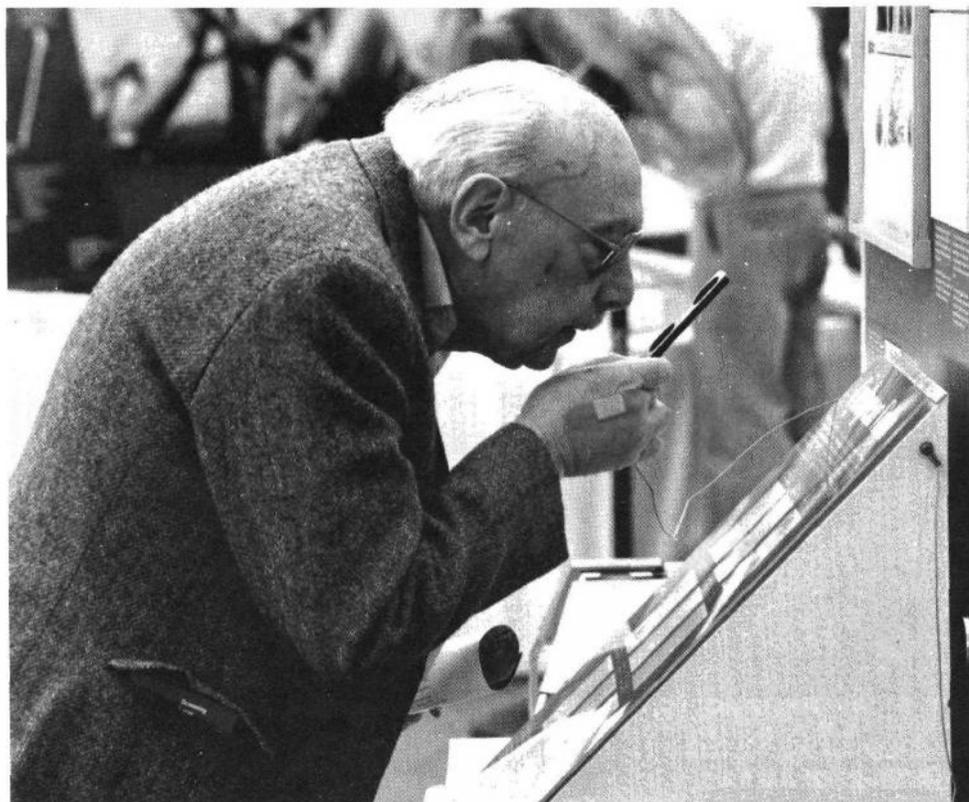


The NIH Record



All ages found something worth pondering in the Discovery Pavilion during the Centennial Open Houses.

Open Houses Draw More than 4,000

More than 4,000 guests visited NIH Oct. 4-5 as the institution threw its doors open to the public in honor of the Centennial.

A modest crowd on the first of two Open House days toured campus in buses and on foot and enjoyed exhibits, films, lectures and food in a variety of NIH buildings.

The second day found NIH inundated with curious teenagers as 3,100 students from 62 area schools passed through the campus during a 5-hour period.

"What we lacked in quantity (on Oct. 4), we made up for in quality," said Tom Flavin, NIH special projects officer. "Those who came got a very good look at NIH."

As for the students' open house, Flavin said, "We probably overbooked by one-third, but it's the only chance we had this century to do it. All the kids I saw looked excited and happy. In one day we did a tremendous amount of good for NIH."

Nearly 200 NIH employees pitched in to make both days a success. A cadre of volunteers led by Kim Regan, DCRT executive officer, spent a rainy Oct. 3 making exhaustive preparations, including posting signs and repairing a leaky Discovery Pavilion. Ellen Tomasko, a

(See **OPEN HOUSES**, Page 6)

NIGMS Celebrates 25 Years of Basic Biomedical Research Support

Which NIH institute: is one of the smallest in number of employees, but one of the largest in terms of budget; was cited more often than any other institute as a source of funding for research reported in nine major journals in a 1-year period; takes a leading role in predoctoral research training; and has funded 35 scientists who later won Nobel Prizes? Hint—this institute is also celebrating its 25th anniversary this month.

If you guessed the National Institute of General Medical Sciences, you're right. On Oct. 17, 1962, Congress authorized the establishment of NIGMS "for the conduct and support of research and research training in the general or basic medical sciences," and the former NIH Division of General Medical Sciences became an institute.

In 1963, the 114 employees of NIGMS worked with a budget of almost \$110 million. An early description said the new institute "symbolizes the Nation's growing recognition that orderly and meaningful progress in nearly all areas of medicine can be achieved only from a firm foundation of knowledge about the underlying mechanisms of health and disease."

The role of NIGMS in training future scientists was also stressed early. "In 1968," according to a history of NIGMS, "the Institute's training and fellowship programs supported [thousands of] young men and women of unmistakable promise and constituted one of the Nation's greatest resources for the development of basic health science manpower."

This emphasis on basic biomedical research and research training has not changed in NIGMS' 25 years. Today, with a budget of \$571 million and 160 employees, the institute has four research and training programs: Genetics, Biophysics and Physiological Sciences, Cellular and Molecular Basis of Disease, and Pharmacological Sciences. A fifth program, Minority Access to Research Careers, funds the research training of outstanding students and faculty at institutions with large minority enrollments.

With one exception, NIGMS has no intramural program. That exception is the Pharmacology Research Associate Program, which provides postdoctoral research experience in an

(See **NIGMS**, Page 4)

NIH Grantee Wins Nobel in Medicine

Dr. Susumu Tonegawa, a biology professor at the Massachusetts Institute of Technology and a current NIAID grantee, has been awarded the 1987 Nobel Prize in Medicine.

A co-winner this year of the Albert Lasker Basic Medical Research Award, he proved that the DNA in antibody-making cells is shuffled and reshuffled to make new genes. By conducting a series of experiments in which he cut DNA into small pieces, he found important ways in which the diversity of antibodies is increased.

