the NIH Record

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

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NATIONAL INSTITUTES OF HEALTH

Dr. Fredrickson to Head Institute of Medicine; Succeeds Dr. Hogness

Dr. Fredrickson and colleagues introduced a new system, now widely used, to identify blood-lipid abnormalities.

Dr. Donald S. Fredrickson, director of intramural research, National Heart and Lung Institute, will succeed Dr. John Hogness as President of the Institute of Medicine in the National Academy of Sciences.

Dr. Fredrickson is expected to assume the post this summer.

He will be concerned with health policy that might influence directions of biomedical research, medical education, clinical medicine, and the delivery of health services throughout the country.

Dr. Fredrickson received his B.S. and M.D. degrees from the University of Michigan. After postgraduate work at Peter Bent Brigham Hospital, Massachusetts General Hospital, and Harvard Medical School, he joined the NHLI staff as a clinical associate in 1953.

Research Described

Over the next 13 years, Dr. Fredrickson took part in and directed research on the mechanisms by which fats and fat-like substances (lipids) are absorbed, transported, synthesized, and broken down by the body. From 1961 to 1966, he also served as the Institute's clinical director.

In 1965 Dr. Fredrickson and his colleagues introduced a new sys-

(See DR. FREDRICKSON, Page 6)

Annual AAAS Meeting Includes Symposium On Grants, Contracts

The American Association for the Advancement of Science is holding its 140th annual meeting in San Francisco, Calif., from Feb. 24 through March 1, with a large number of NIH scientists actively participating.

On March 1 a symposium is being held on Policies and Procedures in the Use of Grants and Contracts by the NIH in the Support and Conduct of Biomedical Research.

Speaking at this symposium will be: Dr. Robert S. Stone, NIH Director; Dr. John F. Sherman, Deputy Director, and Dr. Thomas E. Malone, Associate Director for Extramural Research and Training.

Also, Dr. Leon Jacobs, Associate Director for Collaborative Research; Storm Whaley, Associate Director for Communications, and Dr. Richard B. Stephenson, training officer, ADERT.

(See AAAS MEETING, Page 4)

RESEARCH ON AIRCRAFT CARRIER

NIH Scientists Conduct Cardiovascular Studies of Astronauts After Splashdown

The NIH Record went to press before the scheduled splashdown.

A team of NIH scientists will collaborate with members of the NASA biomedical staff in assessing the cardiovascular function of Skylab III astronauts following their splashdown on Feb. 8.

The NIH participants include Drs. Stephen Epstein, Walter Henry, Robert Goldstein, and David Redwood, all in the National Heart and Lung Institute's Cardiology Branch.

Engineers Collaborate

A group of engineers in the Division of Research Services, headed by Jimmy M. Griffith of the Biomedical Engineering and Instrumentation Branch, also took part in the project.

BEIB provided a custom-built ultrasonic scanning system for noninvasive visualization of heart structure for evaluating the effect of prolonged weightlessness on astronauts.

Mr. Griffith is project engineer responsible for the technical aspects of design development and application of the ultrasonic echocardiographic scanning system.

Other BEIB personnel who participated include William Schuette, electrical engineer, and Joseph Bucolo, Anthony Vita, George Norris, David Rector, and John Clark, engineering technicians.

The studies will be conducted on board the recovery aircraft carrier. Their purpose is to evaluate the cardiovascular effects of prolonged weightlessness.

(Continued on Page 4)

FY 1975 NIH Budget Request Provides $1.8 Billion —$53.4 Million Increase

The fiscal 1975 budget for NIH sent to Congress by the President on Feb. 4 provides $1.8 billion, an increase of $53.4 million from this year's budget authority.

The $600 million proposed for the National Cancer Institute is intended to intensify its research with an increase in budget authority from FY 1974 to FY 1975 of $73 million or 14 percent.

Diagnostic studies will continue in such diverse areas as determining the clinical value of chemical and immunologic blood tests and in the early detection of lung cancer by analyzing saliva.

Other investigations into treatment, cause and prevention, and basic research into cancer biology will be accelerated.

Also, funding for comprehensive cancer research and demonstration centers will continue, as will the Cancer Control Program which supports the demonstration of specific research results.

A new Clinical Cancer Education Program totalling $4 million is being initiated in 1975 to stimulate the creation of more innovative cancer teaching programs.

(Continued on Page 7)

Dr. Sherman to Be Honored At Party Thursday, Feb. 21

A retirement party in honor of Dr. John F. Sherman will be held at the National Naval Medical Center's Officers Club on Thursday, Feb. 21, from 6:30 to 8:30 p.m.

All employees and their spouses are invited.

