Fourteen members of the Laboratory research staff received Master of Science degrees this spring, twelve from Case Institute of Technology on Sat. June 9 and two from Western Reserve University on Wed., June 13.

The degrees from Case were awarded to the following persons in these fields:

- Mechanical Engineering
  - Patrick Donoughe (C&T)
  - Seymour Himmel (Eng.Res.)
  - Richard Hood (Eng.Res.)
  - Martin Kinsler (C&T)
  - Raymond Standahar (C&T)
  - Francis Stepka (C&T)
  - Frederick Simmons (Physics)

- Aeronautical Engineering
  - Elmer Davison (C&T)
  - Artur Wager (C&T)
  - Sanford Gordon (F&C)

- Mathematics
  - Leonard Rudlin (Physics)
  - Gene Delio (Eng.Res.)

These men had been working toward their advanced degrees under cooperative plans between

(Continued on Page 4)
The 622-pound Orbiting Solar Observatory III carries nine experiments. Technicians preparing OSO for launch are shown here examining the 12-disc Thermal Radiation Emittance Detector. One of these small discs may answer some important questions for Lewis scientists.

Cleveland State University Offers Master of Science

Cleveland State University plans to start a graduate program in both chemistry and mathematics next fall. Classes will be held in the late afternoon and evening to enable working students to earn a master of science degree on a part-time basis.

Other requests pending approval by the Ohio Board of Regents include graduate programs at the master's level in all of the engineering disciplines now in the university's undergraduate program.

Detailed information on the existing graduate programs in chemistry and math are available in the Lewis Training Office.

Gertrude Collins reports that the training office will keep up to date on the other decisions pending before the Board of Regents.

Technology Utilization Publications

The following new publications are currently available at Lewis T.U. Office, Room 214, Ad Bldg, PAX 5223 or 1049.

TECHNOLOGY REPORTS
Commercial Potentials of Semipermeable Membranes, SP-3504.
NASA Contributions to Metals Joining, SP-5064.

TECH BRIEFS
Detector Measures Power in 50 to 125,000 GHz Radiation Band, Cutten-Hammer under contract to Electronics Research Center, B66-10531.
MOSFET Analog Memory Circuit Achieves Long Duration Signal Storage, HIM under contract to Marshall, B66-10603.
Hydraulically Controlled Flexible Arm Can Bend in Any Direction, Kennedy Space Center, B66-10626.
Process for Preparing Dispersions of Ablative Metalls, Jet Propulsion Labora-
tory, B66-10676.
Computer Program Determines Chemical Equilibria in Complex Systems, Frank Zetnik and Sanford Gordon of Lewis, B66-10671.
Resonant Frequency Can Be Adjusted on Vibration Mount, Ryan Aeronautical under contract to JPL, B66-10672.
Study Made of Destructive Sectioning of Complex Structures for Examination, Thomas Riley of Lewis, B66-10676.
Potting Compound for Honeycomb Sandwich Panels, General Dynamics-Convair under contract to Lewis, Study Made to Control Depth of B66-10677.
Improved Rolling Element Bearings Provide Low Torque and Small Temperature Rise in Ultrahigh Vacuum Environment, Dean Glenn of Lewis, B66-10678.
Solid-State Recoverable Fuse Functions as Circuit Breaker, Goddard, B66-10691.

OSO III.....

(Continued From Page 1)

A stainless steel disk one inch in diameter, was coated with aluminum one hundred-thousandth of an inch thick. If the surface of this disk is damaged by micrometeoroid pock-marking in space and loses some of its reflectivity, its temperature will change correspondingly.

Thus, the disk is instrumented to record surface temperature changes. These data can then be reduced to determine the actual changes in the optical properties of the surface to compare with laboratory experiments. The comparison will determine the unknown relationship between space exposure and laboratory simulation.

The OSO program, now a series of eight approved satellites, is one of NASA's major efforts in solar physics. The spacecraft series is designed to provide continuous observations during the 11-year solar cycle. OSO is a project of NASA's Goddard Space Flight Center.

MPD Arc.....

