DR. DRYDEN RECEIVES PRESIDENT'S AWARD

The President has designated Dr. Hugh L. Dryden as the recipient of the President's Award for Distinguished Federal Civilian Service, the highest honor the country can bestow on its federal career civil servants.

He received the gold-medal award from the President at a ceremony at the White House on March 8. This is the third year in which the awards have been made under the authority of the Government Employees Incentive Act of 1954.

In making the award the President said, "Among America's most cherished traditions are those which guarantee full opportunity for the development of the individual citizen and which reward the exercise of high ability, resourcefulness, and unfailing energy."

ALGRANTI TRANSFERS TO LANGLEY

Soon to leave for Langley Research Center in a transfer to Flight Operations there is Joe Algranti, Lewis member of nine years.

A pilot-engineer with NASA since 1951, Joe has been active in many phases of Lewis flight research. Most recently he has been the project pilot on the multiple axis gimbal rig tests in the AWT. Having flown in this rig more than any other man, he has supervised the Astronaut's training in flying the simulated space capsule.

Joe earned his wings while serving in the U.S. Navy from 1943 through 1947. After service he enrolled at the University of North Carolina, earning a B.S. degree in Physics in 1951.

At an informal luau party, his friends wished him good luck in his new assignment.
First From Lewis Leave for Active Duty

Three Lewis employees reported for active duty in the Ohio Air National Guard on October 1. They were the first from Lewis to be recalled.

Fred Haise, engineer-pilot in Nuclear Systems Division, reported to the 164th Tactical Fighter Squadron in Mansfield. Neil Fauber, Facilities Engineering Division, also reported to this squadron.

Robert Hanlon, Facilities Operations Division, reported to the 112th Squadron in Toledo.

Captains Fauber and Hanlon joined the Lewis staff this summer. Capt. Haise transferred from Tinker AFB, Oklahoma in 1959.

All three will be piloting F84F's.

JOIN THE CHORUS

Anyone interested in singing in the Baldwin-Wallace Bach Festival Chorus (especially tenors) call P. R. Wieber, PAX 6204, next week. The program for the forthcoming season is: February - Bloch's "Sacred Service," May - J.S. Bach's "Easter Oratorio, Magnificat, and Passion According to St. Matthew."

New AFSC Officer at Lewis

Lt. Col. Donald J. Iddins is the new chief for the Air Force Systems Command Liaison Office at Lewis. As a representative of the AFSC, he promotes the exchange of technical information between the Air Force and NASA.

Prior to coming to Cleveland, Col. Iddins was stationed at Edwards Air Force Base, California, as Head of the Liquid Rocket Division, where he was concerned with applied research on all aspects of liquid rocket technology. He also served as Chief of Plans and Programs during his five year stay at Edwards.

Born in Bellingham, Washington, Col. Iddins has been in the Air Force for 19 years. During World War II he was a command pilot in the European Theatre, flying B-26 medium bombers. He was stationed in England and France.

A pre-med student before the war (with acceptance into medical school), Col. Iddins altered his plans following World War II and entered the University of Washington, where he earned his Master of Science degree in Chemistry in 1951.

Col. Iddins, his wife Mollie, and their three children, Terry 14, Carol 12, and Larry 4, recently moved into their new home in North Olmsted.

Lobby Lines BY MARY LOUISE GOSNEY

Time again to renew your subscriptions to the Lakewood Little Theater for the season from September 27 to October 14. On the list of plays are: Captain's Paradise, Glass Menagerie, Golden Fleecing, Stalag 17, Antigone, plus three to be selected.

A book of eight admissions is $10.00, a savings of $4.00. Single admissions are $1.75. The book of ten tickets may be used for one performance for a theatre party, or over the entire season. All you have to do is call the theatre for reservations which will be held for you until curtain time.

Further information available at Lobby Desk, Ad. Bldg., Mary Lou Gosney (FX 2228).
Technical Papers

Fred W. Haise, Jr.

Fred W. Haise, Jr., whose appointment as an astronaut was announced recently, includes four years at the Lewis Research Center in his impressive list of qualifications.

