

Space News Roundup

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National Aeronautics and Space Administration

News Briefs

Graham assumes post

Dr. William R. Graham became Deputy Administrator of NASA Nov. 26 following Senate confirmation of his appointment to that position by President Reagan. Graham, a founder and executive of R&D Associates of Marina Del Rey, Calif., has served for the past three years as Chairman of the President's General Advisory Committee on Arms Control and Disarmament. Graham is a former employee of the Rand Corp. and of the Air Force Weapons Laboratory at Kirtland AFB. He has been a consultant to the Office of the Secretary of Defense and has served on many international and national boards and advisory groups.

PLSS redesign set

JSC signed a \$5.4 million supplemental agreement with the Hamilton Standard Division of United Technologies in mid-November for a redesign of the space suit portable life support subsystem's (PLSS) fan pump separator and motor. The PLSS provides constantly refreshed air and suit pressure to Shuttle crew members during spacewalks. The redesign will improve the portable life support system with hermetically-sealed sensors and improved electronics in the motor driving the space suit ventilating fan, cooling water pump and condensed water separator. The total value of the space suit contract for the Shuttle program is estimated at more than \$300 million.

Service potential high

One of the many interesting studies associated with the Satellite Servicing Workshop held recently at JSC comes from the Engineering Directorate here. The Directorate's Satellite Services System Program Plan reports that some 63 spacecraft to be launched between 1986 and 1993 by NASA, NOAA, the DoD and by U.S. and foreign commercial interests, could be reached by the Space Shuttle or could be maneuvered to lower orbits for rendezvous with the Shuttle. Of those 63, some 33 were identified as potentially serviceable. Twelve could be serviced on a scheduled basis, and another 21 could be serviced on a contingency basis. If all of the missions are flown at their currently scheduled times, there could be sufficient traffic for up to 20 servicing sorties per year by 1993.

Landsat change underway

Since September, the Earth Observation Satellite Co. (EOSAT), a joint venture of the RCA Corp. and Hughes Aircraft Co., has been the responsible party for processing and providing Landsat images of the Earth. The switch from government to private sector operation of the satellite system is a result of President Reagan's February 1983 decision to commercialize Landsat. As the transition continues, orders and inquiries for Landsat material will still be processed as before by the EROS Data Center, Sioux Falls, South Dakota, 57198. Under the contract EOSAT signed with the Commerce Department, government funding will be phased out over the next five years. The company will receive \$250 million to build and operate two new satellites and a ground station and data processing system. EOSAT will also operate the two remaining spacecraft, Landsats 4 and 5.

"Can Do" on 61-E

The "Can Do" student experiment, sponsored by the Charleston County, S.C. school district, will be included in the Astro-1 payload aboard STS 61-E in March. The experiment consists of four 35mm cameras equipped with special lenses for photographing Comet Halley. Other experiments included in the student package will study the effects of microgravity.



STS 61-B's two spacewalks left little doubt last week that astronauts can effectively and efficiently build large space structures. Out on the robot arm of *Atlantis*, Woody Spring manipulates the ACCESS truss during the second EVA.

First Vandenberg launch delayed to mid-July

The U.S. Air Force and NASA have jointly agreed to delay the first Space Shuttle launch from Vandenberg Air Force Base, Calif., until mid-July, 1986. The mission, STS 62-A, had been scheduled for launch no earlier than March 20, 1986.

"There are no major problems at the Vandenberg site," Under Secretary of the Air Force Edward C. "Pete" Aldridge, Jr., said. "We have repeatedly stated that safety and quality would not be sacrificed for schedule. Our decision reflects our continued commitment to this philosophy.

"We have had to make some facility modifications because of what we learned from routine Air Force/NASA operational readiness inspections," Aldridge said. "We have also added time to the schedule to allow for better preparation and evaluation of the operational systems tests and we have extended the training period for the launch crew of this historic, first West Coast shuttle mission."

Aldridge said the revised schedule would allow the Air Force to complete ongoing modifications, inspections, rework and operational testing with higher confidence than could be permitted with the March 20 schedule. "It also minimizes the potential for conflict with the NASA Ulysses and Galileo planetary missions scheduled in May," he said.

