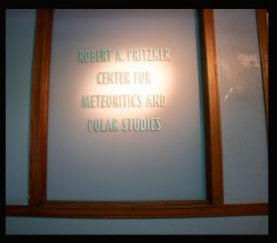
PSF NEWS

Planetary Studies Foundation

IN THIS ISSUE

PICTURE RECAP

FIELD MUSEUM: NEW "PRITZKER VALLEY" & ANTARCTIC SERVICE AWARD



More on pg. 4

ANNUAL

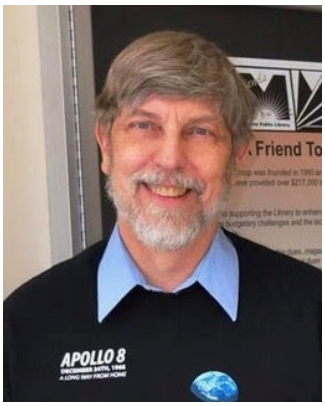
MEMBERS MEETING

Saturday, September 13, 2025 | 10:00 AM | Virtual

Vote for the newest PSF Board members

Insert included

PRESIDENT'S MESSAGE



The first half of 2025 saw your Planetary Studies Foundation very active in two main areas, our astronomical observing sessions and work on our remaining meteorite collection. I was very pleased to be able to attend the May 3rd Open House event at our Doug Firebaugh Astronomical Observatory in Freeport, Illinois. Director Jim Dole and his dedicated staff created several very interesting and informative displays for the public to enjoy. I was also pleased to meet three of our new student members, brothers Kenton and Michael Johnson, and Kyra Pontnack. These three individuals really impressed me with their basic love of science and enjoyment of astronomy. The daytime weather could have been better, but the nighttime sky cleared for some excellent viewing conditions. I am always amazed at the fantastic images our telescopes can provide from an essentially urban viewing site. Modern technology and a talented astronomical staff really make the difference in what can be achieved from a less than desirable viewing site. The regular observing season runs from May through October on the first and third Saturdays regardless of weather conditions. Informative programs are always presented rain or shine. At the other end of our astronomical world there is a celebratory event planned for the 35th Anniversary of the opening of the Karl G. Henize Astronomical Observatory at Harper College in Palatine, Illinois. The actual date has not been set, but it will most likely take place in late September or early October. Further details will be forthcoming. Your Planetary Studies Foundation was the driving force in the establishment of this excellent facility and PSF continues to support it in any way it can.

Now turning toward what's been going on with our meteorite activities. One would think that things should be slowing down since PSF transferred the remainder of its enormous collection to the Yale Peabody Museum (YPM) back in 2023. Well, that's not the case since there's more to a research collection than just the actual specimens. To classify a new meteorite, there is a certain procedure that must be followed to obtain the best results. The first step is to cut an appropriately sized slice from the larger specimen. This will then be sent to a special laboratory where they will prepare a probe section that will be used for the mineralogical analysis. The next step in this procedure is to send these probe sections to a facility that has an electron microprobe instrument that is best suited for this purpose. In our case, PSF is fortunate to work with Brown University and Washington University in St. Louis. Once all the mineralogical data has been collected, these microprobe sections come back to PSF's Chief Scientist, Dr. Tony Irving, for petrological typing and submission to The Meteoritical Society Bulletin for acceptance as an official meteorite.

PSF has been successfully analyzing and classifying meteorites and serving as a repository for research material since 1995. Although the vast majority of PSF's meteorite specimens are now at the YPM there was still one more component to be added to that collection. This would entail the over 1,200 electron microprobe sections used in previous analyses and the sample billets that were used to make the probe sections. In fact, these probe sections are more valuable than the actual large specimen since they are readily available to researchers for further study. Incredibly, after almost seven years these specimens have been finally inventoried and organized for future shipment. Still, that's not all, PSF has an ongoing group of new meteorites in various stages of classification and these too will eventually find their way to the YPM. PSF also has an enormous collection of unclassified NWA stone meteorites. These meteorites were once the property of PSF member, Conrad Wragg. His passion for acquiring meteorites eventually became a huge collection of all different types of meteorites from thousands of small ones to many very large specimens. In 2013, Conrad sold his entire collection to PSF Executive Board Member, Christina Hollis. Christina was also a lover of meteorites and wanted to protect Conrad's meteorites and make them available for scientific research. Through her affiliation with the PSF, Christina knew that the best place for these meteorites would be with our organization. Eventually, many of the more interesting meteorites were placed on exhibit at our Earth & Space Science Museum in Elizabeth, IL. For research purposes, over 150 stone meteorites were selected, analyzed, and classified to determine exactly what type of meteorites can be found in such a large group. The highlight was a very large and rare EL4 chondrite that now resides at the YPM. Thanks to Conrad Wragg for his dedication to the collection of meteorites and to Christina Hollis for her generous donation of this collection. PSF and YPM are very grateful for the opportunity to work with and preserve these specimens for future generations of scientists.

