

Message from the Director

A bold new step: The Space Station

In his State of the Union Address January 25, President Reagan directed NASA to begin immediate development of a permanently manned space station so that Americans can be working and living in space within the decade. This plan sets bold new challenges for the civil space program and, potentially, for all of us at Goddard.

The Space Station is an exciting program. It will provide living quarters and working facilities for six to eight people in space, with crews being exchanged every three to six months. It will enable:

- New approaches to scientific research and technology development by both government and industry

- The commercial use of space in such areas as the manufacture of materials and pharmaceuticals not available on earth
- The assembly, servicing and repair of satellites and other large structures in space
- Research focused on extending man's stay-time in space as a first step toward even more ambitious manned space programs.

We are now working to define the Goddard role in the Space Station Program. The specifics are beginning to evolve. We know the general approach: our involvement will capitalize upon historic Goddard strengths which are rooted in conducting space research and supplying the full range

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Goddard dedicates Space Telescope Control Center

NASA's Goddard Space Flight Center yesterday dedicated the operations control center for the Hubble Space Telescope (HST).

The dedication marked the opening of what will be the key control point in receiving data from the Hubble Space Telescope and in generating commands to the spacecraft.

The Space Telescope is scheduled to be launched from the Space Shuttle in 1986. It will expand astronomers' view of the universe 350 times over what they now observe from ground-based observatories and pave the way for significant astronomical discoveries by permitting astronomers to look at objects 50 times fainter and 7 to 10 times farther away

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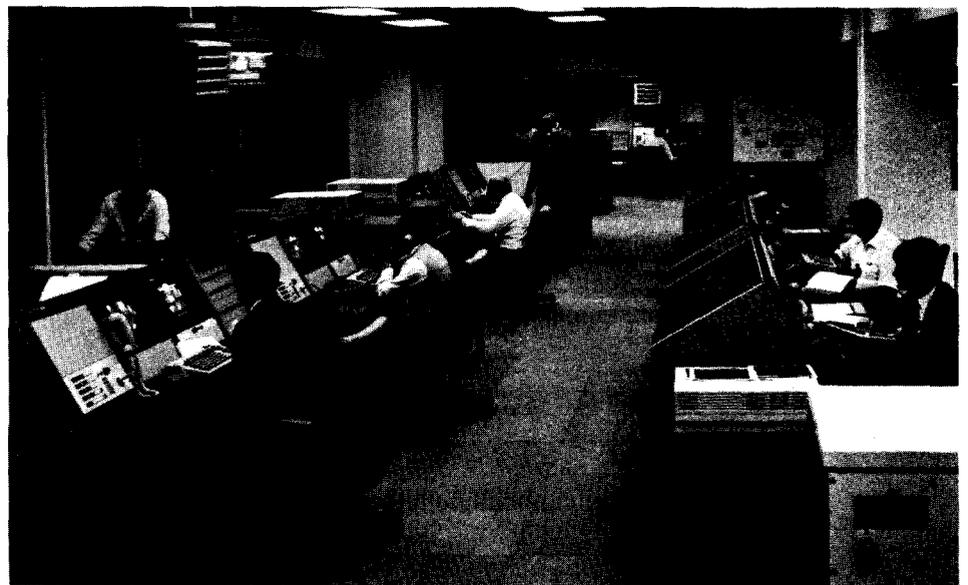
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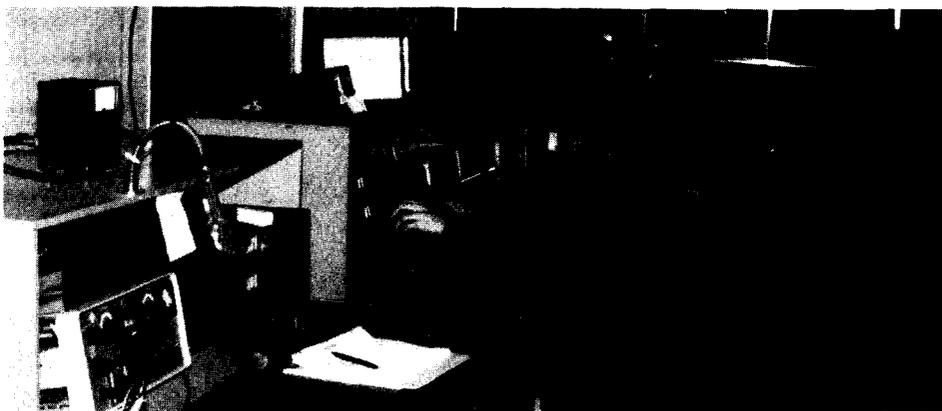
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STOCC INAUGURATION — Photo shows Goddard's Space Telescope Operations Control Center [STOCC] in building 3 prior to its inauguration. Goddard held a news conference February 14, which included the following presentations—Space Telescope [ST] overview, Frank A. Carr, deputy director, ST Flight Projects Directorate; ST science potential, Dr. David S. Leckrone, ST instrument scientist; STOCC Ground System and Operations, Charles F. Fuechsel, manager, ST Ground System and Operations. After the question and answer period the STOCC was dedicated with a ribbon cutting ceremony.

