



# GRAA NEWSLETTER

P.O. Box 1184, Greenbelt, MD 20768-1184

April 2024 <https://goddardretirees.org> 40th Year of Publication

**UPCOMING LUNCHEONS:** NOTE: the April luncheon is delayed to Tuesday, April 16 due to the solar eclipse on April 8<sup>th</sup>. Normally, we meet at 11:15 AM on the 2<sup>nd</sup> Tuesday of each month at the American Legion Post #136 at 6900 Greenbelt Road. **Reservations are required;** please contact [graalunch@gmail.com](mailto:graalunch@gmail.com) (preferred) or call (410)-709-8889 before **Thursday, April 11th.**

April 16		<b>Tom Bridgman.</b> NASA's Scientific Visualization Studio. Global Science & Technology, Inc. <b>"Visualizing the Heliosphere".</b>
May 14		<b>Keith Noll.</b> Planetary astronomer in Goddard's Planetary Systems Laboratory; <b>Lucy's mission to the Jupiter Trojan asteroids.</b>

## COMMENTS FROM TONY COMBERIATE AND ARLIN KRUEGER

Our March speaker was **Nickalaus Pinkine**, the Johns Hopkins University, Applied Physics Laboratory's Parker Solar Probe's Mission Operations Manager. Nick's presentation entitled **"Parker Solar Probe Mission Operations Challenges during Commissioning and Beyond,"** described the Parker Solar Probe (PSP) Mission and gave us an insight into this unique mission's path toward our Sun. The concept of a mission to understand the corona and solar wind dates to the beginning of NASA. Multiple decadal surveys have prioritized determining why the solar corona is much hotter (1 million °C) than the photosphere (6,000 °C), and how the solar wind is accelerated.

PSP was launched on August 12, 2018, aboard a Delta IV Heavy rocket and a Star 48BV solid rocket to make in-situ measurements inside the solar corona. In 88-day orbits around the Sun, the first closest solar approach (perihelion) was ~15 million miles, then has been sequentially lowered using seven Venus gravity assist flybys. On March 30, the 19th orbit will begin with a perihelion less than 4 million miles from the Sun's surface.

The PSP instrument suite includes a Fields Experiment (FIELDS) with four electric field instruments and three magnetometers; the Integrated Science Investigation of the Sun (ISOIS) with low and high energy solar particle sensors; Wide Field Imager for Solar Probe (WISPR), a

coronal white light imager; and Solar Wind Electrons Alphas and Protons (SWEAP) investigation, a side facing solar wind ion sensor. A 4.5" thick carbon-composite sun shield protects the instruments from extreme heating conditions. The solar panels are actively cooled but still must be retracted near the Sun. Maintaining proper spacecraft temperatures makes this mission even more difficult than many outer planetary missions.

The first 48 hours of the mission provided some extreme challenges for Nick and his operations team. When the magnetometer was deployed on its long arm on Day 2 real-time contact was lost due to a large attitude perturbation. The very next day, real-time telemetry was lost again when switching to a redundant Guidance & Control Unit. Real-time control was lost again on Day 48 when flight software dropped a command during a pre-burn sequence. On Day 50, a solid-state recorder buffer overflow caused a switchover to the redundant processor. On Day 53, during the first Venus closest approach, Venus being in the field of view of a sun sensor caused a switch to the redundant Operations Mode. A supporting ground station went red the following day during the last post-Venus downlink. The Ops team resolved each of these problems quickly while keeping the spacecraft on course for its historic mission and delivered groundbreaking data during the 18 orbits (so far), resulting in all mission requirements being satisfied. PSP has already broken its record for operating closest to the sun and the highest heliocentric velocity, with a closer approach yet to come.

PSP was named for Dr. Eugene Parker, who pioneered our modern understanding of the Sun and developed the mathematical theory to predict the solar wind. Parker was the first person to witness the launch of a spacecraft with his name. Dr. Parker died in 2022 at the age of 94.

**NEWSLETTERS**. Send your **email** address to [goddardretirees@gmail.com](mailto:goddardretirees@gmail.com). to get our monthly Newsletters. Past Newsletters and links to videos of the talks are on our website <https://goddardretirees.org>. **Quarterly abstracts** of the Newsletters are mailed to the retirees with *only* residential addresses in our files.

#### **ELECTION OF GRAA BOARD OF DIRECTORS:**

The election of the seven GRAA Board of Directors is scheduled for the **May 14, 2024** luncheon. We strongly encourage GRAA members to nominate a willing GRAA member or themselves to be included on the ballot. Up to two Board positions may be open. Please email [goddardretirees@gmail.com](mailto:goddardretirees@gmail.com) with the names to be added to the ballot **before Tuesday, April 15**. If you value GRAA and its contributions to maintaining Goddard's legacy, please consider running for the Board.

Serving on the Board is only one of several ways to help. Other needed service areas include recruiting new retirees, editing the GRAA Newsletter and Directory, improving the GRAA website, and maintaining membership records.

**GRAA MEMBERSHIP DIRECTORIES**, updated every 2 years, are mailed to all members with their home addresses in our files. For privacy reasons only hardcopies are available. We depend on

retirees to furnish their listed addresses to receive the Directory. Please send your **address**, as well as **donations** to support the mailings, to **P. O. Box 1184, Greenbelt, MD 20768-1184**.

**TREASURER'S REPORT:** Treasurer Jackie Gasch received donations from Joann & David Clark, and Robert Lively.

**FROM THE GODDARD ARCHIVES:** On April 2, 1998, a Pegasus XL launched TRACE (Transition Region and Coronal Explorer) to look at the connection between fine-scale magnetic fields and grand-scale solar plasma structure. It provided scientific data for 12 years.