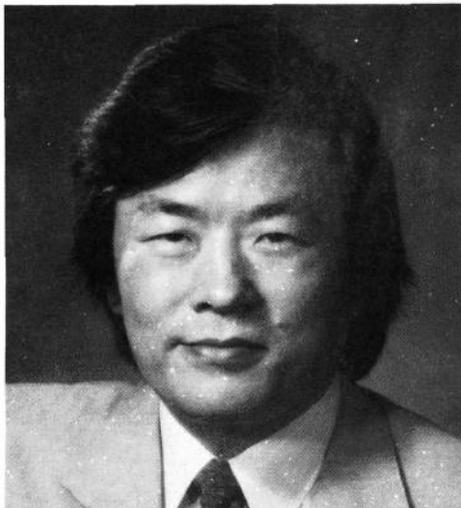
Tonegawa's research showed that an individual's genes do not necessarily remain the same throughout life, and that specific parts of the DNA are continually rearranged by specialized cells.

Explaining the significance of Tonegawa's work, Dr. Thomas Waldmann, chief of NCI's Metabolism Branch, told the *Washington Post*: "'Just as you have 26 letters in the alphabet forming whole libraries of books, or 52 playing cards making up innumerable poker hands,' the

(See **NOBEL**, Page 2)

NOBEL

(Continued from Page 1)



Dr. Susumu Tonegawa

cell's ability to shuffle genes explains how the immune system is able to produce such a diversity of antibodies."

The 48-year-old Tonegawa's award-winning research was first published in 1976 in the *Proceedings of the National Academy of Sciences*. He conducted much of his pioneering investigation during a 10-year stint at the Basel Institute for Immunology in Switzerland.

Tonegawa, a Japanese citizen, will receive his \$340,000 prize at a ceremony in Stockholm Dec. 10. □

Handicap Program Set for Oct. 22

Helen Keller, Franklin Roosevelt, and Henri Toulouse-Lautrec were all individuals who overcame their noticeable handicaps to become respectively, a writer and scholar, a famous president and world leader, and a renowned painter of French life. Persons with less visible disabilities also achieved fame in spite of their handicaps—Robert Louis Stevenson, author of *Treasure Island*, *Kidnapped*, and other classics; Ludvig van Beethoven, composer of symphonies 1-9 and numerous concertos; and Thomas Alva Edison—the phonograph and electric light bulb are just two of his inventions.

The fifth annual NIH Employ the Handicapped Program, to be held Thursday, Oct. 22 from 11:30 a.m. to 1:30 p.m. in Wilson Hall, Bldg. 1, celebrates contemporary disabled persons who have overcome handicaps and can excel in many fields such as medicine, science and administration.

Featured speaker for this event will be Max

ACRF Amphitheater To Be Named Lipsett Auditorium

The ACRF Amphitheater of the Clinical Center will be named in honor of the late Dr. Mortimer B. Lipsett, former director of the National Institute of Diabetes and Digestive and Kidney Diseases. The auditorium will be dedicated on Nov. 20 with a program from 1:30 to 3 p.m., followed by a reception.

In addition to serving as director of NIDDK, Lipsett was director of both the National Institute of Child Health and Human Development and the Clinical Center.

The program, sponsored by NIDDK, NICHD, and the CC, will consist of three vignettes: "Mortimer B. Lipsett, The BID Director," presented by Dr. James B. Wyngaarden, director of NIH; "Mortimer B. Lipsett, The Endocrinologist," presented by Dr. Gerald D. Aurbach, chief of the Metabolic Diseases Branch, NIDDK, and president-elect of the Endocrine Society; and "Mortimer B. Lipsett, The Man," presented by Dr. D. Lynn Loriaux, chief of the Developmental Endocrinology Branch, NICHD.

Dr. Joseph E. Rall, NIH deputy director for intramural research, will introduce the scientific speaker, Dr. Bert W. O'Malley, professor and chairman of the department of cell biology, Baylor College of Medicine. The ceremonies will conclude with Dr. John L. Decker, director of the Clinical Center, unveiling a portrait of Lipsett.

The dedication is open to the public. □

Cleland, a triple amputee and Vietnam veteran, who became President Carter's administrator of the Veterans Administration and is now Georgia's secretary of state. Cleland will be joined by performers Nadine Wobus, a singer and music therapist, and by the talented Performing Arts Group from the Model Secondary School for the Deaf in Washington, D.C.

All NIH employees and supervisors are invited to attend this handicap awareness program, sponsored by the NIH Handicapped Employees Committee, Handicap Program, Division of Equal Opportunity; and the NIH Centennial Committee.

Sign language interpretation will be provided. For further information, or if accommodations for other disabilities are needed, please contact Joan Brogan, NIH Handicap Program Manager, 496-2906. □

New Drug Therapy for Pneumonia in AIDS

Scientists have developed a new drug treatment for the life-threatening pneumonia caused by the organism *Pneumocystis carinii* that afflicts AIDS patients. The findings were reported in the Oct. 15 *New England Journal of Medicine* by scientists from the National Cancer Institute, the Clinical Center, and George Washington University Medical Center.

The new treatment uses the anticancer drug trimetrexate in combination with an antidote, leucovorin, that rescues noncancerous cells from the effects of the anticancer drug. Trimetrexate is presently under development by NCI as a cancer treatment.

The study showed that two weeks following treatment with trimetrexate, 38 out of 49 (77 percent) patients with *Pneumocystis carinii* pneumonia were alive. This included patients with advanced disease who could not tolerate or were resistant to standard drug treatments.

