

# The NIH Record

## NIH Engineers Provide Foundation for Progress in Science

By Anne Barber

Everyone who works at NIH, whether indoors or out, can thank an engineer for some aspect of their work.

"What better time than during Engineer's Week (Feb. 22-26) to recognize the Division of Engineering Services employees and their contributions to helping support NIH's research mission," says Dr. Emmett Barkley, DES director.

"I am real excited about the quality of people we have in our division—engineers, technical personnel, craftspeople and support staff," says Barkley. "They really enjoy their work and want to use their talents to support the NIH mission."

One of the most important functions of the division, he says, is keeping engineering knowledge at a very high peak.

"This will enable us to understand the direction of scientific programs, and to prepare and maintain facilities that will assist in the advancement of research," he stated.

The DES staff is responsible for the planning, design, construction, operation, maintenance and alteration of all NIH facilities.

Since this is such a monumental task, DES has divided its Design and Construction Branch into six project teams, each one covering different areas.

"There are over 500 projects within the branch at any time," said George Williams, head of project team no. 1. "And each project requires handling from conception to completion."

"We do work from painting stairwells to building an \$86 million laboratory," Williams says.

His area of concentration is hospital support, which means servicing the Clinical Center. One of the major projects going on there now is a new surgical wing for NHLBI that is being constructed as an addition to the ACRF (or clinic as it is now called).

"This project began 3 years ago and is scheduled for completion before the end of 1988," said Leon Pheder, project manager for the new wing.

"It is unique," says Pheder, "because it will contain the latest technology."

For example, there will be an observation deck directly over the operating table with a TV camera and sound system enabling observers to communicate with the surgeon performing the operation.

"Not all of the new wing will belong to NHLBI," said Pheder. "Neurology will have



Ricardo Rodriguez, electrical engineer and project officer, reviews and coordinates demolition on the second floor of Bldg. 10A, which was once used as an operating room. The renovation project will convert the former surgery area to an animal holding facility.

## NLM Offers Public Valuable Data on Hazards

A tanker truck carrying waste chemicals overturns on a major highway near a residential neighborhood. Traffic comes to a virtual halt until routed to a detour. Fire trucks, police, and ambulances converge on the scene. Because of the possibility of a leak or spill of hazardous chemicals, a special HAZMAT unit is dispatched to the scene. HAZMATs (Hazardous Materials Response Teams) are made up of individuals trained to handle the dangers associated with hazardous materials accidents.

In such a situation, the skill of the HAZMAT member must be supplemented by precise information about the substances involved. What are the chemicals? Is there a danger to human health or the environment? Should the community be evacuated? How can the chemicals be cleaned up and disposed of safely? There is no time to scan chemical handbooks, and even traditional online, bibliographic databases do not provide the succinct data required.

Among the online files suited to such a task is NLM'S Hazardous Substances Data Bank on the TOXNET system. HSDB contains 150 data fields on each of 4,200 potentially hazardous chemicals.

Of particular interest to HAZMAT teams

are data relating to toxicity, flammable properties, fire fighting information, explosive limits, hazardous reactions with water, air or other chemicals, protective equipment and clothing, and cleanup and disposal methods. NLM's concern in providing emergency safety and handling data is an extension of its commitment to disseminate biomedical information.

Recently, staff from NLM's Toxicology Information Program conducted a special training session on the TOXNET system and HSDB for members of the Prince George's County Fire Department, including members of their HAZMAT team.

The training took place in a rather unique classroom, the Cheverly-Tuxedo Fire House. Amid the fire trucks, ambulances, and equipment, space was found to set up two computer terminals and some chairs. Many members of the class were dressed in standard fireman attire; there seemed to be a general attitude that they would rather be manning a hose than a terminal. Clearly, this was an audience ripe for conversion.

Sure enough, after a brief introduction and

## HAZARDS

(Continued from Page 1)

demonstration of TOXNET's capabilities, and once interactive practice began, the firemen warmed up to the terminals. It was almost as if it had become a new piece of equipment for fighting chemical emergencies. Firemen lined up to search the HSDB for chemicals they had dealt with in prior emergency situations. They were won over.

Sgt. Eric Schmidt, who arranged the special training session, has been searching TOXNET for some time now, and is using his department's personal computer to design a simplified log-on sequence for his firemen and HAZMAT team members. Under development at NLM are emergency response menu-driven screens to allow novice users to search and retrieve data on the safety, handling, and toxicity of chemicals.

The Prince George's County Fire Department training session showed end-users with a dire need for information how to search TOXNET's HSDB file and print the relevant data. The public availability of such chemical data banks is likely to play an increasing role in aiding emergency response teams throughout the country.

For more information about NLM's TOXNET system, phone 496-6531. □

## Tribute to Italian Scientists

On Friday, Mar. 4, the NIH Lodge of the Order Sons of Italy in America will pay special tribute to the visiting scientists from Italy in an evening of science and cultural exchange, scheduled to begin at 7:30 at the Fogarty Center's Stone House.

More than 100 scientists from Italy currently working at NIH have been invited to attend. Dr. Michael Barile, president of the NIH Lodge, will preside over the scientific program. Dr. George Galasso, NIH associate director for extramural affairs, will provide a perspective on the various NIH extramural research activities.

A special presentation on science from the Italian perspective will be made by a prominent colleague from Italy.

All NIH employees are invited to attend the lectures, which will be followed by a social and wine reception. Due to space limitations at the Stone House, reservations should be made in advance by contacting Karen Donato, Bldg. 31, Rm. 4A18. □

## Workshop on Renal Growth

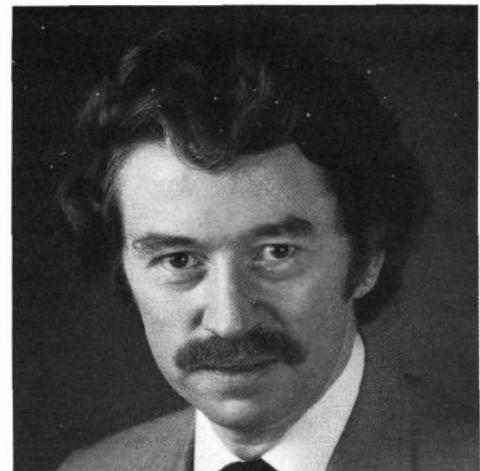
How do cells grow? What factors stimulate the synthesis of DNA within cells? What mechanisms affect the differentiation of cells? How does the body replace dying cells?

These and similar questions will be the subject of a 2-day workshop entitled "Control of Renal Growth," sponsored by the Division of Kidney, Urologic, and Hematologic Diseases of the National Institute of Diabetes and Digestive and Kidney Diseases.

The program will feature scientific presentations, panel discussions, and a poster session, all of which will focus on the exogenous and endogenous factors that stimulate cells to synthesize DNA, resulting in cell growth and differentiation.