**REMEMBERING OUR FORMER COLLEAGUES:**

**Vincent Briani** (aka Vincent Brown), 92, died at his Crofton, MD home on December 23, 2023. Vince was born on February 13, 1931, in Fostoria, OH and served in the Navy from 1951 to 1954, before coming to Goddard, where he worked on satellite communications systems for the Microwave Instrument and RF Technology Branch for 50 years before retiring.

**H. Wayne Brittingham**, 77, passed away at his home in Parsonsburg on August 27, 2020. He was born in Salisbury, MD, and served in the US Air Force for nine years in Germany and Vietnam, before coming to Goddard. He worked in the Code 500 Mechanical Systems Center as an Aerospace Engineering Technician and retired in 2005 with 25 years of service.

**Julianne "Julie" Patterson Catloth**, 78, of Bowie, Maryland passed away peacefully at Johns Hopkins Hospital on Tuesday, March 19, 2024. Julie was born on May 23, 1945, in Washington, DC. She worked in the Systems, Technology, and Advanced Concepts Directorate until she retired in 2006.

**Jane Len Carpino**, 100, of Lanham, MD, passed away peacefully on March 6, 2024. Born on August 11, 1923, in Ambridge, PA, she was a Records Manager for Goddard until her retirement in 1991. She was married to Goddard's Frank Carpino for 47 years when he passed away in 1997.

**Anthony D. Fragomeni**, 91, died on November 26, 2023. He worked on Delta rockets in the 1970s, was the Observatory Manager of the Cosmic Background Explorer (COBE), and Associate Chief of the Systems Engineering Office at Goddard prior to his retirement.

**Frederick C. Gross**, 92, passed away on January 9, 2024 in Terrace of Tuckerman in North Bethesda. He was born in Nashville, TN on June 25, 1932, came to Goddard in the late sixties and was assigned to the Materials Engineering Branch where he worked for 31 years. Fred was well known throughout the in-house and off-site projects as a failure analyst, reviewing spacecraft materials, and materials recommendations. He retired in 1998, and then worked for 15 additional years for on-site contractors.

**James E. Guthrie, Jr**, 92, of Annapolis, Maryland died March 16th peacefully in his home. Jim was born December 18, 1931, in Kansas City, Missouri, and enlisted into the US Navy where he served for four years as a Fire Control Technician on destroyers and the battleship USS Missouri. He then worked at the Naval Research Laboratory before transferring to the new Goddard Space Flight Center in 1959 as a technician. In his lengthy career, he worked on ninety-one rocket launches, six satellites, and two space shuttles doing various experiments and technical support. He happily retired at the age of 55. Services will be held at the Hardesty Funeral Home (851 Annapolis Rd, Gambrills, MD 21054) on Monday, April 8<sup>th</sup>, 2024 beginning at 10:30 AM. Military honors will be held at 1:00 PM at the Maryland Veterans Cemetery (1122 Sunrise Beach Rd, Crownsville, MD 21032).

**James Letroy Head**, 84, of Taneytown, died on Thursday, March 7, 2024. Born February 17, 1940 in Madill, OK, James spent 35 years working at Goddard in the EOS Program Office and was an avid science fiction fan. James' sense of humor was legendary.

**William Brian Keegan**, 83, died of cardiac arrest on March 12 in Baltimore. He was born in the Irvington neighborhood of West Baltimore. After earning a degree in physics at Loyola College, he began his career at Goddard in 1966 as a structural engineer. In 1986, he was selected as the Deputy Director of Flight Assurance at Goddard. In 1994, he became the Deputy Director, then Director of Applied Engineering and Technology in 1997 until he was appointed Chief Engineer in 2000. Brian retired from NASA in March 2002.

**Judith Lokerson**, 84, of New Carrollton, MD passed away peacefully on February 23, 2024 following a brief illness. She was the beloved wife of Goddard employee, Donald C. Lokerson for 57 years, whom she met in Chemistry class at GW University in Washington, DC. Judy was thrilled to be married to her 'Rocket Man' and worked closely with his interests. When Donald developed FSH Muscular Dystrophy, they joined a support group and attended many conventions. After Don died, Judith attended GRAA meetings for years. Her memorial service will be held at the Church of the Epiphany, 1317 G St., NW, Washington D.C. 20005 on Sunday, June 2, 2024 at 12:30 pm.

**Stuart Kenneth "Buddy" Matthews**, 95, died on March 7, 2024 passed away on Thursday, March 7, 2024 at Commonwealth Senior Living in Onancock, VA. Buddy was born December 31, 1928 in Hopeton, VA. He served in the United States Army during the Korean War and subsequently worked in Code 840 NASA GSFC Wallops Flight Facility Range Optical Systems Group, serving as a NASA photographer, for 42 years until his retirement.

**William "Bill" McGunigal**, 93, of Silver Spring, MD, died on February 12, 2024. Bill was born on July 27, 1931. He worked at Goddard as a technician in the Microelectronics and Signal Processing Branch (Code 564) and retired at age 70 around 2001.

**Theodore "Ted" Clifford Standish, Jr.**, 76, of Clinton, Massachusetts, died suddenly at home on January 26, 2024. Ted was born in New York City on June 15, 1947 and graduated from Williams College in Williamstown, MA, in 1969 with a Bachelor of Arts in Physics. He worked for both

NASA and the EPA. One of Ted's proudest moments was working on the Apollo 11 mission that landed men on the moon in July 1969.