The study was headed by Drs. Carmen J. Allegra and Bruce A. Chabner of NCI, Henry Masur of the Clinical Center, and Carmelita U. Tuazon of GWU. □

The NIH Record

Published biweekly at Bethesda, Md., by the Editorial Operations Branch, Division of Public Information, for the information of employees of the National Institutes of Health, Department of Health and Human Services, and circulated to nonemployees by subscription only through the Government Printing Office. The content is reprintable without permission. Pictures may be available on request. Use of funds for printing this periodical has been approved by the director of the Office of Management and Budget through September 30, 1988.

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NLM Symposium Holds Mirror Up to Life of Health Professions

The arts today not only reflect the public's changing perception of the health professional, they also mold those perceptions. Television, popular fiction, movies, cartoons and songs have dealt with doctors, nurses, and others in medicine. And the picture is not always flattering or realistic.

"Images of the Health Professional in the Popular Arts" was the focus of a recent Medicine and the Arts Symposium held in Lister Hill Center as part of the National Library of Medicine's celebration of the NIH Centennial.

As the audience found out, the reasons for the changing image of the health professional are many. Advances in the science of medicine helped eliminate the previously predominant image of the doctor as incompetent charlatan. On the other hand, today's educated patients no longer tend to think of their physicians as omniscient. They know that they can be fallible—as Dr. Kildare gives way to the crew at St. Elsewhere.

In a more general sense, the public's long-standing ambivalence about health practitioners is rooted in its awe and fear of their power. The symposium offered both serious scholarship and lighthearted entertainment.

The audience:

- Viewed more than 30 movie clips, showing a variety of medics as heroes and villains, clowns and healers, detectives and bumbling healers and caring, but flawed, human beings;

- Saw dozens of slides depicting in cartoon and caricature the changing images of health professionals—sometimes, humorously, sometimes viciously;

- Heard via archival audiotape the voice of Sir Arthur Conan Doyle (himself a physician) paying tribute to Dr. Joseph Bell—Doyle's teacher at the University of Edinburgh and a model for Sherlock Holmes;

- Examined the image of nurses in modern short stories, where they appear as nurturing mothers, caring allies, pathetic spinsters, strange recluses, icy martinetes or sexual predators;

- Explored images of health professionals as comedy figures in such forms of popular entertainment as vaudeville, burlesque, and the medicine show;

- Pondered the way television shows like "Marcus Welby, M.D.," "M*A*S*H," and the current "St. Elsewhere" affect practicing doctors, medical students, and the public;

- Enjoyed a live performance of songs by Cole Porter, George Gershwin, and others dealing humorously with doctors and their patients.

During breaks, speakers and guests exam-



Actress Louise Fletcher, an Academy Award-winner for her portrayal of Nurse Ratched in the 1972 film "One Flew Over the Cuckoo's Nest," was the luncheon speaker at NLM's recent symposium on medicine and the arts.

ined exhibits and viewed demonstrations in the Lister Hill Center lobby—including examples from NLM's audiovisual collections, Grateful Med, and NLM's historical prints and photographs videodisc project.

The day ended with a reception sponsored by the Friends of the National Library of Medicine, an organization created last year to promote understanding of the library and its services. □

STEP Forum on Extramural Research

At a STEP Forum scheduled for Oct. 28, Dr. Katherine Bick, NIH deputy director for extramural research, will discuss the recent organizational changes in OER (formerly OERT), her view of the current issues facing OER, and her perspective of the changing roles of the NIH's extramural programs.

The forum will be held in Wilson Hall, Bldg. 1, 1:30-3 p.m. It will provide an opportunity for NIH extramural staff to meet Bick and discuss issues of common interest.

The forum series is open to all NIH professional and support staff. No preregistration is required. For additional information contact the STEP program office, 496-1493. □

Marching Band Opens CFC Campaign

The CFC kickoff will be held Oct. 21 at 11:45 a.m. in front of Bldg. 1. Proposed features include performances by the 135-piece Damascus High School Marching Band, a repeat appearance by the Baltimore Orioles "Bird" (who last year hijacked an NIH fire engine), and kickoff address by DHHS Secretary Otis Bowen.

The Run/Walk will begin at 12:15. NICHD budget officer Art Fried of the NIH Health's Angels running club has issued a racing challenge to the DHHS "Bowen Arrows" softball team. The Bowen Arrows include such departmental all-stars as the DHHS chief of staff Tom Burke. "They will be the Broken Arrows when the NIH Angels blow them off the track," said Fried.

There will be a drawing for door prizes and anyone at the CFC kickoff is eligible to win. First prize is a VCR, so it is well worth your time to come and hear a great band, great speakers, and watch your Angels snap the Bowen Arrows. You can register as a 3-mile runner, or 1-mile walker at any R&W store. Registration gets you a T-Shirt with the CFC slogan—"Someone Out There Needs Someone Like You." Someone like the Friends of the Clinical Center, or any tax-exempt group that specializes in research, charity, or education, really does *need you*. When your CFC keyworker calls, please be generous. □

Patient Education Week

To recognize the efforts of the variety of hospital and institute staff who contribute to patients' health through education, the Clinical Center will observe National Patient Education Week.

Exhibits and displays are scheduled for Nov. 3-4 from 9 a.m. to 4 p.m. in the Visitor Information Center. Seven CC departments and four institutes are scheduled to participate. Patient education materials in a variety of media will be displayed.

Begun by the patient educators 2 years ago, National Patient Education Week is a time when patient care staff can come together to support each other's efforts and plan future endeavors. This event recognizes the variety of health professionals who use patient education in their work.

All patient care staff, patients, and visitors are encouraged to come to Bldg. 10 to see the displays and learn how patient education is being used at the CC.

For more information about National Patient Education Week, call Wendy Schubert, CC Communications, 496-2563. □

NIGMS

(Continued from Page 1)

NIH or Alcohol, Drug Abuse, and Mental Health Administration intramural laboratory for 22 staff fellows in pharmacology each year. These scientists have an outstanding record of later filling key positions in academia, industry, and federal laboratories.