At Lewis, Haise worked as a research pilot from 1959 through 1963. This included flying experiments on zero-gravity trajectories, engineering the installation of experiments in aircraft and routine flying.

He also worked on a recovery system for experiments shot into space with an Aerobee sounding rocket.

Since he entered the service as a Naval Aviation Cadet in 1952, he has accumulated 4,760 hours of flight time, of which more than 2,000 is in jets. He served as a U.S. Marine Corps pilot from 1954 to 1956 and as an Air National Guard Officer from 1957 to 1963.

Haise left Lewis in 1963 to accept a position as a project pilot at NASA’s Flight Research Center, Edwards, Calif. He was graduated from the Aerospace Research Pilot School in 1965 and received the A.B. Honts Trophy as the outstanding graduate.

‘Space Enamels’ Shown

An exhibit of space-related enamels by a Cleveland artist is now on display at Lewis.

The exhibit, by John Puskar, well-known artist-enamelist, is in the DEB Cafeteria this week and will be in the Main Center Cafeteria from May 2 through May 6. About 12 works, from Vanguard I to Gemini, are included in the showing. Puskar, in addition to specializing in enamels of spacecraft, rocks, etc., also is an avid fan of the space program. He has received word from NASA that the agency plans to commission him this year for additional subjects.

The items being shown at Lewis are part of an overall exhibit by Puskar scheduled for the Smithsonian Institution later this year.

LeSac’s Theater Party Plans Set

Complete plans and the schedule for the "Dr. Zhivago" Theater Party have been announced by the Center’s LeSac Committee.

Set for Thursday, May 26, the party will start at 5:45 p.m. with a social hour and warm buffet-style dinner in the DEB Cafeteria.

At 7 p.m., chartered buses will leave the DEB for the Colony Theater in Shaker Heights. The Academy award-winning movie is scheduled for 8 p.m. and the return to DEB will be at 12:15 a.m.

According to LeSac committee members, "the low-low price for the package deal is only $5 and includes a $2.50 orchestra or loge theater ticket, a $1 bus ride, and a $2.75 dinner."

Tickets may be purchased for the movie only. These will be $2 balcony seats and will cost $1.65. Bus tickets may be bought separately for $1.

LeSac ticket sellers will have tickets available from May 9 to 20 only.

Staff Socials Planned For April 29, May 13

Two Lewis staff socials are on the calendar for the immediate future. The Guerin House is the setting for the Director’s receptions from 5 to 7 p.m.

This evening (April 29), those attending will include personnel from the Advance Systems Division, Facility Engineering Sheetmetal Branch (Fabrication), and the Personnel and Mechanized Computation Analysis Branch (Instrument and Computing Division).

Invited to the staff social scheduled for Friday, May 13, are personnel from Fluid System Components, Equipment Operations Branch (Facility Operations), Assistant Director (Administration), Wind Tunnel & Flight Branch (Test Installations), Facilities Operations Division Office, and the Wood Model Shop (Fabrication).

Technology Utilization Publications

A "Selected Listing of Technology Utilization Publications (including all Tech Briefs issued through December, 1965)" leads the list of new publications now available at the T.U. Office, Room 214, Ad Bldg., mail stop 3-19. Others include:

TECH BRIEFS


Compound Improves Thermal Interface Between Thermocouple and Sensed Surface, Westinghouse under contract to AEC-NASA Space Nuclear Propulsion Office, B66-10121.

Omnidirectional Antennas Transmit and Receive Over Large Bandwidth, RCA under contract to Goddard, B66-10133.

High Temperature Thermocouple Operates in Reduction Atmospheres, Aerojet-General under contract to AEC-NASA Space Propulsion Office, B66-10134.

Bismuth Alloy Potting Seals Aluminum Connector in Cryogenic Application, Douglas Aircraft under contract to Western Operations Office, B66-10138.

Hot-Wire Detector For Chemically Active Materials Used In Gas Chromatography, North American Aviation under contract to Mannix Spacecraft Center, B66-10139.

Optically Driven Switch Turn-Off Time Reduced By Opaque Coatings, IBM under contract to JPL, B66-10141.

Polymer Deformation Gauge Measures Thickness Change In Tensile Test, JPL, B66-10147.