NASA Office of Space Flight Associate Administrator Jesse Moore agreed with Under Secretary Aldridge, adding "NASA concurs completely with the Air Force regarding Vandenberg. Our first commitment is to the safety of the crew and the reliability of the vehicle and launch systems. The development of the Vandenberg site is proceeding very smoothly. The readjustment gives us all more time to carry out our commitment to safety and reliability."

The decision to delay means the orbiter *Discovery* will be delivered to Vandenberg around March 1, 1986. Air Force and NASA officials will continue to evaluate the STS 62-A schedule and will establish a firm launch date after January 1.

'86 declared year of space science

NASA is preparing for its most productive year ever in space science activities. A variety of "space firsts" will be accomplished and several major scientific studies will be continued or begun in 1986.

To increase the public's knowledge and understanding of its scientific programs, NASA's Office of Space Science and Applications and the Smithsonian Institution's National Air and Space Museum will cooperate in a year-long program entitled: "1986 — A Year for Space Science."

Dr. Burton I. Edelson, NASA's Associate Administrator for Space Science and Applications says, "1986 may well be remembered as the year that mankind learned more about the vast reaches of our universe than any other year in recorded history. With existing and new interplanetary probes, new payloads and spacecraft and unprecedented international cooperative programs, we hope to add a number of significant scientific discoveries

to man's knowledge. And most importantly, we want to share that excitement and these discoveries with the world."

Exhibits, audio-visual presentations, publications and a lecture series at the Air and Space Museum and several other locations throughout the nation are planned for 1986. Other organizations also are expected to cooperate in the year-long venture.

Major space science activities in 1986 include the Voyager-2 encounter with planet Uranus in January. Then culminating in March, several scientific spacecraft and payloads will conduct investigations of Comet Halley. In May, the Space Shuttle will launch Galileo toward planet Jupiter to conduct an extensive exploration of the Jovian system with its many moons. Also in May, the Space Shuttle *Challenger* will launch the European Space Agency's Ulysses spacecraft to conduct comparative studies of the sun and its heliosphere.

Additionally, the launch of the Hubble Space Telescope, the largest telescope to be placed in Earth orbit, is scheduled for late summer. The Year for Space Science also will highlight the 10th anniversary of the Viking spacecraft landing on Mars, a flyby of an asteroid by the Galileo spacecraft and important science experiments on the Space Shuttle throughout the year.

In addition to exhibits and lectures, the National Air and Space Museum will carry NASA mission events on television at designated locations in the museum.

A lecture series conducted at the museum will feature participants in many of the NASA programs and experts in the space science field. Programs will be announced by the museum during the year.

Voyager-2 encounters Uranus with a flyby of the cloud-shrouded planet on January 24. Launched in September 1977, Voyager's imaging system and other instruments will provide data on Uranus never before available.

Uranus is one of the giants of our solar system. But, it is so far away, almost 2 billion miles, it can not be seen except through extremely powerful telescopes. Uranus is tipped on its side giving it a unique rotation. Scientists theorize that a collision, early in Uranus' history, with another planet-size body might have tilted Uranus from its vertical axis to its present orientation. Uranus is known to have five moons and as many as nine ring features.

Voyager 2 will come as close as 50,000 miles above the cloud tops of the planet. In addition to obtaining images of the planet and its moons and rings, measurements of Uranus' chemical composition, magnetic environment, rotation and weather will be taken.

Comet Halley will come under intense scrutiny by NASA in 1986. The first NASA spacecraft dedicated to investigating the famous comet — Spartan-Halley — will be placed in Earth orbit in January. A free-flying spacecraft deployed

(Continued on page 2)

Bulletin Board

EAA has Symphony Christmas tickets

A limited number of tickets are still available from the EAA for the Dec. 15 Christmas Pops concert by the Houston Symphony. The concert begins at 7:30 p.m. in Jones Hall. The discount tickets, available in the Bldg. 11 Exchange Store, are \$6 per person. For more information, call Joyce at x4814.

Viking Project reunion planned

The year 1986, besides being one of the most active years in space science since the late 1970s, will also be the tenth anniversary of the Viking Project landings on Mars. Accordingly, a tenth anniversary reunion has been scheduled for July 19, 1986 at the Langley Research Center. For more information, contact Jesse Timmons, Mail Stop 443, NASA Langley Research Center, Hampton, VA 23665. Timmons can also be reached at (804) 865-4621.