(Continued From Page 1)

some certain part of the heavens, or even to keep their solar cells in the right position to receive the maximum possible amount of energy from the Sun. This again requires little on-board propulsion and is an ideal application for a small, reliable electric engine that can operate on low voltage solar cell output.

In the MPD arc thruster, argon or xenon propellant is ionized into a plasma — a swirling mixture of ions and electrons. A combination of a small permanent magnet and a low-power electromagnet form the rocket "nozzle," an axially diverging magnetic field. The engine produces rocket thrust as the plasma expands through this magnetic nozzle.

Seikel says, "Typical performance includes thrust from 0.5 to 1.5 milli-pounds for specific impulses from 400 to 1300 seconds and thrust/power ratios of 6 to 7 mb/kw. Eighty to ninety percent of the propellant is fed into the thruster through small holes in the anode walls. The remainder of the propellant flows through the hollow cathode. Once started, the cathode is a self-sustaining emitter and requires no cathode power."

Research, both at Lewis and on contract, is continuing in an effort to develop higher power engines with the same low-voltage capability.

Albert E. Johnzwen, engineer on the MPD arc thruster project, checks out the installation of the engine in a thrust stand in ERPB. This stand, mounted in a vacuum facility, is a very sensitive measuring device for the low thrusts of electric rockets.

Photo by Paul Riedel
Safe driving cited

Twenty-seven Lewis drivers were cited recently, not for traffic violations, but for 100 total years of safe operation of motor vehicles and mechanical equipment. The awards were given “. . . in recognition of the excellent record achieved in the performance of duties without a preventable accident during the calendar year.”

William Egan, chief of Technical Services, presented certificates to the Cleveland employees, while Lester Krause, Acting Chief of the Facilities Service Division, officiated at Plum Brook.

Two employees received awards for operating Federal vehicles safely for 10 years or more. They are Cleveland’s Booker Ser- shion, 13 years; and Plum Brook’s George Yonek, 10 years.

Safety in driving Federal vehicles was un- derscored by Joseph Cenzori, chairman of the Motor Vehicle Accident Investigation Committee, who presented accident statistics for 1969. Some highlights of that report were:

— There were a total of 43 accidents with Federal vehicles, 10 of which involved con- tractor personnel. Of the total, Federal operators caused 29; private operators, 3; and unknown operators, 1.

— More than one-third of the accidents were caused by backing up vehicles blindly.

— Total cost to the government for dam-
age to Federal and private vehicles was $437.45.

— At Cleveland there was one chargeable accident for every 3,942 miles driven. At Plum Brook there was one chargeable accident for 9,491 miles driven.

Those receiving Safe Driving and Safe Mobile Equipment Awards are as follows:

Vol. 7, No. 6
March 13, 1970

Goddard’s O’Keefe tells lunar soil age

Attendees at the Research Staff Conference on Monday, March 16, will hear Dr. John A. O’Keefe of Goddard Space Flight Center speak of the material brought back from the Moon.

Dr. O’Keefe joined NASA at Goddard in 1958 and is Assistant Chief for Planetary Studies. He collaborated in the discovery of the Earth’s right “pear-shaped” form. He is editing a book on Tektites (small green or black glass pebbles) and another on the Nature of the Lunar Surface.

The Apollo 11 experiments combined with earlier data from the lunar missions show the lunar surface to be a fine powder which grades into more resistant material at greater depths. Dr. O’Keefe will talk of the most recent findings and future plans for determining the Moon’s composition.

Note that the meeting will be at 7:30 p.m. in the DEB Auditorium. The Cleveland-Akron Section of the American Institute of Aeronautics and Astronautics are featuring the conference in conjunction with a social hour and dinner beginning at 5:30 p.m.

Food makes tasty topic for families

Refreshments will be served and shown at this evening’s Family Night presentation at 7:30 p.m. in the DEB Auditorium. A NASA film entitled “Food for the Space Traveler” will whet the appetites of the audience for the coffee, milk and pastries served afterwards in the DEB Cafeteria. An added appetizer will be “A Visit with Igor Sikorsky” and North American-Rockwell’s film “To Lift a Giant.”