There is much to be learned about renal cell growth factors and the interactions that occur between them. The first day of this workshop will be a basic science session on the mechanisms that control cell growth, which relate to many types of diseases, especially cancer. The second day will focus on the control of renal cell growth, which may play a role in disorders such as benign prostatic hyperplasia and polycystic kidney disease.

The workshop will be held Mar. 7-8 at the Bethesda Hyatt Regency Hotel from 8:30 a.m. to 6 p.m. both days. For additional information on this program, contact Dr. James Scherbenske, 496-7458. □



*Dr. David I. Hoult, head of the Nuclear Magnetic Resonance Instrumentation Group in the Biomedical Engineering and Instrumentation Branch, DRS, has been selected as the first recipient of the annual Outstanding Young Engineer Award given by the Maryland Academy of Sciences. The award will be presented Mar. 1 at the Maryland Science Center, Baltimore. A pioneer in in vivo NMR spectroscopy and instrumentation at Oxford University, Hoult inaugurated NIH's program of magnetic resonance imaging (MRI) development in 1977 in BEIB.*



*Dr. Claude Lenfant (second from l), director of NHLBI, presents a check to Dr. Daniel Cowell (third from l) of the Friends of the Clinical Center. Maryanne Gueuro (l) and Jesse Ferguson (r), members of the Friends of the Clinical Center Board, were also present. The check represents a portion of the balance of funds established by Friends of the NHLBI to support NHLBI centennial activities. Some of the contributors to the fund requested that their prorated share of the balance be used to assist Clinical Center patients and their families.*

## The NIH Record

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## Dr. Alvin Poussaint To Keynote Black History Observance

The 16th Annual Black History Observance at NIH will be held on Monday, Feb. 29, from 11:30 a.m. to 1 p.m., in Masur Auditorium, Bldg. 10. The theme for this year's program is "The Status of Black Americans as We Approach the 21st Century."

Dr. Alvin Poussaint, associate professor of psychiatry and associate dean for student affairs at Harvard University Medical School, will be the keynote speaker. Poussaint, also a script consultant to *The Cosby Show*, will focus his remarks on the state of black America as we move toward the 21st century.



Dr. Alvin Poussaint



Noel Pointer

Musical selections will be performed by Noel Pointer, jazz violinist, vocalist, and pianist, and by the Wesleyan Choir from the Brook Grove and Stewarttown United Methodist Church of Gaithersburg.

Special shuttle service will be provided for employees at the Executive Plaza, Federal, and Westwood Bldgs.; a schedule of departure times will be posted in these buildings. Sign language interpretation will also be provided. If accommodations for other disabling conditions are needed, contact the Division of Equal Opportunity, 496-6301.

Supervisors are encouraged to allow flexibility in work schedules so that employees may attend this event. For further information, contact the Division of Equal Opportunity. □

## Black History Lecture

Dr. David McBride, assistant professor of history, State University of New York at Binghamton, will deliver a lecture on "Towards Pluralistic Health Care: Medicine, Social Welfare and Urban Black Health Issues, 1900-1950" in the Lister Hill Auditorium, Bldg. 38A, National Library of Medicine, at noon on Friday, Feb. 26.

McBride's lecture is sponsored by the library's History of Medicine Division and EEO Advisory Committee as a contribution to black history month in February. The lecture is open to all NIH staff and to the public. Refreshments will be served in the Lister Hill lobby following the lecture. An exhibit on "Blacks in Medicine: The Institutional Setting" is currently on display in the lobby of Bldg. 38. □

## Nursing Symposium Planned

A nursing symposium entitled "Transfusion Medicine for Nurses: Into the 90's" will take place Mar. 7 in Masur Auditorium, Bldg. 10.

Topics to be covered include component therapy, neonatal, pediatric, and adult transfusion practices, adverse reactions to blood products, transfusion transmitted diseases, legalities of transfusion, and donation alternatives.

Registration is free and 6.1 CEUs have been granted. Please contact Regina Dowling, symposium chairman, 496-1476, to register for the symposium. □

## PBS Film Series 'The Health Century' To Be Shown

The Public Broadcasting System special *The Health Century* was shown this past fall on local PBS stations. The film, which marked the centennial of the NIH and was funded by the NIH Centennial Underwriters, will be shown for the benefit of employees on four consecutive Thursdays (Mar. 10, 17, 24, and 31) from noon to 1 p.m., in Masur Auditorium, Bldg. 10.

Each segment of *The Health Century* deals with particular diseases and the latest technology developed to fight them. The series portrays the lives of actual people, their families and friends, and shows not only the scientific but also the human side of how a disease affects a person's life.

*Segment One* depicts the triumphs and tragedies in the fight against infectious diseases from yellow fever, pneumonia and measles to

polio and AIDS. It explores the dynamic processes by which medical discoveries are made, probing the work going on today in the nation's laboratories and research institutes.

*Segment Two* focuses on three major areas: heart disease, diabetes and brain disorders. Heart surgery was almost nonexistent before 1940. In the past 20 years, we have seen the success of bypass surgery and the miracles of heart and organ transplants. This segment documents the discoveries involving molecular receptors and new genetic understanding that holds great promise for the diagnosis and treatment of these diseases.

*Segment Three* addresses those activities of medical science that will have the greatest impact on the health of the aging. Most efforts to understand and solve the most common of the diseases of older Americans—

cancer, Alzheimer disease, rheumatoid arthritis, and organ failure—involve cell biology. Other efforts shown are based in modern immunology.

*Segment Four* provides a summary and a review of significant developments in molecular biology and genetics. It features the principal researchers and expert witnesses involved in the biotechnology revolution. Graphics and animation illustrate gene splicing, identifying defective genes, modeling molecules and designing compounds. It raises the central issues of the new molecular era as a preface to the next health century.

NIH is an integral part of the history of American biomedical research accomplishments as told in *The Health Century*. Many NIH people are featured in the series; come see your colleagues in action. □

## Training Center Announces NIH Stride Program

The NIH Training Center announces the new Stride Program, which is designed to meet NIH staffing needs while providing NIH employees in non-professional job series an opportunity for career change and potential advancement.

The program combines on-the-job training, job-related academic courses, and selected short training courses to prepare trainees for placement in targeted professional (two-grade series) positions at NIH.

Term of the program is 3 years, depending on the trainee's academic and work experience and requirements of the targeted position.

Four positions are open for competitive selection in 1988: budget analyst, computer programmer, and 2 grants management specialist positions. One trainee is prepared for each of these occupations.

The program is directed by the Technical Advisory Board, a group of senior managers selected by the NIH associate director for administration. Each year, the board identifies occupations for training based on NIH staffing projections.

If you are a GS-5 to GS-9 career employee (or Federal Wage Grade equivalent) with 1 year at NIH, in a one-grade interval job series and have a high school diploma, but not a bachelor's degree, you may be eligible to apply. Complete eligibility requirements as well as information on the program, application, and selection process will be provided at the information sessions listed below. All sessions are held from 11:30 a.m. to 12:30 p.m.

