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PSF MEMBER INVOLVED IN JAPANESE ASTEROID SAMPLE RETURN MISSION

BY EVELYN LARSON

On December 6, 2020, a tiny "treasure box" made a fiery entrance into Earth's atmosphere before gently coming to a rest in the Australian desert near Woomera. The precious treasure in question is a capsule ejected from the Hayabusa2 spacecraft on its way by Earth containing a sample of the carbonaceous asteroid 162173 Ryugu, which was collected by the Japan Aerospace Exploration Agency (JAXA) in 2019.



The capsule contains two chambers with samples from the surface of Ryugu: Chamber A contains surface particles collected on Hayabusa2's first touchdown on the surface, and Chamber C contains possible subsurface particles puffed up during Hayabusa2's artificial crater experiment. In total, about 5 grams of material were returned.

This event will be especially interesting to PSF members, because long time PSF member Trevor Ireland had the distinction of being the sole international observer in the recovery helicopter charged with locating the capsule after its landing. Although there were as many 70 Japanese scientists in Woomera tracking the capsule using radar as it made its descent, there were a multitude of factors that could have impeded their ability to find the capsule. Luckily, the weather was clear, and it only took a short time for the recovery team to locate the 16-inch wide capsule exactly as expected in the planned landing area.

The Ryugu sample is especially important to planetary scientists because it is a C-type asteroid, meaning that it may contain organic material from the outer solar system that could reveal clues about how water and life-sustaining organic materials originally made their way to Earth.

The samples are being processed by Japan's Extraterrestrial Sample Curation Center. JAXA and NASA have agreed to trade a small amount of the Ryugu sample and the Bennu sample that NASA's OSIRIS-REx mission will return in 2023, since the two missions have similar science objectives. Meanwhile, the Hayabusa2 spacecraft will continue on to do flybys of two more asteroids using its remaining propellant.

You can find out more about Hayabusa2 and see images from the mission at:
hayabusa2.jaxa.jp/en/

PRESIDENT'S MESSAGE

As the First Quarter of 2021 comes to an end there seems to be a “ray of sunshine” appearing on the Planetary Studies Foundation’s horizon. With several vaccines already being distributed to an ever-increasing population there seems to be much to hope for over the next few months. This past year has been one of the most difficult times we have had to deal with over our 32-year history. We entered 2020 with grand plans about creating an exciting educational display featuring meteorites and Antarctic science at the Putnam Museum in Davenport, Iowa, but the COVID-19 pandemic made its future uncertain. State-wide museum closings and restrictions on public gatherings forced us to cancel all our plans for the Doug Firebaugh Astronomical Observatory and other observing dates. Public visits to our 1876 Banwarth House & Museum were also cancelled until future notice. In an effort to deal with this uncertainty, your PSF Board of Directors decided to concentrate our energy and resources in areas that we were able to control. This would include needed repairs and maintenance on the Banwarth House & Museum and an updated inventory on the 1,500 meteorites in the PSF Collection. Thanks to the efforts of Evelyn Larson, our assistant curator of meteorites, we now have an accurate assessment of the number and significance of the meteorites in our collection. I am also proud to report that we are still receiving a large number of new meteorites for classification and research purposes. As 2020 finally came to an end we can look back on this totally unexpected year with a positive spin. It gave us the opportunity to step-back and evaluate our priorities, and look to a future that is different from the past, but certainly as exciting and rewarding as we can imagine.

Our plans for 2021 basically remain the same as last year. We look forward to working with the Putnam Museum to create that wonderful display and to support their educational programs with books and meteorite specimens. Over at the Firebaugh Observatory Jim Dole and his staff are anxious to “get back to business” with their observing sessions and educational programs. The first quarter of 2021 has already seen a major accomplishment in a new design and change in the format of the PSF website. Thanks to the efforts of PSF members Liz and Evelyn Larson they have provided us with an updated look and more comprehensive website to reflect all aspects of our organization. I am also pleased to report that we have already received over 20 new meteorites to classify and add to our ever-growing collection. One of these meteorites is particularly interesting and will be studied at Yale by Evelyn Larson and supervised by Dr. Tony Irving. If all the research can be completed in time, then Evelyn hopes to present the data in her first scientific paper at this year’s Meteoritical Society Meeting in Chicago, IL.