Goddard Amateur Radio Club serves the world



Goddard ham John D'Ausilio tunes amplifiers during STS-9 live retransmission of air-to-ground communications. D'Ausilio's call sign is KA1TB.

Although Shuttle missions are becoming somewhat routine, they continue to produce "firsts." STS-9 was no exception.

It was the first Spacelab flight; the first time an astronaut commanded two Shuttle missions; the first time a U.S. spacecraft carried as many as six crewmembers; the debut of spaceborne non-astronaut scientists; and the first mission for a European in a U.S. spacecraft.

Everyone of these "firsts" deserve recognition, but STS-9 produced another "first" that not only delighted scientists and engineers, but pleased amateur radio buffs worldwide. For the first time, hams and shortwave listeners across the globe could listen to live space Shuttle air-to-ground audio communications 24 hours a day on the ham bands.

That opportunity was made possible by Goddard's Amateur Radio Club (GARC), which worked nonstop throughout STS-9 to offer live retransmission of the communications.

"Other NASA radio clubs, including ours, have offered the live retransmission of Shuttle's air-to-ground communication," said GARC President Frank Bauer, "but the communications were primarily intended to serve the local community. This effort represented the first time air-to-ground was available to hams worldwide, 24 hours a day."

"Our service," Bauer continued, "is equivalent to the (900) telephone number provided by AT&T; however the service we provide is free to all those

who wish to listen in."

Using the call sign WA3NAN, the GARC simultaneously retransmitted the Space Shuttle audio on 3 shortwave frequencies and one VHF audio frequency with a total operating power of 3,500 watts. The club members strategically chose specific amateur radio frequencies for various coverage across the U.S. and all over the world.

Additionally, the VHF frequency of 147.45 MHz was chosen to allow Washington D.C. hams and listeners with police band radios or scanners to receive high quality, Space Shuttle audio.

GARC members' efforts for STS-9 proved highly successful, according to Bauer.

"Just getting the station technically ready for the launch took hundreds of man hours," Bauer said, "not to mention the 500 man hours put in from the launch on Nov. 28 to landing on Dec. 8—not bad for an all-volunteer group."

Bauer said the response from hams, shortwave listeners and space enthusiasts across the globe was tremendous.

"We've received thousands of thank you letters from listeners. During the mission, we announced our telephone number on the air," he said. "From that point on the phone didn't stop ringing. At least once a day we received a call from outside the U.S."

A quick survey of the cards and letters received revealed that a number of elementary school and science teachers, both locally and across the nation, equipped their classrooms with police scanners or ham radios.

Also, included in some of the letters were articles from a number of newspapers throughout the nation describing GARC's STS-9 activities.

"The club did this (the Space Shuttle retransmission) to encourage interest in NASA's space program, to spark additional interest in ham radio and to make the public more aware of Goddard's role in the space program," Bauer said.

The GARC plans to continue retransmitting the Space Shuttle audio on the ham bands on future Shuttle missions. The goal is to concentrate on Goddard-related missions, such as the Solar Maximum Repair Mission scheduled for this April.

For more details on how to receive the Space Shuttle A-G, watch Dateline Goddard or give Bauer (X9047) or Rick Penc (X9175) a call; or come to one of the GARC's meetings, held every third Wednesday of the month in building 12, room N-13.

Studer named NASA Inventor of the Year



Philip A. Studer (l) is congratulated by Center Director Noel W. Hinners. Studer, code 716, has been named the 1983 NASA Inventor of the Year for his contributions to aerospace engineering. Studer had three patents in 1983 and was the co-inventor on a fourth, all in Magnetic Bearings, Brushless Motors and Electromechanical Technology.

In addition, in July, 1983, Studer received an \$8,000 Space Act Award entitled "Combined Scientific and Technical Contributions in the fields of Magnetic Bearings, Brushless Motors and other Electromechanical Technology." The \$8,000 award is the largest monetary award ever granted to a Goddard employee in the history of the Space Act Awards Program.

Studer is an aerospace engineer in Electromechanical Branch. He joined Goddard in 1962.