AIAA program to examine station micro-g

Ken Demel of the Space Station Program's Customer Integration Office will discuss Space Station microgravity considerations and materials processing for commercial development at the next lunch and learn program sponsored by the Houston Section of the American Institute of Aeronautics and Astronautics. The program runs from 11:30 a.m. to 12:30 p.m. Dec. 12 in the southwest corner of the Bldg. 3 Cafeteria. The program is free and open to the public.

Gilruth Center News

Call x3594 for more information

Defensive driving — Learn to drive safely and qualify for a 10 percent reduction in your auto insurance for the next three years. This class meets Jan. 18 from 8 a.m. to 5 p.m. at a cost of \$20 per person. Space is limited.

Ballroom dance — Learn the basics of such steps as the rhumba, the foxtrot, the cha cha and the waltz in this eight week class which will be offered to beginning, intermediate and advanced dancers starting Jan. 2. Beginners and intermediates will dance from 8:15 to 9:30 p.m., while the advanced group will dance from 7 to 8:15 p.m. The cost is \$60 per couple, with no individual registration.

Yoga — Gain inner peace and better control of your body in this class consisting of classic yoga exercises. The eight-week course begins Jan. 14 and runs from 7 to 8 p.m. The cost is \$28 per person. Space is limited.

Intermediate bridge — This course, taught by an ACBL Life Master, will meet from 7 to 9 p.m. beginning Jan. 7 and running for 7 weeks. The cost is \$40 per person.

Volleyball registration — Registration begins at 9 a.m. Jan. 2 for the next round of league volleyball at the Rec Center. Leagues are limited to 11 teams, and registration runs through Jan. 17.

Basketball registration — Registration for the next round of league basketball also begins at 9 a.m. Jan. 2. Registration ends Jan. 17.

Country western dance — This six week course offers sessions for intermediates and beginners starting Jan. 13. Intermediates will meet from 7 to 8:30 p.m., beginners will meet from 8:30 to 10 p.m. The cost is \$20 per couple.

Instructors needed — If you are proficient in teaching a leisure class which may be of interest to JSC employees, the Rec Center could use your services. Call Helen Munk at x3594 to discuss details.

Cookin' in the Cafeteria

Week of December 9 — 13, 1985

Monday — Cream of Chicken Soup; Beef Burgundy over Noodles, Fried Chicken, BBQ Sausage Link, Hamburger Steak (Special); Buttered Corn, Carrots, Green Beans. Standard Daily Items: Roast Beef, Baked Ham, Fried Chicken, Fried Fish, Chopped Sirloin. Selection of Salads, Sandwiches and Pies.

Tuesday — Beef Noodle Soup; Baked Meatloaf, Liver & Onions, BBQ Spare Ribs, Turkey & Dressing (Special); Spanish Rice, Broccoli, Buttered Squash.

Wednesday — Seafood Gumbo; Broiled Fish, Tamales w/Chili, Spanish Macaroni (Special); Ranch Beans, Beets, Parsley Potatoes.

Thursday — Navy Bean Soup; Beef Pot Roast, Shrimp Chop Suey, Pork Chops, Chicken Fried Steak (Special); Carrots, Cabbage, Green Beans.

Friday — Seafood Gumbo; Broiled Halibut, Fried Shrimp, Baked Ham, Tuna & Noodle Casserole (Special); Corn, Turnip Greens, Stewed Tomatoes.

Week of December 16 — 20, 1985

Monday — Chicken Noodle Soup; Wieners & Beans, Round Steak w/Hash Browns, Meatballs & Spaghetti (Special); Okra & Tomatoes, Carrots, Whipped Potatoes. Standard Daily Items: Roast Beef, Baked Ham, Fried Chicken, Fried Fish, Chopped Sirloin. Selection of Salads, Sandwiches and Pies.

Tuesday — Beef and Barley Soup; Beef Stew, Shrimp Creole, Fried Chicken (Special); Stewed Tomatoes, Mixed Vegetables, Broccoli.

Wednesday — Seafood Gumbo; Fried Perch, New England Dinner, Swiss Steak (Special); Italian Green Beans, Cabbage, Carrots.