THE LEWIS NEWS presents the Lewis Research Center story in terms of its people, its purpose and its progress. Published on alternate Fridays, the News is produced by the Public Information Office, Lewis Research Center, National Aeronautics and Space Administration, 2100 Brookpark Rd., Cleveland 44135.

Deadline for news items is 10 days prior to publication. Articles and inquiries should be sent to Room 218, Ad Bldg., Mail Stop 3-11. Editor Warren W. Gerber, PAX 3284

Next Deadline, May 4; Next Edition, May 13
**Astronaut to Address Cleveland Group**

Astronaut Fred Haise Jr., a Lewis research pilot before joining the manned space flight program, will be in Cleveland September 11 to speak to the Midwest College Placement Ass’n.

Haise, presently assigned to NASA’s Manned Spacecraft Center at Houston, Texas, will deliver his address at the Cleveland-Sheraton Hotel. His appearance here was arranged by Dr. C. D. Ferraro, Lewis placement officer, who is active with the MCPA.

Haise worked at Lewis from September 1959 to March 1963 when he transferred to NASA’s Flight Research Center, Edwards, Calif. He attended the Aerospace Research Pilot School in 1964, receiving the A. B. Hoots Trophy as the outstanding graduate. He was selected as an astronaut in April 1966.

Haise’s unusual career includes service as a pilot with the Air Force, Navy and Marine Corps. He is married and has three children.

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**Second Biosatellite to Study Space Flight Effects on Life**

What will be the effect of weightlessness and radiation in space flight on organisms such as wheat seedlings, amoeba and vinegar gnat larvae?

NASA’s second biological research spacecraft, Biosatellite B, will try to answer these and other questions during its three day, earth-orbiting mission.

Biosatellite B is planned for launch on September 7 from Cape Kennedy, Fla. Under NASA’s Office of Space Science and Applications, the Ames Research Center has project management of the program, and the Goddard Space Flight Center has responsibility for the Delta launch vehicle.

Effects of weightlessness will be studied on organisms including pepper plants, wheat seedlings, frog eggs and amoeba. These experiments are planned to show the growth and form of entire plants and animals; the structure and growth of cells and tissues; and the basic biochemistry of the cell.

While much information is available on the effects of radiation on many organisms, little is known quantity or dose of radiation effects will occur under weightlessness. The experiments will determine whether the effects of a known quantity or dose of radiation on organisms in weightlessness are the same, greater, or less than they are known to be on the same organisms on earth.

Organisms chosen to provide these data include bacteria, common bread mold, a flower plant, a flour beetle, a parasitic wasp, and larvae and adults of the common vinegar gnat. In orbit, they will be irradiated with gamma rays from an on-board radiation source.

The first of the six planned Biosatelites was launched last December 14 and carried a payload identical to Biosatellite B. However, the retrorocket which was to return the spacecraft to Earth failed to fire and the experiments could not be recovered.

Technicians load anaesthetized parasitic wasps aboard plastic module for one of the experiments.

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**Summer Intern’s Interests Differ From Journalism Career of Father**

The son of Tom Boardman, editor of the Cleveland Press, turned out different.

Tom Jr. does not share his father’s enthusiasm for the jargon of journalism. However, when he returns to Purdue University this fall, he will know a little more about his major field of interest, mechanical engineering.

During the summer the young Boardman has been employed here as an engineering aid in the Chemical Rocket Division. He is one of 44 undergraduates from schools throughout the nation working in the Lewis summer program.

An 18-year old sophomore at Purdue University, Tom is helping design research hardware for a rocket engine test facility in connection with a project to reduce the “screech” of rocket engines.

“This is exactly the type of work I hope to do when I get out of college,” Tom explains. “I was fortunate to get into NASA, particularly in this area. I’ve been exposed to practically everything through my training here.”

Tom will return to Purdue on September 6 to resume his academic and social activities. He is a member of the school’s rifle team and social director for his residence hall.

But, he adds enthusiastically, “I look forward to the possibility of coming back to NASA next summer.”

