Dr. von Braun to Address AOA at Shreveport Friday

Dr. Wernher von Braun, director of the Marshall Center, will discuss "The U. S. Space Carrier Vehicle Program" at a dinner meeting of the American Ordinance Association at Shreveport, La., on Friday evening.

Dr. von Braun will be introduced by the Honorable Overtin Brooks, member of Congress and chairman of the House Committee on Science and Astronautics.

Attending will be AOA members from Western Louisiana, Eastern Texas and Southern Arkansas. Dr. von Braun's address, which will include numerous illustrative slides, will be televised by Channel 12 at Shreveport.

The meeting will be held at 8 p.m. at the Washington-Yocene Hotel.

MSFC Opens UGF With Spirited 'Kick Off' Rally


The colorful, one-hour ceremony featured speeches by MSFC Director Dr. Wernher von Braun and Dr. Jerry C. McCall, assistant to the director and chairman of the Center's UGF drive.

Attending were some 450 UGF workers and agency representatives from the Marshall Center, Huntsville and Madison County.

Fair Share Set

Each Marshall employee will be asked to donate 80 per cent of one day's salary as his "fair share" toward meeting the Center's $60,000 goal. The Marshall drive will continue through November 4.

Addressing Marshall's UGF agents, coordinators and committee men, Dr. von Braun declared, "... in supporting such a voluntary agency like this you are sharing in democracy at its best. Who ever heard of a United Givers Fund in a dictatorship?"

"By working for and contributing to the UGF, you are living up to your personal responsibilities. You are developing still further your capacity as a good citizen."

"This team of ours," he concluded, "is pretty well known for its brains, but it has a big heart, too."

(See UGF on Page 8)

400 Attending Industry Conference at Marshall

A two-day industry conference opened yesterday at the Marshall Center with about 400 representatives of U. S. industry, research institutions and government agencies attending.

Purpose of the conference is to acquaint firms and agencies with the Center's present and future projects and the type of industrial and scientific support needed.

MSFC Programs Described

The meeting is being held at the Rocket Auditorium. Dr. Wernher von Braun, Marshall Center director, welcomed conferences and scheduled talks are covering a number of MSFC programs including development of the giant Saturn space vehicle, Project Mercury, the Apollo+A and Centaur rocket systems, and supporting research. Procedures for transacting business with the Center are also being outlined.

The conference will end today with a tour of Marshall laboratories.

Limitation of facilities required a controlled attendance by invitation only. About 400 organizations were invited to send one representative each.

Conference Purpose

In inviting conference attendees, Dr. von Braun said, "The provide industry with a clear con- see CONFERENCE on Page 2

SEAMANS NAMED TO NASA'S TOP CAREER POSITION

Robert C. Sesmans, Jr., 41, former chief engineer of the Missile Electronics and Controls Division of the Radio Corporation of America, was recently named associate administrator of the National Aeronautics and Space Administration by Dr. T. Keith Glennan, NASA administrator. He assumed the position on September 1.

Dr. Sesmans toured facilities of the Marshall Center last Thursday and visited the Launch Operations Directorate on Friday, accompanied by other officials of NASA Headquarters (see photo inside).

At the federal space agency, Dr. Sesmans now occupies the top

'Star' to Appear Weekly at MSFC

This is the first issue of the "Marshall Star," a weekly newspaper published for employees of the George C. Marshall Space Flight Center.

A copy of the "Star" will be distributed to every MSFC employee each Wednesday.

The paper is prepared by the MSFC Public Information Office and employees news contributions and suggestions are welcomed. Forward contributions to M-PIO indicating originator's name, association with the Center and phone number. Deadline for submission of material is noon Monday.

The "Marshall Star" will not publish advertising.
The MARSHALL STAR
A weekly newspaper for employees of the George C. Marshall Space Flight Center, National Aeronautics and Space Administration.

The Marshall Star is published every Wednesday by the Public Information Office at the Marshall Space Flight Center.

This issue, sent to the MSSFC Public Information Office (M-PIO), Hifo. 404I, ext. 976-1959, and include originator’s name, connection with the Center and telephone number. The Marshall Star does not publish advertising.

Theater League to Offer Four Plays

The season’s local entertainment scene will include four plays during last season on Broad- way, complete with name stars and professional stages. The plays will be staged one night each in the Huntsville High School Auditorium.

The first production “The Pleasure of His Company ’ starring Joan Bennett and Donald Wood is scheduled for Friday, Oct. T. a musical “Once Upon a Mattress starring Imogene Coca and Ed- ward Everett Horton will follow on Nov. 26. Briton Denley will star in “Amerindia’s Trial” March 2 and John Carradine in the Pulitzer Prize winning “J. B.” Mar. 25.