NIGMS' presence is felt most strongly in laboratories throughout the United States, where this year alone some 3,000 primary investigators and their colleagues are studying life at its most basic level. Some ask how cells are put together; others look at how cells run when they are working properly in order to gain insight into what happens when things go awry.

Some NIGMS-funded scientists use sophisticated computers to learn more about the three-dimensional structure of proteins (the molecules that do most of the body's work), which gives them insight into how the proteins function. Others study the ways that drugs and anesthetics act on cells. Still other NIGMS grantees are developing techniques that will aid in the detection, treatment, and understanding of genetic disorders.

Resources for Research

NIGMS also supports two important resources designed to stimulate and facilitate genetics research. The first is the Human Genetic Mutant Cell Repository, where cell lines from people with various genetic disorders and from members of their families are established and stored. Samples of these cells are sent to scientists upon request, allowing them to study rare disorders without first having to locate a cell donor.

The second research resource is a computerized data bank called GenBank, which is a collection of the sequences of stretches of the genetic material, DNA and RNA, from a variety of organisms. Established in 1982 in response to a critical scientific need for a timely, centralized, and easily accessible storehouse of genetic sequence information, GenBank now contains the sequences of more than 14 million subunits, annotated for sites of biological significance.

Highlights of First 25 Years

In its first quarter-century, NIGMS has been a partner in many important advances in biology. In 1967, for example, Nobel laureate and NIGMS grantee Dr. Arthur Kornberg of Stanford University was hailed by then-President Lyndon B. Johnson for "an awesome accomplishment" that "unlocked a fundamental se-



Dr. Ruth L. Kirschstein, NIGMS director

cret of life." The president was referring to an experiment in which Kornberg and his colleagues replicated a simple virus in a test tube.

In the years that followed, many current and former NIGMS grantees—including Drs. Daniel Nathans and Hamilton Smith of Johns Hopkins University and Drs. Stanley Cohen and Paul Berg of Stanford University—developed the means to cut DNA at precise spots, join pieces of foreign DNA together, and then reproduce a particular bit of DNA in large quantities. These achievements opened the door to what is now called recombinant DNA technology or, less formally, genetic engineering.

NIGMS has also played an important role in

advancing the field of pharmacology during the past two-and-a-half decades. Pharmacogenetics, the study of inheritable variations in the ability to metabolize drugs, is an area of increasing interest to pharmacologists like Dr. Grant Wilkinson, an NIGMS grantee at Vanderbilt University. He and other researchers in the field are helping to solve the puzzle of why the same dose of a drug can be beneficial in one person, do nothing in a second, and cause harm to a third. Their findings may lead to ways of predicting how a person will metabolize a drug before problems occur.

NIGMS grantees have also made important discoveries about cell structure during the past 25 years. In particular, there have been tremendous advances in the study of cell membranes and the proteins they contain. In the mid-1960's, grantee Dr. S. Jonathan Singer of the University of California, San Diego, proposed the "fluid mosaic" model of cell membrane structure in which he described how solid proteins float in a sea of lipids (fats). Due to the work of Singer and others, scientists began to think of membranes not as passive films, but as active parts of the cell. Scientists have since learned much more about membrane proteins and the role they play in allowing substances to enter and leave the cell.

A full understanding of the links between the structure and function of biological materials is an underlying goal of modern biology. This field, called structural biology, has received strong support from NIGMS. Many institute grantees have helped to refine



Seven employees who have been with NIGMS since its beginning: (front, l to r) Dona McNish, Evelyn Carlin, Ruth Monaghan (back, l to r) Fuller Ming, Dr. Charles Miller, Dr. Howard Jenerick, Dr. Frederick Ferguson.

techniques originally developed by physicists, such as x-ray crystallography and nuclear magnetic resonance (NMR), to the point where they are indispensable to the study of biological systems. For example, Dr. Mildred Cohn, a grantee who was working at the University of Pennsylvania, pioneered the use of NMR for the study of the arrangement of atoms at the active sites of enzymes.

The Director's View

For the past 13 years, NIGMS has been directed by Dr. Ruth L. Kirschstein. She is pleased by the way the institute has responded to the evolving needs of researchers during her tenure. For example, she says, as the study of biology became increasingly quantitative, NIGMS established a biophysics program to support researchers who are seeking answers to biological questions using the methods and instruments of physics, mathematics, and computer science.

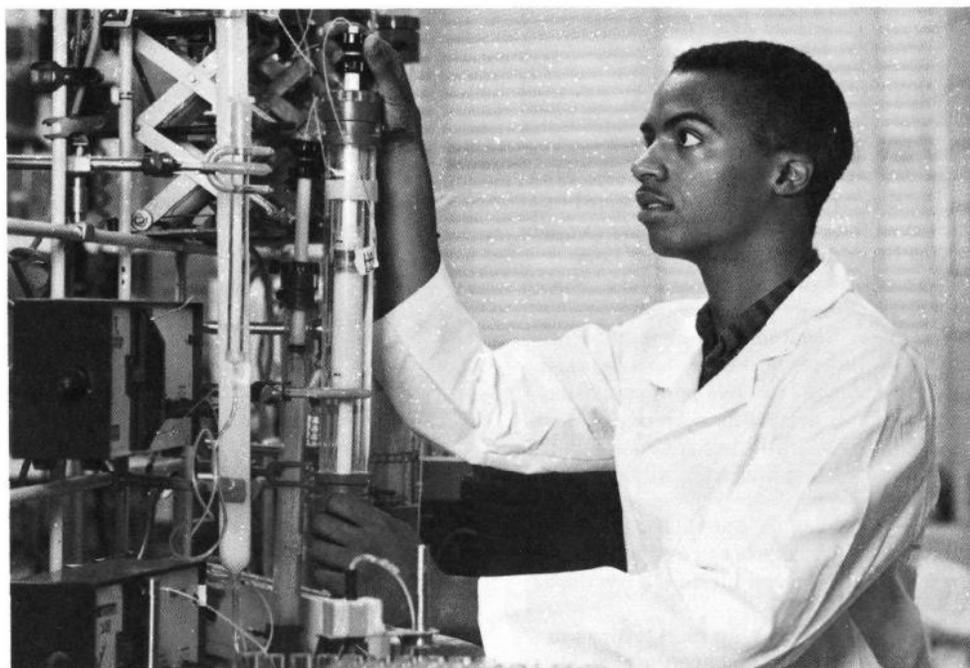
Kirschstein expects NIGMS to continue to play a major role in the quest to solve such mysteries as how proteins fold into their active shapes, how huge amounts of genetic information can be packaged into so tiny a space as a cell's nucleus, and how genes are turned on and off at just the right time during an embryo's development. She believes that the realm of the unknown is vast, since each question answered uncovers a host of new puzzles, and she cautions against being "lulled into thinking we know enough."