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**Group Theory Seminar Here**

An informal seminar on group theory is being offered by Bill Harter of the Theoretical Physics Section, Nuclear Systems Division.

Harter, a physicist, says “the seminar will build on the discussion of representations of discrete groups given last year. Methods for dealing with extremely large groups will also be given.”

The first class begins Monday, September 4, at 1:15 p.m. in Room 104 of the M & S building. The seminar will meet for about an hour, two days each week, and will continue until sometime in November.

Harter invites all interested staff members to attend any portion of the lectures. Lithographed notes of the classes from this year and past years will be made available.

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**Robert Inman Dies**

Lewis associates were saddened upon learning of the death, August 13, of Robert M. Inman, an aerospace engineer working in the Fundamental Heat Transfer Branch, Chemistry and Energy Conversion Division.

Inman, 33, had been employed with Lewis since July 1963. He is survived by his wife, Verna, and two children.

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**Tom Boardman, a summer engineering aid, is shown operating an oscilloscope with a polaroid attachment used to photograph variations in rocket engine screech.**
Astronaut Eyed Career as Journalist

By RICHARD G. ELLERS

Poor Fred W. Haise Jr.! He would be a reporter today except for a quirk of fate. Instead, he is “only” an astronaut looking forward to a paid trip to the moon.

Haise revealed his lost journalistic ambitions yesterday while in Cleveland to address the opening session of the annual meeting of the Midwest College Placement Association.

Haise spent four years here as a test pilot for NASA-Lewis Research Center.

He was a specialist at Lewis in creating zero-gravity effects by flying an airplane in a certain curved trajectory.

Today, he is a member of the astronaut team working on development of the lunar module, the space ship which will take astronauts to the moon's surface from an orbital Apollo craft.

WHICH astronauts will be the first on the moon and when?

“You would have to be a fortune teller to answer that,” Haise said. “There are at least six test flights to be made first, three unmanned and three in orbit around the earth.

“Then something could happen which would force the first moon crew to come back to earth without landing.”

Haise said he had planned to become a reporter when he spent two years at Perkinston Junior College in Mississippi.

“But I had a chance to go into the Navy with a commission if I became an aviation cadet,” he said. “That’s when I found out I loved flying more than newspapering.”
NASA Names Flight Crews For Coming Apollo Trips

Flight crews have been named for the second and third Apollo missions, NASA announced recently.

The first manned Apollo mission is on an uprated Saturn I. The second manned mission is scheduled as the last of six Apollo flights in 1968 and will be the first manned launch of a Saturn V launch vehicle. The mission will provide the first manned operation in space with the command, service and lunar modules, including crew transfer from the command module to the lunar module, and rendezvous and docking.


Plans call for the third manned mission to be launched in early 1969. It will be an earth orbit flight simulation of the lunar landing mission. The orbit will have a 4,000 mile apogee.

A three-astronaut support team was named for each flight crew. For the second manned mission, it consists of Edgar D. Mitchell, Fred W. Haise, Jr., and Alfred M. Worden. The third crew support team is Thomas F. Mattingly, II, Gerald P. Carr, and John S. Bull.

Conference

(Continued from Page 1)

Dr. William H. Roudebush, Airbreathing Engines Division, will show how the modern combustor has a much more difficult job to do than his "cousin" of ten years ago. In addition, he will discuss the concept of the duct burner as a possible replacement for the afterburner for turbofan engines.

The Conference, according to Es- gar, is designed to appeal to the expert as well as to the non-expert. He explained that "airbreathing gas turbine engines have changed since the dawn of the Space Age in the late 1950's. At that time, Lewis had conducted the pioneering research on various engine components such as super-
lives of Astronauts Virgil "Gus" Grissom, Edward H. White and Roger B. Chaffee January 27 during a pre-launch test. An investigation of the accident and review of the program produced an improved spacecraft and safety operational procedures were tightened. Successful unmanned flight testing which qualified all segments of the spacecraft and Saturn V for manned operation continued late in 1967 and 1968.

The first Earth orbital manned mission was in October 1968. Two months later the Apollo 8 lunar orbit mission at Christmas demonstrated that man had developed a system to escape Earth orbit, navigate in lunar orbit and return safely.