Reservations, $7 per person —including buffet and gift— must be submitted to Mrs. Gen Garner, Bldg. 1, Room 138, Ext. 62511, no later than today, Feb. 12.

Dr. Sherman, Deputy Director of NIH since 1968, has been appointed vice president of the Association of American Medical Colleges. He will also be director of AAMC's Department of Planning and Policy Development.

John Sangster Receives Award for Contributions To Upward Mobility

To recognize the outstanding accomplishments in the field of training and development by persons in the Washington area, 10 awards were given at a recent banquet held at George Washington University's Marvin Center.

Mr. Sangster

John M. Sangster, director of the Office of Personnel Management, received a citation and plaque for his contributions to the upward mobility of employees.

Presented by the Washington Area Chapter of the American Society of Training and Development and the Washington Training Officer's Conference, the award cited Mr. Sangster for his "diligence in moving upward mobility from the realms of dream, rhetoric, and policy to the level of program, reality, and results."

The awards committee of the two organizations also gave special recognition to the NIH Stride training program, and O. H. Laster, National Cancer Institute training officer.

the NIH Record

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Billy J. Sadesky, NIMH, retired early in February after 30 years in Federal service. He was assistant director for Program Management, Division of Mental Health Service Programs. He had been financial management officer for NIH before joining NIMH in 1965. Last December, Mr. Sadesky received the Superior Service Award.

PHS Grants and Awards Publication Is Available

Part II of *Public Health Service Grants and Awards, Fiscal Year 1973 Funds* is now available from the Division of Research Grants.

Part II furnishes grant-by-grant listings of the recipients of research training, construction, and medical library grants. Summary tabulations are also given for several program awards.

Single copies of the Part II volume, DHEW Publication No. (NIH) 74-196, are available free of charge from DRG.

Multiple copies may be purchased at $1.15 each from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Deadline for STEP's 2d Module —Public Policy—Is February 28

The second module of the STEP Committee's Continuing Education Program will be held from March 31 through April 3.

Public Policy and the Management of Scientific Research and Development, being offered for the first time in the series, will cover such areas as public influence on the decision-making process, and the duties and responsibilities of the scientific manager.

Dr. William Goldwater, special assistant, Office of the NIH Associate Director for Collaborative Research, OD, will direct the module. Faculty will be derived from such areas as the Office of Management and Budget and pertinent congressional staff committees.

Application deadline for the seminar—limited to 25 participants—is Feb. 28. All staff members responsible for developing and implementing NIH extramural programs and policies are eligible to apply.

To obtain applications, call Mrs. Snyder, Ext. 64777.

Men's Golf Association to Begin Season—New Members Needed

The men's NIH Golf Association will start its new season in April and will continue through September.

R&W members interested in joining should submit their name, extension, building, and room number to the R&W Office, Bldg. 31, Room 1A-18, as soon as possible.

Participants pay an initial membership fee and their own green fees during the year. Full handicaps are used.

For further information, contact Mel Fisher, Ext. 65323.

Nursery School at NIH to Hold Scholarship Fund Drive During Child Care Week—Feb. 25-March 1

The Child Development Center will hold a scholarship fund drive at NIH during Child Care Week, Feb. 25-March 1. The "week" is sponsored by the R & W and CDC's Parents Advisory Committee.

Virginia Burke, child care coordinator, stated that the funds derived from a successful drive will provide scholarships for a number of children of NIH parents who are attending the school on the campus.

Activities during the week will include a slide presentation depicting a school day and a display of handicraft work and paintings made by the pupils, in the lobbies and near the cafeterias of Bldgs. 10 and 31.

Fact sheets explaining the day care program, school hours, and admission requirements will be available at the cafeterias or snack bars of Bldgs. 10, 31, 1, 35, 13, NLM, and the Westwood Bldg.

There will also be information on the funding and goals of the center. Parents of pupils attending the center will be on hand to answer additional questions.

On the opening day of the fund drive—Feb. 25—Theodore Taylor will discuss child care issues at noon in Bldg. 1, Wilson Hall. Mr. Taylor is executive director of the National Day Care and Child Development Council of America Inc.

On the final day of the drive—March 1—Sen. J. Glenn Beall, Jr., of Maryland will lead a discussion on child care at noon in Wilson Hall.

During Child Care Week, NIH employees may visit CDC in Bldg. 35, Ext. 65144. Contributions to the scholarship fund—which are tax deductible—will be accepted there, and may also be sent to Mrs. Burke's office, Bldg. 31, Room 2B-51.

Anacostia Clinic Seeks More Volunteer Doctors

In order to continue serving a neighborhood clinic in Anacostia, additional volunteer internists and pediatricians are required.

