



Holiday Receptions Set For Dec. 18 at Marshall

Dec. 18 has been designated as the day for the annual Holiday Receptions, according to Nancy Guire of the Executive Staff and chairperson of a committee appointed by Center Director J.R. Thompson to plan and conduct this year's gatherings.

"Although we're still working on the details for this year's event, and will be publishing them in upcoming editions of the Marshall Star, we want to take this opportunity to encourage all employees and retirees to mark their calendars for this event," Guire said.

All arrangements for the receptions are being handled by the 15-member Holiday Reception Committee. In addition to Guire, members of the committee include Tim Tyson, CA20, vice chairper-

son; Peggy Champion, ES62, representing the American Federation of Government Employees; Lelia B. Vann, ED13, representing the Marshall Engineers and Scientists Association; John Ellis, EM02, coordinator for the Science and Engineering Directorate; Don Laurine, EM24, representative for the Science and Engineering Directorate; Wilda Davis, AR01, coordinator for the Institutional and Program Support Directorate; Gail Ralls, PS02, coordinator for the Program Development Directorate; Paulette Lovinggood, TA01, coordinator for program offices; Deledia Perry, CN01, representing the Secretaries Association; JD Horne, CN01, representing the MSFC Employees Council; Jean

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MEETING AT MARSHALL — Meeting at the Marshall Center last week were (from left) Marshall Center Deputy Director T.J. (Jack) Lee; Center Director J.R. Thompson; Kennedy Space Center Director Gen. Forrest McCartney; Johnson Space Center Director Dr. Aaron Cohen; National Space Technology Laboratory Director Jerry Hlass; and Technical Assistant to the Director at Johnson Space Center Paul Weitz.

Friends to Honor Kingsbury

The Marshall Center will host a farewell reception Dec. 8 at the Redstone Officers Club to honor James E. Kingsbury, who will retire Nov. 30 as director of the Center's Science and Engineering Directorate.

Center Director J.R. Thompson will join many of Kingsbury's other colleagues and friends at the reception which will be held from 6:30 to 8:30 p.m.

Plans for the event call for a heavy menu of hors d'oeuvres and refreshments. A special part of the reception will be a program of presentations and reflections on Kingsbury's career. That program will begin at 7:30.

Tickets are \$5. They are available from Vivian Whitley of the Public Affairs Office, room 107, building 4200. Deadline for purchasing the tickets is Dec. 4.

Center Directors Meet Here

Marshall Center Director J.R. Thompson and Deputy Director T.J. (Jack) Lee last week hosted a meeting here with directors from other NASA centers.

"We met to discuss issues directly involving the centers, center roles and responsibilities, and the way the centers can interact to accomplish NASA's goals," Thompson said.

In addition to Thompson and

Lee, those attending included Dr. Aaron Cohen, director of the Johnson Space Center; Gen. Forrest McCartney, director of the Kennedy Space Center; Paul Weitz, technical assistant to the director at Johnson, and Jerry Hlass, director of the National Space Technology Laboratory.

The group discussed Space Shuttle recovery efforts, the Space

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Kingsbury Reflects On Four Decades of Progress

The days are gone when vacuum tubes, instead of microcomputers, controlled the guidance systems for launch vehicles, and when engineers did their calculations on slide rules instead of computers.

But much more than that has changed in the nation's space program and at the Marshall Space Flight Center



YESTERDAY & TODAY — Cpl. James E. Kingsbury (left) has seen a lot of changes in the nation's space program since he first joined the Redstone Arsenal rocket development team in 1951.

since July 1951 when the U.S. Army sent Pvt. James E. Kingsbury to what he called a "little cotton town" in North Alabama.

Over the last 35 years Kingsbury, who will retire Nov. 30 as director of the Center's Science and Engineering Directorate, has done much more than witness those changes. He has been an active participant in virtually all of them.