The next and final Family Night will be next Friday, March 20. A 15-minute presentation of “A Mission for Mariner” will interest the Lewis families, particularly those involved with the Mars and Venus probes. Other films will be about Dulles International Airport in Washington, a half-hour presentation by Piper Aircraft and Aero-jet General’s “Titan III - Carrier for Space.”

Europe is beckoning

If you’re still dreaming of that vacation in Europe, it’s time to get on board with NASA friends and other Federal employees. The NASA-organized vacation in Europe is becoming a reality, with more than 100 reservations booked on the charter leaving Cleveland for London August 18, and returning from Amsterdam to Cleveland three weeks later, September 8. With only 50 more seats filled, interested employees are encouraged to sign up soon, for the invitation is extended to Federal employees not only from Cleveland but from other areas as well. The round trip fare only is $240 per person. For those who wish a deluxe grand tour of eight countries, including rooms with private baths, meals and sightseeing, an additional $380 will buy the three-week land portion. Reservations are made through Westgate Travel Service with $50 guaranteeing a flight reservation and an additional $300 for the land portion reservation. Seats are limited, so join more than 30 Lewis employees who with their families are looking forward to Europe this summer. Further questions can be answered by calling PAX 3284.

Shops clock two million safe hours

The 1969 Safety Program at Lewis officially closed March 2 when Center Director Bruce Lundin presented shop safety awards to one Plum Brook and four Cleveland divisions for more than two million man-hours of work without a last-time accident.

James Connors, Chairman of the Center Executive Safety Board, briefly reviewed the highlights of the year’s program, noting the Center’s lost-time accident rate of 0.88 per million man hours. “The effective and efficient reissue of the pilot in the F-8U Crusader aircraft last summer was in itself a dramatic evidence of the continuing training Lewis personnel receive through Project STEEP (Safety Training in Emergency Evacuation Procedures),” Connors commented.

Another aspect of safety concern is the training of volunteer firemen to aid the Plant Protection forces when necessary. Also an area of emphasis is the monitoring of air and water pollution control.

Kinetics conference here March 19

A conference on Kinetics and Thermodynamics in High Temperature Gases will be held at Lewis Thursday, March 19. Results in these areas of basic research in the chemistry and physics of combustion and other high temperature gases will be discussed in various conference sessions throughout the day.

In the chemical equilibria area, Sanford Gordon will speak of Complex Chemical Kinetics conference here March 19 of Thermodynamics in High Temperature Gases will be discussed in these areas of basic research in the chemistry and physics of combustion and other high temperature gases. In chemical kinetics, Frank Belles will discuss Combustion Chemistry; Theodore Brubfs, Rate Constants from Ignition Studies of the H2-CO-C2 System; Marvin Warsbay, the Kinetics of the Dissociation of Bromine and David Bitker, General Chemical Kinetic Computations for Multifractures System. Sheldon Heimel will discuss the Calculation of Equilibrium Properties of Plasmas and Frank Zelznick’s presentation will treat of Thermodynamics of the Internal Combustion Engine. In transport phenomena, Richard Brokaw will discuss Transport Properties of Complex Mixtures. In chemical kinetics, Frank Belles will discuss Combustion Chemistry; Theodore Brubfs, Rate Constants from Ignition Studies of the H2-CO-C2 System; Marvin Warsbay, the Kinetics of the Dissociation of bromine and David Bitker, General Chemical Kinetic Computations for Multifractures System. Sheldon Heimel will discuss the Calculation of Equilibrium Properties of Plasmas and Frank Zelznick’s presentation will treat of Thermodynamics of the Internal Combustion Engine. In transport phenomena, Richard Brokaw will discuss Transport Properties of Complex Mixtures. In chemical kinetics, Frank Belles will discuss Combustion Chemistry; Theodore Brubfs, Rate Constants from Ignition Studies of the H2-CO-C2 System; Marvin Warsbay, the Kinetics of the Dissociation of Bromine and David Bitker, General Chemical Kinetic Computations for Multifractures System.
Finks win softball title

The Finks tucked away their second straight championship of the NASA Men's Softball League, winning all 18 of their regular season games, plus four straight play-off victories.