### Date Location

Feb. 24	Westwood/428
Feb. 25	31/Conf. Rm. 9
Feb. 26	Blair/Conf. Rm. 110

Costs of tuition and materials are paid by the NIH Training Center Stride Account. Interested employees must meet all basic eligibility requirements to apply. Application packages are available in the NIH Training Center, Bldg. 31, Rm. B2C31. To be considered for the program, applications must be complete and must be received by Mar. 18.

## Printing Branch Moves

The Division of Technical Services will host an Open House on Feb. 25 and 26 to celebrate the opening of the Printing and Reproduction Branch's new offices on the B4 level of Bldg. 31. Come by and see what a government office can look like and pick up a large calendar, free while supplies last. □



*Seated (from l to r) are 1987 Stride interns and their target positions: Sheila Andrew (computer specialist), Jackie Rucker (equal employment specialist), Catherine Greenville (computer specialist). Standing (from l to r) are 1986 Stride interns and their target positions: Carroll Hanson (administrative officer), Sharon Dennison (management analyst), Cheryl White (technical information specialist), Johanna Grodzicki (budget analyst), and Maynard Hurd (grants management specialist).*

## Income Tax Assistance

Effective immediately, Milton Haft, income tax consultant, will be available Tuesdays, Wednesdays, and Thursdays through Apr. 15. He will be located in Bldg. 10, Rm. B1C04. Haft's telephone number is 496-0805.

The morning schedule, 8 a.m. to noon, will be on a first-come, first-serve basis. The afternoons, 12:30 to 4:30 p.m., will be by appointment only. There will be a sign-up sheet posted outside the room for these appointments to be made in 15 minute intervals. Employees who expect that a longer period of time will be needed should so indicate on the sheet.

Forms will be available *only* when the office is open. □

## Biological Photo Competition

The local chapter of the Biological Photographic Association will hold a seminar and photography salon in biomedical communications on Saturday, Mar. 5 at Johns Hopkins from 8:30 a.m. to 4 p.m. For more information, call (301) 955-3843. Inquiries at NIH may be directed to Richard Frederickson, 496-5559. □

## New Waste Buckets for Used Needles

The Division of Safety and the Clinical Center Standards Committee announce new plastic needle buckets for packaging used "sharps." Contaminated needles, scalped blades, and other disposable "sharps" represent an occupational risk to our employees. More than 70% of the accidental self-inoculations reported annually to the Occupational Medical Services occur among hospital personnel. One out of twenty injuries occurs among NIH support service personnel. Proper packaging of this waste may minimize the risk of injuries and exposures to hazardous agents.

The new buckets are made from puncture-resistant plastic and are available in three convenient sizes (7, 11, and 21 L). Design features include a self-activating door that covers the waste during filling and a secure handle to carry the bucket safely. These items



are available from the DANAC warehouse via Delpco. CC employees may also order the buckets from the Central Hospital Supply Service. Wall brackets are available to mount the 11 L bucket in your work place.

As a reminder for proper waste disposal, please remember that needle buckets must not be mixed with general waste. Further, any wastes containing radionuclides must be collected by the Radioactive Waste Service (490-8100). The NIH Chemical Waste Service (496-4710) collects waste contaminated with hazardous chemicals. All other "sharps" originating from the hospital, experimental animal rooms, and laboratories are to be managed as medical pathological (biological) waste. For further information, call the Environmental Protection Branch, DS, 496-7990. □

## USUHS Seeks Volunteers

The Department of Medical Psychology of the Uniformed Services University of the Health Sciences is seeking male volunteers, between the ages of 18 and 60, in good health, to participate in a study of the effects of noise on task performance.

Participants will be paid \$20.

If interested, call Mary Scannell, 295-3278. □

## NIDR Researchers Report Peptide Blocks Cancer Metastasis in Laboratory

A peptide that blocks tumor metastasis in laboratory animals has been synthesized by a team of scientists at the National Institute of Dental Research. The peptide is considered a good candidate for clinical tests to determine its ability to prevent metastasis in cancer patients, say the researchers.

Cancer metastasis is a complex series of steps in which tumor cells leave the primary tumor site, travel through the circulation, and invade healthy tissue. To do so, they must cross basement membranes. These tough membranes—which surround all blood vessels, glands, muscles, and nerves—hold the cells of a tissue in place and act as a critical barrier to prevent other cells and macromolecules from entering the tissue.

Most tumor cells are unable to invade this barrier, and do not metastasize. Malignant cells, however, attach to basement membrane and release enzymes that degrade it, allowing the cancer cells to cross into the tissue.

To attach to basement membranes, tumor cells have on their surface a receptor that

binds to laminin, a protein that occurs only in basement membranes. The NIDR researchers identified the particular fragment of laminin—the YIGSR peptide—to which the tumor cells bind. They synthesized the peptide, and injected it into laboratory mice together with melanoma cells, which are highly metastatic.

A control group of mice injected with only the melanoma cells developed numerous lung metastases. By contrast, few or no metastases were found in mice who received the YIGSR peptide. The researchers concluded that the manufactured peptide successfully competed with laminin for the laminin receptors on tumor cells, thus blocking the binding of the cells to basement membranes. Instead of metastasizing, the melanoma cells died in the circulation.

The remarkable results seen in laboratory animals—90 percent inhibition of metastasis—correlate with those of an *in vitro* assay for tumor cell invasiveness developed by the NIDR researchers. The assay measures the ability of tumor cells to cross a synthetic base-

ment membrane, and can be used to screen drugs rapidly for their ability to block the metastatic potential of tumors. The Doerenkamp-Zbinden Foundation, a Swiss-based organization interested in animal protection, recently awarded a \$26,000 prize to the NIDR researchers for their development of the assay, which reduces the need for animal studies.

Using the *in vitro* assay, the researchers found that the YIGSR peptide blocks metastasis of a variety of tumors. They also found that it blocks the formation of new blood vessels, making it potentially useful in treating certain retinopathies or Kaposi's sarcoma, a rare cancer found in AIDS patients in which there is an accumulation of blood vessels at the skin surface.

The studies on the YIGSR peptide were conducted by Drs. Yukihide Iwamoto, Frank Robey, Jeannette Graf, Makoto Sasaki, Hynda Kleinman, Yoshihiko Yamada, and George Martin of NIDR. □

## Electronic Mail, Across the Hall or Around the World

A new electronic mail system called ENTER MAIL has been developed by the NIH Computer Center. It will allow anyone with a personal computer and a modem to communicate with colleagues in the Washington area and throughout the world.

With ENTER MAIL you can transmit:

- Research papers and reports, collaborative drafts, editing, and final reports;
- Administrative documents, manual updates, "green sheets," promotion recommendations, plans and proposals, status and progress reports;
- Procurement documentation, APRs, DPAs, specifications, CBD announcements, determinations and findings;
- Grant information "pink sheet" study section assignments and recommendations;
- Meeting notices, announcements, agendas, minutes, attendee notices;
- Group/committee interactions, informal notes, messages, and comments, abstracts, last minute decisions or changes (avoids telephone tag).

