# *GRAA NEWSLETTER*

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

***November* 2024 https://GoddardRetirees.org 40th Year of Publication**

**UPCOMING LUNCHEONS**: We meet at 11:15 AM on the 2nd Tuesday of each month at the American Legion Post #136 at 6900 Greenbelt Road. **Reservations are required;** please contact graalunch@gmail.com (preferred) or call (410)-709-8889 **before Thursday, November 7.**

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| November 12 |  **Dave Mitchell**, Agency Chief Program Management Officer, NASA HQ<br>**"Reflections from my Goddard journey and a new view from NASA Headquarters"** |
| | No Luncheon in December. Next Luncheon will be on January 14, 2025<br>With Goddard Director of Code 600 (Science and Exploration Directorate)<br>**Dr. Christa Peters-Lidard**. |

## COMMENTS FROM TONY COMBERIATE AND CARL STAHLE

Our October speaker was Peter Hughes, Goddard's Chief Technologist. His talk, entitled "Goddard's Advanced Technologies and IRAD Program - An Overview of Goddard's Internal Research and Development (IRAD) Program," described how the Center's IRAD Program enables future missions, reduces technology risk, and develops a world class technology development capability. Goddard's technology efforts support both directed and competitive missions by defining technology gaps, risks, and opportunities. The strategic focus areas for Goddard are the science core lines of Astrophysics, Earth Science, Heliophysics, and Planetary Science and the enabling lines of Suborbital Platforms, Range Services & SmallSats, Cross Cutting Technology & Capabilities, and Communications & Navigation. IRAD provides seed funding for technology development that leads to external funding, system and concept studies, and risk reduction activities as the technologies and concepts mature. The Center's IRAD effort's return on investment has averaged over 2.5 times for wins for competed technology funding and new missions and instruments. IRAD also enables the development of the Goddard workforce and its capabilities to become a valuable partner to industry and academia. This capability has produced new partnerships, patents, and infused technologies in competitively awarded instruments and space missions. Peter showed us a few examples of these IRAD applications: Photon Sieves to magnify solar microflares; a Terahertz laser spectrometer to detect water molecules such as on the Moon's surface; Optical Navigation for spacecraft systems, Optical Processors for microwave frequencies to dissect Earth's atmosphere, Next Generation Microshutter Arrays as an enabling technology for the Habitable Worlds Observatory and Swarm Coordination and Communications in suborbital platforms. He

also described some of the emerging and critical technologies: Quantum Sensing/Networking/Computing, Autonomous and Distributed Systems, Integrated Photonics, and his favorite, Artificial Intelligence (AI) & Machine Learning. Peter came to Goddard in 1985 to work on emerging AI and now he projects there will be a transformational change across all areas of technology development. He believes that the Goddard workforce will need to dramatically develop new capabilities using the capabilities of AI. He sees the biggest impact in programming, where today's traditional approach will be replaced by much more efficient and capable machines with AI so the computer science skills taught in schools will undergo a revolutionary change.

**DIRECTORIES AND NEWSLETTERS**: Send your email address to goddardretirees@gmail.com. to get our monthly Newsletters**,** which include synopses of the talks, special community announcements, and obituaries. Past Newsletters and links to videos of the talks are on our website https://goddardretirees.org. Multi-month abstracts of Newsletters are mailed to the retirees with only residential addresses in our files. We depend on retirees to furnish their home addresses to be listed in the biennial GRAA Membership Directories; only available as mailed hardcopies to members. These mailings are supported by donations to GRAA, P. O. Box 1184, Greenbelt, MD 20768-1184.

**TREASURER'S REPORT**: Treasurer Jackie Gasch received donations from Darla Webb, Michael Calabrese, Roberta Valonis, Ellen Herring, Richard Weiss donated in memory of Tony Fragomeni, Carroll Dudley donated in memory of Marian Dudley and Jennifer Dress donated in memory of Marty Davis.

**FROM THE GODDARD ARCHIVES.** Thirty years ago on November 1, 1994, Delta II launched WIND for an L1 orbit to study radio waves and plasma that occur in solar wind. It is still providing useful data and has enough fuel for thirty more years

Twenty-five years ago, December 16, 1999, Atlas II launched Terra, an earth observation flagship, to understand how the earth is changing and identify consequences for life on earth. It is still operating but orbital drift has degraded some data.

**REMEMBERING OUR FORMER COLLEAGUES**:

**William "Bill" Eichhorn, 78**, died on September 6, 2024, at his home in Bowie, MD. Born on November 13, 1945, he dedicated over 50 years to NASA as a Lead Optical Engineer in which he played key roles in the development of instrumentation for COBE (FIRAS) and the Hubble Space Telescope servicing missions, including leading the highly successful NASA Goddard Independent Verification Team for HST, and many other projects. Bill set the example for modest excellence, integrity, hard work, perseverance, and best practice in his field and was a lead engineer, mentor, teammate, group leader, and role model to engineers in the Optics Branch, at NASA partner institutions, and beyond.

**Joseph Jay Gitelman**, 84, of Columbia, Maryland, died on October 21st, 2024. Joe graduated from New York University and worked as a Systems Engineer for Goddard in Code 400's Preliminary Systems Design Group and in the Space Station On-orbit Assembly and Maintenance Group until early retirement in 1995. He then started a second career as a Financial Advisor.

**Bonnie Mae Kaiser,** 77, died on September 27, 2024 after an illness. She worked for Goddard until she retired in 2002. She received many awards and recognition for her performance in the Office of Personnel Management, and she was often referred to as a "jack of all trades".

**John H. Mueller III**, 87, died peacefully on October 10, 2024. John was born and grew up in Louisville, Kentucky and attended the U.S. Coast Guard Academy and the University of Louisville. As an IBM contractor for NASA, John was on the cutting edge of the nascent computer industry, one of a small number of the country's first machine language programmers. John worked on the Mercury missions at Goddard from 1960-1963. John worked at the Johnson Space Center serving as the head of the Gemini and Apollo design teams from 1963 to 1966.

**Robert E. Niemeyer**, 79, died on September 24, 2024. Bob was born in Erie, PA in 1945. He graduated in 1967 with a BS degree in mathematics and went on to receive a MS degree from the University of Maryland in Computer Science. Bob was inspired by the Apollo Missions and worked with Goddard's Operations Control on Apollo 11 – 15. He was an exceptionally qualified cyber security expert, sought after for his skills and clearances throughout his long career, finally retiring in 2022.

**Maxwell G. Strange**, 92, died on September 26, 2024. Maxwell was born in Greenfield, Mass. on October 29, 1931, and he went on to study Electrical Engineering at Northeastern University in Boston, graduating in 1955. After graduation, he took a job at RCA in New Jersey and later Pennsylvania, designing audio circuits and power tubes. In 1956, he was drafted into the Army, going into basic training for 8 weeks at Fort Knox, then joining the Signal Corps. There, he eventually joined Project Vanguard, which produced the first satellites launched by the United States in 1958. In 1959, Max moved to Washington, D.C., to work at the newly formed NASA Goddard Space Flight Center where he designed the electronics for various instruments that flew on satellites, airplanes, and the space shuttle. He retired from NASA in 1991.