

Volume 32.1
Spring 2022
First Quarter

PSF NEWS

Planetary Studies Foundation

IN THIS ISSUE

PRESIDENT'S MESSAGE

PAGE 2

DONORS & MEMBERS CORNER

PAGE 3-4

MEMBER SPOTLIGHT:

CAROL DEHNBOSTEL

PAGE 5

5 THINGS TO WATCH IN 2022

PAGE 6

OBSERVATORY NEWS

PAGE 7

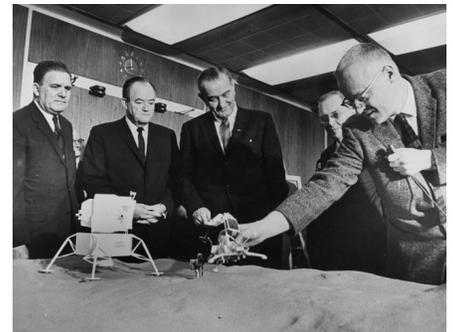
Did you miss the launch?

In late 2021, we launched our online newsletter to digitally bring you this publication, as well as additional news, articles and announcements. Please be sure to check your spam/junk folder or if you use Gmail, check the 'Promotions' tab. Once you locate the email, scroll to the bottom and be sure to click on "Add us to your address book" — so it can be delivered to your main inbox in the future.

JAMES WEBB: FROM SELF-DOUBT TO SPACE EXPLORATION

As the space and science community excitedly watch the findings from the James Webb telescope, our PSF team wanted to learn more about the man it was named after, especially those of us who may have been too young to know much about NASA in the 1960s.

President John F. Kennedy appointed James Webb as the administrator of NASA in 1961. While most people would assume that the person put in charge of leading the aerospace organization to success would be expert in space and science, Webb was not. In fact, he was reluctant at first. Webb notably said:



Webb (left) with VP Humphrey, President Johnson, and others at a NASA briefing in 1965

"I felt... I was not really the best person for this. It seemed to me someone who knew more about rocketry, about space, would be a better person."

Shortly after Webb's appointment, President Kennedy announced the goal of a manned mission to land on the moon by the end of 1968. With Webb in place, he would oversee the Apollo mission and prove to be exactly what the country needed for this massive effort.

As a former Marine, law school graduate, and committed public servant, his skillset would play a pivotal role for the program. Through his connections and ability to navigate the government, he managed to provide continued Congressional support and government funding for the NASA program. Webb was known for depoliticizing the Space Race and was insistent to both President Kennedy and Vice President Johnson that with him at the helm of NASA he refused to run a one-shot program.

Webb's vision saw continued investment into NASA's development of robotic spacecraft, which explored the lunar environment so that astronauts could do so later and led to scientific probes being sent to Mars and Venus. His program meant the U.S. was also able to provide the first ever view of the landscape of outer space and by 1965, he had already made plans for a large telescope to be deployed into space. This would later become Hubble.

Despite his devotion to the moon landing, he retired from his post at NASA just months before the moon landing took place in July 1969. He would go on to serve on several advisory boards, including as a regent of the Smithsonian Institution.

NASA has said that Webb's initial probe launches led to "more than 75 space science missions to study the stars and galaxies, our own Sun and the as-yet unknown environment of space above the Earth's atmosphere."

PRESIDENT'S MESSAGE

The first quarter of 2022 has been a relatively quiet one for your Planetary Studies Foundation, but not so for the rest of the world. Just when we were all hoping that the COVID-19 crisis was becoming more manageable, war had to breakout in eastern Europe. In today's world the actual fighting between two countries not only affects those people directly, but also in some way involves the entire world. Looking back into history the First and Second World Wars were global conflicts in both a geographical and cultural sense. For some countries, the immense distances between continents offered some sense of security, but that is no longer the case. Long range nuclear missiles, biological warfare, and cyber attacks know no geographical boundaries. Given all the natural disasters that climate change has brought upon humankind our world leaders must look beyond their personal needs to what future generations may inherit from our mistakes.

Although we cannot individually affect what will happen in the next few months in eastern Europe, we as a nation must show our unified resolve to defend everyone's human rights.

