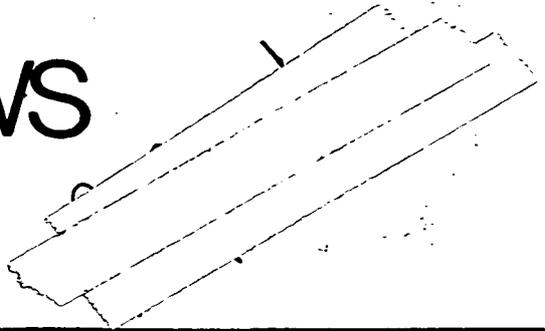


NASA News

National Aeronautics and
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NOTE TO EDITORS:

The staff of NASA's Goddard Space Flight Center, Greenbelt, Md., provides a three-week computer course covering concepts of computer utilization, Fortran programming and basic job control language. Students are then assigned in teams of two to a specific problem to which they will apply their previous training to solve. Field trips and seminars are also included in the program.

The program is directed by Dr. Carl Kirksey of Bowie State College and is coordinated at Goddard by Ms. Dora Tuleo of the Equal Employment Opportunity office.

Attached are remarks by Mrs. Ruth Bates Harris, NASA's Deputy Assistant Administrator of Public Affairs, Community and Human Relations, at the final session.



September 15, 1975

(NASA-News-Release-75-239) REMARKS OF RUTH
BATES HARRIS, DEPUTY ASSISTANT
ADMINISTRATOR, NATIONAL AERONAUTICS AND
SPACE ADMINISTRATION AT SUMMER INSTITUTE
CLOSING ACTIVITY (NASA) 12 P CSCL 05A G3/85
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REMARKS

of

Ruth Bates Harris
Deputy Assistant Administrator
National Aeronautics and Space Administration

at

Summer Institute Closing Activity

NASA - Goddard Space Flight Center
and
Bowie State College

August 14, 1975

Since the tiny beep of Russia's Earth-orbiting Sputnik was heard eighteen years ago, American Astronauts have orbited the Earth, walked on the Moon and even lived in space under complex conditions and long durations of time. A variety of satellites have been rocketed around the Earth.

NASA's activities began with the exploration of space around the Earth and then were expanded to include studies of the Sun, Moon, solar system, and the universe.

As the President stated in his 1974 Report on Aeronautics and Space, "Experimental communications and weather satellites demonstrated the feasibility of using space to improve critical services needed by modern society."

Space flight programs of increasing duration and complexity have helped to prove that people can live and perform useful work in space.

On July 17th, with mascots Snoopy and the Russian bear asserting "Right On" and "Let's Go," American Astronauts shook hands with Russian Cosmonauts in space, bringing to an end a successful era of a vast accumulation of incredible scientific and technological advances.

Now, a new era begins. When the first of two Viking spacecraft is launched shortly that trip will end in July 1976, during America's Bicentennial year (and hopefully this schedule will be met) with a soft landing in a deep, dusty valley on Mars. One purpose: to study soil samples to see if there is or ever has been life on the Red Planet.

I hope that your summer experience with NASA has sufficiently motivated you to learn more about aeronautics and space. Are you aware that with the experience and knowledge gained from aeronautical and space research, and exploration, NASA's technology is now being used to identify numerous applications for inhabitants of Earth? Such spinoffs are not only improving the quality of life by contributing to advances in health, transportation, foods, communications, energy, safety and manufacturing, but to nearly every human activity.

Some of you are aware that freeze-dried coffee, Tang, hand calculators and miniature tape recorders are all the result of space technology. But there are other benefits, too.

The automatic picture-taking systems on U.S. weather satellites are shared with 50 countries. TIROS-3 gave advance warning on Hurricane Carla, enabling 350,000 persons near the Gulf Coast to move from the path of the storm.

The ATS-6 Communications Satellite, called America's "teacher-in-the-sky" is being used to transmit television classroom instructions to teachers, students and medical personnel in remote areas, including India.