Two additional missions, Apollo 9 and 10 early in 1969 completed preparations for landing on the moon.

World Watches Apollo 11

On July 16, 1969 Apollo 11 was launched. At the Kennedy Space Center press site and Apollo news center at Houston, 3,497 news correspondents reported the story to the world. Four and a half days later Eagle landed and the world watched as Neil Armstrong descended to the surface and said, "That's one small step for a man, one giant leap for mankind."

Apollo 13 failed to execute its landing on the Moon because of an oxygen tank rupture in the spacecraft. The safe return of the crew, however, again demonstrated the Apollo team's ability to react immediately to the unexpected and to devise successful procedures to meet a serious emergency in flight.

Ten Years of Progress

Accomplishments of the decade include 24 manned space missions of Mercury, Gemini and Apollo in which 29 astronauts have accumulated 6,919 man hours in space. The spacecraft have traveled approximately 32 million miles. Approximately 43,000 hours have been spent on the lunar surface by six astronauts who deployed 18 geophysical instruments on the Moon and returned 120 pounds of lunar rock and soil to Earth.

The achievements and failures have been carried out before the eyes of the world. More than 200 teams of scientists from universities, government and private organizations in 26 states within the United States and 17 other countries are analyzing the lunar surface materials and geophysical data transmitted back to Earth.

APOLLO 9 EVA — Astronaut Scott stands River Valley at center provides backdrop at the open hatch of Command Module "Gum this point in their earth orbital mission to drop" while docked to "Spider," Mississippi check out the spacecraft.

From Lewis - to Manned Space prominence

Many NASA employees — managers, engineers, technicians — began careers at Lewis during the last two decades and rose to prominence with the focus on manned space through the 1960's. The six featured here do not include former Center employees like Warren North, who has played a key role in astronaut training; Dugald Black, Deputy Director of Support Operations at the Cape; Joe Algranti, MSC test pilot; Gerard Pesman, MSC biomedical consultant; and many others.

DR. ABE SILVERSTEIN, retired Lewis Director, who as Director of the Office of Space Flight Programs at NASA Headquarters from 1958 to 1961, formulated the Apollo Program with mission planning, spacecraft design and development, and in-flight research and operation. Leaving NASA in 1969 after 40 years of government service, Dr. Silverstein is active in civic affairs, especially environmental research and mass transportation problems.

DR. GEORGE M. LOW, NASA Deputy Administrator for Aeronautics, began his NACA career at Lewis in 1955, as a research pilot, and transferred to Edwards, California, a few months later. The first man to walk on the Moon, Armstrong transferred from MSC to his Headquarters post in June of last year.

FRED W. HAISE, JR., Lunar Module Pilot of the Apollo 13 flight, was a research pilot at Lewis from 1959 to 1963. Transferring to Flight Research Center, he was selected by NASA for the astronaut program in 1966, and still serves in that program. It was the skillful competence of Haise and Apollo 13 Commander James Lovell and Command Module Pilot John Swigert that brought the trip back to Earth safely after the electrical failure of the Command Service Module early in the April 1970, mission.

GLYNN S. LUNNEY, Chief of the Flight Director's Office, Flight Control Division, at MSC, Houston, began his career at Lewis as an aeronautical research engineer in May of 1958. In September 1959, Lunney transferred to MSC, Houston, and participated in flight operations for the Mercury, Gemini and Apollo Programs. He is currently an Apollo Flight Director and coordinates and advises the Director of Flight Operations on all Apollo flights.

G. MERRITT PRESTON, Director of Center Planning and Future Programs at Kennedy Space Center in Florida, left Langley for Lewis when the Center opened in 1942. Working on aircraft speed and safety projects, he became Chief of Flight Research Engineering in 1945. He transferred to the Cape in 1949 to become Director of launch operations for the Mercury and Gemini Programs and Manager of Florida Operations for the Manned Spacecraft Center. Preston directed the design of ground support equipment, structures and facilities for NASA's Cape launches.