"I didn't have any idea what went on here (at Redstone Arsenal) in 1951. It was just a place the Army sent me to help support a group of scientists that were being transferred here from Fort Bliss, Texas," Kingsbury said, referring to Dr. Wernher von Braun and his German team.

Now 26 years after he was transferred from the Army Ballistic Missile Agency to the Marshall Center, Kingsbury vividly recalls the contrast between then and now.

"In the early days of the space program we were presented with many opportunities

to do things that as kids we had read about in science fiction books. There was no lack of dedication and enthusiasm on the part of anyone involved. Unfortunately, there was a lack of knowledge on how to do things," Kingsbury recalls.

One of the differences in then and now was the testing program for spacecraft hardware and components. "Test programs in those days were conducted to find out what would happen, not to confirm what you expected to happen. That's a big change from today."

According to Kingsbury, "slide rules were the order of the day. We didn't have the tools for doing structural or dynamic analysis."

Despite such circumstances, Kingsbury and his associates pressed on. "The truth is we had some very dramatic successes that resulted from failures. For example, when

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Marshall Center to Manage Soft X-ray Telescope

The Marshall Center has been selected by NASA Headquarters to manage the definition and development of a soft X-ray telescope slated to fly aboard a Japanese satellite to study the sun.

The telescope will be one of two major experiments on the satellite scheduled to be launched by the Japanese during the next period of maximum solar activity in August 1991.

The purpose of the Solar A mission, as the scientific effort is called, is to advance the understanding of the sun's high energy phenomena by studying its x-ray and gamma ray emissions.

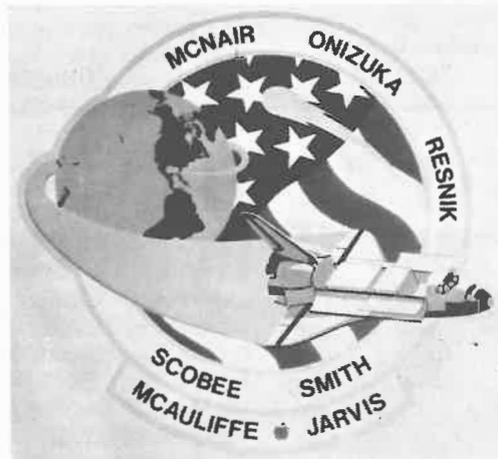
"The U.S. telescope will investigate less energetic or 'soft' x-rays emitted by the sun," explained Rein Ise, manager of science payload projects within Marshall's Spacelab Payload Project Office. "Our initial effort will be to perform a preliminary design of the instrument and complete an

accommodations study with the Japanese. This study will define interfaces between the telescope and the satellite."

The U.S. research team for this instrument is headed by Dr. Loren Acton, Lockheed Palo Alto Research Laboratory, Calif. Acton was a Payload Specialist on the Marshall Center-managed Spacelab 2 research mission which flew aboard the Space Shuttle in the summer of 1985.

Solar-A is expected to be in operation for three years, continuing the systematic study of high energy solar processes started by the NASA Solar Maximum mission and the Japanese Hinotori mission, both operated in the early 1980s during the height of the last epoch of maximum solar activity. These peaks, during which high energy events called solar flares most frequently occur, appear about every 11 years.

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Discovery Moved to Orbiter Processing Facility

Orbiter Discovery has been moved to the Orbiter Processing Facility at the Kennedy Space Center where it will be prepared for the next Space Shuttle mission, targeted for February 1988.

Actual flight servicing and the unique preparations for its mission are scheduled to begin about mid-September of next year after Discovery has completed an extended period of powered down modifications, according to KSC officials.

When the orbiter emerges from the processing hanger three months later, it will be buttoned up for flight and on its way back to the Vehicle Assembly Building for mating to an external tank and a set

of booster rockets.

Discovery will be outfitted to deliver a Tracking and Data Relay Satellite to orbit on a four-day mission that will begin with liftoff from Kennedy's Pad 39-B and conclude with a landing on a lakebed runway at Edwards Air Force Base in California.