One way to ensure that the United States remains in the forefront of biomedical research is to foster enthusiasm and excellence in young science students, says Kirschstein. "As a nation, we need to recognize and reward the accomplishments of scientists. Also, well-trained young researchers are essential if we are to replenish the supply of dedicated scientists," she notes. The 23-year-old Medical Scientist Training Program of NIGMS, which supports students who wish to obtain a joint M.D.-Ph.D. degree, is one way that this goal can be met.

The first 25 years of NIGMS have been exciting ones. As both the pace and the scope of basic biomedical research increase, the role of NIGMS in assisting scientists to do the best work they can is clear. We can expect many more discoveries in the years to come.—Anne Oplinger □



Dr. Jennifer Lippincott-Schwartz, a pharmacology research associate, confers with her preceptor, Dr. Richard Klausner of NICHD.



Jonathan Mason, an undergraduate at Howard University supported by the Minority Access to Research Careers Program, spent the summer working in an NIH lab.

OPEN HOUSES

(Continued from Page 1)

veteran of 10 years at NIDR who retired in 1972 with a Merit Award, also volunteered, declaring, "I'm still healthy enough to help."

Dr. William Raub, NIH deputy director, opened the event at 11:15 a.m. Oct. 4 as he helped dedicate a temporary Post Office in the Visitor Information Center. Gordon Morison, assistant postmaster general, was on hand for the ceremony, as was Bethesda Postmaster Clarence Hoppert. Then the public started to arrive by car, subway, bus and on foot.

Though Philip Battey lives only a mile from campus, he came to Open House because, "I don't really know much about NIH."

Following his first stop at the Clinical Center, he said, "I think the displays demonstrate that there's been a lot of work. I hope I've seen a representative sample of the institutes. I know of the National Cancer Institute but others may be unknown to me."

A Navy computer scientist, Battey then enjoyed a bus tour of the campus conducted by Marc Stern, chief of the News Branch. "He gave a very good tour and was very informative."

Before continuing his tour, Battey had a sheepish confession to make: "I come through here every morning on my way to work—I don't know if it's legal."

Grunby Joseph of Gaithersburg had his eyesight and blood pressure evaluated at exhibits in the Discovery Pavilion.

"My daughter and her husband work here and I have a high opinion of NIH," he said. "I'm diabetic and I came to get information about maintaining my health."

Alfred Laoang of Rockville, an artist in NIH's Medical Arts and Photography Branch, brought his wife and daughter to the Open House so they could see where he works. After touring the pavilion, the Laoangs planned to take one of the guided bus tours of the campus.

Nina Baccanari of NIH's Office of Communications was one of the tour guides. She traced NIH's history from a one-room laboratory on Staten Island to the current 300-acre campus. Highlights of the tour included the Stone House, the "Tree of Hippocrates," laboratory buildings, the National Library of Medicine, the Mary Woodard Lasker Center for Health Research and Education, and the Clinical Center.

"I enjoyed giving the tours," Baccanari said. "People were very enthusiastic and interested in learning about NIH and I learned a few things myself."

Before or after taking bus tours, visitors to the Discovery Pavilion could peruse pamphlets

(Continued on Page 7)



Two boys pause to eyeball an exhibit on the eye.



Dr. William Raub, NIH deputy director, begins the Open House with remarks in the VIC Oct. 4.



A puzzled look suggests the thought-provoking nature of an exhibit.



This youngster appears to be emulating the expression on the hot air balloon in the poster.

(Continued from Page 6)

and brochures on heart disease, the brain, bone marrow transplants, AIDS, osteoporosis, and other subjects.

The following day, NIH was reminiscent of a busy school campus when 62 buses queued up to discharge more than 3,000 kids to a special students' Open House. The youths ranged in grades from elementary to high school and hailed from various locations throughout the metropolitan area.

The students were welcomed at Bldg. 1, where they observed a model of Dr. Joseph Kinyoun's original NIH laboratory and heard a tape of Franklin Roosevelt's NIH dedication speech. From there they walked to Bldg. 10 where they could see and touch exhibits on display, including microscopes and computers. Scientists and many information people were available to answer questions.

Twenty-six youngsters from Washington Irving Intermediate School in Springfield, Va., were among the first to visit the NIH campus. They were members of the school's gifted and talented science classes, said Elaine Simmerman, a guidance counselor whose daughter was in the class.

"Our class was chosen by a lottery," said Billie Phelps, their science teacher. "This is really a great opportunity for us and fits well into our career-oriented module program exploring science." As far as Phelps knew, none of the kids or parents had ever visited NIH before.