Paul P. Sipiera

DONOR'S SPOTLIGHT

General Operations Fund

Mr. and Mrs. Larry Fulfs*
Mike Sherman & Kevyn Sutter*
John & Jane Yoder**

Douglas Firebaugh Astronomical Observatory Fund

Lawrence Heinrich***

Meteorite Research Fund

Paul & Diane Sipiera**

* *Recognizes a donation of <$100*
** *Recognizes a donation of $100 to $999*
*** *Recognizes a donation of $1,000 & up*

MEMBERS' CORNER

New Members

Family Membership

Mike Sherman & Kevyn Sutter

Renewing Members

Life Membership

Dr. David Kahn

Family Membership

Mary Beth & Brett Stark
Mr. and Mrs. Larry Fulfs

Individual Membership

Michael L. Otte

PSF Member Honored for Contributions to Antarctic & Meteoritic Research

By: Ryan P. Nolan, PSF Treasurer

On April 17th, I had the opportunity to attend an event at the Field Museum honoring PSF Life Member, Jennifer Pritzker's, contributions to Antarctic & Meteoritic research. The event kicked off with the naming of "Pritzker Valley" in the Untersee Oasis region in Antarctica. The valley was named in commemoration of Jennifer and her organization Tawani Foundation's sponsoring of various scientific and research expeditions to the continent. As Jennifer took the podium to acknowledge the official naming of the valley, she also gave the PSF a shout-out, noting that she went to Antarctica twice with the organization, and specifically noting that it's a small organization that punches well above its weight.

Shortly after this, Jennifer presented the Antarctic Service Medal to Erin Solaro for her bravery and dedication to service during her multiple Antarctic expeditions.

After this presentation, there was a panel with Dr. Philipp Heck, Dr. John Bates, and Dr. Dale T. Andersen. Dr. Heck is the Robert A. Pritzker Curator of Meteoritics and Polar Studies at the Field Museum, Dr. John Bates is Curator of Birds at the Field Museum, and Dr. Andersen is a Senior Research Scientist at the Carl Sagan Center for the Study of Life in the Universe at the SETI Institute. The panel was moderated by Dr. Maria Valdes, Research Associate at the Robert A. Pritzker Center at the Field Museum. The panel was very exciting, Dr. Heck and Dr. Andersen discussed different methods of gathering and identifying potential meteorites in Antarctica, and they also detailed the exhaustive preparation required for their expeditions. Dr. Bates discussed how he was able to identify different genome sequences in penguins that were only 50km apart in Antarctica and the Falkland Islands.

After the presentations and the ceremony, I got to congratulate Jennifer and Erin on their respective commemorations/awards, and had the opportunity to get a tour of the meteoritic center with Dr. Valdes, Dr. Andersen, and other event guests. We got a behind-the-scenes look at many of the rare meteorites that they were studying, and learned about how they find micro-meteorites equally valuable to some of the larger meteorites. The Field Museum is also leveraging Machine Learning analytic tools to separate dust from micro-meteorites.

Overall the event was a big success, and I felt proud to represent the PSF at such a prestigious gathering.

Colonel (IL) Jennifer N. Pritzker, IL ARNG (RET.)

Ms. Erin Solaro

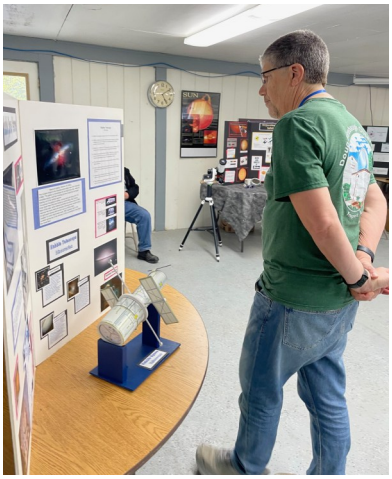
Panel discussion about the limits of exploration, advances, conservation, research, and what the future holds for scientific work in extreme environments.