The Broadway Theater League of Huntsville, a community ser- vice organization sponsored by the Huntsville News and The Non- official Women’s Club, is pre- senting the plays.

Admission will be by season membership which includes the same reserved seat for all four plays. A limited number of mem- berships are still available. Mem- berships may be secured in any member of the Business and Pro- fessional Woman’s Club or by call- ing Mrs. Rodgers, 13-6-9002.

Nebraska Groups To Hear Kueettner

Dr. Joachim Kueettner, Mercury Project manager at the Marshall Center, will address physicians, dentists and pharmacists in Oma- ha, Alliance and Lincoln, Nebras- ka, on October 1, 2 and 3.

Dr. Kueettner will discuss vari- ous aspects of the Mercury program, “Trip to Space” during the three addre- sses which are part of an Inter- professional Airborne meeting.

Dr. Kueettner was director of the Zepitzington Mountain Observ- atory, Germany, prior to coming to this U. S. in December 1944. There he was employed by the Air Force Cambridge Research Center and was scientific direc- tor of the Mount Washington Ob- servatory before joining the rocket development team at Hunts- ville in 1948.

Page 2

CONFERENCE

(Continued from Page 1)
cept of the role of MSFC in the overall mission of the National Aeronautics and Space Adminis- tration and a comprehension of the scientific and technical work of the Center. It will enable indus- try to understand the support MSFC will provide during the transition and future missions and objec- tives.

"It is NASA’s policy," he ex- plained, "to utilize the capability and resources of industry to the maximum. The mutual under- standing derived from the confer- ence will enhance the attainment of future goals.

Similar Briefings Held

A similar industrial briefing was held at NASA Headquarters, Washington, D. C., in late July, covering the entire space and aeronautical field. Each major NASA field activity in conduct of a major program will deal with details specific to its technical activity and the needs of industry support required.

Largest and newest of NASA’s field installations, MSFC has a current budget of about $500 mil- lion a year, and is responsible for developing and launching NASA’s space vehicles.

Conference Presentations

The conferences are conducted during the MSFC conference and their respective topics include: Dr. Eberhard Beare, deputy direc- tor for research and development, “Research and Development’’; Os- wall Lange, manager, Saturn Sys- tems Office, “Saturn Program”; Dr. Joachim Kueettner, Mercury Project Manager, “Mercury”; Hans Huetter, manager, Agana and Continus Systems Office, “Agana-Continus’’; Dr. Kurt Debus, director, GREEVER TO HEAD JUNO II PROJECT

Bill B. Grever, formerly of the Saturn Systems Office at the Mar- shall Center, has been placed in charge of the Juno II Project at MSFC and is now attached to the center as deputy director for research and development.

Prior to joining the Huntsville rocket development group in 1957, NASA’s manned space program with the U. S. Navy Bureau of Yards and: 

The National Aeronautics and Space Administration will mark its second birthday on Saturday, October 1.

Elected in 1958 by Congress- sional passage of the National Aeronautics and Space Act, NASA is charged with conducting the nation’s scientific space explora- tion programs. Dr. T. Keith Glen- nan is the organization’s first ad- ministrator.

The addition of the Marshall Space Flight Center to NASA on July 1 completed a evolutionary two-year consolidation of the na- tional space effort. It also over- came the Space Administration’s crisis of major deficiency—a field is- stallation to take charge of the development and launching of space vehicles, and brought to the organization Dr. Werner von Braun and a group of scientists having more than 20 years’ ex- perience in pioneering rocketry.

Nucleus of NASA is the for- mer National Advisory Committee for Aeronautics (NACA), which was founded in 1915 to study the problems of flight with a view to practical solutions.

During its 42 years of oper- ation, NACA helped blaze avi- nation history. In early years, it revolutionized basic aircraft design and construction. In its wind tunnel and other research facili- ties made NACA technical reports the basis for aviation progress and by the end of World War II those efforts led into space.

More recent NASA accomplish- ments include the research rocket aircraft program which resulted in development of the X-1 in which man first broke the speed barrier, sound of 1947; the "area rule" which is indispensable to high performance of supersonic jet aircraft; the "bunt body" concept for atmospheric re-entry which paved the way for practical design of ballistic missile nose cones as well as the Mariner capsule; pioneering research in the field of ion propulsion, and more than 3,000 rocket launchings at Wal-lops Island Station, Va.

The NACA personnel and the NASA laboratories were trans- ferred immediately to NASA be- coming the Langley Research Center, Hampton, Va.; Lewis Re- search Center, Cleveland, Ohio; Ames Research Center, Moffett Field, Calif.; Flight Research Center, Edwards, Calif.; and the Wallops Station, Wallops Island, Va.