SCOTT H. SIMKINSON is Assistant Program Manager, Apollo Spacecraft Program — Flight Safety, at MSC. He started his NACA career at Lewis in 1943, and worked in the jet engine field here for fifteen years. In 1958, Simkinson initiated the NASA effort at the Cape as Chief of the Launch Operations Branch, and in 1962 he became technical advisor to the Gemini Program Manager at MSC after representing NASA as consultant to McDonnell Aircraft Corporation and NASA representative at General Dynamics. Since 1967, he has been responsible for the safe conduct of Apollo spacecraft tests.
**Nixon to Quiz Army on Dayton Pullout Plan**

The Plain Dealer, Wednesday, May 12, 1971

**By Walter J. Reuther**

The U.S. Army has reached a point where it is preparing for its pullout from Vietnam, according to sources close to the military. The sources say that the Army is planning to withdraw its forces from Vietnam by the end of the year. The plan calls for the withdrawal of all U.S. forces from Vietnam, including the Army, by the end of 1971. The sources say that the U.S. Army has been planning for the withdrawal for several months and that the decision was made at the highest levels of the military. The sources say that the decision was made to facilitate the peace settlement negotiations and to reduce the U.S. military presence in Vietnam.

**Lake Seeking Waste Study Volunteers**

The Plain Dealer, Wednesday, May 12, 1971

**By John F. Lynch**

The Lake County Commissioners have approved a plan to study waste disposal in Lake County. The study will be conducted by a team of experts from the Ohio State University. The study will be funded by a grant from the Environmental Protection Agency.

**Sparred by DiSalvo**

The Plain Dealer, Wednesday, May 12, 1971

**By John F. Lynch**

The Cleveland Public Defender, James DiSalvo, has been selected as the new chief defender for the city of Cleveland. DiSalvo, a former assistant public defender, has been with the office for more than 10 years and has handled a wide variety of cases. He is known for his zealous representation of clients and his commitment to providing equal access to justice for all individuals.

**Shore 13 Strike 13**

The Plain Dealer, Wednesday, May 12, 1971

**By John F. Lynch**

The workers at Shore 13 have announced a strike, demanding better wages and benefits. The company has refused to negotiate and the workers have voted to strike. The strike is expected to last for several days, causing a disruption of service for customers. The union has called for support from other workers and the public to help the workers achieve their demands.

**City Is Spending Its Way to Red Ink by November**

The Plain Dealer, Wednesday, May 12, 1971

**By John F. Lynch**

The City of Cleveland is facing a fiscal crisis, with the city projected to run a deficit of $5 million by November. The city is facing a number of challenges, including a decline in tax revenues and a rise in costs for services. The city is considering a number of options, including increasing taxes and cutting services, to address the fiscal crisis.

**Lack of Progress on Trade**

The Plain Dealer, Wednesday, May 12, 1971

**By John F. Lynch**

Negotiations for a new trade agreement between the U.S. and Mexico have made little progress. The two countries have been discussing the agreement for several months, but have not reached a agreement yet. The lack of progress is causing concern among policymakers in both countries.

**AF for Dropouts**

The Plain Dealer, Wednesday, May 12, 1971

**By John F. Lynch**

A new program has been announced to help high school dropouts get ready for college. The program, called AF for Dropouts, will provide tutoring and other support services to help students complete their high school education and prepare for college.

**Man, Weather Peril Planes, Haise Says**

The Plain Dealer, Wednesday, May 12, 1971

**By John F. Lynch**

The Federal Aviation Administration has issued a warning to pilots and air traffic controllers about the dangers of flying in high winds. The agency has advised pilots to be extra cautious and to avoid flying in high winds, especially during bad weather conditions.

**Auditor Hits 79**

The Plain Dealer, Wednesday, May 12, 1971

**By John F. Lynch**

The Auditor of State has audited the budget of the State of Ohio and found several areas of concern. The auditor has recommended changes to improve the state's financial management and reduce the risk of future problems.

**Roundup**

The Plain Dealer, Wednesday, May 12, 1971

**By John F. Lynch**

A number of roundups have been announced in the area, including a roundup of cattle, a roundup of逃犯, and a roundup of illegal immigrants. The roundups are being conducted as part of efforts to enforce immigration laws and control the flow of illegal immigrants into the country.