WING TIPS

WING TIPS is published at the Lewis Flight Propulsion Laboratory of the National Advisory Committee for Aeronautics, Cleveland II, Ohio, in the interest of the employees. Contributions should be sent to the WING TIPS office, Room 100, Engine Research Building, telephone, 3284.

Jane Eckert..............Editor
Cliff Haight.................Sports Editor
Frank Lalli..............Circulation Mgr.

NACA Employees..............Reporters

CHORAL CLUB NOTES
The Lab singers were enthusiastically received by the veterans at Crile Hospital on October 23. Assisting them in the hour-long concert was Carl Moran who played a series of organ selections.

The next project is a 15-minute program of Thanksgiving music to be presented over radio station WTAM sometime this month.

INSTR. DIV. PLANS PARTY
The Instrument Division is planning a Dogpatch Sohul for November 17 in the auditorium. There will be dancing to records and the usual refreshments. Serving on the planning committee are: Truman Stickney, Agnes Juscak, Art Hand, George Glawe, Bill Hardin, Basil Kluchnik, and Aaron Auble.

A record crowd of 265 persons including 70 Lab workers attended the first of the season Cleveland-Akron section meeting of the I.A.S. held at the Cleveland Pneumatic Tool Co.

Mr. Robert Cass, deputy administrator of the NPA, reviewed the national critical materials situation and the supply and demand of metals for domestic and defense purposes.

DR. SHARP TO DISCUSS EUROPE
At the next meeting on November 20 Dr. Sharp, who has recently returned from Europe, will present answers to questions about conditions on the Continent. As the principal speaker Dr. Sharp will give his impressions of the European peoples and observations of current progress in the field of aeronautics.

This meeting will be held at the B.F. Goodrich Co., in Akron. There will be a dinner before the discussion begins. For reservations call Norma Dechellis, 2154.

SECTION OFFICERS

SECTION OFFICERS

At a luncheon here on Nov. 1 the Department of the Army presented certificates of appreciation to 16 Ohio scientists or technical experts and the widows of two others.

Col. H. G. Paulin, chief of the Ohio Military District, made the presentations which were for gathering first-hand information about enemy scientists and technical developments in newly captured European areas during World War II.

88 ENROLL FOR GRADUATE STUDY
A total of 88 employees have enrolled for the non-credit graduate courses to be offered here starting the week of Nov. 12.

The three courses and the instructors are: Aerodynamics of Supersonic Flight - Herbert S. Ribner; Heat Transfer - Simon Ostrach and Robert G. Deissler; and Mathematical Analysis - John N. B. Livingood.

L.A.S. ACTIVITIES

TRANSPORTATION
Ride Wanted From:

Ride wanted from W. 117 and Superior. Ed Paulin, 2100.

Ride wanted from Parma Hgts., vicinity of Pearl and Snow Rds. Slough, 2275.

Ride wanted from Mayfield and Cedar. Greenberg, 3865.

WANTED
To form driving combo from Ohio Military District. made from W. 117 and Lorain or will join driving combination. Timko, 3159.

To form driving combo from Parma Hgts., vicinity of Pearl and Snow Rds. Slough, 2275.

To form driving combo from W. 117 and Lorain. Budak, 3275.

Ride wanted from W. 158 south or Lorain. Ann, 4212.

Ride wanted from Strassburg, intersection of Routes 42 and 82. Barnes, 4277.

Driver wanted for combo from Taylor between Mayfield and Cedar. Greenberg, 3865.

FOR SALE
Genuine Black Forest cuckoo clock, almost new. Timko, 3159.

Arvin car heater, hot water type. Curtner, 3114.

Two modernistic, lucite end table lamps with shades. Wolf, 2195.

Radio for '50 or '51 Studebaker. Parobek, 4218.

1949 Ford 4-door sedan. Brown, 2259.

38 caliber Iver Johnson hammerless revolver, 5 shot 3 1/2" barrel, nickel. 32 caliber S&W safety hammerless, 5 shot, 3 1/2" barrel, nickel. Some ammo. Burgess, 4239.

17 jewel ladies' wrist watches and men's pocket watches. Schnittlinger, 4249.

Set of B. K. Elliott drafting instruments, brand new, very reasonable. Gainor, 4176.

Station wagon top cover, 10' X 68", new, good condition Elliot, 4240.

Girl's bowling shoes, size 7, never used. Spiegelberg, 3147.

Midshipman Peter F. Groff, son of Albert Groff (Constr. Drafting) "shoots the sun" aboard the USS Lindenwald. Peter, who is in the ROTC at Ohio State, was photographed while on a training cruise in the Atlantic last summer.

Wing Tips

November 9, 1951
NACA HONORS LEWIS SCIENTISTS

"The important things are the people and their ideas - these men are the NACA."
So stated Dr. Hugh L. Dryden, Director of the NACA, as he conferred upon Robert G. Deissler and Seymour Lieblein the NACA’s Exceptional Service Medal.

Robert G. Deissler, head, Heat Transfer Branch of the Nuclear Reactor Division, received the award for achieving significant scientific results in the solution of fluid flow and heat-transfer problems associated with aircraft nuclear propulsion. He simplified the mathematical treatment so that it could be checked experimentally and used with modern high-speed computers for design application. Today, Deissler’s work is standard reference in all high-temperature literature.

Seymour Lieblein, aeronautical research scientist in the Nuclear Nuclear Division, achieved significant scientific results in the field of axial-flow compressors. He pioneered in the design of multi-stage transonic compressors, and as a direct result of his work, compressor, weight and cost have been reduced appreciably. His concepts are being incorporated in all aircraft compressors now being developed. To quote from Mr. Lieblein’s citation: "The results of his performance are of exceptional value to aeronautics."

Deissler and Lieblein received the high NACA award during ceremonies in the auditorium Monday, October 28th. Dr. Sharp and Abe Silverstein commended both men for their individual contributions and the part each has played in organized research. Leroy Humble and Oscar Schey briefly discussed the work of Deissler and Lieblein.

The NACA has many scientists deserving of recognition in his field of research. The Exceptional Service Medal will be a continuing recognition of those whose contributions advance technology on a nation-wide scale.
Expansion goes hand-in-hand with progress, a familiar story at Lewis. Continued growth of the Center requires planning for future facilities and land on which to build them. So it was that Congress granted us the privilege of purchasing 115 acres of land adjacent to our main area, west and somewhat south of the Center off Grayton Road.

West of the South Gate, past much construction (Watch future issue of Orbit for this story) on top of the hill is part of this new area. Utilizing existing buildings on this property, the main house is being used as offices for the Heat Transfer Branch of the Nuclear Reactor Division. Relocated in the Mitchell House, as it is presently referred to, branch head Robert Deissler has his office in the downstairs bedroom; Albert Loeffler and Alden Presler share the diningroom; Clive Usisken, Joseph Savino and Robert Siegel have their desks in the livingroom; Ephraim Sparrow’s office is in one of the upstairs bedrooms; and Morris Perlmutter’s desk is in the kitchen.

The Mitchell house is presently being redecorated to suitable office conditions.

MICKELSEN. . . (Continued from page 1)

Education in the English Universities is far different from that in American institutions. Attendance at lectures is not required, but at the end of the year one examination is given. Throughout the year, students meet regularly with a Supervisor for private tutoring sessions.

"Four o'clock tea time is one of great communication among the staff and students. Then the usual lack of conversation gives way to profuse discussion and debate," Bill continued. "The English are very reserved, sometimes seeming stuffy. I found the typical Englishman wasn't being snobbish, but was, in reality, trying to provide you with privacy. Because there are so many people in such a small area, privacy is highly respected."

In asking Bill his opinion of the English people he said: "They are people of great integrity and courage. I think their education system is more advanced than ours, even at the nursery school and first grade levels. I do think the whole country feels badly about their late decline in world leadership. I feel they are not quite as advanced in engineering and technical things as we are, though they are excellent in scientific studies."

"We like the English people and their country very much. No, we would not like to live there permanently. They have many good things, but I like ours better." concluded Bill.
Deissler To Be Presented ASME Heat Transfer Award

Robert G. Deissler, Chief of Lewis' Fundamental Heat Transfer Branch, has been selected to receive the Heat Transfer Division Memorial Award of the American Society of Mechanical Engineers.