Thursday — Cream of Chicken Soup; Turkey & Dressing, Enchiladas w/Chili, Wieners & Macaroni, Stuffed Bell Pepper (Special); Zucchini Squash, English Peas, Rice.

Friday — Seafood Gumbo; Baked Cod, 1/4 Broiled Chicken w/Peach Half, Salisbury Steak (Special); Cauliflower au Gratin, Mixed Vegetables, Buttered Cabbage, Whipped Potatoes.

Week of December 23 — 27, 1985

Monday — Chicken & Rice Soup; Wieners & Sauerkraut, BBQ Ham Steak, Steak Parmesan, Beef & Macaroni (Special); Green Beans, Carrots, Au Gratin Potatoes. Standard Daily Items: Roast Beef, Baked Ham, Fried Chicken, Fried Fish, Chopped Sirloin. Selection of Salads, Sandwiches and Pies.

Tuesday — Tomato Soup; Potato Baked Chicken, BBQ Spare Ribs, Mexican Dinner (Special); Squash, Broccoli, Ranch Beans, Spanish Rice.

Wednesday — Christmas Holiday.

Thursday — Beef & Barley Soup; Chicken & Dumplings, Corned Beef w/Cabbage, Smothered Steak w/Cornbread Dressing (Special); Spinach, Cabbage, Cauliflower au Gratin, Parsley Potatoes.

Friday — Seafood Gumbo; Pork Chop w/Yam Rosette, Creole Baked Cod, Tuna & Salmon Croquette (Special); Brussels Sprouts, Green Beans, Buttered Corn, Whipped Potatoes.

Space science in '86

(Continued from page 1)

from the Space Shuttle, Spartan-Halley will observe the comet by measuring its ultraviolet spectrum while the comet is as close to perihelion (closest approach by the comet to the sun) as possible. After its instruments record the data, Spartan-Halley will be retrieved by the Shuttle and the data tapes will be analyzed after landing.

In March, an ultraviolet telescope observatory, Astro-1, will be carried into Earth orbit aboard the Space Shuttle. The observatory will carry out an extensive survey of the universe by observing and measuring the ultraviolet radiation from celestial objects such as planets, stars, star clusters, galaxies, quasars, clouds of dust and gas and the interstellar medium.

The imaging of Halley's comet by a pair of visible light, wide-field cameras and other ultraviolet instruments aboard Astro-1 will add immeasurably to the information being gathered by the International Halley Watch (IHW).

Complementing the Astro-1 instruments will be a special camera system called "Can-Do". A project of middle school students in Charleston County, S.C., the camera will provide wide-angle, color imagery of the comet.

The IHW, headquartered at NASA's Jet Propulsion Laboratory, Pasadena, Calif., will gather information from a variety of international sources including Soviet, European and Japanese spacecraft rendezvousing with or passing near the comet. Information from other spacecraft (Astro-1, Spartan-Halley, Pioneer-Venus, International Cometary Explorer and International Ultraviolet Explorer) will add to the data base. The IHW also will coordinate an international effort by nearly 1000 professional and thousands of amateur astronomers who will view and record information on the return of the world's most famous comet.



Galileo will be Jupiter bound in 1986. The planet was last observed by the Voyagers in the late 1970's.

The Galileo mission, which will carry out a 2-year orbital investigation of the massive planet Jupiter and send a probe into the planet's gaseous atmosphere, is scheduled for launch from the Space Shuttle in May 1986. It will take almost 2 years for Galileo to reach the solar system's largest planet. Upon arrival, the Galileo spacecraft first will monitor the descent of its instrumented probe into the Jovian atmosphere and then Galileo will embark upon a 10-orbit, 20-month tour of Jupiter and its moons.

Also in May, the European-built Ulysses spacecraft will be launched. The European Space Agency and NASA are cooperating in the investigation of the sun and its environment. Ulysses will carry an assortment of European and U.S. built sensors.

In late summer, the world's largest space telescope will be placed into Earth orbit by the Space Shuttle. The Hubble Space Telescope, carrying a 10-foot diameter reflecting

mirror, will be able to see 7 times farther than any existing telescope, possibly to the edge of the universe. The huge telescope will be operated by NASA's Goddard Space Flight Center, Greenbelt, Md., while the data will be handled by the newly-established Space Telescope Science Institute at Johns Hopkins University, Baltimore, Md.