To this core of personnel were added, on NASA’s first day of business, Project Vanguard and 400 Naval Research scientists who now help staff NASA’s new God- dard Space Flight Center at Belts- ville, Md. The Goddard Center is named after the American rocket pioneer Dr. Robert H. God- dard, who successfully launched the world’s first liquid-fuel rocket in 1926.

Also transferred to NASA from the Department of Defense were several earth satellite and space vehicle programs including "super thrust" propulsion systems.

Two months later, on Decem- ber 5, 1958, the first orbit of a per- ferred functions and facilities of the Jet Propulsion Laboratory, Pasadena, Calif., from the U. S. Army to NASA.

Founded in 1936, JPL develop- ed rocket-sailed takeoff (JATO) rocket motor which propelled a one-man rocket and therefrom was active in various rocket programs of Army Ordi- nance as well as the space ve- hicle program and tested upper stages, payloads and tracking systems for the first Explorer satellites.

Also on December 3, NASA and the Army reached an agreement whereby the Army Missile Ordi- nance Command at Huntsville, Ala., and subordinate organizations would be responsive to NASA re-quirements.

Within the entire governmental structure, NASA coordinates fully on all space related matters with all other departments and activi- ties. This includes the Depart- ment of Defense and the various military missile and space-orient- ed activities.

The X-15 is a joint NASA-Air Force-Navy program, while the Mercury manned space program under NASA’s direction involves class and detailed mutual support across the board.

NASA relies heavily in American industry in all areas of aero- nautical and space operations.

MARSHALL STAR
Oct. 1 Deadline To Enroll
In NASA Life Insurance

All Marshall Center employees are urged to enroll at once in the National Aeronautics and Space Administration Employees Benefit Association Group Life Insurance Program. No medical examination or health statement is required if enrollment is completed before Saturday, October 1. Thereafter employees will have to show evidence of insurability satisfactory to the insurance company. The NASA life insurance program, in effect for nine years throughout other NASA installations, has over 6,000 members insured for more than $85,000,000. It is administered by the Home Life Insurance Company of New York City, which is more than 100 years old and one of the largest life insurance firms in the U.S. The plan is for NASA employees only; no one else employed in the federal service is eligible.

Dr. T. Keith Glennan, NASA administrator, has stated that "favorable experience to date under the NASA plan shows that we are able to provide more insurance protection per dollar of cost than under comparable group plans offered by the government or by commercial companies." The annual premium for the plan after dividends to the 6,000 members insured at other NASA installations during the past nine years has been less than $4.50 per year per $1,000. It is expected that with a high enrollment of MSFC employees, the net cost will be even lower in the years to come.

All that is necessary to join the plan is completion of an enrollment card and payment of the first quarterly premium. Each quarter thereafter, each employee will receive a statement telling them where to send payments. Enrollment cards and additional information regarding the plan are available in all MSFC administrative offices.

The current campaign to enroll MSFC employees in the NASA program began on September 1, with representatives of the Home Life Insurance Company holding meetings throughout divisions and offices to explain the plan to all employees. Response to date has been reported excellent and enrollment cards are being received in volume daily.

"If you haven't submitted your enrollment card, do it now," urges Arthur E. Sanderson, director of Personnel Branch, MSFC. "This is an excellent opportunity," he points out, "for everyone to buy low cost life insurance to protect the financial security of their families."

Andalusia Clubs Hear MSFC Man

Keith White of the Marshall Space Flight Center, National Aeronautics and Space Administration, discussed "Subversion and Infiltration" in an address at Andalusia last night.

Chief of the Marshall Center's Security Branch, White addressed the annual joint meeting of the Andalusia Business and Professional Women's Club, the Pilot Club and the Altrusa Club.

White joined the research and development group at Huntsville in June 1952 and was chief of the Intelligence and Security Division at Redstone Arsenal before accepting his present position.

He holds a BS degree in business education from Bailey State College, Muncie, Ind., and has done post-graduate work at Indiana University. He is a member of the American Society for Internal Security, the Retired and Protective Order of Elks, and the Monte Sano (Huntsville) Civic Organization.

Joint AEC-NASA Office Established

John A. McCoy, chairman of the Atomic Energy Commission and Dr. Keith T. Glennan, administrator of the National Aeronautics and Space Administration recently announced the establishment of the Joint AEC-NASA Nuclear Propulsion Office (JANP). The new office will consolidate the work which has been carried out by organizations in each agency to develop nuclear energy for space missions.

Harold B. Finger, Chief of Nuclear Propulsion for NASA, was named manager of the joint office. The deputy manager will be Milton Klein who has been assistant manager for Technical Operations of the AEC's Chicago Operations Office.

The new office will be staffed by employees drawn from both the AEC and NASA. It will be located at the AEC Headquarters at Germantown, Md.