PB drive-through...

(Continued from page 1)

are the Space Power Facility, a huge 100x120-foot vacuum chamber shaped much like a domed stellar observatory, and the 60-megawatt nuclear reactor. Special features of these facilities are the railroad which literally runs through the Space Power Facility, and the reactor's remote controlled manipulator, which like a space-age robot can handle radioactive materials with the operator safely positioned behind a lead-glass window four feet thick.

Other facilities which the visitor can drive by and learn about over his car radio are the Spacecraft Propulsion Research Facility, where full-scale rocket engines can be static fired without leaving the "pad," the Hypersonic Tunnel Facility, which can test jet aircraft engines running at seven times the speed of sound; a rocket and dynamics control facility; a versatile control and instrumentation building; and a cryogenic propellant site, where very cold fuels are stored and tested.

Plum Brook is located on Ohio State Route 250, south of Sandusky. Clevelanders can easily reach it via the Ohio Turnpike, getting off at Exit 7 (the Cedar Point exit), driving 7/8 miles north on Route 250 to Borgot Road (traffic light and widened roadway), turning left on Borgot Road and again left within 500 feet on Boyer Road along the mile to the Station's entrance.

A. D. Johnson, Director of the Plum Brook Station, expects nearly 8,000 visitors to drive through the facility during the three Sundays in October.

Group gives science grants

Zonta International, a service organization of executive women in business and professions, is announcing the Amelia Earhart Fellowship Award to women for advanced study and research in the aerospace sciences. The $3,000 grants, established in 1938, are given to graduates in a science qualifying a candidate for graduate work in some phase of the aerospace sciences. The fellowship is the basic requirement for the Fellowship, plus evidence of exceptional ability and potential and commendable character.

If you wish to apply or recommend students, write: Zonta International, 59 East Van Buren Street, Chicago, Illinois 60605. Applications must be filed by January 1, 1973.

Communications...

(Continued from page 1)
ed that in some cases employees are reluctant to go to their supervisor or be identified with a particular suggestion. "This is not to say it won't happen, but it would be easier to get in the way of understanding." "The early problem I foresee," Baison says, "is for people in my own Fluid System Components Division. Since I am clearly identified with division management I urge anyone from the division to talk to Hibbard."
Money identifier developed for blind persons

The cliche “money talks” will soon acquire a new literal meaning for blind persons thanks to a simple paper money identifier developed from NASA technology.

The device will enable a blind person to identify paper money by its sound “signature.” Until now no reliable paper money identifier for the blind has been available.

To determine its denomination, a bill is passed under a light source on the small, inexpensive device. A photo-transistor measures changes in the bill’s light patterns. These changes are converted (Continued on page 3)

Innovations bring awards, praise to 21 employees here

Twenty-one members of Lewis’ technical staff earned monetary awards and certificates of appreciation from the Technology Utilization program for published technical innovations that may have practical usefulness in non-aerospace business and industry.

Dr. Walter T. Olson, Director of Technology Utilization and Public Affairs, who presented the awards earlier this month said, “The monetary awards and certificates are only a small way of acknowledging the extra mile you have gone in contributing to our national well being through these innovations.”


Last call for Hawaii

If that first blast of winter weather has put you to thinking about warmer climates, you can still join Hawaiian Escape 2, and head for San Francisco and the islands two days after Christmas for 17 days.

The tour has enticed a host of travelers, who for $787 each will enjoy the best hotels, United Airlines jet flight, 21 meals, tours, tips, and taxes. The trip is sponsored by the Federal Employees Association, although approximately eligible to go. Those wanting further information can call the trip organizer, George Hoy, at 777-4070 evenings.

(Continued on page 3)
Retirees look forward to “watching world go by”

BY NAZHA “NICKIE” FADIL

Michael A. Chepley, engineering technician in the Engineering Design Division, has accumulated 36 years of federal service. He graduated from the apprentice program in 1948, his first training after World War II. He finds that the people of Lewis are the friendliest anywhere and he will miss working with them.