Putting the "gloom and doom" aside I am pleased to report on the progress of several PSF programs. Our main "bragging point" is still our meteorite research. We are currently involved in the classification of over 130 new stony meteorites. Although the majority are so-called "ordinary chondrites" how can any rock that is older than the Earth and came from between the orbits of Mars and Jupiter be called ordinary? In addition to those specimens are some very interesting achondrites (more like igneous rocks) that include two lunar meteorites. Growing up as a child it was never in my wildest dreams that I would one day be holding a piece of the Moon in my hands. I am also pleased to report that our efforts to establish an excellent meteorite exhibit at the Putnam Museum and Science Center in Davenport, IA are finally moving ahead. The same is also true for our transfer of meteorites to Yale University's Peabody Museum of Natural History in New Haven, CT that will hopefully take place later this year. Jim Dole, the Director of our Doug Firebaugh Astronomical Observatory in Freeport, IL reports that the observatory is being readied for another exciting May through October public viewing season.

This past February 8th your Planetary Studies Foundation marked its 33rd Anniversary. Who would have guessed that on 8 February 2022 the organization would have amassed a meteorite collection of over 2,200 distinct specimens, conducted three meteorite recovery expeditions in Antarctica and become affiliated with the Peabody Museum of Natural History? Let's not forget the over 40,000 people who enjoyed Diane Sipiера's presentations in our STARLAB planetarium. It is almost impossible to even guess how many people have been influenced by PSF's educational programs and nighttime astronomical observing sessions. Our success was made possible from the combined efforts of our professional staff, volunteers, financial supporters, and most of all our members. We can all take pride in the achievements of our organization and look forward to an even more rewarding future. Thank you all for your continued support.

Paul P. Sipiера



DONORS SPOTLIGHT

2021 End of Year Giving

Special Thanks to a \$1,000 donation by an Anonymous Donor

Children's Educational Programs

Ernst & Mary Jo Jolas
Richard & Ellie Leary
Carleton B. Moore
Herbert Windolf

Doug Firebaugh Astronomical Observatory

Leo & Karen Baran
Bonnie & Joseph Garrity
Richard & Ellie Leary

General Operations

Kate Butler
Richard & Ellie Leary
Marilyn Quas

Meteorite Research

Leo & Karen Baran
Bonnie & Joseph Garrity
Richard & Ellie Leary

Student Internship

Richard & Ellie Leary

First Quarter 2022 Contributions

General Operations

\$1,000 - \$3,000

Mary & Alan Becker
Paul & Diane Sipiera

Doug Firebaugh Astronomical Observatory

Jim Dole
Lawrence Heinrich
Michael Otte

Mary & Kevin Ramsden
Special Donation in Memory of Frank Netzel
A dear friend and neighbor who will not be forgotten.

MEMBERS CORNER

NEW MEMBERS

Family Membership

Zeke & Emily Winders

Individual Membership

Michael Gillig

Student Membership

Lilly Polster
Alexis Sanchez

RENEWING MEMBERS

Life Membership

Drs. James & Sandra Napolitan

Family Membership

Gary & Mary Jobjen
Max & Martha Purchis
Kevin & Mary Ramsden
Brett & Mary Beth Stark

Individual Membership

William Boike
Jim Dole
Lyle Johnson
Janet Moote
Michael Otte
David Smith
Ralph Winrich

A LITTLE ENCOURAGEMENT GOES A LONG WAY

Chase Dittmar was a regular participant of the PSF children's science programs growing up.

Dear Diane,

I made this candle using extra wax left over from a video I made for my YouTube channel, "Dry Creek Beekeeping" and I immediately knew that I wanted to give it to you since you had such a big impact on my life. You are basically my mentor and a very good friend! You encouraged me to become a scientist and gave me the knowledge to do so, as well. Enjoy this pure beeswax candle... it's smokeless and smells like honey!

Sincerely,
Chase Dittmar

Liz Scott was a summer Intern for the PSF children's science and history programs and a tour guide for the PSF Earth & Space Museum.

Paul and Diane,

I wanted to thank you both for hiring me to the best first job ever. I still use examples from my time spent there in interviews all the time. Graduation from [Missouri University of Science and Technology] will come in the Fall for me as I took a CO-OP last year, but I wanted to send this little note now in case things get really busy then. You helped me build the skills I will need to succeed and I really appreciate it.

Sincerely,
Liz Scott

MEMBER SPOTLIGHT: CAROL DEHNBOSTEL

Planetary Studies Foundation (PSF): Where did you grow up?