The JNO will integrate the Project Rover Nuclear Powered Rocket development programs which had been carried out previously by the AEC and the Aircraft Reactors Branch of the Division of Reactor Development and the nuclear propulsion organization in NASA's office of Launch Vehicles.

In accordance with statutory responsibilities of both agencies, AEC will have primary responsibility in this program for the development of all reactors and their components, including those for flight missions specified by NASA; NASA will have primary responsibility for research and development of non-nuclear components and integration of nuclear components in engines and vehicles of rocket systems.

The Rover program was initiated in 1955 by AEC and the Air Force. When NASA was established in 1958, Air Force responsibility for this program was transferred to NASA.

Development of the reactor system is being carried out by the Los Alamos Scientific Laboratory, operated for the Commission by the University of California. Tests of two reactors, Kiwi-A and Kiwi-A Prime, have been conducted at the Atomics Nevada Test Site in July of 1959 and July of 1960. A third reactor Kiwi-A-3, is scheduled to be tested later this year.

The Atlas-Agena-B series replaces the Vega program which NASA ended last December.
Marshall Center Included in NASA Flight Schedule

National Aeronautics and Space Administration East Coast installations are now served with an airlift operation which includes a Redstone route between the Marshall Center and Patrick Air Force Base.

NASA personnel traveling on official business are requested to use the airlift service in lieu of commercial travel. Non-NASA personnel may use the service on a "space available" basis.

The Redstone route, serviced by a Super C-46, operates on Tuesday and Thursday. The flight leaves Redstone airport at 7 a.m. CST and arrives at Patrick at 11:30 EST. In the afternoon the flight leaves Patrick at 2:30 p.m. EST and arrives at Redstone at 5 p.m. CST.

Two other routes in the NASA plan are the Titusville route, serviced by a passenger DC-3 and providing transportation between NASA Headquarters, Langley Research Center and Wallops Station, and the Mercury route, serviced by a pressurized Martin 404 and operating between Langley Research Center and Patrick Air Force Base.

The Titusville route operates on Monday, Wednesday and Friday leaving Bolling Air Force Base at 7 a.m. EST, Langley at 8:05 a.m. EST, Wallops at 8:30 a.m. EST and arriving back at Bolling at 9:25 a.m. The afternoon flight leaves Bolling at 4:30 p.m. EST, Wallops at 5:30 EST, Langley at 6:30 EST and arrives back at Bolling at 7:30 p.m. EST.

The Mercury route operates on Monday, Wednesday, Tuesday, Thursday and Friday.

Proposals, procurement and contract operations, testing of contractor products, systems management and launch operations for launch vehicles developed by industry, only about one-half of the $77.4 million will be devoted to "in-house" development.

Of the $54.5 million for MSCF construction and equipment, $51 million will go to Saturn launch facilities at Cape Canaveral.

The $350.1 million budget figure for the Marshall Center excludes customer orders — that is, work done for other NASA establishments, the Army and other organizations. During FY 61, about ten per cent of Marshall's "in-house" work will be devoted to the Army's Polaris system, which was initiated while the Marshall Center was still part of the Army Ballistic Missile Agency.

Seamsans

(Continued from Page 1)

MSFC BUDGET IS $350.1 MILLION

Budget for the current fiscal year (FY 61) at the Marshall Center is $350.1 million, more than a third of the entire approved National Aeronautics and Space Administration budget of about $915 million.

Of the $350.1 million to be allocated to MSFC, $77.4 million is slated for support of Huntsville facilities; $218.2 million for research and development, and $54.5 million for construction and equipment, including one project not yet released from the Bureau of the Budget reserve.

The $77.4 million support for Huntsville facilities will be used for the direct costs of operating the Marshall Center, including salaries, support of plant and other housekeeping expenses. Payroll at the center was recently estimated at more than three-quarters of a million dollars a week.

Since a large part of the Marshall Center work involves preparation of invitations for bids by industry, evaluation of contractor items, preparation for contracts, etc., from 1948 to 1958, he was a consultant to the Scientific Advisory Board of the Air Force from 1957 to 1959 and earlier this year was appointed a member of that Board.

On March 10, Marshall, in a speech to employees of the Marshall Center, said: "When our first Saturn is put in orbit next year, and that's a firm date, the nation will have a great day."

Dr. Marshall was named NASA's top civilian in late March and will serve five years as head of the agency.

Several recent letters to the Marshall Center have begun: "Dr. Marshall . . ."

MARSHALL \(^{a} \) \( ^{a} \) STAR
Dr. Wernher von Braun, Marshall Center Director

Editor's note: The following story on Dr. Wernher von Braun, director of the Marshall Space Flight Center, is the first in a series of biographical sketches on key personnel at MSFC which will appear in the "Marshall Star," primarily for the benefit of new employees.