All of this can be accomplished at electronic speed for individuals or groups at academic installations, government offices, private corporations, or research foundations.

With simple, easy-to-remember commands, anyone can read, reply to, forward and send mail electronically. Each person can create a

system for filing incoming and outgoing mail that is unique to his or her own needs. Once files have been created, they can be easily searched and information quickly retrieved. A built-in directory enables anyone to find the name, identifier, address, and phone number of other mail users.

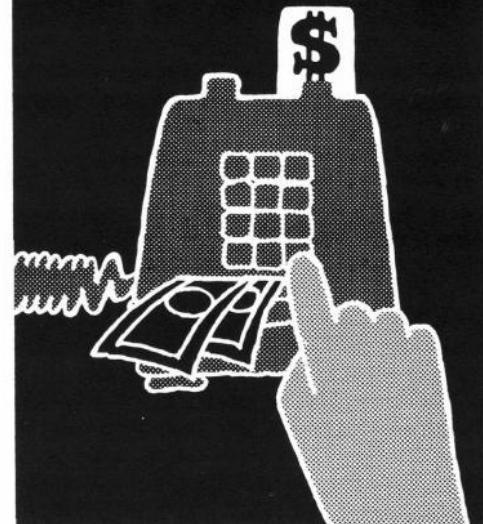
When transmitting mail, the sender can request that an acknowledgement be returned when each receiving person reads the mail. With ENTER MAIL, you can set up electronic distribution lists so it's easy to send correspondence to groups of people (the same way memos have distribution and "cc" lists).

Since the NIH Computer Center has access to international networks via BITNET, scientists and researchers can communicate with fellow researchers worldwide. All this and more is available to anyone who knows how to use a personal computer! For a brochure describing the features of ENTER MAIL, call 496-5431. □

## Seminar on Air Quality

A seminar on "Indoor Air Quality: Issues and Responses," is being sponsored by the Division of Engineering Services, Feb. 25 in Lipsett Auditorium, Bldg. 10, from 2 to 3 p.m. All are invited to attend. □

# Small talk adds up.



Federal long-distance telephone service isn't free. And each year, personal calls made on federal phones cost the government about \$90 million. Abusing the service hurts everyone. Each employee must help control federal telephone costs by using office phones fairly. After all, it's a personal responsibility.

## ENGINEERS

(Continued from Page 1)

some spaces along with other institutes."

The three-story wing will house the Blood Bank and Department of Transfusion Medicine on the first floor; two cardiac units, one neurology, and one invasive cardiac catheterization unit will be on the second floor; and the third floor will be the observation deck.

Another CC renovation is Bldg. 10A. Ric Rodriguez, acting head of project team no. 4, handles all NIH projects involving animal facilities.

The renovation will consist of four levels and a basement. "This will be the largest central animal holding facility NIH has ever had," said Rodriguez. "Every level will be a containment level."

"We have been very innovative in designing the animal area," he continues. "We have computers that will control the lights and provide a constant readout on humidity and temperature. An alarm will sound if anything is not operating properly."

Scheduled for completion by summer of 1989, the 10A facility will allow the CC to be accredited by the AAALAC, says Williams.

"Approximately 80 percent of NIH's intramural animal holding space is currently accredited, and this should make it 100 percent," he continued.

According to Williams, it took approximately 20 to 30 separate construction projects just to move the people out of Bldg. 10A in order to renovate it into an animal holding facility.

Team 4 is also working on the central prime complex that will be part of Bldg. 49, a new addition to campus estimated to cost more than \$46 million.

The new building is such a massive undertaking that, for the first time, NIH is sponsoring a national competition to develop designs for this facility. Out of 40 applications from all over the country, 3 architectural/engineering firms have been selected to prepare competitive design concepts. This will be the principal research facility for NICHD. Six other institutes will be housed in the building, along with animal facilities. The location of the new building will be west of Bldg. 30 and north of Bldg. 29.

Another project involving animals is Bldg. 6B, a two-story underground laboratory. "This is the first time at NIH for an underground facility," Rodriguez said.

Turning to buildings housing people for a moment, the round-robin construction and renovation that has been taking place since 1984 has yielded the following results: Bldg. 8 has been completed; Bldg. 4 is under con-



Timothy J. O'Connor (l), mechanical engineer and project officer for team 3, shows some of the unique construction features of Bldg. 4 to Dr. Emmett Barkley, DES director. Bldg. 4 is the second of six major laboratory buildings that will be renovated and modernized through 1996 under a \$100 million program known as "Round Robin."

struction; Bldg. 5 is in design; Bldg. 2 will be started later this year with Bldgs. 3 and 7 to follow in that order.

"In each of those projects, the whole building is gutted and put back together again the way our researchers want it," says John Roundtree, head of team no. 3 responsible for this renovation.

The cost of construction by 1996, when the last building is scheduled for completion, will probably average out to approximately \$15 million per structure.

An in-house design team led by Marshall White does work in all engineering disciplines—civil, mechanical, electrical, and



George Peng (l), mechanical engineer, and architects Angela Watson and Emil Jettmar, forge the design of an intensive care unit for Bldg. 10. It is their job to ensure that the air conditioning, electrical design, and architecture blend to create a functional and aesthetic project.

architectural. Most are rush jobs.

This team recently had the task of correcting a structural problem outside Bldg. 10; a large oxygen tank was leaning like the Tower of Pisa.

"We also provided design services for the teaching labs located in the convent," White said.

Team no. 5 is considered to be DES' execution arm. This group of engineers supervises the design and renovation of major utilities and building support systems.

After new buildings go up and labs are renovated with the latest technology, someone



While Kevin Grant (l), shift head, prepares computerized via telephone, Harry Cepura (at window), group leader, Hawver, group leader, review and dispatch the day's ass

must take care of them—the maintenance engineers.

Jim O'Shea, a 20-year NIH veteran, is chief of the south maintenance engineering section and has seen some unique crises.

For example, when a contractor once broke a pipe, depriving a building of its chilled water, O'Shea's team had to add water until the problem could be fixed so that labs, animals, computers and other areas wouldn't be harmed.

His 45-member group works in four shifts. They are on campus every day, around-the-clock. They are considered essential personnel since they maintain and repair plumbing, electrical, structural, heating, ventilation and air-conditioning equipment inside the buildings.

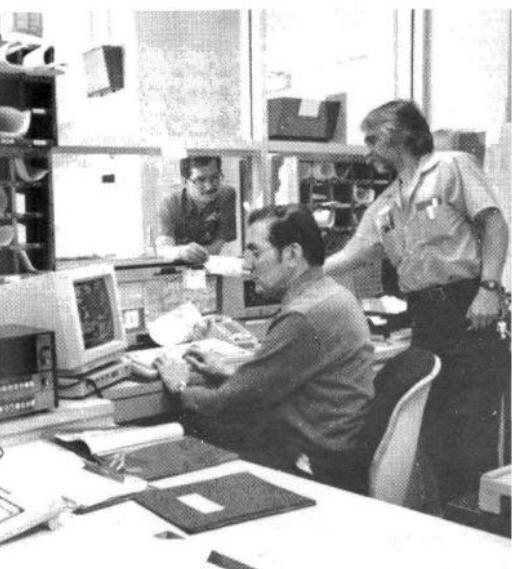
"One of our unique problems," O'Shea said,

"is maintaining proper humidity controls for NLM's rare book area."