Black aviators' contributions date back to late 1900s

Although today blacks are active throughout the fields of aviation and aerospace, prejudice and discrimination presented them with formidable obstacles during the early years of flight. In this period, Europe proved more hospitable to aspiring black aviators than the United States. It was in France that Eugene Bullard distinguished himself in the cockpit of a SPAD fighter as a member of the Lafayette Flying Corps.

It was also in France that Bessie Coleman learned to fly. After traveling around Europe, meeting aviation experts and flying a wide variety of aircraft, Coleman returned to the United States with the license she earned in France. She thus became our country's first licensed black pilot. Her outstanding career as a stunt flyer, cut short by a plane crash in 1926, inspired other black Americans to seek their wings.

One such follower was William Powell, who, in 1929, founded the Bessie Coleman Aero Club in Los Angeles. Envisioning a future free of segregation, Powell urged young blacks to prepare for careers in aviation and "to fill the air with black wings."

Among those who responded to this challenge were James Banning and Thomas Allen, the "Flying Hobos" who crossed the continent from Los Angeles to New York in a flying time of 41 hours and 27 minutes. The next year, in 1933, another team, Charles A. Anderson and Albert Forsythe, completed a round trip trans-continental flight, which they followed with a goodwill journey to the Caribbean and South America in 1934.

Meanwhile, John Robinson opened new opportunities to black pilots in Chicago when he established the first black-

owned airfield, also the headquarters of the Challenger Air Pilot's Association. During the 1930s, Chicago was the focus of extensive black aviation activities, spearheaded by such pioneers as Janet Bragg, Clyde Hampton, Harold Hurd, Grover Nash, Willa Brown, and Cornelius Coffey. Despite the twin handicaps of racial discrimination and economic depression, they proved that blacks could in fact share the adventure of flight.

As the 1930s drew to a close, the prospect of war in Europe gave impetus to black aviation in America. Increasing pressure for black participation in military aviation was voiced by Dale White and Chauncey Spencer who flew from Chicago to Washington, D.C. to argue the case for black involvement in the aviation community on a basis of full equality.

White's and Spencer's hopes were answered in part when Congress passed the Civilian Pilot Training Act, a program designed to create a large pool of civilian pilots who could be rapidly converted to military aviation in the event of war. Prohibiting discrimination "on account of race, creed, or color," the act opened doors to blacks at Tuskegee Institute, Howard University, and other schools, although on a segregated basis.

German invasion of Poland in September, 1939, plunged Europe into war, but it was not until early 1941 that the U.S. Army Air Corps established its first black unit, the 99th Fighter Squadron, which began training later that year at Tuskegee.

Reaching full strength by August, 1942, the 99th was sent to North Africa in early 1943 under the command of then-Lt. Col. Benjamin Davis, Jr., son of the Army's first black general. Later assigned to the 332nd Fighter Group, the 99th proved itself in the crucible of combat,

flying cover for Allied Forces during the invasion of Italy and escorting bombing missions in France, Central Europe, the Balkans, and Germany.

When the European conflict ended in May, 1945, the 99th was reassigned to the Pacific theater, again commanded by Col. Davis. At the conclusion of the war, a period of evaluation began. Assessments of all-black military units and the status of the post-war army concluded that segregation of the armed forces was inefficient and impractical. In 1948, President Harry S. Truman signed Executive Order 9981 mandating "equality of treatment and opportunity for all persons in the armed services without regard to race, color, religion, or national origin."

Military service continued to give blacks access to aviation even during the 1960s when the civil rights movement brought about important Federal anti-discrimination laws. The effects of civil rights activism, combined with the integration of military aviation, government efforts to insure equal employment opportunities, and the expansion of commercial aviation, enabled blacks to take a larger part in the commercial air transportation industry.

Blacks have also found opportunities in the aerospace industry with such breakthroughs as the appointment in 1978 of Guion S. Bluford, Frederick D. Gregory and Ronald E. McNair as astronaut candidates; and Charles F. Bolden, in 1980. Bluford became the first black American to fly in space in 1983, followed by McNair in 1984. Gregory is now scheduled to make his debut on Shuttle flight 18. Bolden's Shuttle flight has not yet been determined. These milestones affirm that blacks will continue to contribute to the future of aviation.