Dr. Wernher von Braun, director of the George C. Marshall Space Flight Center, belongs to the U. S. space effort more than thirty years of experience in rocket development.

Born in Wizig, Germany, on March 23, 1912, he received his bachelor's degree at the age of 26 from the University of Berlin and two years later was awarded a doctorate in physics from the same institution.

In 1930, he joined a group of inventors who made up the German Society for Space Travel, and in 1932 was employed by the Ordnance Department of the German government. For the following five years he served as chief of a small rocket development station near Berlin, where the forerunners of the V-2, the liquid-fueled A-1, A-2, and A-3 rockets, were developed.

In 1937 he became technical director of the Peenemunde Rocket Center where the V-2 was developed. As World War II came to a close, he led more than 100 of his scientists to the West and surrender to the Allied Powers.

Dr. von Braun arrived in the U. S. in September 1945 under contract to the U. S. Army. During the following five years he directed high altitude firings of captured V-2 rockets at White Sands Missile Range, N. M., and was project manager of a guided missile development unit at Ft. Bliss, Tex., where some 120 of his Peenemunde colleagues were employed.

In 1955, the Ft. Bliss rocket development was transferred to Huntsville, where the Army centered its rocket development activities.

Dr. von Braun and 102 of his associates and their families received American citizenship on April 10, 1955.

On July 4, 1960, Dr. von Braun's rocket development team was transferred to the National Aeronautics and Space Administration, making up the major element of the George C. Marshall Space Flight Center, and the Marshall Center was charged with the responsibility for developing and launching space vehicles and conducting related research.

Dr. von Braun has received numerous professional and scholastic honors for his leading role in rocketry and space research. Among the most recent was the Distinguished Federal Civilian Service Award which he received last year from President Eisenhower.

"Space," Dr. von Braun declares, "has beckoned to man since he wore the skins. The stars and the planets must employ ships to discover new continents. He used airships to conquer heights never previously attained. He will take advantage of the possibilities inherent in rocket propulsion to use space vehicles to probe the unknown realms beyond Earth's atmosphere. It is a man's greatest adventure and his biggest opportunity to contribute to the world's understanding and peace."

Radio Echo Beams Worked Up by Time

National Aeronautics and Space Administration scientists recently announced that Project Echo's radio tracking beacons are operating only in sunlight.

During daylight periods, the two 107.94-mc beacons are directly dependent on 70 solar cells carried in each transmitter assembly. The nickel-oxide storage batteries which had powered these tracking beacons during periods of darkness have apparently failed.

The five rechargeable batteries in each transmitter began to lose their power about three weeks after launch, August 12. This caused "radio silence," which has been more pronounced until the transmitters stopped operating upon entering the Earth's shadow. For a few weeks, however, the batteries have been spending about 30 minutes out of each 118-minute orbit in darkness.

Wired five each series, the eleven rechargeable batteries provided a total of 6 volts for each transmitter.

The storage battery failure was probably caused by the extremes of temperature encountered by the satellite: -40 degrees F while in darkness, and about 260 degrees F when in sunlight.

Although the radio beacons are not operating while the Echo sphere is in darkness, it can be tracked by radar. The satellite will continue to be used in conducting communications experiments.

Radar measurements continue to show that the satellite is maintaining its spherical shape. In spite of the fact that there is a slight wrinkling in the satellite's skin, it continues to be an excellent reflector of signals.

Stuhlinger Speaks On Electric Power For Use in Space

Dr. Ernst Stuhlinger, director of the Research Projects Division at the Marshall Center, discussed "Long Range Space Power Requirements" in a luncheon address yesterday at the American Rocket Society Space Power Conference in Los Angeles, Calif.

"Electric power requirements in space will be up go an order of magnitude as soon as human existence must be supported over a period longer than a few hours," he explained. "Even though the first pioneers in space will have no need for a lawn mower, a flat iron, and an electric train," he continued, "the average power equipment to support one person in space is of the order of 1 kw."

"A crew of about 10 men, occupying an installation for continuous lunar and space exploration, possibly one with some highly specialized mining operations, and with a space port for ferry vehicle traffic between Moon and Earth, should have a power station which produces 200 to 500 kw of electric power continuously. A need for a power station of this magnitude may arise in the period from 1970 to 1975."

Dr. Stuhlinger also discussed requirements for electric space power in connection with electric propulsion systems, pointing out that the only two promising sources of primary energy available today are the sun and the nuclear fission reactor.

"The fundamental requirements which must be placed upon an electric space power system," he pointed out, "are light weight, small size, long operating life, and highly reliability - the same specifications which have been required of aircraft engines over since the days of the Wright Brothers."

He outlined the following possible requirements for electric space power: 1-3 kw, 1961; 30-60 kw, 1964; 300 - 1000 kw, 1969; and 10-20 mw, 1970-1975.