Mike plans to relax and travel to California to visit relatives. He is taking a wait-and-see attitude, and will see what develops during his retirement.

“Lewis has a fantastic group of people to work with,” praised Charles S. Corcoran, head, Electric Systems Experiments of the Transportation Propulsion Division, as he retired after 35 years with the federal government. His wife, Marion and he like it too much in Cleveland to move. Chuck will catch up on household duties he has put off for so long, now that he has the time to do them.

He served 18 years in transportation service and eighteen years in research, working on such projects as the x 6 winds tunnel, PSL, 10 x 10, SNAP 8 and the Branson Cycle. He will miss his career at Lewis. Chuck served as chairman of the Incentive Awards in 1972 and as vice chairman of the Electrical Applications Safety Committee for 30 years.

Three of the Corcorans’ seven children still live at home.

“I have been involved in interesting work in my career here. The people are interesting. A lot of opportunities are offered.”

These are the beliefs of Richard P. Geve, project manager in the Launch Vehicles directorate. In his fifteen years with that directorate, he has been Agena Project Manager, responsible for OAO, Orbiting Satellite 1-2-3, Nimbus h-2, Titan Centaur Mission Project, and the final two years in automobile propulsion research. He is retiring with 31 years of federal service.

His wife, Irene, nee Kives, was the secretary to late Lewis Director Dr. Sharp.

Dick has open plans for the near future. He has three children in Cleveland. His hobby is fishing.

“I had a very satisfying career at Lewis,” stated Stanford Gordon, head, Physical Chemistry Section, Airbreathing Engines. He retires with more than 35 years of federal service.

Sanford will spend two weeks in Israel to visit his sons and grandchildren.

In March, Sanford will return to Lewis as a reemployed annuitant for several months. He likes his work. He said that meeting people of the Lewis Lab has been the best part of his life. “I had many pleasant associations,” he said.

Sanford has earned an incentive and other awards during his Lewis career.

Frank J. Gusik of the Engineering Design Division will retire this month after almost 35 years of service. His most recent duties include being a member of a management team for an engineering and design contract.

Frank and his wife, Yarmila, live in Parma, and are the parents of one daughter, and the grandparents of three.

Immediate plans are to stay in the Cleveland area, “take it easy, and watch the world go by.”

Frank continued, “I choose to retire while I’m still in good health and young enough to enjoy life. I plan to spend more time with my grandchildren and do some traveling.”

A luncheon in Frank’s honor is scheduled for 1 p.m., Tuesday, January 15, in the Main Cafeteria. If interested, call Chuck Moon or Don Noga, PAX 4107.

Aerospace scientist Robert Lubick, of Launch Vehicles, and head, Mission Design Section, performed trajectory and mission analysis of chemical and nuclear rockets for NASA missions. From 1951 to 1962 he worked with experimental turbojet engines. Bob leaves with over 28 years of federal service behind him.

Bob found Lewis people of high calibre and acquired many close friends over the years.

He will travel to New England with his wife, Barbara, to visit her relatives.

He also is an old movie buff and has been a philatelist for 40 years.

Herbert L. Minkin, electronics engineer of Airbreathing Engines, promises to visit his daughter in Japan for two months.

“‘I’ll miss the friends I started off with and have been here for a lifetime,’” remarked Herb.

His work at Lewis involved research liquid hydrogen flow metering during the rocket era, and as a technical advisor for acquisition of pressure measurement equipment. Herb won an award for a pressure measuring system for aircraft engine testing and has written over 30 papers during his Lewis career.

The new retiree may do some consulting work later. He plays handball and jogs.

In his almost 35 years of federal service, Carl B. Wentworth of Launch Vehicles Division, found the first ten years of NASA space research exciting and absorbing. He was involved with engine research on ramjet engines. He has written 12 technical papers.

Carl may relocate in Michigan later. In the spring he will tour the southwest and enjoy his hobbies as a fisherman, motorcyclist, photographer, workshop enthusiast and auto mechanic.

After serving almost 26 years, Merle L. Jones says it’s time to retire. He worked on vehicle pneumatics system and aerodynamics research.