The presentation will be made by Dr. E. O. Bergman, society president, at the Winter Annual Meeting of the ASME's Heat Transfer Division in New York City on Dec. 1.

The memorial award, consisting of a citation, was established by the Division in memory of distinguished colleagues and serves as the principle means of recognition for excellence that the Division can award.

Deissler is being honored for his contribution to the science of turbulent flow heat transfer.

He has specialized in heat transfer and fluid mechanics since joining the Lewis staff in 1947. He has authored 40 technical papers in those fields.

Deissler was awarded the NACA Exceptional Service Medal in 1957.

A native of Greenville, Pa., he received a bachelor of science degree in mechanical engineering from Carnegie Institute of Technology in 1941 and a master of science degree from Case Institute of Technology in 1948.

He is a member of ASME and has served on its Aircraft and Astronautical Heat Transfer Committee. He also holds membership in the American Institute of Aeronautics and Astronautics and the American Physical Society.

He and his wife, June, live at 4540 W. 213th Street, Fairview Park. They are the parents of four children.

Lewis Staff Member Is Honored For His Service To Scouting

A Lewis staff member recently received the Boy Scouts' highest local honor in recognition of outstanding service — the Silver Beaver Award.

James C. Laurence, head of the Magnetics and Cryophysics Branch, Electromagnetic Propulsion Division, was among 15 Greater Cleveland men so honored.

Deissler was awarded the NACA Exceptional Service Medal in 1957.

A native of Greenville, Pa., he received a bachelor of science degree in mechanical engineering from Carnegie Institute of Technology in 1941 and a master of science degree from Case Institute of Technology in 1948.

He is a member of ASME and has served on its Aircraft and Astronautical Heat Transfer Committee. He also holds membership in the American Institute of Aeronautics and Astronautics and the American Physical Society.

He and his wife, June, live at 4540 W. 213th Street, Fairview Park. They are the parents of four children.

Deissler also formerly served as Chairman of the Troop Committee.

For six years Laurence was institutional representative working with Troop 214 and its sponsor the Methodist Church of Berea. He also formerly served as Chairman of the Eagle Board of Review.

Deutsch To Address Local Metals Meeting

George C. Deutsch, Chief of the Materials Research Branch, NASA Headquarters, and a former member of the Lewis staff, will address a meeting of the Cleveland Chapter of the American Society for Metals on the evening of Dec. 7.

He will speak on "Material Considerations For Space."

Dr. H. B. Proctor of Lewis will be the technical chairman for the meeting, which will be held at the Cleveland Engineering and Scientific Center, 3100 Chester Avenue.

Three Center Researchers Cited For Their Inventions

Three Lewis staff members — John R. Howell, Morris Perlmutter, and Robert Steinberg — recently won awards for inventions.

Perlmutter and Howell, both of the Fundamental Heat Transfer Branch, Chemistry and Energy Conversion Division, shared a $300 award for a device for directionally controlling electromagnetic radiation.

Robert Steinberg, Reactor Mathematics and Computation Section, Nuclear Reactor Division, received $100 for a molecular beam velocity selector.

The device invented by Perlmutter and Howell can be described as follows:

A strong absorber or emitter of electromagnetic radiation is placed at the base of a groove-like cavity the walls of which are strongly reflecting in a specular or mirror-like fashion to electromagnetic radiation.

When this device is properly constructed it is possible to emit this radiation in a narrow beam in a desired direction or to absorb only radiation coming in from a desired direction.

Distinguished Visitors

The Honorable L. J. Andolsek, Vice Chairman of the U. S. Civil Service Commission, toured Lewis on Nov. 13. He was in Cleveland for an address before the Federal Officials Association.

On the tour with him were Morris Berk, Cleveland Civil Service Representative, and John F. Kovacic, district Collector of Customs. The group met with Eugene J. Manganiello, Henry C. Barnett, George Macian, and C. D. Ferraro during their day-long visit.

Another recent distinguished visitor was Hans Henriksen of Oslo, Norway. He is personnel director of Aker Mek. Verktedt, Norway's largest ship-building company.

He spent a day discussing Personnel Management and Electronic Data Processing with top officials of Lewis, one of two government facilities he is visiting during his month-long tour of American industries.

He stayed as a houseguest of Clarence E. Forbes and said he was very pleased with his NASA visit.
Lab-managed launch fires after long wait

After a two-week delay caused by failure of an Air Force Atlas-Agena launch, and a one-day delay caused by high surface winds, an Atlas-Centaur rocket roared into action at Cape Kennedy launches, December 19, successfully placing an Intelsat IV satellite in orbit.

Dr. Himmel accepts Headquarters post

Dr. Seymour C. Himmel, Director for Rockets and Vehicles at Lewis and a staff member for 23 years, will become Deputy Associate Administrator for Technology at NASA Headquarters in Washington. The appointment in the Office of Advanced Research and Technology is effective in January.

Dr. Himmel, 47, has pursued his career in Cleveland with NACA/NASA since 1946. He had taught at the College of the City of New York for a year after his graduation from CCNY with a Bachelor of Mechanical Engineering degree in 1947.

Hired as an aeronautical research scientist, Dr. Himmel supervised many research projects since 1953. He was successively Chief of the Advanced Projects Branch for three years, Chief of the Mission Analysis Branch for four years, Chief of Research Plans and Programs for a year, and Deputy Project Manager for three years, Assistant Director for Internal Vehicles for two years, and in his present position since 1968. Under Dr. Himmel’s guidance, there were 52 Agena launches and 19 Centaurs.

While working at Lewis, Dr. Himmel continued his education at Case Institute of Technology (now Case Western Reserve University), earning a Master of Science degree in 1951 and a Ph.D. in 1958. He is the author of more than 25 technical reports and papers dealing with space missions, propulsion systems, control systems, and dynamics.

Dr. Himmel was awarded the NASA exceptional Service Medal in 1965 “for exceptional contributions in the Agena launch vehicle program and for his sound engineering judgement which produced an outstanding record of successful launches.” He is an Associate Fellow of the American Institute of Aeronautics and Astronautics, and a member of Tau Beta Pi and Pi Tau Sigma.

Along with the usual newsmaker, his final issue of the year presents highlights of progress made by Lewis in 1971. And although it was a year in which the Center initiated actions to reduce by 20% jobs, there were many noteworthy aerospace accomplishments.

Dr. Himmel’s appointment, NASA Headquarters announced, is the appointment of George Cherry as Deputy Associate Administrator for Programs. Dr. Himmel’s appointment, NASA Headquarters announced, is the appointment of George Cherry as Deputy Associate Administrator for Programs. Cherry came to NASA a year ago from Massachusetts Institute of Technology.

Physics & Chemistry Division reorganizes

Since the appointment of Dr. Richard S. Brokaw as Chief of the Physics and Chemistry Division last month, a number of organizational adjustments have been made within the division.

Frank E. Belles, formerly Chief of the Kinetics Section, became Chief of the Propulsion Chemistry Branch, Dr. Brokaw’s former position. The Kinetics Section was dissolved and its members were absorbed by the two other sections in the branch.

Robert G. Deisser, former Chief of the Fundamental Heat Transfer Branch, was named Senior Fluid Physicist at division level. Robert Siegel becomes Chief of the Fluid Mechanic and Thermal Science Branch. Richard T. Gedney has been appointed as Head of the branch’s Analytical Section.

The Chemical Physics Branch, with Dr. Robert A. Lad as Chief, has been renamed the Materials Science Branch. In the Radiation Physics Branch, Howard C. Volkin’s Theoretical Physics Section has been absorbed by the two other branch sections, and Volkin has been appointed Branch Consultant to Dr. James W. Blue, Chief of the Branch.

36 employees earn special awards

In the Special Achievement Awards ceremonies on Thursday, December 16 in the Adm. Building Auditorium, 36 Cleveland and Plum Brook employees received citations and checks totaling $9,450. Eugene J. Manganiello, Deputy Director, presented the awards which were given to employees in recognition of superior job performance for six or more consecutive months. Those receiving the awards are as follows:

Plum Brook
- Cleveland Advanced Systems - Vernon D. Gebben, John A. Webb Jr.
- Airbreathing Engines - Daniel J. Gauntner
- Direct Energy Conversion - Dr. Lawrence H. Thaller
- Electromagnetic Propulsion - Carole A. Demongeot, Albert J. Weigand
- Equipment & Supply - James E. Youngman
- Fabrication - John Host Jr.
- Facilities Operations - Gerhardt A. Fiedler, Martin Klopp
- Instrument & Computing - Lydia E. Duerr, John L. Polack

(Continued on page 2)

LeSAC’s final bash

Part of the packed crowd of employees and their spouses is shown at LeSAC’s annual Christmas Formal, capping the end of another successful year. The well-attended party was held earlier this month at the Al Koran Shrine located on the corner of East 36th Street and Euclid Avenue in Cleveland. (Albert E. Lukas photo)
Deissler earns high Technical Society award

An impressive record of work in the heat transfer area has earned Robert G. Deissler of Lewis the honor of being named to receive the 1975 Max Jakob Memorial Award.