Milestones in Black Aviation

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| <p>1903 Wright brothers make first powered, heavier than air flight.</p> <p>1917 During World War I, Eugene Bullard flies SPAD fighters at the front for the French.</p> <p>1921 Bessie Coleman becomes first licensed American black pilot.</p> <p>1926 Bessie Coleman killed in an airplane crash.</p> <p>1929 William Powell and others found the Bessie Coleman Aero Club in Los Angeles.</p> <p>1931 Bessie Coleman Aero Club holds first all-black air show in the United States.</p> <p>1932 James H. Banning and Thomas C. Allen fly from Los Angeles to New York in 41 hours and 27 minutes.</p> <p>1933 Charles A. Anderson and Albert Forsythe complete round trip transcontinental flight.</p> <p>1934 Anderson and Forsythe fly from Atlantic City, N.J. to Miami, Florida, then to the Caribbean and South America. William Powell publishes <i>Black Wings</i>.</p> <p>1939 Dale White and Chauncey Spencer fly from Chicago to Washington, D.C., to urge government leaders to include blacks in military aviation. Germany invades Poland; World War II begins. Civilian Pilot Training Program initiated.</p> | <p>1941 99th Fighter Squadron begins flight training at Tuskegee Army Air Field in Alabama. U.S. declares war on Axis powers.</p> <p>1942 99th Fighter Squadron completes flight training at Tuskegee.</p> <p>1943 99th Fighter Squadron flies first combat mission in Europe under the command of Col. Benjamin O. Davis, Jr.</p> <p>1945 332nd Fighter Group awarded Distinguished Unit Citation for outstanding performance of duty in action and extraordinary heroism during escort mission over Berlin, Germany.</p> <p>1948 President Harry S. Truman signs Executive Order 9981 ending racial segregation of the armed services.</p> <p>1978 Frederick D. Gregory, Guion S. Bluford and Ronald E. McNair named astronaut candidates by NASA.</p> <p>1980 Charles S. Bolden named astronaut candidate by NASA.</p> <p>1982 Brigadier General Russell Davis becomes the nation's first black general in the Air Guard.</p> <p>1983 Guion S. Bluford becomes first Black American to fly in space.</p> <p>1984 Ronald E. McNair becomes second Black American to fly in space.</p> |
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Black History Month observed at Goddard

Black History Month is being observed at Goddard February 24 with a performance from the Morgan State University Choir, Baltimore, Md., and a Soul Food Buffet and Disco. In addition, a videotape on "Black Wings: The American Black in Aviation" will be shown on Goddard's closed-circuit television at 12 noon on the 22nd and 24th.

The choir will perform from 11-noon in the building three auditorium. All Goddard personnel are invited, and about 150 middle school children from the Washington, D.C. area also will attend the event, following a tour of the Center.

The Soul Food Buffet and Disco is scheduled from 5 p.m.-1 a.m. in the Rec Center.

This year's theme is Black Americans And The Struggle For Excellence In Education.