PSF Life Member, Birgit Sattler, (right) & Dale Andersen

Firebaugh Observatory Open House

PSF Members, Tom Dunmore and Doug Firebaugh, near scale Moon / Earth distance display — Gary Gordon is at the Moon in the distance

PSF Member, Mike Otte, explaining radio meteors to new PSF Member, Kenton Johnson.



PSF Member, Gary Gordon, reviews Hubble Telescope display at the May 3rd Firebaugh Observatory Open House

All About Artemis

By: Avery Engle

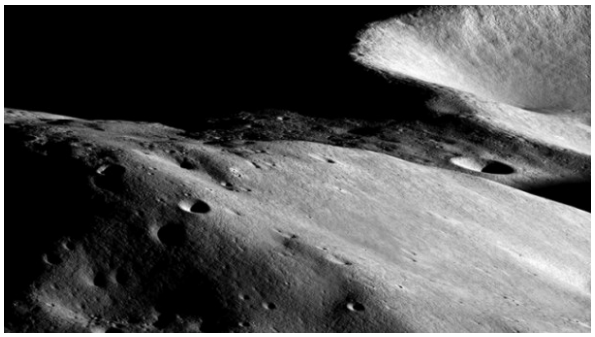
Avery is a student at Kansas State University, studying Animal Science on the Pre-Veterinary Path with a certificate in equine science. This summer, she will be lifeguarding, shadowing with local vets, and helping the PSF with various projects. She has always had a love for nature and astronomy.

The Apollo program was a major milestone in American history, and consisted of a total of eleven space flights, twenty one astronauts visiting the moon, and even more astounding — twelve actually walking on its surface. To think that the American people would be satisfied by just those accomplishments, is an underestimation of our country as a whole. We are constantly setting new goals and aiming to accomplish them, and NASA's Artemis Program is a great example of such. You may be wondering: *What is this program anyway, is NASA on track to completing it, and what does this program mean for the American people?* Fortunately, these questions will be unpacked, as we explore all about Artemis.

Uncoincidentally, Artemis is the twin sister to Apollo in Greek mythology. The goal of the program is to return humans to the Moon, and to establish a sustainable presence there. Through more advanced exploration of the Moon, NASA aims to develop technologies and capabilities that will enable future crewed missions to Mars. There are several key technological components to the Artemis Program, including:

- The SLS rocket (serves as the primary launch vehicle for crewed missions)
- The Orion spacecraft (to carry astronauts to and from lunar orbit)
- The Gateway lunar outpost (a space station orbiting the Moon, serving as a staging point for crewed missions)
- The Human Landing System (to transport astronauts from the Gateway to the lunar surface)

As you can imagine, this all requires abundant funding, which can impact the timeline of this program.



The Moon is a 4.5-billion-year-old time capsule

Artemis

Some may be surprised that the Artemis Program has been in the works for quite a while now, with Artemis 1 successfully launching on November 16, 2022. This mission was uncrewed to test the safety of the SLS rocket, and the Orion capsule's ability to reach the moon, perform in lunar orbit and return to Earth for an ocean splashdown. The Orion capsule returned to earth on December 11, 2022, completing its 1.4 million mile flight!

For safety reasons, the Artemis 2 mission (which was intended for May of 2024) will now take place no earlier than September 2025. This mission will carry the first four Artemis astronauts in the Orion capsule, and will take the crew farther from Earth than humans have ever traveled before. Over the approximately 10-day mission, the crew will complete a lunar fly-by, and evaluate the spacecraft's systems.

Artemis 3 is scheduled for mid 2027, and will see the next man and first woman step onto the moon's surface. Providing previous missions have been successful, the astronauts will shoot towards the moon, using the lunar lander to lower two people to the moon's south polar region. The brave man and woman will remain on the moon for around a week, truly testing human technology and creating a baseline on what technological changes will need to be made for future trips to Mars. Again, the price tag on each launch is substantially large, so cost and safety are huge factors in this program's success.

If this program is accomplished, another tremendous milestone in American (and human) history will be set, children will have passions of becoming astronauts again, and having dreams "too big" will be a thing of the past.

Out of anyone that can complete the Artemis Program, it would be the American people. People from every background collaborated to successfully achieve the Apollo program, how cool would it be for Artemis to be what unifies our country again? ♦

Hello PSF!

I am happy to provide a quick update on what I have been up to at MIT since beginning my Ph.D. in Planetary Science last fall. In my Ph.D. program students work on two projects in their first two years. At the end of my second year, I will write papers and give a presentation on both projects. This spring, I received Honorable Mention in the National Science Foundation (NSF) Graduate Research Fellowship Program, which I applied to with a proposal on my first project.