Carol Dehnbostel (CD): I grew up in the metro Detroit area, and moved to the Cadillac, MI area in 1989, when my job transferred me. I live about 25 miles southwest of Traverse City, out in the country where it is nice and dark for star gazing. I just have to watch out for wild animals – I had a skunk run near me one night. I took off quickly back into my garage. Bears are also a possibility. My neighbor has had some at his house, but so far I have only seen them while driving.

PSF: What was your profession and what inspired you to follow that career?

CD: I worked as an accountant in a manufacturing company. I would not say that I was inspired to do that. I started out as an electrical engineering major, but could not actually understand it, and I still can't. 😊 So I switched to a major where my credits would apply. It was an OK profession, but I would not say that I loved it.

PSF: Do you have a favorite area of science?

CD: I would say that I probably like astronomy the most. It is interesting because there are so many new things being discovered, such as all of the exoplanets. The Webb space telescope should provide a lot of mind boggling information.

PSF: We know you attended a Space Camp many years ago with Paul. What was your favorite aspect of that experience?

CD: I love the video of all of us in our well fitted jump suits. It was a fun team building experience and the locations that we visited were interesting.

PSF: Do you have any hobbies?

CD: Right now I mainly am involved in soaring and horse racing. I spent about 10 years doing adult figure skating, that I started when I was 48 years old. I was not very good, but I really enjoyed it, and went to several adult competitions in Michigan and Ohio.

I also own 5 Standardbred horses. They are harness race horses. Three are racing, one is a broodmare, and she has a yearling filly, whom I plan to race when she is 2 years old.

PSF: We also know that you are interested in gliders. What are they and what do you do?

CD: Gliders are also called sailplanes. They get towed by an airplane to whatever altitude the glider pilot wants to go to, usually 2 or 3 thousand feet above the ground, then the glider releases from the tow plane, and hopes to find rising air to stay up for as long as possible. Normally the glider sinks at around 200 feet per minute, so if you find air that is rising at more than that rate, you can climb and stay up a long time and possibly go for miles. I spend most of my time instructing, so I don't usually stay up long. My longest duration is 6 hours.

PSF: How did you become involved with the Planetary Studies Foundation?



PSF Member, Carol Dehnbostel (right)

CD: The foundation was formed shortly after the trip that I took to space camp with Paul. It was interesting to me, and I became one of the original members.

PSF: Where is your favorite place you have traveled and what makes it so memorable?

CD: New Zealand is definitely my favorite place. Very friendly people and good scenery. I went there in 2006 to fly gliders at Omarama on the south island and did some other sightseeing. I was too cowardly to do a bungee jump, although I drove past the place where they do it.

PSF: What advice would you give to our young readers and science enthusiasts?

CD: Find a subject that interests you, and study hard. ♦

5 Things To Watch in 2022



WHAT: Artemis I Mission Launch

WHEN: Anticipated to launch in May 2022

WHY: NASA's Artemis I moon mission will be the agency's first big step toward returning astronauts to the lunar surface. Artemis 1, formerly known as Exploration Mission 1, will be the first test flight of the agency's new Space Launch System megarocket and the Orion crew capsule. The first in a series of increasingly complex missions, Artemis I will be an uncrewed flight test that will provide a foundation for human deep space exploration, and demonstrate our commitment and capability to extend human existence to the Moon and beyond.



WHAT: NASA to Analyze 50-Year-Old Apollo 17 Moon Rock Sample

WHEN: Spring through Summer 2022

WHY: In 1972, precious lunar samples collected by astronauts Eugene Cernan and Harrison Schmitt were stored away. The agency knew that scientific advances in the coming decades would offer techniques available to study the rocks that were not available to scientists of the 1970s. Fifty years later, with the Artemis program hoping to send astronauts to the moon in 2025/26, officials determined now would be a good time to examine a sample from Apollo 17 using modern mass spectrometry technology to analyze what is there.



WHAT: Double Asteroid Redirection Test (DART)

WHEN: Between September 26 through October 1, 2022

WHY: The world's first full-scale mission to test technology for defending Earth against potential asteroid or comet hazards will impact a known asteroid that is not a threat to Earth. Its goal is to slightly change the asteroid's motion in a way that can be accurately measured using ground-based telescopes. The DART spacecraft will impact Dimorphos nearly head-on at a speed of 4 seconds per mile, shortening the time it takes the small asteroid moonlet to orbit Didymos by several minutes.