McNair is second spaceborne black astronaut

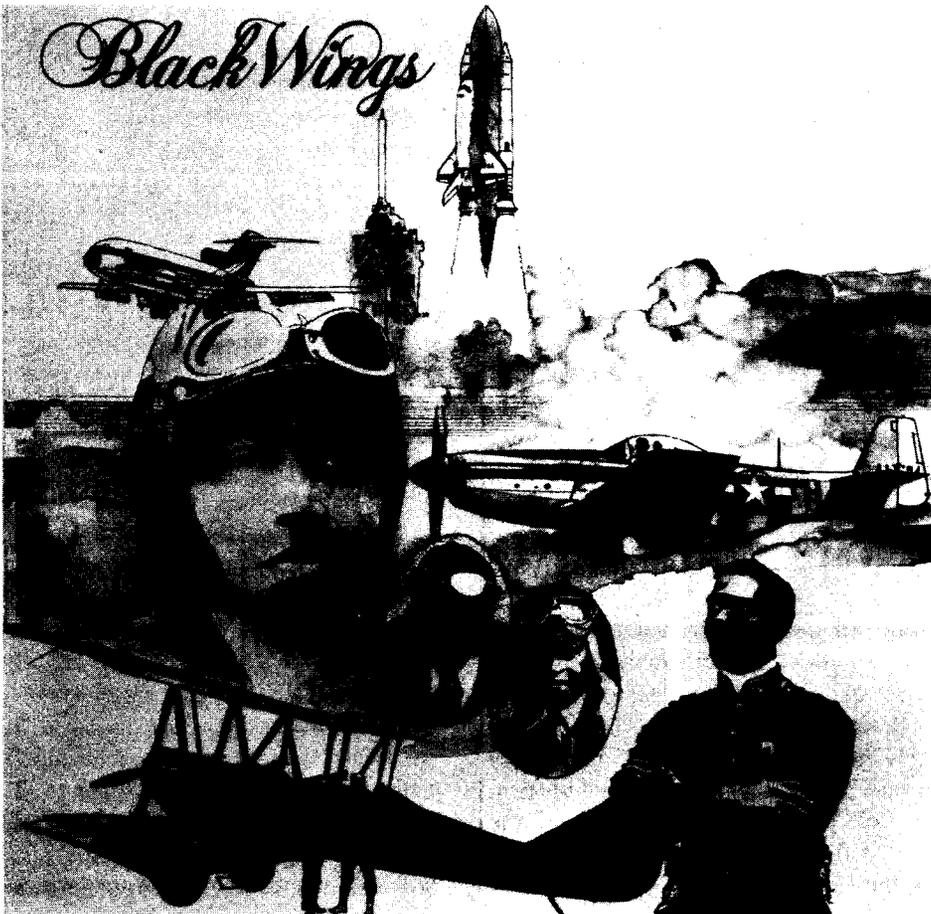


Ronald E. McNair

With STS-41-B now over, Ronald E. McNair is the second black American to have flown in space. McNair was a mission specialist on the last Shuttle flight. He holds a B.S. in physics from North Carolina A&T State University, where he graduated magna cum laude, and a doctorate in physics from MIT. He has studied laser physics at E'cole D'ete Theorique de Physique, Les Houches, France and also has worked as a staff physicist with Hughes Research Laboratories in Malibu, California.

McNair has held several fellowships during his academic studies. He was named a Presidential Scholar (1967-1971); a Ford Foundation Fellow (1971-1974); a National Fellowship Fund Fellow (1974-1975); a NATO Fellow (1975); and a recipient of the National Society of Black Engineers Distinguished Scientist Award (1979).

A native of Lake City, S.C., McNair teaches karate at a church in Houston, Tx., and plays saxophone in jazz and "big band" groups in his spare time.



PEOPLE

Retirees

Twenty-nine Goddard employees retired January 3, 1984. Their knowledge and expertise in their respective fields will be missed by the remaining Goddard family, and we wish them well in their retirement. The retirees are:

Andrews, Donald K.	151.4
Beasley, Horace R.	273
Block, Arthur F.	813.3
Buyer, Leonard E.	311
Clark, Oliver N.	694
Corswin, Stanley	242
Daisey, Newman B.	250.1
Evans, Paul R.	1021.2
Garrett, John M.	292.1
Harris, Raymond P.	733.1
Hickman, Lloyd C.	293.1
Hunter, James J.	244.1
Jester, Florence F.	205.2
Lilliston, Robert F.	233
Lindsay, Raymond E.	716.1
Looney, Chesley H., Jr.	700
Manuel, Stanley D.	292
Merrill, Juanita B.	1023
O'Dell, Harry	470
Ostrander, A. P.	220
Packard, Calvin A.	823
Provenzano, Salvatore P.	200.5
Purcell, Kenneth E.	292.3
Redding, James O.	480
Roberts, Hurley C., Jr.	244.2
Slifer, Luther W., Jr.	711
Weitzel, Robert L.	728.3
Wing, Lawrence D.	742.2
Westman, Carl E.	415

Kathleen Charles leaves for NOAA

Kathleen Charles, Goddard's deputy comptroller since 1981, has left Goddard to become deputy director, Office of Budget and Finance at the National Oceanic and Atmospheric Administration (NOAA).

Charles has left NASA/Goddard, "but I do plan to go back to NASA Headquarters in the future," she said. "That's where I started my NASA career."

Charles came to Goddard from NASA Headquarters, where she began her career as a Management Intern in the Office of Space Science and Applications (OSSA). From 1974 to 1978, she was the program analyst for the OSSA in the comptroller's office. In 1978, she moved to chief, Resource and Program Management Branch, OSTA, and, in 1980, was appointed director of that division.

Appointed Goddard's Deputy Comptroller in 1981, Charles was responsible for assisting the Comptroller in providing overall direction of the Center's financial resources. Special assignments included serving as chair of committees reviewing the Goddard/Wallops consolidation and evaluating industry responses on commercialization of land and weather satellites.

Working at both NASA Headquarters and a field Center has given Charles much



Kathleen Charles

needed insight and experience in her field.

"At headquarters the duties mostly were selling the budget," she said. "At Goddard, they were implementation. The experience I've gained from working in both areas will help me a lot in the future."

Charles received a B.S. from the University of Dayton (Ohio) and a M.A. from the University of Maryland, both in education. Since 1978, she has received two Special Achievement Awards and the William A. Jump Memorial Award for outstanding service in public administration.