O'Shea says, "We interact with researchers because we are the direct support for them."

Harry Cepura, a shift foreman at the CC's maintenance engineering section, says, "Just maintaining this antiquated building is quite a feat."

As buildings go, Bldg. 10 is very old and is constantly being renovated to get more people into the spaces available. There are more than 500 labs in the building, 2 million square feet of space, 60,000 light fixtures and a maintenance force of only 35 people.



Computerized repair orders in response to trouble calls received by leader, James Dunn, planner (at computer) and Paul [unclear] day's assignments to keep the CC running smoothly.

"Patients are our primary responsibility and we provide very extensive service to doctors and patients in the 500-bed hospital," said Cepura.

The CC maintenance group also works in shifts every day, around-the-clock.

"I think overall, even with a shortage of manpower, we do a pretty good job of keeping the building in operation," says Cepura. "Sometimes it seems that no matter what you do, though, it just isn't enough."

While the maintenance engineers repair and are responsible for utilities in their buildings, the power plant section is responsible for getting utilities into the buildings.

"It is very important to supply utility services on an uninterrupted basis for patient and animal care," says Pete Baum, chief of the section.

The power plant produces enough heating

and cooling to service 8,000 average size homes. NIH uses 8 million gallons of water a year just for heating alone.

To accomplish this, the power plant has 4 boilers and 14 chillers. Even in the summertime, one boiler is always in use. According to Baum, NIH is now at its capacity for meeting the cooling needs of the campus; a new chiller has been ordered for the future.

This group also is responsible for the two emergency generators that provide electricity to the CC when electrical power is lost.

"From the time Pepco loses its power to the time the emergency generators kick in is 18 seconds," Baum says. "But, that can be the longest 18 seconds when you are in the middle of an operation."

Waste disposal is another area involving the power plant. They maintain and operate three incinerators that burn medical pathology waste, with the latest addition handling chemical waste. Although the new incinerator cost a half million dollars, it will save almost that much a year because that is what it normally costs NIH to ship its waste out. With the addition of the incinerator, NIH will be able to dispose of 90 percent of its waste.

The power plant team is also considered essential and works in shifts around-the-clock every day.

Many NIH employees are familiar with the engineers and craftsmen in the Shops Branch because they are the group the average employee would call upon for services.

Headed by John Hollingsworth, this group is responsible for renovating offices and laboratories, and for completing smaller jobs that can be done quickly.

"We handle as many as 60 jobs at one time," said Hollingsworth. "We also install and maintain sterilizers, autoclaves, and glassware," he continued.

"We also have one woodcrafter who makes custom stands for supporting specialized equipment in the labs."

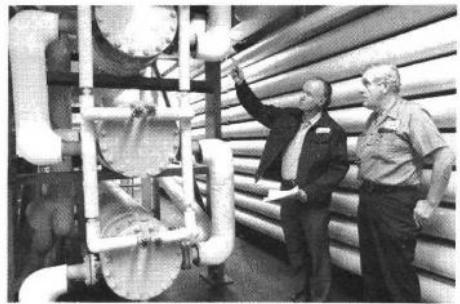
One of the biggest and most consistent orders is for fabricating formica benches for labs. "We make an average of 800 benches a year for the campus," says Hollingsworth.

The branch has recently acquired a new machine that allows it to make new benches quickly.

While the lab bench may be a ubiquitous sight in most NIH buildings, a park bench might be a more appropriate symbol for our grounds. Everyone on campus appreciates the beauty of the grounds and how lovely everything looks, but few realize the tremendous work that goes into grounds maintenance. The employees in the Grounds Maintenance and Landscaping Branch certainly do.

"While the other areas of DES are con-

(Continued on Page 8)



James O'Shea (l), section chief, and Herbert Crigler, senior building engineer, check the biological waste storage tanks for buildings 41 and 41T. The tanks, which are almost 21 years old, process an average of 20,000 gallons of sewage monthly.



Carpenters Charles Hildebrand (l) and Dwight Phillips operate an edge-banding machine that applies formica edges to virtually all the formica bench tops and shelves fabricated for use in NIH research laboratories and offices. The carpenter shop produces about 800 bench tops per year.



Joe Perry of the transportation unit fuels a standby emergency generator. This generator, on loss of Pepco power, will start automatically and provide electricity to critical areas such as cold rooms that house research blood samples and stairwells that require lighting.

(Continued from Page 7)

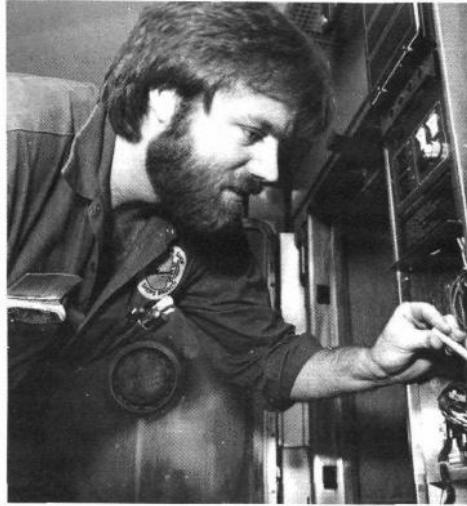
cerned with the design, construction and maintenance inside, we are the only branch taking care of the things outside," says Tom Cook, chief of the branch.

This group is responsible for landscaping, plantings, and maintenance of the grounds, walkways, lighting, and parking lots.

"We get frustrated sometimes when a new construction project may take away some trees, but we have to realize that, sometimes, some things have to go in the name of progress," Cook continues.

"But we always plant new ones to take their place."

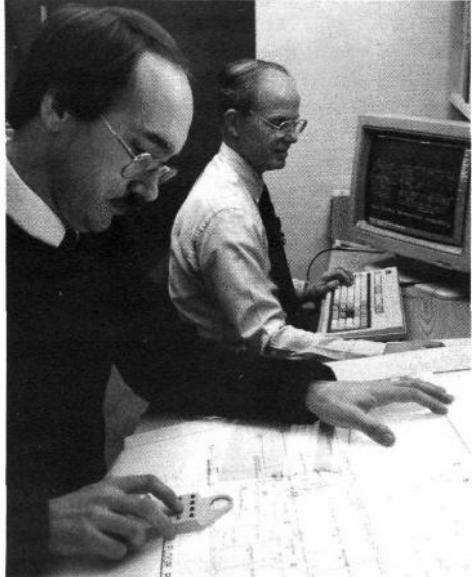
"We have a very dedicated crew here



John Benson is one of three autoclave mechanics who are part of the pipefitting shop. Here he is troubleshooting an autoclave in the glassware sterilization area in the Clinical Center. His group performs preventive maintenance and repair of autoclaves and sterilizers throughout NIH.