Among Lewis honors for the aerospace engineer was a cost saving award for Atlas pneumatic regulators.

His wife, Del, and he plan to live in the sunbelt state of Arizona. There he will golf, swim and play tennis. He likes photography, too.

Winston W. Hasel, Procurement Associate Aeronautical Engineer, commented, “I enjoyed the type of work I was doing with Procurement people. It was quite a challenge.”

Winston was a chief pilot in World War II, flying 42 missions. He has 22 years at Lewis and a total of 35 years of federal service, including military and reserve service.

He plans to do consulting work after he has relaxed for six months. He wishes to visit his grandchildren in New Jersey.

Cavour H. Hauser, head, Single Stage Compressors Section, Fluid System Components Division, will begin a new career with the Bendi x Corporation in Elyria.

He will work toward improving compressors for pneumatic brake systems to bring trucks to a stop rather than to make airplanes fly safer, as was his Lewis work. Cav was primarily involved in research on the flow-through turbines and compressors for aircraft engines at Lewis.

Cav headed the successful Combined Federal Campaign fall 1979 drive at the Center.

Before Cav works again he will have a two-week vacation.

“I have had wonderful associations at Lewis and hope to remain in touch with my good friends,” commented Cav.

Cav finished a new addition to his home in Rocky River. He has a daughter who is an ophthalmologist in Chicago, a daughter in personnel work in New Jersey, and a daughter who teaches first grade in Florida. They were all home for Christmas.

His hobbies are woodworking and house building, and he plans to work at those hobbies more, now that he’s retired after 35 years of government service.

HAPPY NEW YEAR!

WILL HAVE A

PROSPEROUS &

HOPING YOU

WILL HA

YEAR!
Providing all to offices and facilities the modern equipment needed for quality and productive work. We Operate With An Open Management Style By: Recognizing that inherent in R&D are high-risk and high-payoff efforts, and maintaining high technical credibility and improving performance through free and open reviews of technical failures. Encouraging those who are responsible for carrying out the work to make suggestions for improvements and participate in the planning.

Providing ample opportunity for our people to communicate with the best minds in science and technology in other organizations. Maintaining integrity in all our dealings with the NASA Team and all outside individuals and organizations.

Lewis staffers get Tech Brief Awards

Tech Brief Awards were recently presented to 27 Lewis employees who contributed innovations to the NASA Technology Utilization Program. Recipients received certificates of recognition and $100. In addition, their innovative contributions are published in the NASA Tech Briefs quarterly journal. Here are the subjects and award recipients:

- Computer Program HEAVY: Raymond F. Beach
- Data Manipulation and Display: John R. Srucich.
- Computer Program for a Four-Cylinder Stirring Engine Control Simulation: Carl J. Daniele and Carl F. Lorenzo.
- Computer Program AESOP -- Interactive Design of Linear Quadratic Regulators and Kalman Filters: Bruce Lehinen and Lucille Geyer.
- Microized Coal Burner Facility: Fred D. Calfo and Mike W. Lupton.

Award checks were also mailed out to 27 contract winners.

Lewis artisans

Organ magic for Brown

Dick Brown, a 24-year Lewis veteran, will be more than disposed when his upcoming retirement by his 30 years of organ playing and restoration work. Brown is copy machine manager in the Technical Information Services Division. He possesses a lifetime of expertise in organ installation, building, and restoration dating back to his post-college, Depression-era, with Toledo Organ, Cleveland Organ Co., and Adams Organ Co.

Dick is high paid as an organist. He owns Westlake Organ Service and supervises installations of pipe organs. And since 1975 he has been restoring as a donated organ to the Palace Theater in downtown Cleveland with the assistance of 12 volunteers from the Playhouse Square Society under auspices of the Playhouse Square Foundation.

Two of the restoration volunteers are Lewis employees Daryl Edwards and his wife Karen. Daryl is a mechanical engineer with the Facilities Engineering Division. Karen serves as administrative assistant with the Internal Computation & Fluid Mechanics Division. Their dream of someday owning a theatre and showing silent movies.