Verna Shen gets degree through Undergraduate Study Education Program

Verna Shen graduated from the University of Maryland recently with a B.S. in Business and Administration by participating in Goddard's two-year Undergraduate Study Education (USE) Program. Shen is a procurement clerk in code 240.1.

Shen has been at Goddard for six years and also holds a B.A. in English Literature from the National Taiwan University, Taiwan. "I found that my educational background was not comprehensive enough for Goddard's needs, so I studied hard in the USE Program to get my degree. I'm confident my studies will enhance my job

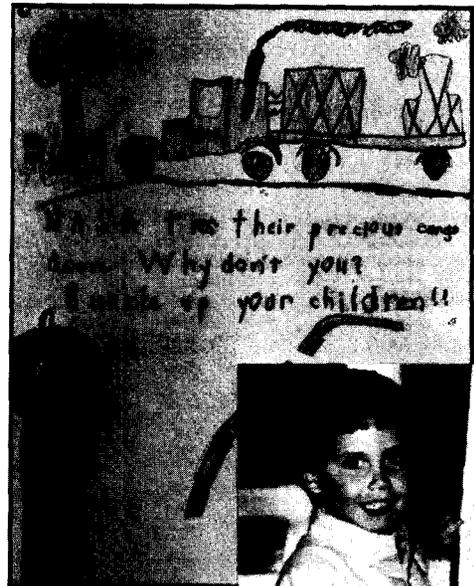
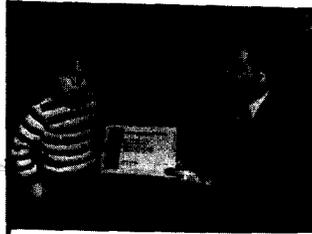


Verna Shen

performance," Shen said.

Goddard's USE Program, one of many academic programs offered by the Employee Development Branch, allows employees to be released for up to 16 hours per week with pay to prepare for and attend college courses. Students must maintain a "B" average during their studies.

In addition to her recent graduation, Shen is active in community activities. During Chinese Premier Zhou Ziyang's visit to Washington, D.C. January 10 and 11, Shen represented the Metropolitan Chinese Community as a protocol officer.

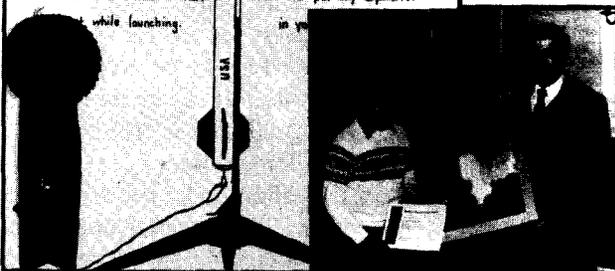
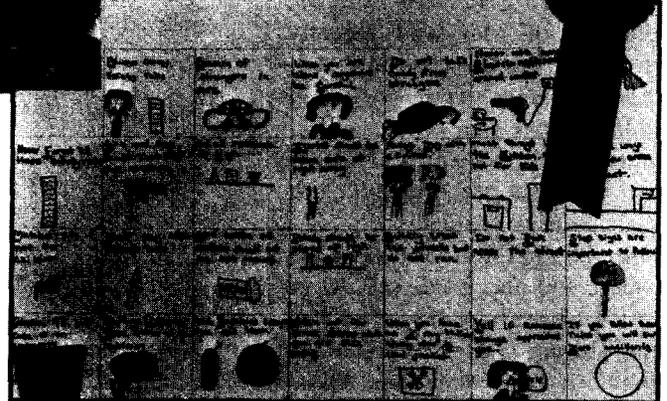


MODEL ROCKET SAFETY

1. Always be supervised by an adult.
2. Never aim the rocket at anything while firing.
3. Always use the right size engine.
4. Shoot the rocket in a large open space.
5. Stand about fifteen feet from the rocket while launching.
6. Keep young children away from engines and propellants.
7. Never fire a rocket without a parachute—it could return as a projectile.
8. Never try to light your rocket engine with fire.
9. Never use faulty or improper equipment.
10. Never put any explosives in your rocket.



A B C'S OF SAFETY



SAFETY POSTER CONTEST WINNERS—Six children of Management Operations Directorate [MOD] employees won first place prizes for having the best safety posters in a contest sponsored by MOD's Health and Safety Committee. MOD sponsored the contest to help promote safety at Goddard. There were 29 entries and the posters were judged on the most original safety message and the best safety message for three age groups: 1-4, 5-8 and 9-12. Clockwise from the top left: Bradley Watson; Karen Ann Kaczorowski; Adam Radspinner; Sara Moghadam; Brian Broadwater and Kate Marie Jensen. Pictured with Watson and Broadwater is Frank Moore, Goddard/Wallops Flight Facility.