"In the 27 years I've been here, we have never had our roadways closed," he said. "There may have been only one lane open, but all roadways were open."

Keeping the road to the future open at NIH is the responsibility of the Facilities Engineering Branch, which is in charge of



Engineers of the Facilities Engineering Branch, John Jenkins (foreground) and John Pavides, operate the newly acquired Computer Aided Design and Drafting System. New designs are either digitized or keyboarded onto the screen, where rapid revisions can be made electronically. Designs may be enlarged, reduced, rotated, made to appear three-dimensional or be stored for future use. On command, a pen plotter will produce completed, reproducible drawings.

because, when it snows, we sometimes spend the night here and give up our weekends to make sure all roadways on campus are open," Cook says.

It takes 6 to 8 hours to clear the campus of snow.

"Our job is to keep all roadways open so that essential personnel such as fire, police, CC employees and researchers can get to work," Cook said.

master planning for the entire reservation. It provides expert consultation and engineering service to the BIDs on engineering issues.

Juanita Mildenberg, architect and chief of the branch, has on her staff architects, civil, mechanical, structural and electrical engineers, an interior designer, and an energy expert.

"Our primary job is to forecast the immediate and future needs of the reservation on utilities, buildings, and new technologies," she says.

"For example, we are now working with the CC because the entire building is approximately 40 years old and has been modified, changed, and updated, all in place," she continues.

"Our utility systems are unable today to meet the requirements of the research programs within Bldg. 10. So now we need to update both the utilities and patient care facilities without shutting down the building."

This renovation will take approximately 5 years to complete and will cost more than \$100 million.

"Our job is to provide guidance on how to do this with minimum interruption of patient care services," Mildenberg says.

The emphasis on utilities at NIH came to light within the last several years. "No matter what kind and how good research is, it is only as good as the services that supply it," she says.

Barkley, who only a year ago became DES director, says, "I am delighted to serve as



Members of the Grounds Maintenance and Landscaping Branch pose in front of their building. They include Tom Cook, chief, in the foreground and (from l to r) Donald Lampkins; Claude Anderson; Charlie Jackson, chief, heavy equipment section; Leo Smith, chief, tree and spray section; Lynn Mueller, landscape architect; Alphonso Saunders; George Perkins; Marvin Bush; Harry Hill; Lil McClement, branch secretary; Freeman Miller, general foreman; Nat Swindler; Paul Dorsey.

director of this division and hope I can help in fostering closer feeling among the research community and the DES employees.

"Our employees are dedicated to using their skills so that science can prosper here on the NIH campus.

"The knowledge that DES possesses has not always been utilized by NIH as a whole and we believe that our priorities are important to attain NIH's mission."

Barkley joined NIH in 1963. His first job was with the organization that was responsible for facilities management at that time—DRS. He joined NCI in 1964 and remained there until 1979. Then he became the first director of the Division of Safety and stayed in that job until March 1987, when he became director of DES.

Originally a civil engineer, Barkley returned to school and received his Ph.D. in environ-



Nancy Kelly of the Clinical Center (client of DES), Robert Bingaman (c), supervisor of the pipefitting shop, and Ronald Harris, planner/estimator of construction planning, inspect a just-installed ARJO Bathing System at the 12 West patient care unit. Harris worked with the Clinical Center to develop the plan necessary for the pipefitting shop to do this first-class installation.

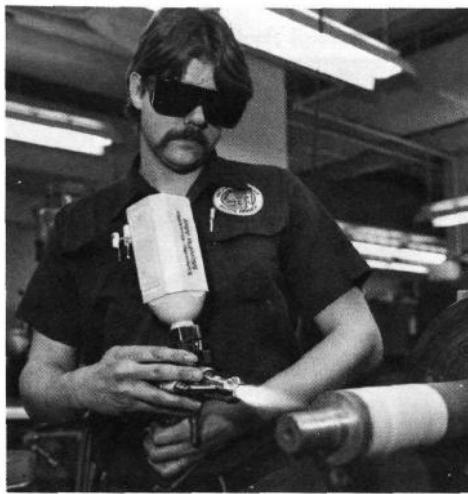
mental health and microbiology.

In paying tribute to his staff during Engineers Week, Barkley stated, "I don't think there is another organization as important today as DES in providing essential services that support and enable the intramural research program to sustain excellence."



Mark Zoerheide (l) and Jerome Best, boiler plant operator leaders, remove the valve cover of a cylinder head to check the clearances of the valve. Pictured is one of two diesel generators that supply emergency electrical power to critical areas of the Clinical Center.

Photos: Bill Branson, MAPB



Randy Curtis, a machinist in the mechanical shop, performs a process called metallizing. He is repairing a damaged bearing surface, which will reduce down time for equipment in the power plant and NIH mechanical rooms.



Billy Booth (l) and Charles Ridgley, sheet metal mechanics, fabricate ductwork to be installed on a fume hood on the 10th floor of Bldg. 10. These members of the sheet metal shop combine efforts with other craft shops to renovate a double lab module.

## Veterinarian Allen Retires from DRS

Dr. Anton Allen retired recently from his position as chief of the comparative pathology section, Veterinary Resources Branch, DRS, after 32 years of service in that section, including 26 years as chief. He was a veterinary director in the PHS Commissioned Corps, and had received the PHS Meritorious Service Medal and Commendation Medal.

The section is responsible for laboratory animal microbiological and genetic monitoring and disease control programs for most of NIH. Besides performing routine monitoring of VRB animal colonies to prevent problems, Allen and his staff have assisted thousands of NIH investigators who suspected health or genetic problems in their laboratory animals.

"Tony Allen is widely recognized as a pioneer in laboratory animal medicine and in the pathology and control of spontaneous diseases of animals used in biomedical research," said DRS director Dr. Robert A. Whitney.

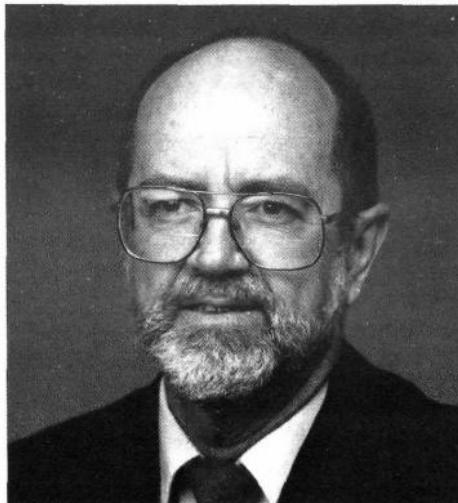
After receiving his D.V.M. degree from the University of Georgia in 1955, Allen joined the commissioned corps and was assigned to the comparative pathology section, which was then a part of NCI. He received his Ph.D. in pathology from the University of Wisconsin and was named section chief in 1961.