In working together, Brown has taught the Edwards many of the tricks of his trade acquired through a lifetime of reading and hands-on organ restoration work. Together they hammer, fix pipes, solder and wire; using many of their own tools because of the low budget available to them for the 57-year-old organ restoration project, now 70 percent completed.

Dick's contagious love for music and organ restoration has inspired many of the other volunteers, among the point of risk-taking dedication. Sometimes a volunteer has to work from a crawl five floors up just to reach the organ chamber, with parts being hoisted up by block and tackle. Over the years Dick has rebuilt five organs and maintained 10 others -- all on weekends and evenings. Using no advertising, Brown's jobs come through friendships and word-of-mouth contacts.

Upon his retirement from Lewis on Nov. 2, Dick plans to ease his business partner into handling some of his responsibilities so he can continue to enjoy his organ work on a part-time basis.

Safety tips

How to drive in the rain

Here are some suggestions for making wet-weather driving easier and safer.

Be sure your windshield wipers are in good working order. Replace the blades at the first sign of streaking. Slow down when the rain comes down. Rain makes the road slicker especially during the early minutes of the shower. That's when the oily road center lines. They usually get slicker than the rest of the road when they get wet.

Teachers, leaders upgrade space science knowledge

An opportunity to visit a NASA center and upgrade their knowledge of space science and technology became a reality for some 200 Ohio school and community leaders attending a conference at Lewis. The September 20 "High Technology and Education Conference was sponsored by the FEE Foundation, Neck, and 200 Ohio school and community leaders in upgrading and updating the science programs in their local schools. The conference was intended to assist school and community leaders in upgrading and updating the science programs in their local schools, says Dr. R. Lynne Bonduran, Chief, Educational Services Office at Lewis.

"I would like to thank my friends and especially my co-workers in the C&T wing of the E.R. B. for the nice reception and gifts at my recent retirement. It was something I'll never forget." Dick Glaser

In appreciation...

"Take stock in America."
$10,000 Space Act Monetary Awards

McBride and Gordon honored for CET89 code

TWO Lewis scientists were recently honored, each receiving a $10,000 Space Act Monetary Award, two of the largest monetary awards of their kind ever given at Lewis.

Secretarial/clerical awards presented

Lewis observed National Secretaries Week by presenting awards to ten secretarial/clerical employees during the Seventh Annual Secretarial/Clerical Awards Breakfast on April 22.

Recipients were recognized for their exceptional contributions to the effective operations of the Center through professional competence and personal dedication. Each recipient received a Certificate of Achievement and a monetary award.

The Awards Program was part of a week-long set of activities to acknowledge and commend the work performed by secretarial and clerical employees. Special programs included: Empowerment—How to Chart and Shape Your Future, presented by Daisy Saunders, D.M. Saunders & Associates; Sixth Annual Secretaries Briefing; and the Secretarial/Clerical Awards Breakfast, featuring Rena Blumberg, Community Relations director at WDKOK-FM/WRMR-AM Radio in Cleveland, who invited the clerical staff to take a realistic look at the many roles they play as women and secretaries in today’s society.

You all have goals,” said Blumberg, “but do those goals fit into the changing world around you? Change is a given. So how does your life fit into a changing world? How does your role fit into NASA?”

Because women today (especially secretaries) are expected to do “everything,” Blumberg gave some sound advice on advancing in both your personal and professional life.

“You can have it all—if you view your life in sequences,” explained Blumberg. “But you can’t have everything at the same moment.”

Blumberg stressed living life one step at a time, without impatience. “Always add something new to your life to keep it fresh,” she said.

What role do you play?

You should be strong, important, and recognized that your work has been given to Lewis’ clerical staff by Rena Blumberg, award-winning broadcast author, lecturer, and civic activist, during the April 22 Secretarial/Clerical Awards Breakfast in the Main Cafeteria.

“Secretaries are a necessary part of our community—makes you feel great and brings you recognition” that can be a given. So how does your life fit into a changing world? How does your role fit into NASA?”

“Always add something new to your life to keep it fresh,” she said.