New three-stage sounding rocket tested at Wallops

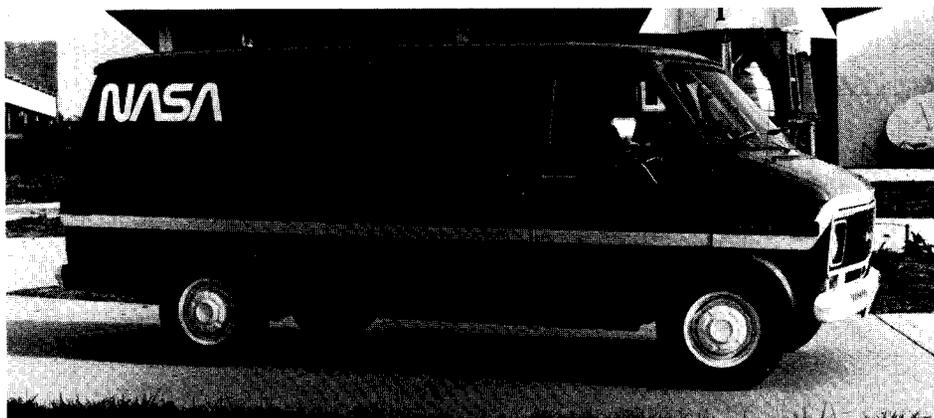
A new three-stage solid propellant sounding rocket, the Taurus-Nike-Tomahawk (TNT), was launched recently from Wallops Island, Virginia. Purpose of the launch was to flight test the new vehicle configuration for future use in NASA's sounding rocket program. The TNT test was very successful, according to Payload Manager Bobby Flowers.

A secondary purpose was to conduct an experiment for Utah State University to test a new technique for measuring the electron density and temperature of the earth's ionosphere.

The three-stage sounding rocket is being developed to provide a low-cost, high-flight platform. It consists of three off-the-shelf motors currently used in various two-stage configurations. Low cost is realized by using surplus military rocket motors for two of the three motors (Taurus and Nike). The addition of the TNT combination to the sounding rocket family provides capability to carry lightweight payloads 30-40 kg (60-80 pounds) to an altitude of around 700 km (435 miles). This is approximately 200 km (125 miles) higher than the distance attainable with the existing Taurus-Tomahawk two-stage vehicle. In addition to cost effectiveness, the TNT will be capable of carrying relatively long, bulbous payloads. The Taurus-Nike-Tomahawk configuration is 13 meters (42 feet) long; the first stage is about 58 cm (23 inches) in diameter.

NASA/GSFC Wallops Flight Facility project engineer is Robert T. Long. Dr. Carl Howlett is the Utah State University project scientist for the "piggy-back" experiment.

Goddard hosts Spacemobile Conference



NASA's 30 Spacemobile specialists use vehicles much like this one to travel around the country and tell the NASA story. The Spacemobile is well equipped with NASA memorabilia and exhibits to help specialists make their presentations.

For nearly 25 years, NASA's Aerospace Education Services Project, more popularly known as the Spacemobile Program, has provided the nation's teachers, students and general public with specialists in aerospace education to explain NASA activities. These specialists are "master teachers" who can articulate NASA's activities from the past to the future.

To ensure that the specialists are knowledgeable to NASA's latest achievements and future plans, the agency holds an annual National Training Conference. This year, from January 3-6, Goddard hosted the conference and briefed the participants on the International Cometary Explorer (ICE), NASA's first mission to a comet; the Tracking and Data Relay Satellite System; Landsat 4; the Getaway Special Program; the Solar Maximum Repair Mission; the Edwin P. Hubble Space Telescope; the Gamma Ray Observatory; and the COSPAS/SARSAT (search and rescue satellite-aided tracking) Project. Goddard performs a vital function for all the above projects.

Additionally, the conference included and overview of NASA's plans for a Space Station and workshops in which new software was introduced for the computers used in the specialists' presentations.

The Spacemobile has been very successful, according to Goddard's Educational Programs Officer Elva Bailey. "Spacemobile has met the big challenge

of keeping its audiences abreast of NASA's programs" Bailey said, "... and that includes program results and their future implications."

According to Bailey, the "master teachers" have been the backbone of NASA's information dissemination thrust for the educational community.

Some 30 specialists are divided among NASA's field Centers and have represented the agency in hundreds of thousands of auditoriums and classrooms for 24 years.

Goddard has four specialists. The four specialists are Jack Bannister, Ledyard, Conn.; Michael Caterina, Wildwood, N.J.; Gregory Crosby, Harwood, Md.; and Minot Parker, Barre, Vt.