Deissler will be honored at the Awards Luncheon, August 10, 1976 at the Sixteenth National Heat Transfer Conference being held at the Chase-Park Plaza Hotel, St. Louis, Missouri from August 8 to 11.

The Max Jakob Memorial Award was established in 1961 and is sponsored by the American Society for Mechanical Engineering and the American Institute for Chemical Engineering.

This award is presented annually in recognition of eminent achievement of distinguished service in the area of heat transfer. The award, which in previous years has been given to individuals from Switzerland, Germany, Russia, Japan, as well as the United States, consists of a bronze plaque, an honorarium and a certificate. Jakob was a pioneer in the science of heat transmission.

Deissler's citation reads, "for his outstanding contributions to the theory of turbulence and turbulent transport contained in the technical literature and authoritative text books on turbulent heat transfer; for his ability to perceive and derive the fundamental theory required to advance applied research and development in convective heat transfer."

While at the Conference in St. Louis, Deissler will be giving a lecture entitled, "Tornadoes and Other Atmospheric Vortices."

Deissler holds a B.S. degree in engineering from Carnegie Tech and an M.S. in engineering from Case Western Reserve University. He joined Lewis in 1947 and first specialized in fluid flow research and heat transfer. He gained early recognition in fluid flow research and heat transfer. He gained early recognition in his field for a series of outstanding papers dealing with turbulent flow and heat transfer of variable property fluids in pipes or tubes. He quickly advanced to a position at Lewis of section head and then chief of the Heat Transfer Branch. In 1972 he was appointed Technical Consultant in Fluid Physics for the Physical Science Division.

In addition to being an active member of ASME, he belongs to the American Institute of Aeronautics and Astronautics, American Physical Society, American Association for Advance-

(Continued from page 7)

(Continued from page 1)
Notes of Appreciation

"My sincere thanks and appreciation to all for your kind expressions of sympathy and also for your contributions to the American Cancer Society in honor of my dad. Your caring helps to ease the loss of a loved one.” Robert Hyland

To the Lewis staff: “Your kindness and sympathy are more deeply appreciated than any words of thanks can ever express.” The Arthur J. Yuek, Jr. Family

"We would like to thank everyone who helped us make our move--Jim Botos, and the entire carpenter shop, Callahan, Cannon, L.P.L., Ohio Bell, Rutherford Movers, Tenco and Trinity. A special thank-you to those who came in on Saturday, November 26. We couldn’t have done everything without the help of Jack Brown, Del Mohrman, Bob Schmidt, Rigo Solin, and Bob Wooten. Another special thank-you to Darrell Kenndson and the cafeteria staff for preparing our Saturday lunch which was more than appreciated by all. We hope to see everyone in our new temporary quarters in the dining area of the Main Cafeteria.” NASA Exchange Store Staff, Bernnice Szucs, manager

VOA thanks researcher

Dr. Wojciech Rostafinski

There is no doubt that NASA’s space flights and other research activities are greatly admired throughout the world.

One example of this was when the United States Information Agency (USIA) sent a letter expressing appreciation for Dr. Wojciech Rostafinski’s taping of 16 documentaries in Polish for Voice of America broadcasts.

In his broadcasts, Dr. Rostafinski summarized NASA’s space achievements in 1976-77, updated results of the Viking missions and described Voyager flights. He also discussed results of the Space Shuttle tests, future NASA projects, practical gains of space exploration and other subjects.

Journalism in the science-technology area is nothing new to Rostafinski who works as a research engineer in the Fluid System Components Division. His essays and articles on space and planetary exploration, published in London, England, have been read in 22 countries. His speaking engagements include major cities in the U.S. and Canada.

Commenting on his broadcasts which will be heard in many countries abroad, Dr. Rostafinski said, "It is quite rewarding to be able to present to tens of thousands of listeners the greatness and beauty of our achievement in advanced research.”

In 1986 Deissler was awarded ASME’s Heat Transfer Division Memorial Award. In 1876, he received ASME’s prestigious Max Jacob Memorial Award in recognition of eminent achievement in the area of heat transfer.

Deissler earned a Bachelor’s degree in mechanical engineering from Carnegie Institute of Technology and a Master’s degree from Case Western Reserve University.

ASME gives Deissler its highest honor

The American Society of Mechanical Engineers (ASME) has awarded its highest honor of Fellow to Robert G. Deissler of the Physical Science Division.

A technical consultant in fluid mechanics, Deissler is noted for his contributions to the theory of statistical turbulence and for an analytical model of turbulent heat transfer in tubes and channels that earned him world recognition.

In 1986 Deissler was awarded ASME’s Heat Transfer Division Memorial Award.

Cycle of the closed laser

The High-Power Laser Team was honored on November 22 for outstanding contributions to the advancement of high-power laser technology. Dr. Bernard Lubarsky, along with G. Mervin Ault, James F. Connors and Daniel J. Sh samo, presented memento folders to members of the team. The recognition ceremony was arranged by the Lewis Awareness Committee.

One of the highlights of the ceremony was Dr. Lubarsky’s receiving a poem, written and presented by Jack Slaby, Head of the Laser Systems Section. The poem ended with these lines...”Finally we close this ceremony with one final plea, don’t throw the switch with the laser pointed at me!”

Lab awards $2.8 million contract

The Center has signed a $2,895,750 contract with Teledyne Industries, Inc., Northridge, California, for management, engineering and repair services for Centaur digital computer units and remote multiplexer units.

The cost-plus-award-fee contract will run for one year beginning November 1, 1977.

Work will be performed by the contractor in Northridge and at Kennedy Space Center, Florida.

The digital computer unit in conjunction with the Centaur inertial guidance system comprise an automatic, self-contained navigation and guidance system. This system enables the Centaur vehicle to compute and adjust flight without ground commands so that the Centaur can deliver its spacecraft payload to a preselected orbit. The digital computer unit and remote multiplexer unit comprise the basic airborne data information system to supply inflight data during launch.

Centaur, which was the nation’s first high energy liquid hydrogen-oxygen rocket vehicle, is used as a second stage of both Atlas and Titan III boosters. Centaur recently helped launch the Voyager 1 and 2 spacecraft which are scheduled to fly by Jupiter and Saturn in 1979 and 1980. During the next year Centaur is scheduled to launch a number of commercial communication satellites and the Pioneer mission to Venus.

NASA’s Lewis Research Center provides management of the Atlas/Centaur and Titan/Centaur launch vehicles through all phases of manufacturing, testing and launch.

Jack Slaby (left) presents poem to Acting Center Director Dr. Bernard Lubarsky. (Don Huebler photo)

Runners finish marathon race

Six Lewis employees finished the recent grueling Skylon International Marathon which started in Buffalo, New York and ended at Niagara Falls, covering a distance of 26 miles and 385 yards.

The Lewis runners, among some 2,500 persons who entered the race, were Bernard Hamrock, James Diedrich, Jonathan Kring and Robert Stubbs. (Martin Brown photos)

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, 21000 Brookpark Road, Cleveland, Ohio 44135.

News items should be phoned in PAX 3284, or sent to Room 120, Add-Bld, Mail Stop 3-11. Deadline is ten days prior to publication.

Editor ......................................................... Charles Mitchell

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The urgency of long range R&D

By Dr. Wojciech Rostafinski

"The Urgency of Long-Range R&D," written by Dr. Wojciech Rostafinski of the Fluid Systems Component Division, appeared in the September 1 issue of the Cleveland Plain Dealer. The same talk was taken in an editorial published by Time Magazine in its October 22 issue.

Rostafinski met a frequent contributor to the public prints, as well as a regular Voice on America broadcasts.