Also in the fall of 1986, the Shuttle High-Energy Astrophysics Laboratory will be delivered to Earth orbit by the Space Shuttle. It will add new data to the growing understanding of the space environment.

In December, if all has gone well with the Galileo spacecraft, an asteroid — Amphitrite 29 — will fall under the "eyes" of Galileo's instruments as it travels through the asteroid belt (between Mars and Jupiter) on its way to Jupiter. The spacecraft will photograph and gather data on the 125-mile-wide asteroid at a range as close as 12,000 miles.

Christmas Calendar

Women's Christmas Dinner is slated for Dec. 10

Tickets are now on sale for the annual dinner for JSC women, which will be held at 5 p.m. Dec. 10 at the Gilruth Recreation Center. The dinner, open to all women on site, will be limited to 200 persons. Reservations are required by Dec. 3, and should be made with directorate or program office secretaries, according to Betty Sue Fedderson, coordinator of the event. For the first time, the JSC Exchange Council will be subsidizing a portion of the party expenses. The event will consist of a social hour from 5 to 6 p.m., with a Chicken Kiev dinner beginning at 6:15 p.m. A gift exchange will follow the dinner. For more information, contact your directorate or program office secretary.

EAA sponsoring Christmas dances Dec. 13 and 14

The Employees Activities Association will mark the holiday season with two Christmas dinner dances for employees on Dec. 13 and 14. Both dances will feature the music of the Mark Davis Orchestra and Sunshine Festival. The Dec. 13 dinner, roast beef with trimmings, will be \$10 per person. The Dec. 14 dinner, prime rib with trimmings, will be \$15 per person. Both events begin with a social hour at 6:30 p.m., followed by dinner at 8 p.m. and dancing from 9 p.m. to 1 a.m. Tickets are now available at the Bldg. 11 Exchange Store and will be on sale through Dec. 11, limit 8 tickets per person. For more information, call Barbara Fawcett at x6251.

Symphony and chorus to present concert

A special community Christmas celebration through music will be

presented on Saturday, December 14 by the University Baptist Church chorus and the Clear Lake Symphony. The concert takes place at 8 p.m. at the University Baptist Church, 16106 Middlebrook Drive. Featured in the program of Christmas music are vocal and instrumental solos by local residents. Chorus members Doris Fuqua, Jim Shelton, and Preston Haynes will sing solos in Bach's Cantata #142, "For To Us A Child Is Born." Violinists Bea Stanley and Alice Steele will be featured soloists in "Concerto For Two Violins" by Vivaldi. Tickets are \$5, or \$2.50 for students and senior citizens and are available at the University Baptist Church, the University of Houston-Clear Lake ticket window, the Clear Lake Area Chamber of Commerce, and the Needle Art Shop. For information, call the University Baptist Church at 488-8517 or The Needle Art Shop at 488-1754.

M. D. Anderson cards available locally

Christmas cards designed by the young cancer patients at M. D. Anderson Hospital have been a Houston tradition since the 1970s.

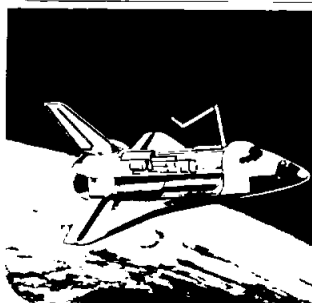
The cards are available again this year at a variety of locations in the Clear Lake area. Proceeds go to benefit the Pediatric Department at the hospital. There are eight designs to choose from, drawn by children aged 11 to 17. A package of 20 cards is \$7. The cards are available at Joske's in Baybrook Mall, Sakowitz on NASA Road 1, all Pizza Huts, Dorothy Stall & Associates Realtors at the Nassau Bay Shopping Center, and at all Allied Bank outlets. For more information, call 792-CARD.

New Year's Eve dance party scheduled

The Employees' Activities Association will sponsor a New Year's Eve dance from 7 p.m. to 1:30 a.m. at the Gilruth Recreation Center. Live music will be provided by "Just Friends and Company." The evening will begin with a social hour at 7 p.m., followed by a prime rib dinner at 8 p.m. and dancing at 9 p.m. Breakfast will be served from 12:30 to 1:30 a.m. The cost is \$17.50 per person and tickets are on sale through Dec. 20 at the Bldg. 11 Exchange Store. Tickets are limited to 8 per person. For more information, call Barbara Fawcett at x6251.