NASA Headquarters and the Johnson Space Center are the only other Centers that have a staff equal to or larger than Goddard's.

The specialists present thousands of programs each year. In FY 82, they presented 8,961 programs for audiences numbering 1,090,031. Additionally, they contacted an estimated audience of 6,000,000 through radio and T.V.

The conference was held concurrently with NASA's Center Education Programs Officers Meeting (CEPO). The CEPO Meeting consisted of status reports on each Center's Educational Program and discussions on many of the ongoing programs, which are NASA-wide. Other discussions included Education's Role in Public Affairs and NASA's Education Policy.

Announcements

Applications Directorate Symposium

A poster-session-type symposium highlighting significant scientific and technology activities and accomplishments in the Applications Directorate, code 900, will be held on Feb. 23 from 1-5 p.m. in the building 8 auditorium. Areas to be covered include: The Solid Earth; The Oceans; The Land; Planetary Atmospheres; Weather and Climate; Observational Techniques/ Technology; and Data Techniques/ Information Extraction. All Center personnel are invited. For more info contact Dr. Stan Freden, 344-5818.

Twenty-second Memorial Symposium

"Permanent Presence—Making It Work" is the theme of the 22nd Goddard Memorial Symposium to be held at Goddard, March 15-16. The meeting will address the varied aspects of design, establishment, and operation of permanent manned and unmanned facilities in near-Earth orbit. The four specific sessions of the symposium are Missions, Architecture, Productivity, and Technology. Registration for the event is on the mornings of the 15th and 16th at 8 a.m. in the lobby of building 8.

Climatology Workshops

From March 5-9, two workshops will be held in building 16W, room N-76 to initiate research activities within the International Satellite Land Surface Climatology Project. Science objective of the workshops is to develop an understanding of processes by which the atmosphere and land surface interact through the exchange of mass, energy, and momentum. The first workshop will focus on developing a plan for retrospective analysis of existing data, including selecting study sites, and identifying and establishing common analysis techniques. The second will focus on plans for a comprehensive field measurements program. For more info, call Piers Sellers, 344-5480.

STOCC dedication

Continued from page 1

than ever seen. It will serve as the primary tool for exploring the stars through the next several decades.

The Space Telescope Operations Control Center (STOCC) integrates two major elements of Space Telescope operations into one facility, according to Dr. Noel W. Hinners, Goddard Center Director.

The Payload Operations Control Center (POCC) and the Science Support Center (SSC) represent the two functions: the POCC holding responsibility for the overall conduct of the Space Telescope's mission operations and the SSC providing the primary interface between the POCC and the user scientists at the Space Telescope Science Institute at Johns Hopkins University in Baltimore.

The POCC provides the capability for commanding and controlling the spacecraft, for monitoring the "health" and status of the spacecraft. It processes and displays the engineering data and generates, transmits, and verifies all commands to the Space Telescope.

Detailed science schedules and communications with the Space Telescope Science Institute are maintained at the SSC. It will have the capability of conducting science observations with the five scientific instruments onboard the Space Telescope and of displaying those observations for analysis.

The facility is the largest control center for a scientific satellite to date at the Goddard Center and the most automated science scheduling system for an observatory ever. Located in building three, the construction modifications cost less than \$500,000. Cost of hardware and software, including an equipment room which houses eight computers, amounts to \$31 million.

Message from the Director

Continued from page 1

of user-oriented services. It will be a well-focused role with appropriate authority and budget responsibility.

NASA is embarking on one of humanity's greatest adventures—forging a permanent place in space. Let's welcome this chance to grasp the future, contribute Goddard's talent, and actively participate in making the Space Station a reality.

Noel W. Hinners

Noel W. Hinners

In Memorium



John A. Kley

John A. Kley, 62, a retired public information officer with Goddard, died of cancer January 23 at the Washington Adventist Hospital.

Kley joined Goddard in 1960 and helped operate NASA's news desk during many of the agency's early missions. He eventually became the Center's principal writer on contracts and technology. He retired in 1982 after 40 years of public service.

Kley was born in Eastland, Texas and served in the U.S. Army Air Forces in World War II. He was assigned to the China-Burma-India theater and was a radioman aboard flights carrying supplies from India to China.

He moved to Washington after the war and graduated from American University. He began his career as an information official with the State Department and later worked for the Army Chemical Corps.

Kley was a member of the Veterans of Foreign Wars.

NASA
National Aeronautics and
Space Administration
Goddard Space Flight Center

Goddard News

Greenbelt, Maryland and Wallops Island, Virginia

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