In conclusion, Dr. Stuhlinger pointed out that in addition to electric power, another kind of power - brain power - is required for the exploration of space, utilizing the urgent need for scientists and engineers to conduct the U. S. space program.

The Agena-B is designed to restart in space and will carry a guidance unit. It is assembled by Lockheed using engines built by Bell Aircraft Co., which burns nitric oxide and hydrazine. Agena-B is five feet in diameter, more than 25 feet long and its engine will develop 15,000 pounds thrust.
Ames Research Center Pursues Aeronautical, Space Flight Research

(Editor's note — the following article on the Ames Research Center is the first in a series of articles to appear in the "Marshall Star" describing the activities of other NASA installations throughout the U.S.)

The National Aeronautics and Space Administration's Ames Research Center at Moffett Field, Calif., pursues basic and applied research on aeronautical and space flight problems.

Founded in 1940 as the second major aeronautical research establishment of the (then) National Advisory Committee for Aeronautics (NACA), Ames was named in honor of Dr. Joseph Sweetman Ames (1864-1943), a noted physicist, president of Johns Hopkins University, and chairman of NACA from 1917 until 1929.

On October 11, 1956, the Ames Center became part of the new National Aeronautics and Space Administration. Dr. Smith J. Drummond, recently appointed director of the Center, announced the decision.

Two-thirds of the Center's programs apply to spacecraft of various kinds; the remaining third are the facilities at Ames are designed to provide a research capability in support of military and scientific programs. This research is conducted in direct support of Department of Defense programs for weapon system development.

Research in atmospheric sciences has been one of the Center's primary research areas. Since the fundamental concept of re-entry was developed in the early 1950s, the Center has produced major contributions to the re-entry sciences required by manned and unmanned vehicles. The Center's efforts are aimed at developing stable solutions for high-speed re-entry vehicles.

In addition to the research conducted at the Center, many aeronautical and space flight problems are studied at the Marshall Space Flight Center, which is responsible for the development of the Saturn launch vehicle.

The Marshall Space Flight Center participates in the IRE Symposium on Space Electronics and Telemetry, held last week in Washington, D.C. It is sponsored by the Professional Group on Space Electronics and Telemetry of the Institute of Radio Engineers, the three-day meeting opened Monday, September 28.

Marshall Space Flight Center participants included: Otto Hoebinger, Chief of the Instrumentation Development Branch in the Guidance and Control Division, who served as chairman of the session on telemetry; Walter Prost, deputy chief of the Telemetry Section in the Guidance and Control Division, who presented a paper entitled "Space Telemetry, Vehicle Telemetry — A Comparison" at the telemetry session; Olin B. King, a research engineer with the Guidance and Control Division, who presented a paper entitled "Guidance System Performance During the Apollo LEM Test" at the electronic propulsion session, which was jointly sponsored by the American Rocket Society.

Huntsville, Ala. — Four employees of the Marshall Center participated in the Fifth National Symposium on Space Electronics and Telemetry held last week in Washington, D.C.

Sponsored by the Professional Group on Space Electronics and Telemetry of the Institute of Radio Engineers, the three-day meeting opened Monday, September 28.

Marshall Space Flight Center participants included: Otto Hoebinger, Chief of the Instrumentation Development Branch in the Guidance and Control Division, who served as chairman of the session on telemetry; Walter Prost, deputy chief of the Telemetry Section in the Guidance and Control Division, who presented a paper entitled "Space Telemetry, Vehicle Telemetry — A Comparison" at the telemetry session; Olin B. King, a research engineer with the Guidance and Control Division, who presented a paper entitled "Guidance System Performance During the Apollo LEM Test" at the electronic propulsion session, which was jointly sponsored by the American Rocket Society.

This low density wind tunnel, one of the test facilities at NASA's Ames Research Center, Moffett Field, Calif., is used for aeronautical studies at simulated high altitudes. The test section of the wind tunnel seen above, is closed with a glass viewing plate when a test is in progress. At center right is the circular exit of a supersonic nozzle capable of speeding a stream of very low density air up to six times the speed of sound. The apparatus at left center positions the model in the stream leaving the nozzle. It contains some of the measuring equipment needed to record pressures and other important quantities. Air pressure equivalent to altitudes up to 150,000 feet can be simulated in this wind tunnel and speeds of Mach 8 can be attained.

The research center has been a leading contributor to the development of manned and unmanned spacecraft. The Center is conducting research into the problems of vertical and short-fat take-off and landing aircraft (VTOL/STOL). The Ames 46-by-88-foot wind tunnel, largest in the world, has been extensively in the program, supporting flight with actual data on the behavior of the Bell X-1, the Bell X-14, and the Symmetrical.