NASA
Lyndon B. Johnson Space Center

Space News Roundup



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Editor..... Brian Welch

Interview

Christa McAuliffe and Barbara Morgan

The first Spaceflight Participants discuss teaching and the program

Roundup: What are your impressions of JSC?

McAuliffe: Big. Very big. It's wonderful. I don't feel I know one one thousandth of what goes on here, though. But that's one of the messages that we want to get across. There are, what, 100 astronauts in the program, but thousands of employees here. And a lot of people see the space program as a bunch of astronauts getting on board the Space Shuttle and going up and that's it. That's all they see on TV. But lots of other things happen, and one of the nice things about being here is that when we first came down as a group of 10, I worried that people would see this group of teachers as sort of a pain, but we were so well received. I felt so welcomed.

Morgan: We have been treated like royalty. All the doors are completely open.

McAuliffe: We've gotten more information. When I'm 62, I'll finally read the last piece of paper that I bring back from here.

Morgan: The impression of JSC that I am most excited to go back and share with my students is that everybody here seems so excited by their job, no matter where they work. Whether they work in the Astronaut Office or the cafeteria or PAO or wherever, they seem to have the kind of attitude you want kids to have, which is that they are excited about learning, excited about their work. There is a wonderful poster in Bldg. 9A that I'm dying to get, which has a skier coming down a hill and it says, 'Enthusiasm will take you halfway there.' And it's like that poster doesn't need to be here at NASA, at the Johnson Space Center. These people don't need that reminder. They are living and working that feeling.

Roundup: Describe some of the reactions you have gotten from your students, fellow workers and friends since all of this began. What happened when you went back to school after the announcement was made?

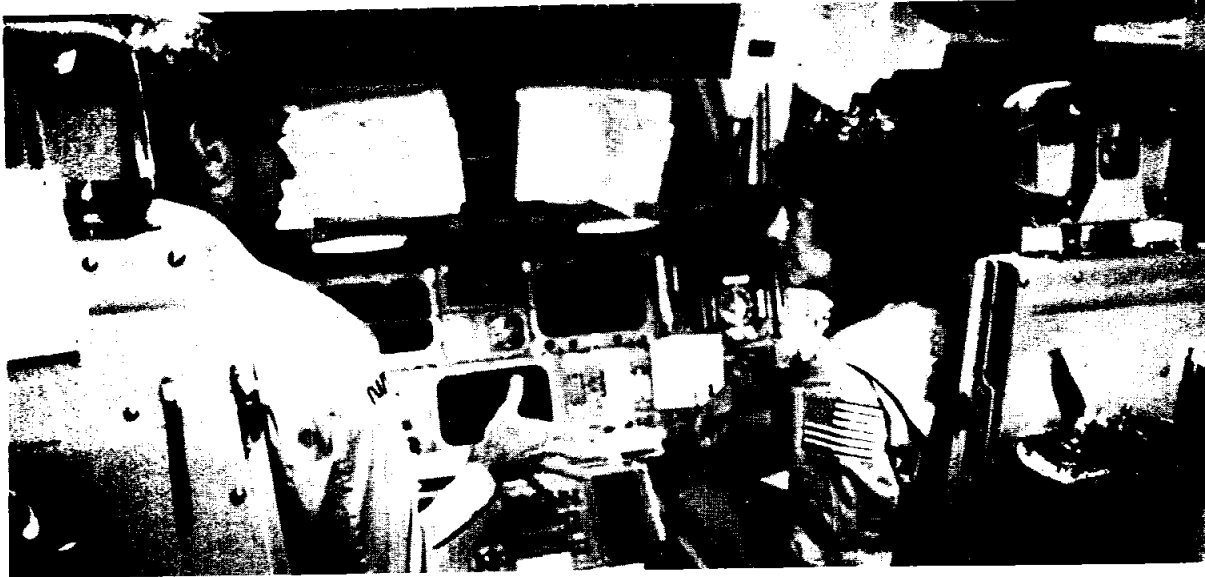
McAuliffe: The announcement was made July 19, and school was out until September, so I didn't see the kids as a group until the beginning of September. It was hard telling those kids who had signed up for my class that I wasn't going to be there this year. And I knew I was going to miss them. I won't have an opportunity to see them again, unless they stop by the house. Now during the summer, I got lots of notes, kids would stop by the house. I'd be pulling weeds or something and they would come up and give me a hug and say 'Oh, I can't believe it, this is so wonderful!' and just get very excited about it. It was hard not being in school. I would have loved to have gone back to school.