Among the modifications to be performed on the ship are the backlog of already approved vehicle upgrades and potential changes that may stem from the post 51-L Systems Design Review currently in progress.

One of the major items included in the approved modification program is a structural beefup of the orbiter wings, a performance

enhancement based on analysis of flight experience.

Another significant, time-consuming modification involves the installation of a new thermal barrier system around the nose landing gear doors. The existing design has been susceptible to damage during cycling of the doors, resulting in increased maintenance.

Other modification activity centers on installation of new orbiter instrumentation, including instruments that gather perfor-

mance data on the Shuttle brakes, and the completion of work on special instruments that will be required in the future for Vandenberg AFB launches.

Discovery has been in the VAB's storage bay since early September while facility modification work was performed in Bay 1 of the Orbiter Processing facility.

Discovery last flew in August 1985 on Shuttle Mission 51-I, the orbiter's sixth flight since it joined the fleet in November 1983.

Journal To Feature Marshall

The editors of the NASA Tech Brief Journal were at the Marshall Center recently to interview J.R. Thompson, Center director, and to collect information about the Center for a feature in an upcoming issue of the Journal, according to Ismail Akbay, director of Marshall's Technology Utilization Office.

Bill Schnirring, publisher and editor-in-chief of the Journal, also met with James Kingsbury, director of Science Engineering Directorate; William R. Marshall, manager of the Space Shuttle Projects Office; Charles R. Darwin, director of the Program Development Directorate; William C. Snoddy, deputy director of the Program Development Directorate; Luther Powell, manager of Space Station Projects Office; Fred S. Wojtalik, deputy manager of Space Telescope Projects Office; J.N.

Foster, director of the Institutional and Program Support Directorate, and Robert G. Sheppard, deputy director of the IP & S Directorate.

The bimonthly journal publishes Tech Briefs submitted by NASA civil service and contractor employees. The journal currently has more than 125,000 subscribers with the circulation expected to double within the next year, according to Akbay. Marshall employees who would like a free subscription to the journal should contact the Technology Utilization Office.

Holiday

Thursday will be celebrated as a holiday — Thanksgiving. All activities at the Marshall Center, except necessary fire and security operations, will be suspended on that day.

NOVEMBER 26, 1986



DISCUSSING ARTICLE — Bill Schnirring (left), publisher and editor-in-chief of NASA Tech Brief Journal, meets with J.R. Thompson, Center director and Ismail Akbay (right), director of Marshall's Technology Utilization Office.

NASA Photo by Dennis Keim

Kingsbury Reflects On Four Decades of Progress

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we were working on the old Redstone engine, which was according to today's technology an extremely simple engine, we did not fully appreciate the hazards associated with working with liquid oxygen.

"We had not before encountered the problems of dealing with very low pressures in space. There were serious problems with lubricants that almost shut down the nation's guided missile program in the middle 50s. I also remember the days when guidance systems were filled with vacuum tubes. You worried yourself to death about something like that," he said.

In addition to recalling how the methods, tools and resources associated with yesterday's space program differed from those of today, Kingsbury recalls how the role of the Marshall Center has changed. "Back in the 1950s and early 1960s there was really no aerospace industry in this country. There were airplane manufacturers. This meant we had to actually build and test our own hardware. The role we play today

has changed from doing it all to making sure it is done right by our contractors.

"Of course, there is an advantage in designing something and seeing it built right here where you can kick the tires." However, the times required that the Marshall Center change from a center "doing a one of a kind program to a center responsible for a multiplicity of programs," Kingsbury added.

That change occurred in the 1970s, a "very traumatic period" for the Marshall Center, according to Kingsbury. "There were rumors and conjectures that the Marshall Center might close. But because of the management acumen here we emerged from that period as one of NASA's strongest centers, with a diversity of programs."