The need for research organized on the national level did not occur to our government until the Manhattan Project (which developed the atomic bomb), with the express purpose of development efforts as those carried out in aeronautics by the National Advisory Council for Aeronautics (NACA). In the years of its exist 40-year period, NACA produced first-class materials in modern aeronautics and engine technology that has become classic. But, the NACA effort was not massive in any sense.

The advent of the space age during the Eisenhower presidency, which is a convincing feeling that we, as a nation, had to develop our resources and talents to the extent that President Nixon's Science Advisory Committee and the White House Statement of the President's strong position in and commitment to a vigorous, imaginative and dynamic U.S. space program. His own words on October 13 leave little doubt of this. In answer to the question, "What kind of space policy can we expect from Our Administration?" the President replied in part, "I think a very aggressive space policy. Anyone who reads the documents that have been prepared very carefully, very thoroughly, and finally approved by me, would say it is a very sound program based on scientific need and actually capitalizing on the great exuberant efforts that have been made in space. We look upon the Space Shuttle as a way to change dramatic, massive, and rapid into a progressive and innovative program to utilize the technology that we have available to us. We will continue interplanetary space exploration. We will have a greatly expanded effort concerning atmospheric assessments of the earth, weather, communications. We will expand our effort to bring into the space program now both foreign countries and also private firms in our nation. And I think it is accurate to say that the Space Shuttle is the most important project that we are working on.

In the past, R & D was what made our industry second to none. Today, even though we remain unmatched in several areas, notably in aeronautics. For example, 92 percent of the airliners in American are American-made. But the lack of recognition, especially during the last 20 years, has led to the loss of our leadership in other areas, such as fine mechanics (cameras), electronics (TV), and sophisticated nuclear technology (breeder reactors). The causes for this slipage include our failure to modernize our industrial plants, as much as anything, our failure to develop new methods of business management. Because of the financial risks involved, new approaches are discouraged in corporate circles, and the future of business and technology seems to hold only stagnation in store.

One aspect of federal involvement in the nation's R&D effort is to ensure that planning and performance are in the best interest of the country in order that we remain competitive with other countries, and that budget allocations for R&D do obtain the required priorities.

Field of Appreciation

"Dear Friends at the Lewis Research Center,

Your kind and thoughtful expressions of sympathy and prayers have been a source of comfort to Vi and I. Thank you for the contribution to Don's high school scholarship fund.

The prayer reading we used at Don's mass provided us with the consolation and strength that goes with accepting God's will. Thanks again and God bless you all.

Vi and Nels Rekos

To Lewis employers: We thank you sincerely for your generous donations of six units of blood. It is gratifying to know that there are such generous people at NASA.

Fondly, Lorene Johnston, retired, Construction Management Branch.

Words cannot express my feelings of thanks for the lovely retirement party and the very thoughtful gifts. It is hard for me to leave a place where I gained so many friends. I hope to see many of you in the future. Thanks, again.

Eva Luedecke

The Urgency of Long Range R&D...
LEWIS BLOOD DONOR

Robert Behrendt
11-Gallon Donor

William Kress
9-Gallon Donor

Donald Newlon
9-Gallon Donor

Harold Renkel
9-Gallon Donor

Lloyd Trunk
9-Gallon Donor

Daniel Prok
8-Gallon Donor

William Kirchner
7-Gallon Donor

C. Robert Morse
7-Gallon Donor

Alex Pucci
7-Gallon Donor

Thomas Davis
6-Gallon Donor

Lab chosen as host for sessions on retrieval here

Some 25 persons from the eastern portion of the country converged on Lewis for an intensive two-day training session last month to study a computerized information retrieval system. The session was sponsored by the Department of Energy's Technical Information Office.

The five Lewis participants were: Dorothy Morris, Leona Jarabek, Susan Oberc, Sandra Crowley, and Lucille Mattes. The system studied was the Department of Energy/Remote Console.

According to Library Branch Chief Dorothy Morris, the instructors presented a wide range of subjects for both new and experienced persons. Included were indexing techniques, search saves, search tools and searchable fields.

A highlight of the sessions was an on-line conference hookup with counterparts at the DOE Technical Information Center, Oak Ridge, Tennessee. Participants had an opportunity to question each other on problems of common concern.

Discussions were also held on nuclear data bases, statistical and in-progress information on DOE/RECON, and search practice time.

Instructors for the sessions were Jo Robinson and Margaret Hu, both of the University of California. Robinson teaches computer-based reference at the university's School of Library and Information Studies. Hu, in addition to being an active searcher for the Information Research Group at the University of California, is also editor of the DOE/RECON newsletter.

Blood donors: clip and save this schedule

Here is the 1982 Blood Bank schedule. Employees can give blood from 8 a.m. to 4:30 p.m. in the Administration Building Auditorium on the dates below.

January 28 & 29; April 12 & 13; July 1 & 2; and October 18 & 19. If you have questions concerning donating blood, call Blood Bank Chairman Helen Kechele, PAX 2143.

Lab briefs delegation

Air Force Lt. General Lawrence A. Skantze, Commander, Aeronautical Systems Division, Wright Patterson Air Force Base, Dayton, Ohio visited the Center recently for a briefing on the current status of the Advanced Turboprop Project. He was accompanied by 14 military and civilian personnel from Wright Patterson.

The Air Force is becoming increasingly more interested in the advanced turboprop propulsion system because of the potential fuel savings for such aircraft as military patrol, cargo carriers and the recently proposed Air-Mobile MX unit.

The Air Force visitors were also briefed on Lewis' role within NASA. Photo shows Lt. General Skantze (left) examining an eight-bladed turboprop.

Terry Corrigan receives the Twisters Junior Achievement Company charter from James Burnett, Acting Director, Technology Utilization and Public Affairs. The company is sponsored by Lewis and the Society for Crippled Children. Their products include hangers, display stands and bookends.

Deissler

Lewis employees Robert G. Deissler and Marian J. Cmok were honored recently by the Northern Ohio Section of the American Institute of Aeronautics and Astronautics. Cmok, of the Computer Fluid Dynamics Division, was presented a Special Service Citation “for her meritorious Technical Achievement Award service, and exceptionally enthusiastic dedication to the contributions of basic Institute and the Northern Ohio importance to the field of fluid mechanics.”

Lewis News: December 4, 1981
Ordinary room becomes ‘gem’ of Visitor Information Center

By Pat Hannan

There is a small windowless room located on the second floor of the VIC. It was originally designed to be a much needed storage area. However, gradually, drywall and paint were applied to the walls. Heating, air conditioning and carpeting were installed. The first furnishings were a table, one slide projector and one slide copier. It was slowly transformed into the Teachers Resource Room (TRR).

The TRR makes available exclusively to educators the latest aerospace information—information not found in current school textbooks—which can be used in the classroom or a science-related situation. The Lewis TRR is the first such facility in the agency and has been used as a model for other NASA centers considering this concept.

Initially, 1,000 35mm color slides were the only source materials in the room. These slides were sorted and categorized by subject. According to Diane Steadley, the TRR education co-ordinator since its inception in 1976, the file has grown to its present size of 4,500 slides with the assistance of NASA headquarters, other NASA centers, the Department of Energy and other organizations. Detailed slide descriptions are available upon request.

Later, audio and video tapes were added. At present, there are more than 375 video tapes available for duplication. The tapes range from five to thirty minutes. The TRR has four duplicating capabilities: ½" tape, 30; 1½" reel-to-reel. By the end of 1977 over 500 educators copied 7,408 slides and duplicated 60 video tapes and 27 audio cassettes.

For the year ending 1981, over 1,000 educators copied 17,538 slides, duplicated 1,503 video tapes and 73 audio cassettes. A 16mm film clip library, single subject audio cassette-slide programs, a vast collection of lesson plans, publications in addition to classroom activities suitable for kindergarten through grade 12 have been assembled and are available to educators. Teachers from area school systems are able to use the TRR during their school’s visit at the VIC. Although they spend only minutes talking with Steadley or Judy Butler, the educators become acquainted with the room and its holdings.

Several plantings each season ensure that Lewis is always flowering.

Judy Butler (left) and Diane Steadley select slides for duplication in the VIC’s popular Teacher Resource Room.

A time for planting

Keeping Lewis in bloom is the task of grounds maintenance crew members John Hoyer (left) and Julius LaRosa, pictured planting flowers in front of the Administration Building. Several plantings each season ensure that Lewis is always flowering.