Simulation techniques and devices for flight data on the Center's capability in the area of vehicle dynamics. It has been emulated in the VTOL/STOL program as well as in studies of piloted re-entry.

A five degree-of-freedom centrifuge was used in simulation of flight, the Bell X-14 twin-jet VTOL machine is now being converted into a variable stability aircraft which will greatly enhance the area in which VTOL/STOL investigations may be performed.

Supporting the research activities of the Center is a well-equipped instrumentation group, active in both research as well as in the direct application of instrumentation techniques to specific research problems. The Ames Research Center currently has a staff of approximately 200, of whom one third are scientists and engineers. It has fully-equipped shops providing necessary technical services.

Marshall Star
University Will Establish Local Research Institute

As a major step in enlarging and improving its research and graduate programs the University of Alabama plans to establish a science research institute at Huntsville in co-operation with the Marshall Space Flight Center of the National Aeronautics and Space Administration and the Army Ordinance Missile Command.

President Frank A. Rose, University of Alabama, in making the announcement, said he expects the institute to be in operation by January 1, 1961.

The primary mission of the institute at Huntsville, he said, will be to provide basic research services in problem areas encountered at the Marshall Space Flight Center and the Army Ordinance Missile Command. Also, the institute will serve to expand and strengthen the University's graduate training programs.

"In taking this action," said Dr. Rose, "the University joins the ranks of foremost American universities that take part in solving critical military and scientific search problems."

"The University at its institute will employ a number of nationally and internationally known scientists who, in addition to conducting Universityeresearch under contract to government and industry, will be available to teach graduate programs of the University in Huntsville and to direct research of graduate students."

Over two hundred high-level professional and technical employees at the Marshall Space Flight Center and the Army Ordinance Missile Command now participate in graduate degree courses which the University offers in Huntsville. The University's main campus now conducts extensive research under contracts with the two agencies.

Both the research and the graduate training programs are expected to increase appreciably as a result of the institute development.

The research institute, which will operate directly under the central administration of the University, will have a modest beginning with an initial staff of a director, approximately three permanent and three visiting researchers, and several research assistants. Some institute research will be performed by additional personnel at the University's main campus. There will be an interchange of personnel between the main campus and the institute as research progresses.

Areas of research at the outset will include physics, mathematics, chemistry, and engineering. Specific research projects will be developed by institute staff in conjunction with academic departments of the University.

Initially the institute will be located at the new University Center building on University Drive in Huntsville. Facilities at Redstone Arsenal will be made available for use by the research scientists in keeping with a federal policy established by the Federal Council for Science and Technology on April 26, 1960.

"While existing institutions differ somewhat in basic organization," Dr. Rose stated, "their underlying purpose is the same: to further the urgent need for research in the space age, which requires that the United States make every effort to use all research talent and facilities and, in addition, encourage further development of research capabilities."

"These organizations have been created and in most cases have expanded into major research operations which have attracted industry and industry-sponsored research to their areas. Thus they have become an important factor in the economic and technological development of the nation's aeronautics and space programs. Members of the board are top management personnel."

The agreement establishing the Aeronautics and Astronautics Coordinating Board provides that it will review plans to avoid duplication; coordinate activities of common interest; identify problems requiring solution by either NASA or DOD and improve a steady exchange of information.

The director of Defense Research and Engineering and the deputy administrator of NASA will serve as co-chairman. These positions are now held by Dr. Herbert F. York and Dr. Hugh L. Dryden, respectively.

Organization of the board includes a number of panels which will identify and study problems related to space and aeronautics programs and make recommendations to the board for their solution. Panel chairmen are members of the board.

Panels so far constituted and their chairmen are:

Launch Vehicles — Dr. Courtland D. Perkins, assistant secretary of the Air Force for Research and Development.

Manned Space Flight — Dr. Abe Silverstein, director of Space Flight Programs, NASA.


Unmanned Spacecraft — Dr. Homer E. Newell, deputy director of Space Flight Programs, NASA.

Supporting Space Research and Development as well as the educational growth of the states in which they are located."

NASA, DOD Established New Coordinating Board

The National Aeronautics and Space Administration and Department of Defense have established a joint board for coordinating the nation's aeronautics and space programs. Members of the board are top management personnel.

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Technology — Ira H. Abbott, director of Advanced Research Programs, NASA.

Aeronautics — Vice Admiral John T. Hayward, deputy chief of Naval Operations (Development).

For the present, the area of Life Sciences is to be covered by the Manned Space Flight Panel. However, NASA and DOD have instituted action to establish a Joint Life Sciences Committee to report to the board on matters in this area.