Kingsbury believes the Marshall Center retains that strength today because, despite all the other changes the Center has experienced one thing has remained the same. "That's the quality of the people who work here. I guess I have spent my life surrounded by people whose enthusiasm for their job

was foremost in their lives. In fact it is very encouraging and heartwarming to see the kind of people who are coming to work with us now in the space program. Today the people in the space program are mirror images of the kind of people

we worked with in the early days. They show the same type of enthusiasm, the same type of dedication, and the same type of spirit.

"I think the space program is in great hands," Kingsbury said.



'BACK TO THE FUTURE' — Kingsbury (left), in 1966 as chief of the Engineering Physics Branch in the Materials Division, with Dr. William R. Lucas, then chief of the division.



MSFC CHARTER MEMBERS — Kingsbury (right) with Buddy Esslinger, EM24, at the Marshall 25th Anniversary Charter Members Reception in 1985.



MSFC BRIEFING — Kingsbury (right) and other MSFC officials brief Dr. Alan Lovelace, then NASA Deputy Administrator, during a 1976 tour of MSFC.



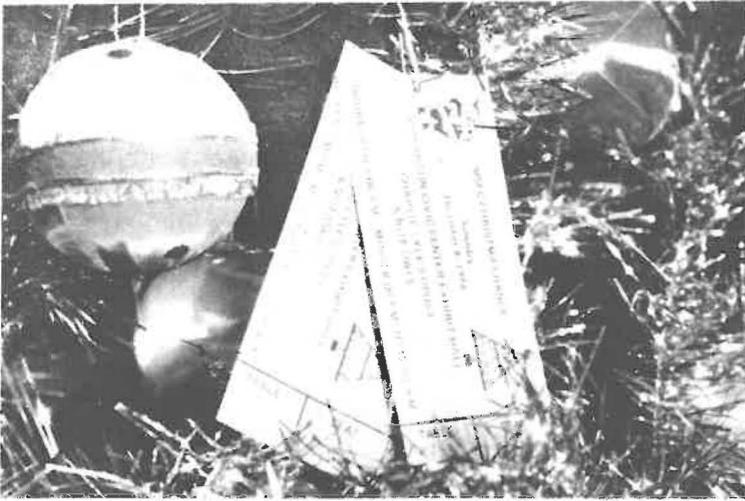
DURING STS-2 — Kingsbury (right) with then MSFC Shuttle Projects Manager Robert Lindstrom during the launch of STS-2 at KSC.



INFRARED TELESCOPE — From left, Kingsbury; George Hardy, then associate director for Engineering; and Frank Park, EE45, inspect the Infrared Telescope in 1983.



CFC TOUR — Kingsbury with a special friend during a 1983 tour of CFC agencies.



CHRISTMAS DANCE TICKETS — Tickets are on sale for the tenth annual Marshall Center Employees Christmas Dance to be held Dec. 6 in the Von Braun Civic Center Exhibit Hall. Tickets are available from the MARS Ballroom Dance Club members at the MSFC Activity Building (4752) from 11:30 a.m. until 12:30 p.m. daily. The dance is sponsored by the MSFC Exchange Council.

NASA Photo by Dennis Keim

Center Directors Meet Here

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Station program the Orbital Manuevering Vehicle, philosophies related to ground test programs and the interaction of the centers with the new Code M and Safety Reliability and Quality Assurance organizations at Headquarters.

According to Thompson, last week's meeting was the first of a series of periodic discussions that the directors and deputies plan to hold.

"Meetings like the one last week are extremely valuable. They're opportunities for the center directors to reach an understanding of various subjects, schedules and issues," Thompson said.

"With that understanding we can mutually agree on the course of action that is most beneficial to each center, and to NASA as a whole."

Surplus Property To Be Sold

The General Services Administration will conduct an auction for surplus government property beginning at 9 a.m., Dec. 3, in building 7427, on Warehouse Road. Registration for items is 8 a.m. to 9 a.m. on Dec. 3 in building 7427.