Just recently, NASA funded a summer research project at one of its field centers for the study of lead poisoning, a problem that particularly affects those with lower incomes who inhabit decaying dwellings in various communities of the nation.

Star systems called quasars are being used in an effort to detect earthquakes from 1 to 10 years in advance.

Scan, an alarm system for teachers that can be triggered from any location in the classroom, provides instant assistance in case of an emergency.

A research effort to develop technology for space mission hardware items is being conducted by NASA's Langley Research Center in Virginia. This diffusion system for reclamation of water is one type of still that may be capable of reclaiming reusable water from urine or wash water on space missions or here on Earth.

The Lewis Research Center in Ohio is experimenting with windmills to generate electricity from wind power.

This Center covers everything from electric propulsion for automobiles and collection of solar energy for power and heat to space exploration and from international projects as improved communications to area pollution measurements.

The National Aeronautics and Space Administration has been surveying pollution produced by the world's aircraft in a program that began at San Francisco International Airport recently. The first such test was conducted on a United Airlines 747 Jumbo Jet. Instruments to measure dust particles and gases in the upper atmosphere were installed in the 747 by NASA technicians.

The federal space agency has come up with another down-to-earth breakthrough - a light weight breathing system which will help to cut down the casualty rate for firefighters who suffer from asphyxiation or near asphyxiation in burning buildings. The system was developed by engineers at NASA's Johnson Space Center, Houston, Texas. They used materials and technology from the space program to design and build air tanks and masks that are lighter, safer and more efficient than systems being used now.

A satellite that scans the world for information on wheat yields, forestry conditions, new mineral resources and other environmental concerns was launched into orbit in January. Originally named ERTS-2 but recently labeled Landsat-1 the 1,165 pound space station circles the globe every 103 minutes, looking down from 570 miles in space. The new satellite joins ERTS-1, with which it will team up and eventually replace.

One of the key participants in this program is the Goddard Space Flight Center.

More than 100 research teams in some 40 states as well as the federal government, universities, international

organizations and 40 foreign countries will get data beamed back by the satellite's sensors - sharp-sighted "eyes" that pick out visible features as well as infrared and other kinds of radiation.

Landsat is planned as a weapon against the global food and energy shortages. One of its main jobs is to estimate how much wheat, barley, corn and rice is growing around the world and to determine the condition of crops at various times during the year.

Landsat will also observe forestry patterns and gauge how much timber is taken through clear-cutting and other timber industry techniques. It is to help cartographers draw new maps and assess land use patterns.

Dr. James C. Fletcher, NASA's Administrator, said recently, "If I had to pick one spacecraft, one space age development to save the world, I would pick ERTS (Landsat) and the satellites which I believe will be evolved from it later in this decade."

As it passes around the earth, Landsat's sensors focuses on a trip about 115 miles wide, and at this rate scans the entire globe once every 18 days.

A drug developed from a missile propellant has been used to treat mental disorders and tuberculosis.

Responding to the energy crisis, NASA has established an energy office and is studying ways to convert sunlight into electric energy. It works closely with the newly created Energy Research and Development Agency and other government and private groups.

A new type of artificial limb has been developed to benefit individuals with amputated arms or legs, thus helping to improve their appearance, psychological outlook and employment potential.

Today a woman with polio operates an electric wheelchair and electrically-powered, robot-like arms through a pressure device mounted like a harmonica in front of her mouth. She achieves movement and mobility by touching her tongue to a series of switches that resemble large vitamin tablets. Thanks to the device, she feeds herself, combs her hair, and types letters. She also operates a telephone answering service.

A rechargeable heart pacemaker eliminates the need for periodic surgery to implant new batteries. The new mechanism is smaller than a cigarette package - one-half

the size of older models - and operates on nickel-cadmium cells which are used to propel most satellites.

In Houston and several other major cities, ambulances are carrying a compact medical unit called Telecare, a product of NASA-developed equipment and a radio system that transmits cardiac data to the hospital so doctors waiting for the victim can relay advice and be better prepared to handle the case when it arrives.