Membership of the board also includes two members-at-large to insure representation of all military departments and civil representation between DOD and NASA. These members and their alternates are:

Richard S. Moore, director of Research and Development, Department of the Army, and Lt. Gen. A. G. Truex, chief of Research and Development, Army, alternate; Dr. Robert C. Serriano, Jr., associate administrator of NASA, and an alternate to be appointed later.

The board meets at least bi-monthly at the chairman's call.

MSFC to Exhibit At Ala. State Fair

The Marshall Center will be represented at the Alabama State Fair next week with a one-twelfth scale model of the Saturn, and a special space exhibit prepared by the Graphic Engineering and Model study Branch of the Office of Management Services, MSFC.

The one-twelfth scale model will be in the main exhibit building while the space exhibit will be located in the foyer.

The State Fair will be held in Birmingham from Oct. 3 through Oct. 8.
UGF Drive

(Continued from Page 1)

Special Guests

Special guests at the rally were Mayor R. B. Serrey of Huntsville; Dr. Elherard Heer, deputy director for research and development at the Space Flight Center; Delmar Morris, deputy director for administration at the Center; Harold Brindoff, executive director of the Madison County UGF drive; and Dorsey Updain, chairman of the United Evening Fund in Madison County, who spoke briefly on the need for UGF.

Mrs. Claude Harris, founder and director of the Harris Home for Children, and Russell Barrow, director of Aid for Retarded Children, also spoke on the specific needs of various charitable agencies.

The Harris Home and Aid for Retarded Children are the only new agencies added to this year’s drive.

HUNDRED BENEFITS

The hundreds of needy and physically handicapped children who benefit from UGF were symbolized at the rally by two children representing the Harris Home and the Crippled Children’s Clinic. A Boy Scout and a Girl Scout were also seated on the speaker’s platform.

In reference to unfortunate children and adults aided by the United Drive, Dr. Heer pointed out during remarks to the rally that, “If there’s one thing that all of have in common, it’s our basic desire to help our fellows. We don’t like to see people hungry, or deformed, or turned out in the streets.”

UGF added, provides the best opportunity for us to do our part and, at the same time, ensures that contributions will be distributed “where they will help the most people in the most effective and helpful way.”

Marshall Rockettes

As master-of-ceremonies, Dr. McCall also introduced, for the first time, the Marshall Rockettes, a group of 16 girls chosen from each of the Center’s Divisions and Offices. The Rockettes will visit the various elements of the Center as well as the 23 UGF agencies to create interest in and stimulate contributions to the United Fund.

Keith White, chief of Marshall’s Security Branch, instructed MSFC agents and coordinators in the methods of obtaining pledges and collecting donations so that all employees will be given an opportunity to contribute to the drive.

An administration director and a financial director will visit Dr. McCall in meeting MSFC’s 1960 goal. They are, respectively, Mrs. Minnie L. Kent, executive assistant to the director of the Center’s Office of Finance.

NUNN NAMED TO NEW NASA POST

Robert G. Nunn, Jr., has been appointed special assistant to National Aeronautics and Space Administration’s Administrator T. Keith Glennan.

Nunn, who has been assistant general counsel at NASA, will work on policy problems related to the utilization of non-military communication satellite systems. He will report directly to the Administrator.

“The new technology of utilizing satellite systems, such as Echo, to provide needed additional global communication services is likely to produce the first practical benefit from space research for all the people of the world,” said Glennan in establishing the new office. “Such benefits as expanded trans-oceanic telephone and telegraph services and intercontinental television will require intensive effort in many areas.”

Born in Cape Girardeau, Mo., Nunn earned an A.B. degree in 1939 from De Pauw University, graduate of Technical Services, and Claude E. Stockton, director of the Marshall Office of Financial Management.

The “kick-off” rally was planned and arranged by Hardy Jackson, an attorney in the Marshall Center’s Office of General Counsel and a member of the UGF executive committee.

Greensville, Ind., and a J. D. degree from the University of Chicago Law School in 1942.

After four years in the Army during World War II and private practice of law for eight years in Washington, D.C. and Terre Haute, Ind., Nunn joined the Office of General Counsel of the Air Force in 1954. He came to NASA as assistant general counsel in November 1958.

NASA has reported apparent variations in the brilliance of Echo are probably due to a slight writhing in the skin of the 100-foot sphere.

FIRST RECORDS MANAGEMENT WORKSHOP — A recent four-hour Forms Improvement Workshop, conducted by A. K. Johnson, Jr. (right), chief of the Forms Management Division, General Services Administration, Atlanta Regional Office, marked the first in a series of workshops to be held at the Marshall Center in the area of records management. The two, two-hour sessions were held in the Guidance and Control Division conference room with representatives from MSFC offices and divisions attending. The current series of workshops is being sponsored by the Management Services Division at MSFC. Johnson and members of his Atlanta staff are available on request to provide similar services in other administrative areas.

MARSHALL STAR