She encouraged Lewis’ secretarial/clerical staff to pursue continuing education that will help you “fit in” and prepare you for opportunities in career advancement. Volunteering for activities and special causes—at the Center as well as the Cleveland community—“makes you feel good and brings you recognition” that can lead to greater confidence and career advancement, Blumberg explained.

Most importantly, Blumberg stressed the need for inner peace, and a sense of self-worth. “Forget about dieting—eat sensibly. Don’t dress for success; dress for your own style,” she urged.

Blumberg is keynote speaker at the Space Act Monetary Awards Program established to provide official recognition and monetary awards for those inventions and other scientific and technical contributions that have helped to achieve NASA’s aeronautical and space goals in the past, and to stimulate and encourage the creation and reporting of similar contributions in the future.
We would like to offer a special thanks to all the NASA Glenn employees and contractors who supported the GRC Technology Expo on Aug. 26 in the Ad. Bldg. The overwhelming turnout was exhilarating.

—The GRC 2001 Team & Exhibitors

My family and I would like to offer our deepest thanks for the kindness, sympathy, and most of all the friendship expressed by my coworkers at the loss of my beloved brother, Phil. Your support and prayers helped to ease the pain.

—David Diamond & Family

Richard Draime, 72, who retired as a contract specialist in 1982 with 22 years of service, recently died.

William Egan, 82, who retired from Glenn in 1970 after 27 years of service, recently died. He worked in the Propulsion Systems Lab and Supersonic Wind Tunnel and became chief of the Test Installations Division.

Sanford Gordon, 81, a leading expert on fuels for aerospace propulsion, recently died. He retired in 1985 after 37 years as a member of the theoretical section, Rocket Branch, tasked to calculate the maximum potential of rocket fuels. In 1950, Gordon and his colleagues published tables of thermodynamic functions for 42 substances, which were the genesis of several computer programs for calculating thermodynamic properties of substances, combustion mixtures, and theoretical rocket performance used throughout the world. In 1992, NASA’s Inventions and Contributions Committee selected Gordon and his colleague Bonnie McBride to receive an award for their work, judged to be among the most important achievements of NASA during the 1990’s.

Orlando Vlasses, 72, who retired from Glenn in 1975 after 15 years of service, recently died. He was an electrical engineer.

“Glenn and airport share a kindred interest in aeronautics"

While Cleveland Hopkins International Airport construction is visibly underway, we at Glenn are progressing in our own efforts to support the City’s decision to expand the airport. Over the past 7 years, I have worked with a team at Glenn to determine the steps we must take to be a good neighbor while ensuring that this Center maintains the facilities and capabilities necessary to meet our mission.

I realize there may be inconveniences associated with this major project, however, I am confident that Glenn’s Facilities and Test Engineering Division is working to coordinate and minimize the impact to the Glenn community.

Glenn’s cooperation with the City will ensure both the vitality of the local economy and the Center. Although important Glenn property interests will be affected, the planned facility relocation takes advantage of synergy and current technology to ensure that important research and institutional capabilities are maintained. For example, relocating the new test facilities will promote convenience and synergy among our researchers. In addition, an educational/recreational district will be created within the West Area by relocating the day care center, fitness center, and picnic grounds adjacent to current ball fields and the OAIC. These new facilities will meet current safety codes and will be energy-efficient. All relocation work will be performed under the City of Cleveland’s airport expansion budget with no cost to the Center.

A kindred interest in aeronautics make Glenn and the Cleveland Hopkins International Airport natural partners in the mission to improve the quality of air travel. Toward this goal, the new runways will better disperse air traffic offering a significantly higher degree of safety for airline personnel, passengers, and local residents.

Raymond Asik, Financial Management Division, retired July 31, 2001, with 16 years of NASA service.

Harold Kautz, Structures and Acoustics Division, retired July 31, 2001, with 38 years of NASA service.


Daniel Whipple, Machinery and Propulsion Systems Division, retired August 3, 2001, with 36 years of NASA service.

Neal Wingenfield, Facilities and Test Engineering Division, retired August 3, 2001, with 38 years of NASA service.