In Memory

Mandel Estrin, a former Instrument Division employee, died June 15 of cancer. In the years since his 1971 NASA retirement, Estrin has worked as an engineer with the Davy McKee Corp. and was the current president of the Cleveland chapter of the Instrument Society of America.

Notes of Appreciation

Many thanks to my friends at Lewis for their warmth and concern upon the death of my father. Your caring gave great comfort to me and my family.

Jim Faddoul

The family of Richard J. Pimsner gratefully acknowledges the kind expressions of sympathy from his many associates at Lewis. Your thoughtfulness was greatly appreciated by all of us.

Jennie Pimsner

During the time of our emotional stress and grief, the outpouring of thoughtfulness and generosity by our many friends and co-workers at Lewis, at the death of my wife, was sincerely appreciated. It was a tribute to a beautiful lady, mother, and wife. Thank you all.

John M. Yuhas and family

A great big thanks and appreciation for all who attended and had a hand in making my retirement party a really memorable event. Y'all warmed the cockles of my heart—which incidentally coincides with the feeling I have about my career at Lewis and the tremendous team with which I had the honor to be an associate.

Roy and Pat Cooley

My family and I are grateful to my fellow employees for making my NACA-NASA career and retirement an unforgettable adventure. Thank you.

Don Exner

Fran Hrach, Lewis technical program manager for the 18th Annual Joint Propulsion Conference, would like to thank members of the NASA security committee for “their outstanding job and contributions to the success of the conference.” Security members were Kathleen T. Dorsey, Ernie D. Walker, Andrew F. Corcoran and Donald R. Boldman.

We have collected more than $4,600 so far for the Shoe Fund and more money is still coming in. We would like to thank all who contributed and to those who helped as volunteers.

Thanks much, Sylvia Taylor

Lewis Shoe Fund

HAPPENINGS

New AIAA fellow

Robert G. Deissler, Fluid Mechanics and Acoustics Division, was honored recently with an appointment to an AIAA fellowship. Deissler’s appointment was in recognition of his “outstanding contributions to the theories and understanding of turbulence, forced convection heat transfer and meteorological and astrophysical flows.”

He joined Lewis after graduating from Case Institute of Technology in 1948 with a M.S. in mechanical engineering. Since then, he has returned to Case on several occasions to pursue advanced study in his field.

His primary research efforts have been in the areas of fluid mechanics, fluid turbulence and heat transfer. Today, Deissler is working on the numerical analysis of turbulence with the aid of fluid dynamics computer.

Sick leave miser

Louis Sliman, forms management officer for Lewis, has accumulated 3,000 hours of sick leave up to this month. That is equivalent to 17 months of federal service.

At one stretch, Sliman did not take sick leave for 9 years! He can’t remember when he last took eight hours of sick leave at one time, although he has taken an hour here and there.

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Lab Speakers and Display Highlight Electric Propulsion Conference

By Frank D. Berkopec

The recent expectation of the availability of higher levels of electric power in space has stimulated increased interest in electric propulsion. This was a main focus of the International Electric Propulsion Conference held September 30 to October 2 in Alexandria, Virginia. This was the eighteenth such conference held in as many months to bring electric propulsion technologies together to exchange details of recent progress.

One of the 71 technical papers at the Conference were 11 members of the Center's Space Propulsion Technology Division. Lewis staffers from the Propulsion Research Branch and the Auxiliary Propulsion Branch presenting papers/presentations included:

- Vince Rawlin and Mike Patterson-Performance of 30 cm Xenon Arc Thrusters
- Maris Mantenieks-Rapid Evaluation of Ion Thruster Lifetime Through Optical Emission Spectroscopy
- Peg Whalen and Stan Grisnik-Compatibility of Grain Stabilized Platinum with Candidate Resisiteto Propellant
- Frank Cavicchi and Frank Calamia-For outstanding leadership in the Space Propulsion Technology Office, received the Exceptional Achievement Medal.

The Conference featured papers/presentations that included:

- Peter Ramins-"For recognition of outstanding efforts in developing the multi-staged depressed collector into a practical device of enormous value for high-power microwave transmission in space, on Earth and in the air.
- Harold E. Slincy-"For outstanding achievements in the advancement of lubrication science and technology resulting in the design and development of the Westward rotary engine for aircraft applications.
- Robert C. Hendricks-"For recognition of outstanding research in heat transfer, fluid mechanics and thermophysical properties of cryogenic fluids which has contributed immeasurably to NASA's hydrogen-oxygen chemical rocket technology.
- Frank K. Moore (Cornell University)-"For recognition of outstanding efforts toward understanding the fluid mechanics of aeronautics and space propulsion systems. And three Lewis staffers received the Exceptional Engineering Achievement Medal:

Certificates of Appreciation were awarded to:

- Wojciech Rostasinski-"For extensive and enthusiastic advocacy of the NASA aeropropulsion program to a wide variety of high-interest audiences in the United States and other countries."
- Beverly F. Sage-"For recognition of extraordinary efforts and valuable contributions toward meeting the transportation needs of Lewis Research Center."

The 1985 Lewis Distinguished Paper Award was presented to Robert A. Miller for "An Oxidation-Based Model for Thermal Barrier Coating Life."

Through our solar system, electric propulsion can provide for special space missions-large payloads, shorter trip times, mission flexibility, and simpler trajectories. Also, it actually can be the only propulsion technique to enable certain missions to be performed. The Lewis forward-looking electric propulsion program is an element of the work of the Space Propulsion Technology Division.
AIAA Plans A Celebration Of The Golden Anniversary Of Jet-Powered Flight

The Dayton-Cincinnati Section of the American Institute of Aeronautics and Astronautics (AIAA) is planning a celebration of the golden anniversary of jet-powered flight on August 23, 1989. This will be a one-day seminar followed by a banquet.

The program will be comprised of historically-significant, invited presentations by key personnel who made significant contributions to the invention, the past and current development, and the future planning of the jet engine. Eight speakers who have made, and are making, key contributions to jet propulsion technology have agreed to participate.

Inquiries can be sent to Dayton-Cincinnati Section, AIAA, c/o University of Dayton, 300 College Park, Dayton, OH 45469-0001, Attn: Dale H. Whitford, JPC 300. Include your name, affiliation, address, and telephone number.

In Appreciation

I would like to thank my co-workers and my friends for their good wishes, cards, gifts, flowers, visits, and all other thoughtful considerations shown during my hospital stay and my lengthy recovery at home. These thanks come not only from the bottom of my heart, but also from my very aching feet.

-Rose M. Andrew

Thanks to everyone for their expressions of sympathy at the time of my father’s death. Your thoughtfulness and kindness was greatly appreciated.

-Dianna Corso

I wish to take this opportunity to thank my Lewis friends for your expressions of sympathy at the time of my brother Jim’s death.

-Al Wolfe

Lewis Newsline
Space Power Systems Division Reunion Planned

Organization is underway for a reunion of the Space Power Systems Division, between the years 1962-1986. The division was under the direction of Dr. Bernard Lubarsky. The reunion is planned for Tuesday, August 22, 1989, at the NASA Picnic Grounds. Tickets will be available from Lois Wolfe (3-2971) or Cliff Swartz (3-2232).

Truly Sworn In As NASA Administrator

Admiral Richard Truly was sworn in as NASA Administrator by Dr. C. Howard Robins, Jr., associate administrator for management, at 1 p.m. (EDT), Saturday, July 1. The event took place at NASA Headquarters. All Congressional activity (confirmation, military waiver) has been completed.

J.R. Thompson was appointed NASA deputy administrator, effective July 6.

In Memoriam
C. David Miller, 83, died July 3, 1989. He worked at Lewis as a mechanical engineer and mechanical engineer from 1942 to 1947, and again from 1962 through part of 1973. While at Lewis during the 1940s, Miller developed a high-speed camera that was used to record explosions and those that occur during combustion in the cylinders of cars. He is survived by a son, John; daughters, Susan Green and Judi Rober; four grandchildren; and a brother.

Lester Dayson, 76, died July 8, 1989. He had retired to Orlando, FL, after working at Lewis for 30 years.