My first project (dissertation topic) investigates the paleomagnetic record of calcium-aluminum-rich inclusions (CAIs) in an Antarctic CO meteorite. During the birth of our solar system, a molecular cloud of gas and dust collapsed to form the proto-Sun and a protoplanetary disk, from which the planets accreted. Theory has predicted that magnetic fields may have played a significant role in accretion during this stage, but the extent of this role is still unknown due to a lack of robust measurements of field strength. My goal is to test the hypothesis that magnetic fields played a major role in early solar system accretion by measuring the paleomagnetism of CAIs, the oldest known solar system solids.

My second project involves iron isotope fractionation in Mid-Ocean Ridge Basalts (MORBs). MORBs are volcanic rocks produced at underwater mountain ranges where tectonic plates diverge. MORBs can record some of the chemical characteristics of the underlying mantle, but primitive MORBs have an unexpectedly heavy iron isotope composition when compared to the composition of the upper mantle. The process that causes this difference is still unclear, and my goal is to test some of the proposed mechanisms using isotope geochemistry experiments.

On a fun note, I had an opportunity to visit Morocco in March, where many Northwest African meteorites originate. Many of the markets where meteorites are sold were closed for the holy month of Ramadan, but it was an interesting trip nonetheless!

As always, I'm thankful for the time I spent at PSF – it gave me a strong foundation in meteoritics, which has been incredibly useful during the first year of my PhD.

Evelyn Larson

SUMMER CELESTIAL CALENDAR

July 28, 29 — Delta Aquarids Meteor Shower

This meteor shower is produced by dust particles left behind by comets Marsden and Kracht. The shower runs annually from Jul 12 to Aug. 23 and peaks on the night of the 28th. The crescent moon will make for darker skies. Best viewing will be from a dark location after midnight with meteors radiating from Aquarius.

August 9 — Full Moon

The Moon will be near its closest approach to the Earth and its face will be fully illuminated.

Did you know? Early Native American tribes called this the "Sturgeon Moon" because the large fish of the Great Lakes, and other major lakes, were more easily caught at this time of year.

August 12, 13 — Perseids Meteor Shower

Get ready for one of the best meteor showers to observe, producing up to 60 meteors per hour. The Perseids are famous for producing a large number of bright meteors. The shower runs annually from Jul. 17 to Aug. 24, and will peak on the night of Aug. 12.

August 23 — New Moon

The Moon will be located on the same side of the Earth as the Sun and will not be visible in the night sky. This is the best time to observe faint objects such as galaxies and star clusters because there is no moonlight to interfere.

September 7 — Full Moon

The Moon will be near its closest approach to the Earth and its face will be fully illuminated.

Did you know? Early Native American tribes called this the "Corn Moon" or "Harvest Moon" because corn/maize is harvested around this time of year.

Find more sky events by following us on our Facebook page.

MEMBERSHIP FORM

Regular Membership	____ $	20.00	1 year	**or** ____ $	35.00	for 2 years
Family Membership	____ $	35.00	1 year	**or** ____ $	60.00	for 2 years
Sponsoring Membership	____ $	50.00	1 year	**or** ____ $	90.00	for 2 years
Contributing Membership	____ $	100.00	1 year	**or** ____ $	180.00	for 2 years
Student Membership	____ $	10.00	1 year			
Life Membership	____ $	500.00				
Please accept this donation	____ $	_____				

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Phone: _____

Please make checks payable to
Planetary Studies Foundation

Please mail the membership form along with a check to:

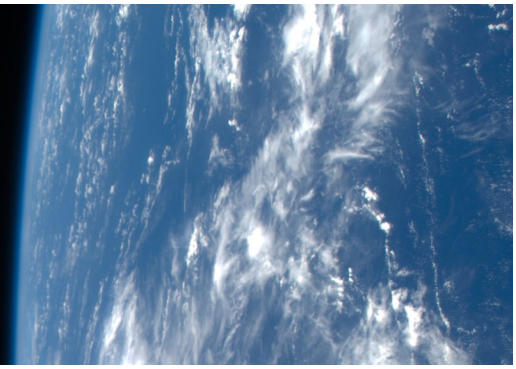
Planetary Studies Foundation
10 Winterwood Lane, Unit B
Galena, IL 61036

Our mission is to promote the study of planetary science and astronomy with an emphasis on meteorites; and to sponsor, encourage, and assist in the physical, astronomical, environmental, and cultural sciences so as to broaden man's knowledge of all phases of the universe.