A Huntsville, Alabama hospital is using space technology to help patients who have lost the use of their arms and legs. Using eye-operated switches, breath-controlled devices and pressurized equipment, patients who were once helpless can now open windows and doors, regulate room temperature, change radio and television channels, dial telephones, adjust bed positions and turn the pages of books.

The National Cancer Institute has adopted a special garment used as a portable sterile environment for astronauts returning from the moon. In its new role, the suit is being used to protect leukemia patients from infection while they are undergoing chemotherapy.

A portable cardiac unit that provides instant monitoring of a heart attack victim's condition to ambulance crews and a physician has been on the market for a year.

A brassiere with sensors is being tested to help women detect breast cancer at an early stage.

Alcorn State University, a predominantly black institution in Mississippi, received a NASA grant to perform radio tracking and geostationary satellites. Louisiana's Grambling College, likewise, is studying the effects of continuous low-dose rate gamma irradiation on cell population kinetics of lymphoid tissue.

A contractor in Sunnyvale, Calif., is one example of a successful NASA minority business firm. His contracts run close to a million dollars for such diverse services as operating the technical library at Ames Research Center, Moffett Field, Calif., to providing technical support to several of NASA's highly complex computer projects including installation and operation of aircraft tracking and radar systems. Goddard recently awarded \$1,225,000 to a minority contractor in the District of Columbia.

The aerospace industry is a multi-billion dollar field with hundreds of government contractors, colleges and universities all getting a piece of the action. Their affirmative action plans must include provisions for the hiring and promotion of women and minorities.

NASA has acknowledged its regret that up to and including the time of the Apollo program, very little has been done to encourage minorities and women to come to the agency. As a result of this neglect what you see is an agency with a tragic track record in equal employment opportunity.

While the picture is slowly changing, I am appealing to you to help us accelerate that change.

You, as outstanding students, both in college and here at Goddard, have already demonstrated your potential for great achievement. We would like to see at least some of you return to NASA one day in the not too distant future. And while there are not the large number of jobs available now as there were in earlier years, opportunities continue in such disciplines as systems management, law, public affairs, university affairs, personnel, industrial relations, congressional affairs, international affairs, human relations, procurement, administration, technology utilization, energy, aeronautics and space technology, equal opportunity, insurance, and many, many others.

In fact, we hope you will aspire for positions in top management as well, since there are no positions in NASA where the qualifications can be determined by race or sex or other irrelevant factors.

The shuttle program being developed by NASA's Kennedy Space Center in Florida will revolutionize the entire world of transportation. The shuttle, to be launched from the space center in 1980, will provide a "round trip" system for transporting materials and crews into space orbit. The first vertical flight is scheduled for 1977 and the first complete manned orbital test for late 1979.

Neither women nor minorities were included in mission to the moon. However, Dr. Fletcher has already announced that women and minorities will be trained as astronauts and mission scientists for the shuttle program. Recent tests of women have proven they are physically and psychologically equal to men for space travel - and in some ways superior. Perhaps one of you may become an astronaut or mission specialist.

Looking ahead, not only will human colonies be living in space some day, but also, there will be factories in space. Scientists already are hard at work researching the characteristics and benefits of processing materials in zero gravity environment. This will pave the way for the manufacturing of products in space. By the time NASA's space shuttle/skylab system is fully operational, thousands of people will be involved in new and exciting careers that are just beginning or are virtually unheard of today.

Space, the new frontier, beckons YOU to participate in new careers. I hope the months ahead will represent radical changes in the utilization of minorities and women in every phase of activity.

One desire of a good manager is the ability to teach and inspire so well that his charges will want to take over his job. I am confident you have been taught well at Goddard.

I prayerfully hope you will find a niche in NASA or perhaps in one of the many related careers in aeronautics and space in other organizations. But whatever your choice, I believe I speak for others in NASA when I say:

We are indeed proud of you;

Prepare yourself well to achieve your maximum fulfillment; help others along the way;

You are helping to fulfill the American Dream;

You are helping to fulfill our dream for you.

-end-