Lewis Newsmakers
Engineer Wins NACME Alumni Award

Bruce N. Seaood, Electrical Systems Division, was one of six persons selected by the National Action Council for Minorities in Engineering (NACME) to receive the 1989 NACME Alumni Award. Seaood was selected as an award recipient based on his active involvement in the minority engineering effort and NACME’s Alumni Association. NACME is a nonprofit organization designed to increase the number of underrepresented minorities—Black, Hispanics, and American Indians—who earn bachelor’s degrees in engineering.

The award was presented at the NACME Forum “99 in Washington, D.C. The forum’s theme was “The Changing Demographics,” presented strategies designed to recruit and retain more minority youth in engineering programs through college recruiting; corporate participation in the form of financial backing and summer jobs and co-op programs; government backing through financial aid, scholarship, grant, and loan programs; and lead participation through summer programs.

Two Lewis Employees Receive Ph.D Degrees

Robert Deissler and Christopher Delcare recently received doctorate degrees from Case Western Reserve University. Deissler, a Fellow and scientific consultant in the Office of the Chief Scientist, earned his degree in the field of fluid and thermal science. His dissertation was entitled, “On the Nature of Navier-Stokes Turbulence.”

Deissler, who took advantage of Lewis’ graduate study plan to earn his doctorate, said, “Most people get their doctorate near the beginning of their career. But I am at an age where people think about retirement. I guess the only explanation is that in earlier years I did not notice that something significant was missing from my background.”

Currently doing research on fluid turbulence, turbulent transport processes, and nonlinear dynamics and chaos, Deissler, who began working at Lewis in 1947, has enjoyed a wide and varied career here. He has served as a senior research scientist and consultant for fluid mechanics and heat transfer; was chief of the Fundamental Heat Transfer Branch; and headed the Heat Transfer Section. Delcare, Surface Science Branch, received his degree in the field of mechanical and aerospace engineering. His dissertation was entitled, “The Experimental Evaluation and Application of High-Temperature Solid Lubricants.”

Delcare began working at Lewis in 1985.

The next issue of the Lewis News will be August 18. Material for that issue must be in the Lewis News office by August 4.

Mamography Screenings Begin With Educational Screenings On August 14

An educational session that will discuss breast self-examination techniques and the importance of early detection of breast cancer will be offered on August 14. Call Pat Furfarco, 433-5842, for more information.

20th Anniversary

LOIS WEIR, PROPULSION SYSTEMS DIVISION, RECEIVED AN AWARD from Dr. Robert R. Barthelemy, director of the National Aeronautics and Space Administration (NASA), during the sixth NASP Technology Symposium recently held in Monterey, CA. Weir received the award for her role in conducting the Mach 5 Inlet Test program and for other contributions to the NASP program.

“North Coast Nostalgia” Is Theme For This Year’s Christmas Dance

This year’s Christmas dance will present “North Coast Nostalgia” Theme. Plan now to attend the gala event on Saturday, December 2, 1989, at Swingos at the Statler, Cleveland.

Begin this year’s festive, merry season by dancing to the Harry Hershey Orchestra. The Christmas dance includes a sit-down dinner and door prizes. Look for more information in future issues of the Lewis News.

Deissler

Deadlines: News items and brief announcements for publication in the August issue must be received no later than August 4. Deadline for the September issue is August 18. Future articles and ideas for articles are always welcome.

Address: Lewis News, MS 31-1, NASA Lewis Research Center, 21000 Brookpark Rd., Cleveland, OH 44135. Phone: (216) 433-2888.

U.S. GPO 1989 648-034/00009
Research Academy Offers Valuable Exchange of Ideas

The prestigious Lewis Research Academy provides a cross-fertilization of research activities at the Center and is a valuable tool for recruiting quality researchers.

Chief Scientist Dr. Marvin Goldstein leads Lewis' renowned research team. Dr. Marvin Goldstein leads Lewis' prestigious research team.

By Cynthia Hill

Seven dedicated Lewis and contractor employees spent the last six months as volunteer mentors for the ninth grade Algebra I class at East Tech High School in Cleveland. Each mentor was paired with one or two students. For one hour each week, mentors provided individual help at each student's level of understanding of algebra.

The Algebra Enrichment Program was developed by a collaborative task team, headed by Loretta Shaw and John Power of the Space Propulsion Division, and Ellen Berger, East Tech counselor. This is one of many activities implemented since Lewis and East Tech became partners under the Cleveland Partners in Education Program in January 1989.

The program's success is measured by student/teacher relationships.

Sponsored by the Cleveland School District, the partnership seeks to better prepare students for equal access to higher education and/or future job markets. This year's mentors began working with the students in January.

According to Harrison Allen, coordinator of the East Tech/NASA Partners in Education Program and a retired NASA employee, Lewis was paired with East Tech because "the Cleveland School District plans to develop East Tech into a thematic (magnet) school for pre-engineering and technology."

Volunteer Sylvia Taylor, Technical Information Services, enjoyed the "help" sessions at East Tech because her student showed continued enthusiasm for math. "Math was always my favorite subject," said Taylor, "and I enjoy helping people!"

Chris Pestak, Analex, enjoys his involvement in the program as well. "It's an opportunity to contribute to the educational process of these kids," said Pestak. By pointing out daily-life comparisons to math, Pestak succeeds in helping his students better understand algebra.

Berger of East Tech feels the Task Team members—Loretta Shaw, Chris Pestak, and John Power—are "synonymous with quality and caring." She added, "John brought a lot of understanding to the program since he is an experienced tutor with the Vocational Information Program (V.I.P.). He is realistic about the challenges mentors face and worked out the details with great patience." Like Power, many of the mentors have experience from the V.I.P.

The success of the program this year was measured by the quality of the mentor/student relationships revealed in the year-end surveys and student thank-you notes. Berger said student feedback has been "very positive and appreciative of the mentors' efforts: "It's the fastest 45 minutes of the week," said one student. And Berger observed that students who wouldn't ordinarily make it to class would show up for their mentors.

The challenges mentors faced were discussed at the Strategic Planning Dinner on June 12. Berger hopes to see the program expand one grade level a year.

Student participants in the program were recognized at an Honors Presentation at East Tech on May 30. Each student who attended more than 50 percent of the sessions received an autographed photo of Astronaut Guion S. Bluford, the first Black American in space. A picnic lunch for the students was held at the Lewis Picnic Grounds on June 6. During the visit, students toured the base and saw their mentors' work area first-hand.

Stephanie Davis Brown and Anna Marta, Office of Educational Programs, coordinated the contact of alternative mentors for the program when a regular mentor was called away on business. Other mentors include: Dan Bloom, Bruce Cunrigh, Kevin Cartier, Walter Cunnan, Steven Hegg, John Glasgow, George Madzkar, Sylvia Merritt, Eric Overton, Pamille Pittman, Ambady Sursh, Lisa Veitch, Shelia Vilar- dell, and Victor Weizer.

The mentoring program is open to all civil servant and contractor personnel at Lewis, as well as retired Lewis employees. If you are interested in mentoring opportunities, call Loretta Shaw at 3-5658 or John Power at 3-8687.

East Tech/Lewis Project Is Partnership For Tomorrow

NASA mentor John Power (left) shares his time and knowledge with East Tech students Jason Crossman (middle) and Maleeka Middlebrook.

Research Academy Members

John Ferrante
Robert G. Dessler
John Ferrante
Marvin E. Goldstein
Lennart S. Hultgren
Reda R. Manhadi
Robert Siegel

Dr. Marvin Goldstein leads Lewis' prestigious research team.

Q. How does the Academy benefit Lewis?
A. The Academy offers a valuable exchange. Our members are joining the University by taking part in the Academy activities.

Q. What kinds of research does the Academy undertake?
A. We try to pursue programs that relate to current technological needs at Lewis. Our research has been concerned with obtaining a better understanding of turbulent mixing. Our hope is that this will lead to improved combustion chamber and mixing nozzle designs. We are also developing the "tools" to study noise reduction mechanisms for the High-Speed Civil Transport.

Q. What research areas are you looking to pursue in the future?
A. We are very anxious to pursue research that is more closely related to Lewis space activities. Our expertise is primarily in the areas of fluid mechanics, heat transfer, and solid-state physics. Researchers with additional expertise and sufficiently broad experience and reputation who become available could petition the Director to appoint them to the Academy. His or her reputation would then attract outside people as well.

Q. How has the Academy changed in the past five years?
A. I believe that the Academy has helped Lewis improve its research image in the scientific community and throughout NASA. No other NASA center has a research group like ours.