As chief, Allen augmented the section's monitoring and diagnostic activities with a program of research into the causes of animal diseases that interfere with biomedical research. Over the years, he and his close associate Dr. James Ganaway became known as outstanding experts in this specialty. Allen recently co-edited the *Manual of Microbiologic Monitoring of Laboratory Animals*, containing information on the 17 most important natural pathogens of laboratory rodents.

In 1978 he inaugurated a genetics unit to monitor the rodent strains maintained by VRB (the NIH Animal Genetic Resource) and, when requested, to investigate suspected genetic contamination in rodents owned by NIH laboratories.

As VRB has changed its focus in recent years from animal production to direct research support, Allen devoted increasing attention to development of an NIH-wide disease monitoring program for laboratory animals. Such a program is required for accreditation of all NIH animal programs by the American Association for Accreditation of Laboratory Animal Care.

Allen has joined the staff of Microbiological Associates, Bethesda, while continuing his research on diseases of laboratory animals as a part-time guest worker in VRB.



Dr. Anton Allen

## Mothers and Newborns Needed

The section on child and family research, NICHD, seeks mothers with first-born, healthy infants, 5 months of age or younger, as volunteers for a study of how mothers and babies choose to spend time together. Participation involves one 2-hour visit to your home, when a videotape will be made of the baby's typical activities. A copy of the tape will be given to the family. Biological, adoptive, employed, homemaker, older and younger mothers are needed. For further information call Ann Fox, 496-6832. □



Karen Howard, grants technical assistant in the Division of Digestive Diseases and Nutrition, NIDDK, was named 1988 Secretary of the Year by the Bethesda chapter of Professional Secretaries International. She will represent the chapter in a regional competition in Wilmington, Del., in May.

## NIAID Expands Council

Six new members of NIAID's National Advisory Allergy and Infectious Diseases Council were recently appointed. They are:

- Dr. Barry R. Bloom, chairman and professor, department of microbiology and immunology, Albert Einstein College of Medicine.
- Dr. Philip Y. Paterson, professor, department of microbiology-immunology, Northwestern University Medical School, and professor of neurobiology and physiology, Northwestern University.
- Dr. Merle A. Sande, professor and vice chairman of the department of medicine, University of California at San Francisco and chief of medical service at San Francisco General Hospital.
- Dr. Bernard N. Fields, Adele Lehman professor of microbiology and molecular



NIAID director Dr. Anthony Fauci (third from l) stands with five new members of his institute's advisory council. They are (from l) Dr. Barry Bloom, Dr. Philip Paterson, Dr. Merle Sande, Dr. Bernard Fields and Judith Peabody.

genetics and chairman of the department of microbiology and genetics, Harvard Medical School.

- Judith Peabody, leader in community health and the arts, New York City.
- Dr. William A. Haseltine, chief of the laboratory of biochemical pharmacology, Dana-Farber Cancer Institute and member of the department of pathology, Harvard Medical School, and department of cancer biology, Harvard School of Public Health.

The council is the primary advisory body for NIAID. Its charter was recently amended to increase membership on the committee from 15 to 18 members and to add an additional subcommittee on the acquired immunodeficiency syndrome (AIDS). All but Fields will serve on the new AIDS subcommittee. □

## TRAINING TIPS

The NIH Training Center of the Division of Personnel Management offers the following:

### Courses and Programs Dates

#### Management and Supervisory 496-6371

Introduction to Supervision	3/7-11
Effective Communications	3/29
Reviewing Other People's Writing	3/1-3
Pragmatic Problem Solving	3/10
Working With Difficult Employees	3/15
Developing Motivational Strategies	3/22
Special Seminars on the Hearing-Impaired	2/26-3/4
The Management Tactics Clinic	6/6

#### Office Skills 496-6211

Professional Effectiveness for the Experienced Secretary	3/17-18
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#### Adult Education 496-6211

#### Training and Development Services Program 496-6211

NOW AVAILABLE ON SHARE TRAINING FY 88 Training Center courses

Personal Computer training is available through User Resource Center (URC) self study courses. There is no cost to NIH employees for these hands-on sessions. The URC hours are:

Monday-Thursday	8:30-9:00 p.m.
Friday	8:30-4:30 p.m.
Saturday	9:00-3:00 p.m.

Access Wylbur and enter SHARE TRAINING.

First time users only, enter:  
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## Free Interns Available

NIH scientists desiring technical assistants for the summer or during the year can now take advantage of a unique PHS and NIH approved program that is sponsored by the United South and Eastern Tribes' Science/Health Care Internship Project, located in Washington, D.C.

A select number of American Indian and Alaskan Native undergraduate and graduate students who meet rigid scholastic standards and have demonstrated a firm commitment to pursue a career in the sciences or medical field are brought to NIH from throughout the United States. These student interns are then available for research and health care projects at no cost to the gaining institution.

If you are interested in participating in this project, contact Gary Armstrong, 496-6199, Bldg. 29A, Rm. 2B08, or the USET Science/Health Care Internship Project, (202) 371-8100. Project coordinators are Cathy Weil and Ken McPeek. □

## Free Summer Interns

NIH scientists desiring technical assistants for an 8-week summer period can now take advantage of a program sponsored by the Washington, D.C.-based Armenian Assembly of America.

The assembly, which has been placing interns at NIH for the past 6 years, seeks to place a select group of Armenian-American undergraduate and graduate students based on both scholastic accomplishment and a demonstrated commitment to a career in either the sciences or medicine. Each intern has undergone a rigorous reviewing process by the assembly and interested scientists will be provided with full access to files including resumes, transcripts, recommendations and writing samples. These students are available for research and health care projects at no cost.

If you are interested in this program, please contact David Gavoov, director of student affairs, Armenian Assembly of America, 122 C Street, NW, Suite 350, Washington, DC 20001, (202) 393-3434. □

## Women's History Observance

In observance of Women's History Month, March 1988, the NIH Women's Advisory Committee, a component of the Federal Women's Program in the Division of Equal Opportunity, is sponsoring the presentation "Women's Health Issues—What Every Woman Needs to Know," by Dr. Antonia C. Novello, deputy director, National Institute of Child Health and Human Development. The program will be held on Wednesday, Mar. 9, at 11:30 a.m. in Wilson Hall, Bldg. 1.

Novello, a pediatric nephrologist, is widely known for her stimulating and informative discussions on a variety of health issues related to women and children. She will address the



Dr. Antonia Novello

## Roussos Gets NIDR Post

Dr. Gerassimos G. Roussos has been appointed chief of the National Institute of Dental Research's Caries and Restorative Materials Research Branch.

He had been director of the Pancreas and Gastrointestinal Digestion and Immunology Programs of the Division of Digestive Diseases and Nutrition at NIDDK prior to accepting his new position.