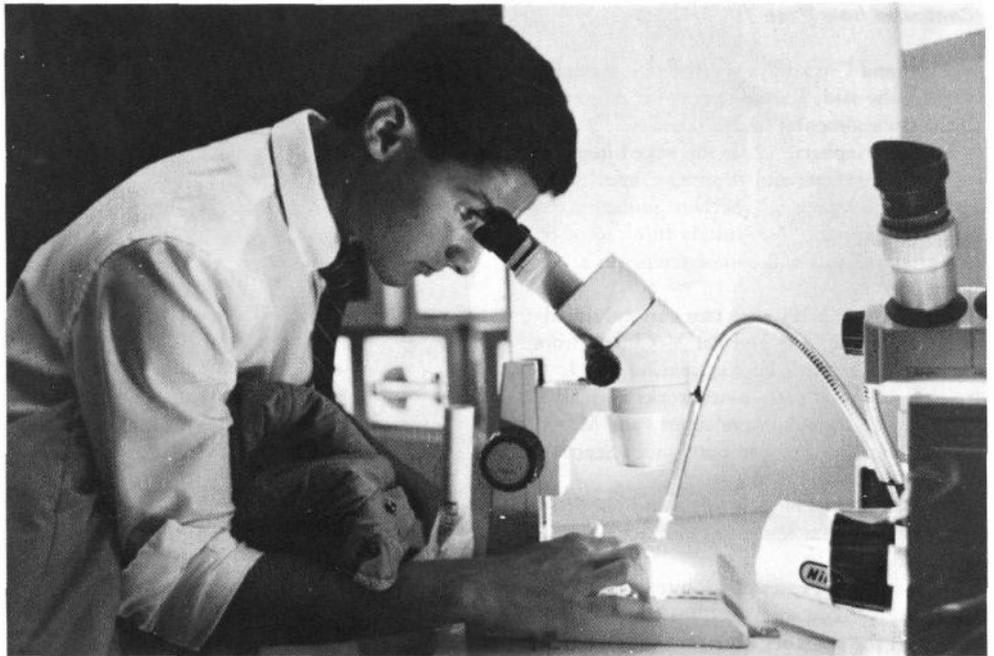
David Mirra, 13, was interested in seeing the instruments used in research and was particularly excited to see the DeWitt Stetten Jr. Museum of Medical Research.

"This is like a hospital, research center, and museum all rolled into one," said Chris Currie, a 12-year-old interested in the physical sciences. "At first I thought it might be boring but it kind of looks like the Smithsonian building with all the displays."

Lily Im, 13, thought the brain exhibit was "kind of gross." But she went around picking up literature and was especially looking for anything available on anorexia since she knew a girl who had it.

One of the parent chaperones, Mary Anderson, was intrigued with the question-and-answer exhibit in the ACRF. "Looks like a jukebox," she said. "My son, John, 13, is interested more in engineering than in science. I personally would have liked more time at the computer and brain exhibits."

Sarah Vick, 13, wanted information on Rocky Mountain spotted fever, a tick-borne disease. "We have so many ticks in my neigh-



A career in biomedical investigation might start with a youngster's exposure to the tools of science.



NICHHD proved that the key to a successful exhibit is free helium balloons, one of which is held here by a pleased patron.



Dr. Joseph Cullen, deputy director of NCI's Division of Cancer Prevention and Control, lectured on "Cancer Prevention" during the Open House Oct. 4.



Three youngsters cover one eye, the better to see a vision display.

(Continued on Page 8)

(Continued from Page 7)

borhood and I've always wanted to know what it was," she said, adding that she is interested in the environmental health sciences.

Michele Kephart, 12, is interested in pursuing a science career and Amanda Carnes, 13, is interested in biology. Says their guidance counselor Simmerman, "I definitely think some of this group of kids will choose science as a career."

Also touring NIH were two curriculum advisors—Debbie Jones and Pat McClure—from the Fairfax County school system, of which Irving School is a part. Jones works with all 22 intermediate schools in the county and McClure works with the computer and science centers in all county schools.

"Picked up lots of great ideas and publications. Had no idea there was so much here to see," said Jones.

Both advisors expressed an interest in coming back to attend some lectures.

Not all the students were particularly interested in science. Wyland Leadbetter, 13, and Julie Johnson, 13, confessed they belonged in this category, but said they enjoyed seeing the various exhibits, especially the one on computers.

"Maybe we should do another open house for schools in a few years," said NIH's Tom Flavin, who noted that it was a teacher, not a student, who accidentally broke a microscope in an exhibit in the VIC. Referring to the slanted floor of the Discovery Pavilion, he quipped, "Next time we won't use a tent, unless it has a flat floor. That tent gave people a slanted view of NIH."

The official Centennial celebration ended at NIH during Alumni Reunion weekend Oct. 15-18, which occurred too late for inclusion in this issue of the *Record*. Look for coverage in our next issue, Nov. 3.



A young man takes an eye exam under the expert supervision of Robert Toma (l), ophthalmic technician, NEI, and Dr. Jeffrey Bloom, a fellow in NEI's Clinical Branch.



Students crouch to view an eye exhibit . . .



. . . and closer inspection unlocks mysteries.



Height and weight were not mere matters of speculation at the Occupational Medical Services booth.



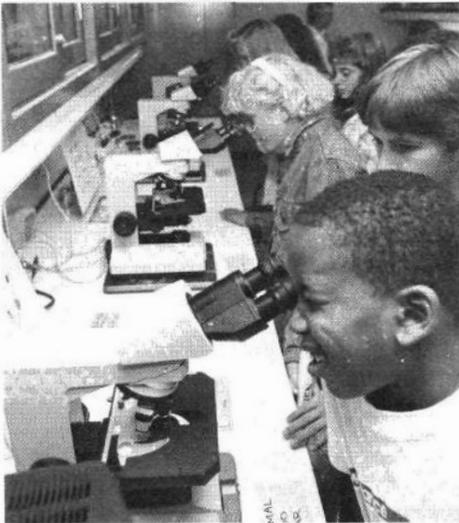
Anne Houser (l) of the Division of Legislative Analysis, OD, prepares to lead a tour of young men from Landon School in Bethesda.



Tim Reybun of the Department of Rehabilitation Medicine, CC, delights in answering questions from the public.



Julie Haller of NIDR invites students to view dental plaque through a microscope at an exhibit in the Visitor Information Center.