Looks like a pretty good beginning for the year and hopefully it will carry-on into the following months. My sincere thanks to everyone who contributed to the 2020 Year End Campaign. Those contributions are much appreciated and will be used to support this year’s needs.

Paul P. Szipiera



WELCOME TO OUR NEWEST PSF MEMBER

Paul & Diane Szipiera are pleased to announce the addition of their new grandson and newest PSF member. Their daughter and son-in-law, Andrea and Ryan Nolan, couldn't be happier.



Roc Nolan
December 28, 2020
10:31 a.m.
9 lbs 11 oz
21.5 in

DONORS SPOTLIGHT

- 2020 YEAREND ANNUAL FUND -

1876 Banwarth House & Museum

Anonymous****
Max & Martha Purchis

Douglas Firebaugh Astronomical Observatory

Harriet Stauffacher
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Paul & Diane Sipiera***
Linda Virag*

Meteorite Research

Loren & Evelyn Acton*
Jerry & Elena Marty*
Joan & Larry Reylek

- SPRING 2021 DONATIONS -

Douglas Firebaugh Astronomical Observatory

John & Susan Walt*

General/Operations Fund

Mary & Alan Becker***
Paul & Diane Sipiera***

* Recognizes a donation of \$100 to \$499
** Recognizes a donation of \$500 to \$999
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RENEWING MEMBERS

Contributing Membership

Kate Butler

Individual Membership

Eugenia Krzyzanski
Dave Smith

Family Membership

Dino Milano & Ellyn Tsagaris
Ramon & Nancy Ricondo

MEMBER SPOTLIGHT: Bill & Mary Sue Coates

Bill & Mary Sue Coates have been members of the Planetary Studies Foundation since 1992. They met Paul & Diane Sipiera through the Explorers Club in Chicago and instantly made a connection through their love of nature and the sciences. They attended many PSF Fundraising Dinners in support of our mission and have been members of the organization for nearly 30 years.

Where did you grow up and how did you meet?

Both: We are both Midwesterners. Mary Sue grew up in Ann Arbor, MI and Bill grew up in Wilmette, IL. We met at the University of Michigan.

Bill, before retiring, what was your career and how did it lead to outside interests?

Bill: After studying actuarial science at Michigan, I began working at an insurance company in the special risks department. One day a man came in wanting to buy liability insurance for the Chicago Mountaineering Club. I turned down his request, but was amazed by the club's existence and activities.

I loved the little I knew about the mountains and outdoor camping. I asked where and when the club met and soon afterwards, I joined the club. I ended up not only selling insurance to the Club, but by joining the club, I met other climbers and participated in local climbing activities at Joliet quarries, Mississippi Palisades and Devil's Lake, Wisconsin. Since then, we alternated our vacations between the mountains and the ocean to fulfill Mary Sue's love of the sea. Some years we even went to both areas. We also explored abroad to expose the children to foreign travel.

Where did your mountain climbing adventures take you?

Bill: In 1967, with other members of the Chicago Mountaineering Club, we became one of the earliest, non-scientific groups to climb Mt. McKinley (Denali). On the

trip we taste-tested freeze-dried food which was to be used by NASA for their upcoming Moon Shot. (Most of us thought the food was too dry and took too long to prepare. I thought it was O.K.) As I recall, we averaged about 5500 calories per day.

Because weather conditions can change very quickly for the worst on Mt. McKinley, on the way up the mountain we were required to furnish a series of camps with adequate supplies of food and equipment to assure safety. To do that, we took 17 days climbing up, but only two days coming down.

Mary Sue, how did you become interested in geology?

Mary Sue: I think sometimes there are symptoms of interest in small children. I remember as a child collecting black sand containing magnetite and cutting tiny garnets out of the rocks in a stone fence beside our house. Then in ninth grade I took an Earth Science class and loved it. I asked the teacher when I could take some more and he said "Not till you get to college."

Did you end up studying geology in college?

Mary Sue: After one year at Michigan, I transferred to Bryn Mawr College in Pennsylvania where I finally rediscovered geology and majored in it. After college I moved to Chicago and got a job as Secretary in the Geology Department at the Field Museum for one year, before moving to a better job for four years with a small geological consulting firm. After having three children, I returned to



Mary Sue and Bill Coates

college to get my Master's degree in Geology at Northwestern University.

Did you work as a Geologist?