For more information about our mission, articles and upcoming events, visit:

www.planets.org

ANNUAL MEMBER'S MEETING: SEP. 13 @ 10A CDT



Similar to last year, this year's Annual Member's Meeting will be hosted virtually on September 13th at 10:00 a.m. CDT. If you are interested in participating in the meeting, please send Andrea Nolan an email at amcplanets@gmail.com. We will then add you to a guest list and an email with instructions will be sent to you prior to the meeting. Please note: there will not be an opportunity to vote on the day of the meeting, so members who wish to cast their vote will have to do so through email or mail **by Friday, August 29th.**

Meet the 2025 Candidates for the Board of Directors

MARY BECKER

Mary taught astronomy and physics at Harper College in Palatine, Illinois and Northeastern Illinois University in Chicago for many years. She and her husband, Alan, recently moved back to the Chicago area from Boston where she was a WorldWide Telescope Ambassador out of the Harvard-Smithsonian Center for Astrophysics. She runs Starryboards, LLC which produces full dome planetarium shows. In the past, Mary worked at and wrote planetarium shows for the Cernan Space Center in River Grove, IL and the Adler Planetarium in Chicago. She was involved with the founding of the Planetary Studies Foundation, the Karl G. Henize Observatory on Harper College campus and the original proposal for the Harper College planetarium. Mary has been a member of PSF from the beginning. She researched meteorites with Paul Sipiera and hosted a cable Television program with Paul featuring Apollo 17 astronaut Harrison Schmitt.

JIM DOLE

"My wife Pam and I live in and are natives of Freeport, Illinois. I recently retired from IT support for a local manufacturing company. Astronomy has been a hobby for over 50 years and I now have a MS in both Computer Information Systems and Astronomy.

As the director of the Doug Firebaugh Observatory and teaching an online astronomy course for Appalachian State University, I'm very lucky to continue to share my passion for astronomy and promotion of science."

DOUG HICKS, PH.D., FNZSSS

"I am a geomorphologist resident in Auckland, New Zealand and was introduced to the Planetary Studies Foundation's activities during a visit to Illinois — for my friends Paul and Diane Sipiera's wedding in 1993! — and have been a member ever since. My early career working for the New Zealand government entailed analysis of aerial photographs and satellite images (1976 – 1982), moving on to hydrological and soil conservation surveys (1983 – 1993). As an independent consultant (1994 – 2018) I undertook soil surveys, land management and planning advice for government, commercial and private clients. Since retirement at the start of 2019 I have maintained a mentoring role for young soil scientists, which was recognised at end of 2024 by elevation to the status of a Fellow in the New Zealand Society of Soil Science. Membership of PSF has spurred my ongoing amateur interest in astronomy and planetary geology, so I welcome the chance to support our organisation's activities by continuing to serve on its Board."

YOUR VOTE MATTERS! Please use the ballot on the reverse side to cast your vote for this year's election of Directors. — OR — Cast your vote electronically (preferred) to amcplanets@gmail.com

Planetary Studies Foundation, 10 Winterwood Lane, Unit B, Galena, IL 61036

PSF 2025 ANNUAL MEMBER MEETING
BALLOT AND PROXY STATEMENT

Please either e-mail your ballot and proxy to PSF Executive Secretary, Andrea Nolan, at amcplanets@gmail.com or mail your response to:
10 Winterwood Lane, Unit B, Galena IL 61036

1. Election of Directors to the PSF Executive Board.
(The Foundation recommends a vote **FOR** all listed candidates):

	For	**Against**	**Abstain**
Mary Becker	___	____	____
Jim Dole	___	____	____
Doug Hicks, Ph.D., FNZSSS	___	____	____

2. Proxy Statement. In case of my absence from the 2025 PSF Annual Member Meeting, I hereby provide my proxy to (check only 1 name)

___ Joseph A. Auer, Jr., Chairman of the Board

___ Paul P. Sipiera., President and CEO

to vote on my behalf on all other matters brought before the 2025 PSF Annual Member Meeting that require such vote of the members. As of September 13, 2025, no other such matters have been identified for the 2025 Annual Member Meeting.

(Signature) _____

E-mail reply from your e-mail address listed with the Planetary Studies Foundation will constitute a valid substitute "electronic" signature.

Ballots must be sent in by **August 29, 2025.**