Peering through microscopes was one of the pleasures offered by tours of the VIC.

Photos: Bill Branson
Ernie Branson
Rich McManus



Not only exhibits, but also people were available to give information to visitors, as this exchange at the Department of Rehabilitation Medicine booth proves.



What appears quite painful to Justina Grauman of the Westwood Bldg. is really only a demonstration of the power of a magnet at a display put on by the Ontario Science Center.

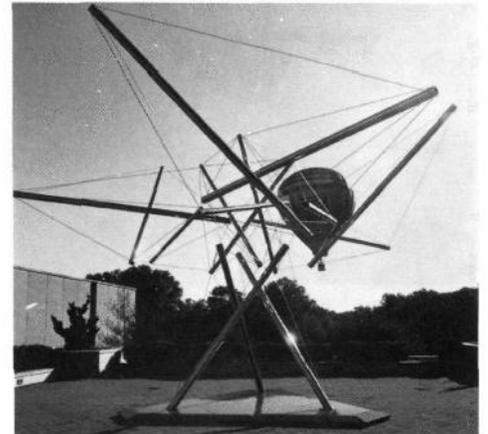
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Dr. John Nickerson of NEI explains cutting edge techniques in gene sequencing to an interested crowd of students. Standing room only was the order of the day as 3,100 students passed through.



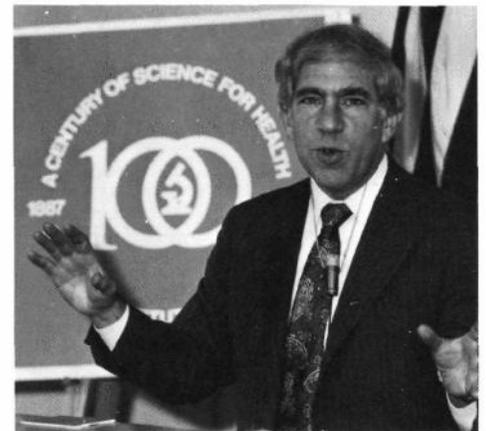
On Oct. 5, a number of visitors and staff enjoyed a ride in this hot air balloon in front of NLM. The balloon, obtained by the National Eye Institute, was part of the NIH Centennial celebration.



The NEI hot air balloon appears snagged in sculpture outside NLM, but is actually a good distance beyond it.



Three youngsters enjoy an exhibit in the Discovery Pavilion, a temporary exhibit hall that will remain up until the end of October.



Dr. Ronald Crystal, chief of NHLBI's Pulmonary Branch, spoke during Open House on lung disease.



Dr. Martin Begley of the Diagnostic Radiology Department, CC, shows off NIH to accomplices.



Though she retired from NIDR 15 years ago, Ellen "Tommie" Tomasko volunteered to help make the Open House a success.



A long day at the Discovery Pavilion leaves one visitor drowsy.

Computer Seminars Being Offered

The DCRT Training Program is sponsoring several short seminars on computer-related topics during the months of October and November. All will be held in Bldg. 12A, Rm. B51.

DB2 Overview—Oct. 29, 9 a.m.-12 p.m.

This seminar will describe what DB2 is and how it works. A demonstration of some practical uses of DB2 will be given. Other topics to be covered include a discussion of basic DB2 terminology, concepts, and equipment required to access DB2.

BITNET—Oct. 30, 1-4 p.m.

Topics include how to get started using BITNET, sending and receiving mail and files, nodes and members, and differences between BITNET mail and WYLBUR mail.

WYLBUR Overview—Nov. 4, 9 a.m.-12 p.m.

This seminar will describe some of WYLBUR's functions and demonstrate some areas where it can be used in everyday work. This seminar will not teach you how to use WYLBUR, but will show you what it can do.

IBM 370 Tapes—Nov. 24, 9 a.m.-12 p.m.

This seminar will cover various types of tapes that can be processed at the NIH Computer Center, the definition and handling of special tapes, scratch tapes and pre-assigned tapes, and labeled versus non-labeled tapes.

To register for these seminars, please contact the DCRT Training Unit, 496-2339, TDD 496-8294. No formal application is required.

Preschool Eligible for CFC

As this year's Combined Federal Campaign gets under way with the slogan "Remember, someone out there needs someone like you" the NIH Preschool Developmental Program (run by Parents of Preschoolers, Inc. or POPI) announces that it is eligible for gifts through CFC.

Donors to POPI can designate number 550 on the local list of charities to make a contribution. The program is located in Bldg. 35 for children 2½ to 5, whose parents work at NIH and the surrounding community.

To arrange a tour of the preschool, call 496-5144. □

Harden and Weaver To Open Musical Review

Washington's top-rated radio team, WMAL's Frank Harden and Jackson Weaver, will appear onstage to open "Magical Musicals of the 1940's," at Masur Auditorium, Nov. 6th at 8 p.m.

This year's musical review boasts a cast of more than 40 singers and dancers performing songs from classic stage musicals of the 1940's. Proceeds will be donated to the NIH Patient Emergency Fund.

Harden and Weaver will describe what show business was like in the Nation's Capital more than 40 years ago. They will recall a time when Washington was still considered sleepy and southern, when Broadway traveling shows were booked at the National Theatre, and members of the audience arrived by trolley or parked their cars without trouble. In those days, a top ticket at the National Theatre went for about \$6, and the tab for dinner next door at the prestigious Occidental Restaurant was less than \$5.

Harden and Weaver joined WMAL in the 1940's, but they did not team up for their famous morning show until the 1960's. In the intervening years, their show has remained at or near the top in radio listener ratings.