Mary Sue: After Northwestern I worked at Harza Engineering Company as a geologist for 20 years. It was a consulting engineering firm which designed large hydroelectric projects and other water-related projects all over the world. I also did a lot of work on the Tunnel and Reservoir Project (TARP) in Chicago.

What year were you inducted into the Explorers Club and how were you chosen?

Mary Sue: Another Harza project led to my becoming an early female member of the Explorers Club (FN82). It was geologic exploration for a pumped hydro-storage project, a method of generating electricity by dropping water from an upper reservoir, usually on a mountaintop, into a lower reservoir in a valley. As we did not have a mountain nor a valley in the project area, the water was to drop from the flat-ground surface of the upper reservoir down

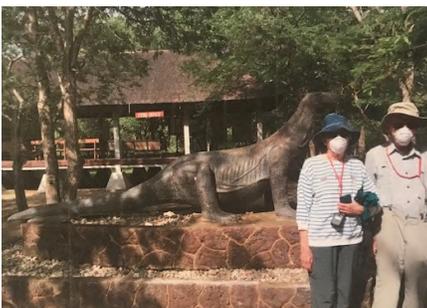
a mile-deep shaft into a lower reservoir excavated out of granite. The project probed the limits of knowledge of each of the geologic and engineering disciplines utilized. In the end the project was never constructed, but the concept was novel.

What other vacation adventures were especially interesting?

Both: Summers were very important to us. While our kids were young, we camped and climbed at Devil's Lake, Wisconsin almost every other weekend, sometimes varying the schedule with foreign travel. Later we became trekkers and cruisers, eventually visiting all 50 states and all seven continents.

Are there any trips that stand out as especially memorable?

Both: Another fascinating trip was a bicycle trip — not a short, local trip, but cycling 400 miles in Vietnam. There, on bicycles, we competed for space on the dusty main highway, crowded with trucks and buses, from Hanoi to Ho Chi Minh City (an exciting adventure). Other trips that are special favorites were rafting in Alaska, trekking in the Himalayas and Patagonia, climbing in Canada, Peru and Ecuador (for Bill), and



Mary Sue and Bill with a statue of a Komodo dragon on Komodo island (top) and a living Komodo dragon (bottom)

cruising in the Antarctic and Indonesia.

On your most recent trip you got to see Komodo Dragons in their native habitat, Komodo Island in Indonesia. What was that experience like?

Both: Although our most recent trip was disrupted and rearranged because of Covid-19, we did get to Komodo Island in Indonesia where we watched a group of Komodo dragons at a favorite resting place by a small creek. They are large, impressive animals standing about ten feet tall and weighing up to 350 lbs.

In retirement, both of you spent many years volunteering. Where did you volunteer and what did you do?

Mary Sue: I volunteered for 26 years in the Geology Department at the Field Museum, returning to the location of my first job out of college. I guided visitors through the geology exhibits and worked in the paleontological and meteorite collections.

Bill: I volunteered as a docent at Brookfield Zoo for 18 years and in the Plant Clinic at the Morton Arboretum for 12 years.♦



SPRING CELESTIAL CALENDAR

April 22, 23 — Lyrids Meteor Shower

The Lyrids is an average shower, usually producing about 20 meteors per hour at its peak. Meteors will radiate from the constellation Lyra, but can appear anywhere in the sky.

April 27 — Full Moon, Supermoon

May 6-7 — Eta Aquarids Meteor Shower

In the Northern Hemisphere, the rate can reach about 30 meteors per hour. Best viewing will be from a dark location after midnight

May 17 — Mercury at Greatest Eastern 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 26 — Full Moon, Supermoon

May 26 — Total Lunar Eclipse

The eclipse will be visible throughout the Pacific Ocean and parts of eastern Asia, Japan, Australia, and western North America.

June 10 — Annual Solar Eclipse

A partial eclipse will be visible in the northeaster United States, Europe and most of Russia.

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|| **BACK PAGE**

REMEMBERING JIM PETRI, HARRIET STAUFFACHER

JIM PETRI — PSF’s First Chairman of the Board

Jim first became involved with PSF in its infancy and was elected as PSF’s first Chairman of the Board in 1991.

His positive attitude and varied experiences allowed him to bring creative ideas and keen business approach to the Board of Directors. With his passion for aviation and space through his career at United Airlines, he was the perfect fit for the young PSF. He and his wife attended numerous



Jim Petri

fundraising dinners and were loyal supporters of the organization.