Morgan: The same thing happened to me. I got back home, but I didn't get to see a lot of the students because they were gone on vacation. But I had written each of them a postcard from Washington, telling them what it was like, how I had done. I got a lot of comments back from them, from the parents and students, and they were all very excited.

Roundup: Neither of your hometowns are all that big. Did the city government and the local people do anything special?

Morgan: Oh, they still are.

McAuliffe: They still are, right. It's wonderful. In fact, I made a call the other day just to get a couple of things straightened out, and everybody who answers the phone is just so excited. They want to stop everything and ask all sorts of questions, and they are so delighted that you are talking to them.



McAuliffe gets a briefing on flight deck functions from STS 51-L Commander Dick Scobee, top, and poses for Life Magazine in the pilot's seat, lower left. At lower right, Barbara Morgan, McAuliffe's backup, enjoys a flight on the KC-135 aircraft. (Photos by Michael O'Brien for Life Magazine).

Morgan: I even get notes written on deposit receipts from my bank. The notes say, 'We miss you, it's really cold here, how's training going, it must be wonderful.' They're very, very excited.

Roundup: This whole process is an interesting dynamic. Historically speaking, this will be a very unique story, about the first flight of an average person on the Space Shuttle. But you'll be thrust into the spotlight, and in your case Christa, that has meant meetings with government leaders, astronauts and celebrities. You've even been described as a viable candidate for state or national office from New Hampshire.

McAuliffe: Oh help.

Roundup: Parades, helicopter rides, important people. And let's face it, if you wanted to, you would never have to go into a classroom again.

McAuliffe: Ah, but that's the key. I want to go back.

Roundup: But wealth and fame are yours for the taking.

McAuliffe: Oh, but you're talking to a teacher. I didn't choose my career so I could get monetary rewards. My God, I never would have gone into teaching. It's never been a consideration. A year of this is going to be fun and I'm enjoying what I'm doing. I see it as an extraordinary year out of my life. But for 15 years, I've been a classroom teacher.

Morgan: Both of us had a lot of options open to us early in life. Not just now. When we were in college, we decided to become teachers and that wasn't something that came to us as if we had nothing else to do.

Roundup: But would you accept that somehow, the equation has changed? When you appear on 'The Tonight Show,' when you are featured in 'People' or 'Life,' the definition of you as an average person changes. Could it be that the minute you become a prime or backup Spaceflight Participant, you no longer fit the definition of average person?

McAuliffe: Oh, I think we do.

Morgan: No, I don't think either of us feels that we have changed at all.

Roundup: But you are public figures now.

McAuliffe: But that's alright. And we have to be if we are going to have success in reaching people.

Morgan: We're going to talk about the space program and try to share it with people. You can't share things with people if you are hiding in a closet.

McAuliffe: We don't see this as a stepping stone to something else. When I go into a radio or TV station, I am looking at everything that is happening and I can't wait to tell my kids what happens in a TV studio, because I have never been in one before.

Roundup: How do you react when someone asks you for your autograph?

McAuliffe: Do you know how many hall passes I used to sign at school in a day? It's very similar. It still is funny when somebody asks me for my autograph, only because I never collected them. We are very accessible, and I think sometimes people want a little piece to take away with them, and they can take your signature. I don't mind doing it, but it still kind of surprises me at times. The first few times I was asked, I kept looking around to see who they were asking.

Morgan: Part of the premise, for both of us, is the feeling that there were so many teachers who could be in this position. And so it's not like we feel we are the first and second best teacher in the country. We don't see ourselves as the only ones who could possibly be here.