Prospective buyers may inspect

Holiday Receptions

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Lee, CN11, representing food services; R.I. Collinsworth, AB34, representing the Facilities Office; Mary Bonner, DX01, representing the Executive Staff; Jyles Machen, CA01, representing the Public Affairs Office.

The Marshall Star is published every Wednesday by the Public Affairs Office at the George C. Marshall Space Flight Center, National Aeronautics and Space Administration.

Contributions should be submitted not later than Friday noon to the Marshall Public Affairs Office (CA10) building 4200. Submissions must be typewritten and include the originator's name. Marshall Employee ad deadline is noon Thursday.

The Marshall Star does not publish commercial advertising.

Mike Wright, Editor
Dominic Amatore, Chief
Media Services Branch
John B. Taylor, Director of Public Affairs

items to be auctioned, Nov. 24 to Nov. 26 and Dec. 1 to 2 from 8 a.m. to 3 p.m. in the Defense Reutilization and Marketing yard outside building 7408.

Items to be sold include: compressors, condensing units, welders, storm windows, motors, pumps, refrigerators, gas furnaces, work tables, racks, lawn mowers, shelving tires, vehicles, and a boat with trailer.

Job Opportunities

Public Affairs Specialist, GS-12, Public Affairs Office, center wide, closes Nov. 28, CPP-87-40-AM.

Open, Listed Previously
Closes Nov. 28: AST, Aerospace Flight Systems, GS-15: CPP-87-35-JP.

Closes Nov. 28: AST, Mechanics of Material, GS-14: CPP-87-36-JP.

'Star' to Retirees

Marshall employees are reminded the Marshall Star is not mailed automatically to all retirees. Retirees must complete a request form available from the Personnel Development Division, CM22.

Holiday Closings

The following closings have been announced for the Thanksgiving holiday period:

The Auto Service, owned and operated by Terry Thompson through a concessionaire agreement with the NASA Exchange, will be closed Thanksgiving and this Friday. Regular hours of 7:30 a.m. - 5 p.m. will resume Dec. 1.

The barbershop, located in the basement of building 4200, will be closed Thanksgiving and Friday.

The MSFC Activities Building, located on Tiros Road will be closed Thanksgiving. Regular hours will be observed Friday, 7 a.m. - 8:30 p.m.

All MSFC food service facilities will be closed on Thanksgiving. On Friday, only building 4200 and 4610 cafeterias will be open. In building 4200, line 2 serving line will be open from 11 a.m. to 1 p.m. The snack bar will be open for breakfast and lunch from 7 a.m. to 1:30 p.m. In building 4610, the snack bar will be open from 7 a.m. to 12:30 p.m. The main serving line will be closed. All other facilities, including the mobile canteen, will be closed.

PECANS

The pecans recently ordered through the NASA Exchange — MSFC are available for pick up at the MSFC Activities Building (4752), between the hours of 8 a.m. - 3 p.m., Monday through Friday.

MARS News & Views

VOLLEYBALL

The first season of the MARS Coed Volleyball Club ended Friday with an awards banquet.

The Unknowns coached by Tina Walker took top honors finishing the league in first place with a record of 32-4.

Tied for second place was Down Under coached by Teresa Vanhooser and the Standard Deviants coached by Fred Herrington.

In the league's end-of-season tournament the Untouchables coached by Thomas Holden and Jackie Fletcher volleyed through the losers bracket to defeat Down Under for the tournament title. Finishing in second place was Down Under followed by the Thrusters coached by Susan Kelso.

Plans are underway for scheduling the league's spring volleyball season.

MESA Ordering Challenger Reports

MESA is taking orders for volumes II and III of the Challenger Report. Interested persons can examine copies of the reports at the MESA office in building 4471, room C-105, from 8:30 a.m. - 12:30 p.m., Monday through Friday. The price for the set will be \$31. The list price is \$40 per set.