WHAT: Perseverance Mission Continues

WHEN: Throughout 2022

WHY: On Mars, the next phase of the Perseverance mission will continue its search for ancient microbial life. Scientists will deepen their understanding of the Red Planet as the Perseverance rover explores the delta that formed in Jezero crater billions of years ago from sediment carried by an ancient river that once existed in the crater. Plus, work continues on a future Mars Sample Return mission to collect the Martian rock samples Perseverance collected last year and deliver them to Earth.



WHAT: NASA to Launch Four Earth Science Missions

WHEN: Throughout 2022

WHY: 1) TROPICS will use six small satellites to provide improved and rapid measurements of tropical cyclones. 2) EMIT will trace the origin and composition of mineral dust that can affect climate, ecosystems, air quality, and human health with an imaging spectrometer aboard the International Space Station. 3) NOAA's JPSS-2 will help scientists predict extreme weather conditions, including floods, wildfires, volcanoes, and more. 4) SWOT will evaluate the world's oceans and their role in climate change, as well as monitor lakes, rivers, and other surface waters.



Season Opening May 7

2892 W Stephenson Street
Freeport, Illinois 61032

- The Doug Firebaugh Observatory in Freeport, IL will open for public observing May 7th at 8 p.m. and continue the 1st and 3rd Saturday of each month through October.
- In conjunction with the first public night, the observatory will host its Annual Open House starting at 6 p.m.
- The observatory will host a 6-week “Starting Out in Astronomy” class May 4th to June 8th from 7-9 p.m. Register at the Freeport Park District website.
- You can find more information about all these events at the Doug Firebaugh Observatory Facebook page.

TAKE THE SURVEY!

PSF MEMBERS NIGHT AT KARL G. HENIZE OBSERVATORY — PALATINE, IL

The PSF team is working with Kelly A. Page, Ph.D, Professor of Physics and Astronomy at Harper College to host an evening of telescopes and stargazing for our Chicagoland members. We want to select a date that works best for those who are interested, so please take the survey [here](#) if you’re reading the newsletter online or contact Andrea Nolan (amcplanets@gmail.com) for a link.



SPRING CELESTIAL CALENDAR

April 16 — Full Moon

The Moon will be located on the opposite side of the Earth as the Sun and its face will be fully illuminated.

Did you know? This full moon was known by early Native American tribes as the Pink Moon because it marked the appearance of wild ground phlox which is one of the first spring flowers.

April 22, 23 — Lyrids Meteor Shower

The Lyrids is an average shower producing about 20 meteors per hour at its peak. It peaks this year on the night of the 22nd. These meteors can sometimes produce bright dust trails that last for several seconds. Best viewing will be from a dark location after midnight.

April 29 — Mercury at Greatest Elongation

This is the best time to view Mercury since it will be at its highest point above the horizon in the evening sky. Look for the planet low in the Western sky just after sunset.

May 6, 7 — Eta Aquarids Meteor Shower

The Eta Aquarids is an above average shower capable of producing up to 60 meteors per hour at its peak. It is produced by dust particles left behind by Halley’s comet which has been observed since ancient times. This year the shower will peak on the night of May 6th. Best viewing will be from a dark location after midnight.

May 16 — Full Moon

The Moon will be located on the opposite side of the Earth as the Sun and its face will be fully illuminated.

Did you know? This full moon was known by early Native American tribes as the Flower Moon because this was the time of the year when

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 ___ \$ _____

Name: _____
 Address: _____
 City: _____
 State: _____ Zip Code: _____
 Email: _____
 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 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
 and upcoming events, visit:

www.planets.org



In addition to donations and dues, you can help contribute to the PSF by participating in Amazon's charitable program.

- **SELECT THE PSF:** Search Amazon Smile and select the Planetary Studies Foundation as your charity.
- **START SHOPPING:** Be sure to start each purchase at smile.amazon.com and the PSF will receive .05% from all eligible purchases. You can bookmark the webpage to make sure you don't forget this important step.
- **SPREAD THE WORD:** Encourage your family and friends to choose the PSF, too. Amazon earned over \$386 billion in net sales in 2019 alone — help us receive a tiny piece of that pie! — it's free to you and helps us earn valuable funds.