Jim would have been 87 years old on March 30th. He will be remembered as a devoted family man, US Army Veteran, 45-year employee of United Airlines, strong regional advocate, and longest serving elected official in Elk Grove Village history. He will be missed by many.

HARRIET STAUFFACHER — Mother-in-Law to PSF Director, Jim Dole

Harriet became involved with the PSF through her daughter and PSF member, Pam Dole, and son-in-law, Jim, Co-Director of the

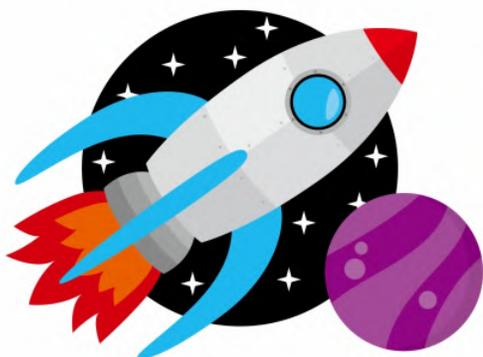
Douglas Firebaugh Observatory. Harriet turned 90 this past July.

She was a loving wife, mother and Veteran of the Women’s Air Force (WAF) — enlisting against her brother’s



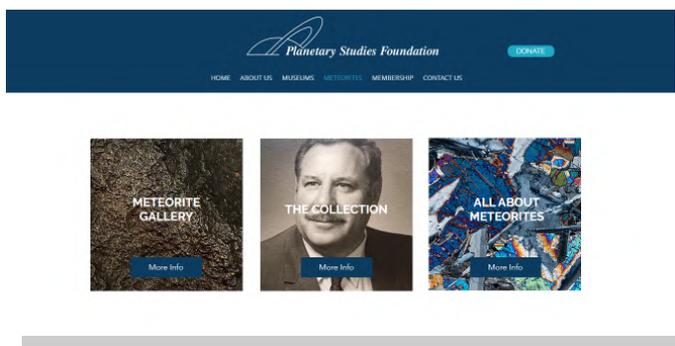
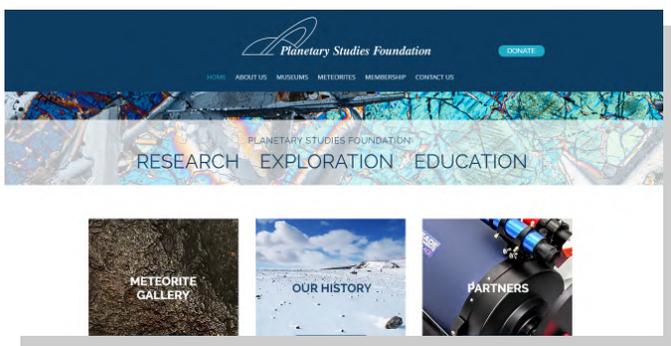
Harriet Stauffacher

wishes — and the first female Air Traffic Control Instructor in the WAF. On behalf of the entire PSF Board, we give our condolences to Jim, Pam and their entire family. She will be dearly missed by all.



OUR NEW WEBSITE HAS LAUNCHED

Visit www.planets.org to experience our new and improved site including an all new meteorite gallery.



BLAST FROM THE PAST



Left to right: Andrea Nolan (Cosentino), Bob Renguso, Diane Sipiera, Joe Auer, Paul Solarz and Bruce Dod at a past PSF Board meeting



Left to right: Paul & Diane Sipiera, Astronaut Owen & Eve Garriott, Astronaut Loren & Evelyn Acton on the 1998 PSF Solar Eclipse trip to Aruba



Left to right: Bill & Claudia Gruber with Skylab III Astronaut, Jack Lousma at the 2007 PSF fundraising dinner



Left to right: Skylab III Astronaut, Jack Lousma and PSF Member Jan Buedel at the 2007 PSF fundraising dinner



Left to right: Skylab III Astronaut, Jack Lousma and PSF Chairman of the Board, Joe Auer at the 2007 PSF fundraising dinner



Left to right: Caroline Sipiera, Maddie Havlik, Paula Feiner (Sipiera) and Katie Havlik helping out at the 2007 PSF fundraising dinner



Left to right: PSF members Joan Reylek and Frank Stokes at a PSF fundraising dinner

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
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 Student Membership ___ \$ 10.00 1 year
 Life Membership ___ \$ 500.00
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Doug Firebaugh Observatory

& 1876 Banwarth House & Museum



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