As the new CRM RB chief, Roussos will play a pivotal role in leading extramural research activities in caries, restorative materials, physiology and pathophysiology of salivary glands, and nutrition research.

The CRM RB program awards grants to research institutions and scientists, and develops information pertaining to the epidemiology, etiology, pathogenesis and overall treatment of diseases with high programmatic relevance.

"Dr. Roussos has an outstanding research and leadership record," says Dr. Marie Nylen, director of NIDR's extramural program. "His talents will surely be an asset for the extramural program."

"I hope to actively promote the CRM RB program within the extramural community," says Roussos. "I want to make people aware of its research opportunities." □

topics of contraception, premenstrual syndrome, menopause, and osteoporosis.

Sign language interpretation will be provided. If accommodations for other disabilities are needed, please call the Federal Women's Program Manager, Division of Equal Opportunity, 496-2112. □

## Learn to Sail

The NIH Sailing Association invites would-be sailors to join it and to register for basic training instruction on the club-owned Flying Scots. The training will be held for 6 weeks in April and May, with on-the-water training on the Rhodes River south of Annapolis, as well as classroom presentation.

Applications for club membership and the training class are available at the R&W Activities Desk, Bldg. 31, Rm. B1W30. Registration will be by mail Mar. 7-22 and in person Mar. 23 (if space is still available). □

## Learn the Facts on Fat During National Nutrition Month

Do you know the facts on fats? In the past few years, the public has been inundated with new terms describing fats. Fats that we eat can be unsaturated, saturated, polyunsaturated, or monounsaturated. Omega-3 fatty acids, commonly found in fish oils, seem to be the latest "fat fad." Cholesterol is a concern, and there is "blood cholesterol" and "dietary cholesterol" to be considered. News abounds about the possible dangers of upper body fat versus lower body fat, controversy continues over what is desirable body weight, and the difference between overweight and obesity is often questioned. The various aspects of the role of dietary fat and body fat in different disease states are being studied by investigators supported by a number of NIH institutes including NHLBI, NCI, NIDDK, NIAMS, and others. There is increasing evidence that fat plays a role in diseases such as coronary heart disease, some forms of cancer, diabetes, and obesity.

In order to provide the NIH community with an opportunity to "learn the facts on fats," this year's National Nutrition Month activities scheduled for March will focus on fats. Events will be cosponsored by the Nutrition Coordinating Committee's Subcommittee on Nutrition Education, the Guest Services Cafeteria Service, Occupational Medical Services and the NIH Recreation & Welfare Association. NIH employees will be given opportunities to obtain the facts on fats and to use this knowledge to make smarter and healthier food and lifestyle choices. As a reminder of upcoming National Nutrition Month activities and events, posters will be displayed throughout the NIH campus and tentcards listing the schedule of events will be placed on all NIH cafeteria tables.

The "NIH-NCC Nutrition Research Exhibit" will be displayed in the lobby of Bldg. 31 during the month of March. A complete listing of nutrition publications currently available to the public from the various institutes will be available at the exhibit. Publications concerning dietary and body fat will also be featured. On Mar. 7-18, from 11 a.m. to 1 p.m., a nutrition expert will be at the exhibit to answer specific questions on fats. At this time, there will also be an opportunity to have your own body fat calculated. If you are unable to stop by the exhibit, your questions on fat can be mailed to the Nutrition Coordinating Committee office, Bldg. 31, Rm. 4B63.

Once again, the GSI Cafeteria Service, with the assistance of NHLBI, will feature heart healthy lunchtime specials, low in saturated

fat and cholesterol, at all NIH cafeterias. Recipe cards for the specials will be available throughout the month of March. These recipes were developed by NHLBI nutritionists and were used in two clinical trials to help participants lower their blood cholesterol levels.

NIH employees are encouraged to have their blood cholesterol levels checked on any Tuesday (8-11 a.m.) during National Nutrition Month. The OMS and the R & W Association will cosponsor a blood cholesterol screening program for NIH employees. The registration procedures are as follows:

- Pay \$3.50 at one of the R & W stores (Bldg. 10, B1C06; Bldg. 38A, B1N07; Westwood Bldg., Rm. 10; Bldg. 31, B1W30) or the NIH Fitness Center (Bldg. T-39).
- Receive a lab form and envelope at time of payment.
- Complete the following information on the lab form: Name, age, sex and date blood drawn.
- Write your name and NIH mailing address on the front of the envelope.
- You do not need to fast for this test. Simply go to the OMS Main Health Unit (Bldg. 10, 6C306) to have a sample drawn on Tuesday morning, 8-11 a.m.

Also available from the R & W Association is the recently published "Dietitians' Food Favorites," a cookbook from the American Dietetic Association Foundation featuring recipes for health and good taste. It includes more than 500 recipes submitted and tested by

members of the ADA. Each recipe includes an analysis covering 16 vital nutrients. It provides healthy options to modify recipes for special dietary needs and presents an overall approach to healthful and delicious eating. During National Nutrition Month, the R & W Association will offer this cookbook for the price of \$22.50 to members of the NIH community, a 10 percent discount off the suggested retail price of \$25.

The dietitians of the Clinical Center's Nutrition Department, in conjunction with the Educational Services Office, will present nutrition lectures from noon to 1 p.m. on Tuesdays during March. The schedule for these lectures (to be held in the Little Theatre, Bldg. 10) is as follows:

"Calcium, Meeting Your Daily Needs"	Mar. 8
"Diabetic Diets: Let's Talk Turkey (and Chicken and Fish ...)"	Mar. 15
"Dietary Changes to Decrease Cancer Risk"	Mar. 22
"Yes, You Can Lower Your High Blood Cholesterol by Changing Your Diet"	Mar. 29

Plan to attend these informative and interesting sessions!

The NIH campaign for National Nutrition Month promises to provide a bounty of informational and educational opportunities for NIH employees. For your own health and well being, it is up to you to get the facts on fats. □

### Japan Honors Gallo

Dr. Robert C. Gallo, chief of NCI's Laboratory of Tumor Cell Biology, and Dr. Luc Montagnier of the Pasteur Institute, Paris, France, have been awarded the 1988 Japan Prize, one of Japan's most prestigious awards for science, for their research on acquired immune deficiency syndrome. The announcement was made Feb. 4 in Tokyo.

Gallo and Montagnier and their colleagues are credited with codiscovering the virus that causes AIDS and proving it is the causative agent, and with developing the AIDS blood test.

The Japan Prize includes a cash award of \$674,000 to be divided among the two researchers and four other scientists. Three of the other award recipients were honored for their work on the eradication of smallpox and the fourth for his work on establishing fast breeder nuclear reactor technology.

The first Japan Prize was awarded in 1985. Presented by the Science and Technology Foundation of Japan, the award honors scientists and engineers, both domestic and



foreign, who have made outstanding contributions to the progress of science and technology. This year's recipients were selected from among 950 candidates from 86 countries in the fields of preventive medicine and energy technology.

An award ceremony will be held Apr. 7 in Tokyo.