Weekend performances of "Magical Musicals of the 1940's" are scheduled in Masur Auditorium Nov. 6, 7, 13, 14, 20, and 21 with matinees on Sunday, Nov. 15 and Saturday, Nov. 21. Tickets are \$5 for matinees and \$5.50 for evening performances. Tickets for senior citizens are \$4; children under 12 are \$3. NIH patients and families are admitted free. Tickets may be purchased at the R&W activities desk, Bldg. 31, Rm. B1W30. □

FERS Briefings Scheduled

The "Open Season" for Civil Service Retirement System (CSRS) employees to make their decision on whether to transfer to the Federal Employees Retirement System (FERS) or stay with CSRS will end on Dec. 31. If you are a CSRS employee and have not yet attended one of the FERS briefings, you will want to arrange to attend one of the briefings listed below.

In the Aug. 26, FERS Newsletter, a schedule was given of FERS briefings through November 1987. The calendar below repeats the November schedule.

DATE	TIME	LOCATION
Nov. 9	8:30 a.m.-Noon	Masur Auditorium
Nov. 17	8:30 a.m.-Noon	Masur Auditorium
Nov. 23	8:30 a.m.-Noon	Masur Auditorium

Pulmonary Disorders Traced to Smoking

By Blair Gately

Chronic obstructive pulmonary disease (COPD) is the fifth leading cause of death in the United States and its incidence would "almost disappear" if everyone stopped smoking, according to a pulmonary physician at the National Heart, Lung, and Blood Institute.

At a recent lecture to commemorate NIH's Centennial and NHLBI's 40th anniversary, Dr. Ronald Crystal, chief, Pulmonary Branch, NHLBI, explained that COPD is "a group of generally progressive, irreversible disorders associated with difficulty in exhaling air from the lungs."

COPD is a disease of the airways and air sacs in the lungs and includes three different, often coexisting diseases: chronic bronchitis, asthmatic bronchitis and emphysema.

Crystal says contributing factors to COPD are auto pollution, infections caused by bacteria and viruses, and, most of all, smoking.

Patients suffering from COPD often experience shortness of breath, cough, chest pains, lung infections and a limitation on physical ac-

tivity, Crystal said. Death follows a long period of disability.

Chronic bronchitis "is characterized by irreversible narrowing of the airways and excess mucus production," he said. With asthmatic bronchitis, the patient experiences an intermittent worsening of the airway obstruction.

Emphysema is a disease where the air sacs are destroyed.

Methods of therapy include stopping smoking and using bronchodilators (drugs to open up the airways), antibiotics (to treat infections) and oxygen to assist in breathing.

Crystal delivered a strong antismoking message to his audience. He pointed out that 37 percent of U.S. adults currently smoke and he listed the health hazards smokers face.

"Cigarette smoking is associated with increased mortality from COPD, heart disease and peripheral vascular diseases," he said. "In addition, cigarette smoking is related to 90 percent of lung cancer cases." □



An exhibit on "Health Care in a City of Immigrants, 1886-1917," will be on display in the NLM lobby from Oct. 20, 1987 through Jan. 10, 1988. The exhibit focuses on immigrants and health in New York City during the period from the dedication of the Statue of Liberty to America's entry into World War I. The photo above shows the vaccination for smallpox on an immigration train in the United States. From Harper's Weekly, Feb. 10, 1883.

Why Do Women Live Longer Than Men?

By Virginia Morgan

The higher death rate from heart disease and the tendency for men to adopt certain high-risk behaviors are the main reasons women live longer than men, according to participants at the recent NIH Conference on Gender and Longevity. Sponsored by NIA and NICHD, the conference provided a forum for discussions on biological and psychosocial differences that clearly affect male and female mortality. On average, women currently live 7 years longer than men in the U.S., a period of years known as the "gender gap."

The conference gave an interdisciplinary review of research findings from the fields of genetics, endocrinology, immunology, epidemiology, and the social and behavioral sciences. Topics included the effect of sex hormones on atherosclerotic heart disease, male-female differences in health behaviors, gender patterns in violent death, stress and immunity, and the X and Y chromosomes.

Discussions revealed that the single greatest contributor to the gender gap is atherosclerotic heart disease, which accounts for as much as 40 percent of the sex differential. Increased heart disease in men is caused by higher levels of low density lipoprotein cholesterol throughout adulthood. Lipoproteins, fatty substances in the blood that build up on the inner linings of coronary arteries, produce the disease called

atherosclerosis. This can eventually lead to heart disease and stroke. A cholesterol-lowering drug (the generic name is lovastatin) has recently been approved by the Food and Drug Administration and is expected to help reduce the male death rate from heart disease in the future.

Social and behavioral factors account for another one-third of the sex differential making up the gender gap. Causes of death in men include high rates of suicide, automobile and other accidents, cirrhosis of the liver, lung cancer, and emphysema—all of which result from behaviors that society encourages or finds more acceptable in men than women. Such behaviors include using guns, drinking alcohol, smoking cigarettes, and working at hazardous jobs. While some trends are beginning to change (for example, men are smoking and drinking less), violent deaths (homicide, suicide, and automobile accidents) continue throughout life at higher rates for men than women.

Other possible factors contributing to the gender gap may be differences in genetics or immune function. While sex differences at the genetic level are beginning to be understood, further research is needed to show whether genetic differences have a direct effect on longevity or whether they have a secondary effect (in which the genes determine sex hormones which

in turn affect longevity). Also, although there is a well-documented decline in immune function with advancing age, researchers need more information on how the immune system is affected by age, sex hormones, and the genes.

Concluding remarks given at the conference indicate that research on gender differences is still at an early stage, and more information will be necessary to gain a clear understanding of the variables controlling longevity. Meanwhile, current data show the gender gap will continue to widen during the next four decades as our population ages. New drugs for heart disease and improvements in lifestyle may reduce the male death rate to some extent; however, there are probably other sources determining longevity as well. Thus, conference participants agreed that convening future interdisciplinary workshops will be important as research findings begin clarifying those variables responsible for human longevity. □

A bill of rights is what the people are entitled to against every government on earth, general or particular. . . .—Thomas Jefferson (1787)