Dr. Robert Siegel (middle) and Maleeka Middlebrook.
1991 NASA Lewis Honor Awards Roll Call

OUTSTANDING LEADERSHIP MEDAL
Neal T. Saunders, director of Aeronautics.

EXCEPTIONAL SCIENTIFIC ACHIEVEMENT
Dr. Khalid Zaman B.M.Q., Inlet, Duct and Nozzle Flow Physics Branch, Internal Fluid Mechanics Division.

DISTINGUISHED PUBLICATION AWARD
Rebecca A. MacKay and Michael V. Nathal, Advanced Metallics Branch, Materials Division, for: “Coarsening in High Volume Fraction Nickel-Based Alloys.”

EXCEPTIONAL SERVICE AWARDS
Robert Baumbick, Engine Sensor Technology Branch, Instrumentation and Control Technology Division; Harvey Bloomefield, Power Systems Integration Office, Power Technology Division; Frank Brady, Electrical Systems Branch; Raymond Burns, Systems Engineering and Analysis Branch, Systems Engineering and Integration Division; Jean Chapman, Office of Chief Scientist; Russell Corso, Fluid Systems Branch, Propulsion and Fluid Systems Division; James Davi, Facility Planning Office; Dr. John W. Dunning, Jr., deputy chief, Systems Engineering and Integration; Robert Evans, Terrestrial Propulsion Office, Propulsion Systems Division; Thomas Finnegem, Management Information Systems Branch, Computer Service Division; Phyllis Gefert, Telecommunications and Networking Branch, Computer Services Division; Steve Goncey, Electronic Systems Branch, Aeropropulsion Facilities Development Branch; William Gobeke, Thermal and Fluids Analysis Branch, Propulsion and Fluid Systems Division; Louis Ignaczak, Flight Projects Branch, Space Experiments Division; Keneth Jensen, Communications and Electronics Branch, Test Installations Division; Bonnie McBridge, Aerothermochmistry Branch, Internal Fluid Mechanics Division; Carl Mornin, Software Engineering Office, Engineering Support Division; Monica Paivoda, Office of the Director; Patricia Parker, Office of the Comptroller; Paul Prokopius, Electrochemical Technology Branch, Power Technology Division; Gary Sagerman, Mission and Vehicle Integration Office, Launch Vehicle Project Office; Bobby Sanders, deputy chief, Inlet Technology Branch, Propulsion Systems Division; Charles Slauter, deputy chief, Fabrication Support Division; Joseph Stephens, Engine Materials Project Office, Materials Division; Eugene Symons, chief, Cryogenic Fluids Technology Office; and Dr. Fred Teren, chief, Electrical Systems Division.

EXCEPTIONAL ACHIEVEMENT MEDALS
Henry Geringer, Materials Development Branch, Test Installations Division; Arthur Laufman, Photographic and Printing Branch; Donald Paske, deputy chief, Computer Services Division; Vernon Parrish, Environmental Compliance Office, Office of Environmental Programs; Laurence Petrusa, chief, Materials and Engine Components Branch, Test Installations Division; Robert Schneider, chief, Project Control Office; and John L. Leising, USAF Wright Laboratories.

EXCEPTIONAL ENGINEERING ACHIEVEMENT
Lee Francis, Mission Analysis Branch, Aeropropulsion Analysis Office; Dr. Patri- berg, Carl F. Lorenzo, John J. Reimann, Charles J. Trefry.

Employees from other organizations include: Charles J. Bauer and John L. Leising, USAF Wright Laboratories; Robert L. Berrier, Ernest A. Mackley, and Charles R. McClinton, NASA Langley Research Center; Victor Corsiglia, NASA Ames Research Center; Robert D. Drobowskii, Guy Mangano, and Ed Stawski, Naval Air Propulsion Center; James L. Keynes and Paul J. Waltrup, JHU/Applied Physics Laboratory; James Loudian and C. Franklin Markarian, Naval Weapons Center; William Rose, Rose Engineering; Raymond Streere, Naval Postgraduate School.

GROUP ACHIEVEMENT AWARD


Rebecca A. MacKay and Michael V. Nathal (center) received the Distinguished Publication Award. Center Director Larry Ross (left) and NASA Administrator Richard Truly look on.

Khalid Zaman (center), Inlet, Duct and Nozzle Flow Physics Branch, received the Exceptional Scientific Achievement Medal. Center Director Larry Ross (left) and NASA Administrator Richard Truly (right) look on.
Buysouts/early outs

Retirements put NASA closer to FTE reduction goal

Due to the large number of recent retirements, through buyouts and early outs, most retirees were unable to schedule a photograph. In order to publicize the listing in a timely manner, the Lewis News will be running only the retirements. There were a total of 199 civil servants who took buyouts/early out options.

Kaled Abdalla, an aerospace engineer in the Propulsion Systems Division, retired on May 3, 1994, with 38 years of NASA service.

George Brutzer, an electrician in the Test Installations Division, retired on May 3, 1994, with 29 years of NASA service.

John Burke, an electrical systems mechanic in the Test Installations Division, retired on May 3, 1994, with 30 years of NASA service.

Richard Burley, an aerospace engineer in the Propulsion Systems Division, retired on May 3, 1994, with 43 years of NASA service.

Marian Cmok, a program analyst in the Computer Services Division, retired on May 3, 1994, with 30 years of NASA service.

Howard Cobb, III, a research laboratory mechanic in the Test Installations Division, retired May 3, 1994, with 32 years of NASA service.

Robert Collins, a mechanical engineering technician in the Facilities Operations Division, retired May 3, 1994, with 40 years of NASA service.

Mary Lynne Cook, a program analyst in the Space Experiments Division, retired May 3, 1994, with 24 years of NASA service.

Russell Corso, a supervisory AST in the Propulsion Systems Division, retired May 3, 1994, with 31 years of NASA service.

William Costakis, an AST in the Propulsion Systems Division, retired May 3, 1994, with 31 years of NASA service.

Harry Craddock, a facilities maintenance manager in the Facilities Operations Division, retired May 3, 1994, with 28 years of NASA service.

Walter Cunnan, an AST in the Propulsion Systems Division, retired May 3, 1994, with 33 years of NASA service.

John Dalglish, a research facility service manager in the Test Installations Division, retired May 3, 1994, with 29 years of NASA service.

Richard Danielson, an agreement specialist in the Office of Interagency and Industry Programs, retired May 3, 1994, with 31 years of NASA service.

Robert Davie, a supervisory maintenance engineer in the Materials Division, retired May 3, 1994, with 32 years of NASA service.

Robert Devillier, a staff scientist in the Lewis Research Academy, retired April 29, 1994, with 46 years of NASA service.

James DePauw, a supervisory electrical engineer in the Power Systems Division Project Office, retired May 3, 1994, with 32 years of NASA service.

Anthony Dolen, an instrument maker in the Fabrication Support Division, retired May 3, 1994, with 32 years of NASA service.

John Donner, Jr., a research laboratory mechanic in the Test Installations Division, retired May 3, 1994, with 31 years of NASA service.

Robert Dorman, a mechanical engineering technician in the Fabrication Support Division, retired May 3, 1994, with 30 years of NASA service.

Rudolph Duscha, a supervisory electrical engineer in the Power Technology Division, retired May 3, 1994, with 36 years of NASA service.

Patricia Eckenfels, a mail service control monitor in the Logistics Management Division, retired May 3, 1994, with 24 years of NASA service.

Marilyn Edwards, a supervisory computer operations specialist in the Office of Community and Media Relations, retired May 3, 1994, with 32 years of NASA service.

Linda Ellis, a public affairs specialist in the Office of Community and Media Relations, retired May 3, 1994, with 32 years of NASA service.

Richard Fahik, an electrical engineer in the Space Propulsion Technology Division, retired May 3, 1994, with 30 years of NASA service.

James Fear, an aerospace engineer in the Propulsion Systems Division, retired May 3, 1994, with 30 years of NASA service.

Wille Fleming, a control specialist in the Procurement Division, retired May 3, 1994, with 31 years of NASA service.

Leo Franciscus, an aerospace engineer in the Aeronautical Analysis Office, retired May 3, 1994, with 32 years of NASA service.

Ronald Frimel, an electrical systems mechanic in the Test Installations Division, retired May 3, 1994, with 41 years of NASA service.