Employee Ads

VEHICLES FOR SALE

1984 Plymouth Reliant, 4-dr., air, auto, power, stereo, \$4775. 830-1905.

1988 National Cycle Plexifairing III motorcycle windshield, \$55. 534-9678.

1982 Pontiac Bonneville, 4-dr.; 1982 Honda Hatchback 1500; 1979 Pontiac Bonneville, 4-dr. 837-1557.

1984 Mazda RX7 GSL, black w/wine interior, options. Call 8-6, 355-1300.

1980 Yamaha 850 special, windshield, luggage rack, low mileage, \$1750. 881-0458.

1983 Sentra STD, one owner with AC, \$3500. Gross, 837-3087.

1984 Camaro Z28, 5.0 liter H.O., V8, 5-spd., air, stereo, \$8995. 538-1519.

1983 GMC S-15 truck, Sierra Classic, \$4400. 828-3189.

1981 Honda Accord LX, hatchback, PS/AC/5-sp, 54,000 miles, one owner, \$4500. Evenings, 837-1413.

1986 Mazda B2000 sport truck, 5-sp., AM/FM cassette, 20,000 miles, \$8000. 233-3376.

1985 Oldsmobile Delta 88 Brougham, fully equipped, one owner, \$8975. 1-586-2068 (Arab).

MISC. FOR SALE

Dresden plate quilt, \$75. 682-1097.

Magnavox stereo (cabinet), AM/FM — 8-track — cassette, 4-yr. old, \$200 or best offer. 721-9807.

C-128, 1571 disk drive, lots of software plus CPM. 883-4354.

Kenmore freemarm sewing machine, 10 different stitches, accessories, carrying case, \$75. After 5 p.m., 883-4975.

19" 1988 GE remote control color TV, asking \$195. Call Sam after 6:30 p.m., 830-9349.

Woman's waist length rabbit jacket, small, brown multi. Nelson, Grant, 726-4176.

Large round bales of hay, \$10/roll. 852-5446 after 5 p.m.

Harmon Kardon 330A amplifier, 22.5 watts per channel, needs repair, \$10. 837-2386.

Sofa sleeper, gold tweed, \$200; used carpet, green, 13' x 23', \$25. 881-5642.

11 foot, sandpiper 55 railboat, lateen rigged, 8 years old, \$35. 837-2386.

30" x 80" aluminum stormdoor, \$25. Stroud, 852-8258.

Large metal 2-drawer desk, simulated wood top, \$45. Uphaw, 881-8496.

Clarinet, Noblet, wooden, must sell, \$110. Call after 5 p.m., 852-0581.

Bicycle, girls 3-spd., 26 in.; aluminum storm door, 36 in. RH. 534-4450.

Century infant car seat, \$8. 881-4697.

Ping-pong table with rackets, etc., \$60; steamer trunk, \$60. 881-2608.

Apple IIC computer second drive, RGB-color, monochrome monitors, mouse, joystick, software, and more. Ormsby, 830-1143.

Upright piano, Adam Schaaaf, burl oak veneer. Rhodes, 883-2874.

Browning 9mm hi-pwr automatic pistol, PRE-1965, \$395; Remington 870-12 ga. 28" barrel, \$85. 586-8205 (Arab).

World Book encyclopedia with year books, \$40; Maganavox stereo, two mahogany cabinets, \$70. 880-0880.

Z-7000 3-way Omega speakers, 300W, 12" woofer, asking \$295. Call Sam, 830-9349.

WANTED

Wanted 1970 thru 1974 Dodge Challenger or Plymouth Barracuda. 881-6495.

Dormitory refrigerator. 534-5379 after 5 p.m.

Two to six tickets to Alabama/Auburn football game. 538-1787.

Encyclopedia set. Please call after 4:30 p.m., 721-0957.

Ads are published on a space available basis as a personal non-commercial service to Marshall Center employees. Ads must be submitted on MSFC Form 3332 (dated 1978 or 1983), signed by the advertiser and addressed to CA10. The forms, available in Supply, must be submitted by noon Thursday for publication in the next issue.