McAuliffe: It's like any other selection process. There are so many variables as to why we were chosen. There were all sorts of things. It wasn't that we took test after test and finally, I got 99.8 and Barbara got 99.7. It wasn't like that. And I think that gives us a good healthy sense of who we are and who we represent, because we do represent the teaching profession, and why we are here. We don't want to be elitist, because we don't feel that we are, and I certainly don't want people looking at what I do and thinking that's the only way to do a particular thing. In my classroom, and I think Barbara's the same way, we don't see ourselves as

experts in our own classroom. We see ourselves as facilitators of the learning that's going on.

Morgan: In fact, that's one of the funny things that's happened since we've been here. All of a sudden we are being asked questions as if we are the experts on the Space Shuttle.

McAuliffe: You want to hear the best one? This was super. When the *Challenger* had the problem back in the summer with the heat sensors on the engines and they had to cancel the launch, one of the Boston papers called me and asked what I thought was wrong! And I felt exactly as I do when I'm sitting there in study hall and a student comes up to me with an advanced functions problem, which I had years ago, and wants some help. They see you as a teacher who therefore knows everything. And the person on the phone was so funny. I said, 'I have no idea. What has NASA said?' The said, 'Well, they think it's a thermostat kind of thing, but what do you think it is?' You have got to be kidding!

Roundup: What impressions will your flight make on the average student in the average school?

McAuliffe: I think generally there will be a basic awareness of the space program and some of the things that are available. And as a historian, teaching history, I look at it as an opportunity for history teachers to perhaps incorporate a little more of the space program as a part of the curriculum. Very little is in the books. But you don't need a lot in the books, because it changes so fast. Rather than using a Shuttle launch in current affairs to say, well, another Shuttle has gone up, they might teach about what's being flown.

Roundup: Within the Agency, we sometimes lament what seems to be a decided lack of understanding about the space program and how it works. How do you think your flight will help people understand what the program is all about?

McAuliffe: I just got off the phone with a journalist from London. She told me that NASA should have sent a reporter up first. 'A journalist would have a farther reaching impact than a school teacher,' she

told me. And I asked her how many people she sees individually on a daily basis. Teachers have that contact. I don't see kids once, I see them either for a whole year, or on a daily basis for five months.

Morgan: And you see them over and over again. As a second grade teacher, I still see them as high school students. They still come back. Not only do you have contact with the kids, you have contact with the parents and the community. The minute this program went into effect, people began looking at the space program more closely. There were a few people that were always interested in the space program who were looking for more on the TV besides the launch and the landing, and looking for more articles in the paper. And they were a little frustrated. But now you've got a larger group of people who are looking for more, and because they want the information, they'll end up getting it. To me, that's how people learn—they seek information—and it's our duty as teachers to help them find it.

Roundup: What message will you take to people after this experience?

McAuliffe: That space is for everybody. It's not just for a few people in science or math, or for a select group of astronauts. That's our new frontier out there, and it's everybody's business to know about space.

Roundup: But space will not be a wide open frontier, accessible to hundreds or thousands of people, for several decades. Does that dull the message somewhat?

McAuliffe: No, I feel it's accessible now. If you had asked me seven months ago what I was going to be doing on January 22, I wouldn't have told you going up in the Space Shuttle. Just having me fly is a very clear message that space is accessible. You're taking an everyday, ordinary person and putting that person onboard a Space Shuttle and flying them. It means something because we are teachers, and teachers are approachable people. Not everybody has had an astronaut in their life, but most everyone has had a teacher in their life.

Morgan: For any elementary, junior high or high school teacher, there also is the message that, since we two are social studies teachers, space is more than just the math and the science. There is something in it for everybody and everybody has a part of it. There are ways of incorporating that into your classroom when you teach music or language arts or whatever. There is a way of incorporating what the kids will be living and doing 20 years from now. It also has a double sided impact elsewhere. Not only for the space program and space education in the classroom, but for education in general. It puts education up to the level it needs to be at. Kids will definitely benefit if people think well of education and if it is a top priority in our country, the children will benefit.

Roundup: And what will the students think of their own teachers after following Christa's flight?

McAuliffe: Maybe they will decide they want to become a teacher. I am delighted that this year is going to be so special for education. We talked earlier about how teachers who would never have been highlighted, who never have gotten any press, now are being featured. People who have gotten certain scholarships, or are on an exchange program, all of a sudden find themselves in the paper. And they never would have before this.

Morgan: And getting people into the classroom is a big step. Just to have the media come and see what

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