Marjorie Fuller, a secretary in the Office of Mission Safety and Assurance, retired May 3, 1994, with 10 years of NASA service.

Lawrence Gertman, an aerospace engineer in the Propulsion Systems Division, retired May 3, 1994, with 37 years of NASA service.

Anita Graham, an EEO specialist in the Office of Equal Opportunity Programs, retired May 3, 1994, with 6 years of NASA service.

Thomas Hacha, an aerospace engineer in the Space Experiments Division, retired April 29, 1994, with 7 years of NASA service.

William Harris, a laboratory mechanic in the Test Installations Division, retired May 3, 1994, with 31 years of NASA service.

Joseph Harrold, a supervisory computer engineer in the Space Electronics Division, retired April 29, 1994, with 30 years of NASA service.

Edward Heinj, a research facility service manager in the Test Installations Division, retired May 3, 1994, with 31 years of NASA service.

Jack Herman, a program analyst in the Resources Analysis and Management Office, retired May 3, 1994, with 31 years of NASA service.

Marvin Hirschberg, a supervisory aerospace engineer in the Structures Division, retired May 3, 1994, with 43 years of NASA service.

Anthony Hoffman, an aerospace engineer in the Propulsion Systems Division, retired May 3, 1994, with 32 years of NASA service.

Lyle Hoffman, a senior product controller in the Fabrication Support Division, retired May 3, 1994, with 32 years of NASA service.

Raymond Holanda, an electrical engineer in the Instrumentation and Control Technology Division, retired May 3, 1994, with 36 years of NASA service.

David Hubeny, Jr., an electronic systems mechanic in the Test Installations Division, retired May 3, 1994, with 32 years of NASA service.

William Ice, an environmental programs manager in the Facilities Engineering Division, retired May 3, 1994, with 31 years of NASA service.


Larry Jones, a mechanical engineering technician in the Test Installations Division, retired May 3, 1994, with 30 years of NASA service.

Daniel Jurkovich, a mechanical engineering technician in the Fabrication Support Division, retired May 3, 1994, with 28 years of NASA service.

Thomas Kascak, a physicist in the Space Sciences Division, retired May 3, 1994, with 28 years of NASA service.

Christine Kazan, a secretary in the Aeronautical Propulsion Facilities and Experiments Division, retired May 3, 1994, with 25 years of NASA service.


Howard Kilpatrick, a mechanical engineering technician in the Test Installations Division, retired May 3, 1994, with 29 years of NASA service.

Joseph Kleban, an electrician in the Test Installations Division, retired May 3, 1994, with 32 years of NASA service.

Charles Klein, a research laboratory mechanic in the Test Installations Division, retired May 3, 1994, with 28 years of NASA service.

Thomas Klucher, an electrical engineer in the ACTS Project Office, retired May 3, 1994, with 31 years of NASA service.

Robert Klypchak, an electronic systems mechanic in the Test Installations Division, retired May 3, 1994, with 32 years of NASA service.

Gerald Knip, Jr., an aerospace engineer in the Aeronautical Analysis Office, retired May 3, 1994, with 37 years of NASA service.

John Kobak, a supervisory electrical engineer in the Aerospace Technology and Facilities Division, retired May 3, 1994, with 36 years of NASA service.

John Koch, a mechanical engineering technician (continued on page 4)
Dr. Robert Siegel poses with several versions of the textbook Thermal Radiation Heat Transfer, which he co-authored with J. R. Howell.

BY S. JENISE VERIS

"Their presence at the laboratory was due in no small measure to Abe Silverstein’s commitment to basic research. Like Dryden and Vannevar Bush, he believed that basic research was the nation’s technical capital." (Engines and Innovation, p. 104)

On May 31, Dr. Robert Siegel, one of 10 senior technologists at NASA Glenn, retired after 44 years of service to NASA and its predecessor NACA. His legacy as designer of the first drop tower and co-author of the textbook Thermal Radiation Heat Transfer, however, will have a lasting impact on future generations of engineers as they push the boundaries of space exploration.

According to NASA Glenn’s Chief Scientist Dr. Marvin Goldstein much of the fundamental science and technology that underlies the work done at the Center comes from the contributions made by senior technologists like Siegel.

"Their work requires a high level of creativity—which very few are able to attain—a great deal of personal motivation, and perhaps a bit of luck as well. This enables them to make some extraordinary breakthroughs that most people cannot even anticipate," Goldstein said. "Siegel is an example of that rare combination. He leaves behind substantial contributions resulting from his role as a researcher, teacher, and consultant. There can be no doubt that he has increased the intellectual level of the next generation workforce in the area of heat transfer, particularly radiation and boiling heat transfer."

Dr. Robert Siegel conducts a boiling experiment on the world’s first drop tower that he designed in 1957.
y gives flight xploration

"I was working on heat transfer to rocket nozzles and really didn't know how to go about it," Robbins said. "Siegel was simply a genius and enormously helpful during that time."

Such genius later led him to investigate heat transfer for conditions in space and ultimately to design the world's first drop tower in 1957. The tower was a free-fall device—about 12 feet tall—that allowed him to test zero gravity for a short duration boiling experiment using a high-speed camera to film the process. A few years later he built a second tower with counterweights to conduct research at various levels of microgravity. His efforts were recognized in 1970 when he received the American Society of Mechanical Engineer's (ASME) Heat Transfer Memorial Award. In 1993 he received a NASA Space Act Award for original research work on the drop tower.

Siegel is also known for his work in radiation heat transfer because of the textbook that he co-authored in 1968 with J. R. Howell who is presently a professor in the mechanical engineering department at the University of Texas-Austin. The text originated from three NASA special publications prepared from personal research and notes for short courses in radiation heat transfer given at the Lab.

At the time, more information was needed on radiation, which was the only mechanism for cooling satellites and spacecraft. Chemical engineers were studying radiation for hot gases in furnaces and combustors, but more information was needed for space applications.

"Siegel is one of the top leaders in development of the fundamentals of radiation heat transfer for engineering applications. But putting aside his technical genius and scholarly accomplishments, Bob has been a true gentleman throughout the years I've known him," Howell said. "I certainly have enjoyed our long association—a testament to the collaboration on the book revisions we've accomplished over the years."

The book now published as a third edition has been widely used for nearly 3 decades as a graduate level college textbook, and has been translated into three other languages.

While Siegel's recognition comes largely in the areas of radiation and low gravity heat transfer, he has done research on many other subjects such as freezing, phase change processes, transient thermal behavior, thermal behavior in semitransparent ceramics, porous media heat flow, and transient forced and free convection processes.

"We collaborated on a special project under Civil Aviation to determine the number of cooling fins necessary to enhance engine performance," said Dr. Robert Graham. "Siegel calculated the number of fins and I performed the tests to improve performance."

Siegel has been at the forefront of such research and technology and has written more than 170 journal papers and articles. He has served both ASME and American Institute of Aeronautics and Astronautics (AIAA) as a journal editor. He was an editor for the Journal of Heat Transfer for 11 years, and was an editor for the Journal of Thermophysics and Heat Transfer since its inception in 1986 until the close of 1998. He currently serves on the Honorary Editorial Advisory Boards of the International Journal of Heat and Mass Transfer, International Communications in Heat and Mass Transfer, and the Journal of Thermophysics and Heat Transfer.

A Fellow of the ASME and the AIAA, he has also received the NASA Exceptional Scientific Achievement Medal (1986) and the AIAA Thermophysics Award (1993). The ASME and American Institute of Chemical Engineers presented the Max Jakob Memorial Award to Siegel in 1996 in recognition of his eminence in the field of heat transfer and his distinguished service as a research worker, educator, and author.

Not the type to let grass grow under his feet, Siegel currently serves on a committee for ASME, which will require him to undertake projects and attend a few meetings each year starting with the 1999 National Heat Transfer Conference to be held this month in Albuquerque, NM.

"I don't like to think of leaving the Lab as retirement, rather I'm setting a little different pace," Siegel said. "I often find now that the projects I used to save for Saturdays, like gardening, are interchanged with reviewing or finishing a paper on my computer."

When free time presents itself, Siegel said he hopes to see a few of the interesting places he has looked forward to visiting. In the meantime, he enjoys kicking up his heels several times a week with his wife and partner of 48 years, Elaine. They both share a love of ballroom dance and the joy of instructing others on the finer points of social dance—something they have done since 1974. ♦