Staff From NIH

NIH physicians have staffed the clinic — SENAB — (S.E. Neighborhood Action Board) during the past 4 years.

Volunteers are asked to give 3-4 hours in the evening, twice a month.

For further information, call Dr. Frank Gamache, Ext. 64389.

Skilled, Unskilled Golfers Invited To Women's Golf Ass'n Meeting

The NIH Women's Golf Association will hold its organizational meeting on Thursday, Feb. 28, at noon in Conference Room 5, Bldg. 31.

New members and golfers at all levels of skill are welcome to join. There are three flights, A, B, and C, depending on handicap. Membership in R&W is required.

Anyone interested in joining but unable to attend the meeting may contact Connie Percy, Landow Bldg., Ext. 65251, or Rose Shreiber, Parklawn Bldg., 443-3860.

THE NATIONAL LIBRARY OF MEDICINE'S 1973 EEO AWARD WINNERS were honored at a recent ceremony for their contributions to NLM's Affirmative Action Plan for equal opportunity. Dr. Martin Cummings (l), NLM Director, presented the awards; Raymond Jackson (2nd from right), NIH EEO officer, addressed the group, and Arthur Robinson (r), NLM EEO coordinator, presided. L to r 1st row are: Dr. Cummings, Willie W. Morgan, Sheldon Kotzin, Margaret Johnson, Cecile Quintal (chairperson, EEO committee), Bryant Pegram, Mr. Jackson, and Mr. Robinson. In the 2nd row are: John Olive, Harold Tarpley, Phillip Coleman, Robert Cross, and Niles Austin.

Credit Union Will Hold Annual Meeting Feb. 28

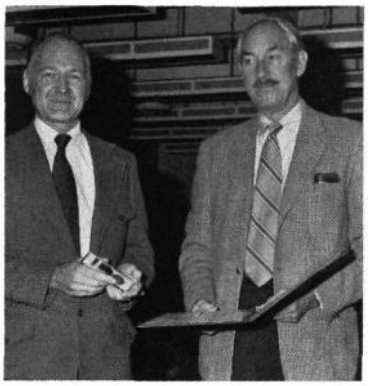
The NIH Federal Credit Union, third largest in Maryland, will hold its annual meeting at noon, Thursday, Feb. 28, in the Masur Auditorium.

The Credit Union's annual report will be distributed, and brief summaries will be presented by Dr. Harley Sheffield, president; Dr. Norman Sharpless, treasurer, and Joseph Savitsky, chairman of the Supervisory Committee.

4 Vacancies Filled

An election will be held at the meeting for four vacancies on the Board of Directors and two vacancies on the Credit Committee. Each year the Board of Directors elects the CU's officers.

A musical combo headed by Edwin McDermon, who played last year, will again be on hand to entertain. In addition, several door prizes—including a portable black-and-white television set—will be given away.



Dr. David M. Neville, Jr. (l), chief of the Section on Biophysical Chemistry, NIMH Intramural Research Program, receives the PHS Commendation Medal for his work with membrane-specific proteins from Dr. John C. Eberhart, Director of NIMH Intramural Research.

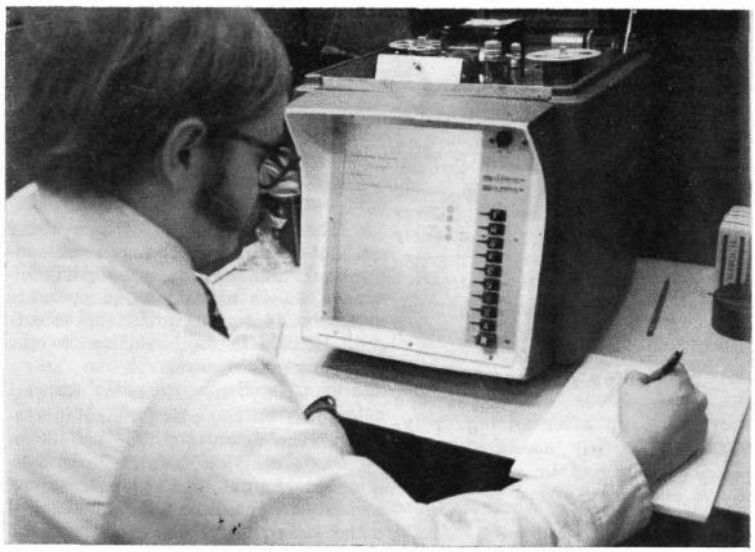
2 NIH Basketball Teams to Play Doubleheader on Sunday, Feb. 17

The two NIH basketball teams participating in the Montgomery County Recreation League will play a doubleheader on Sunday, Feb. 17, at Francis Scott Key Junior High School.

The "White" team will face Johns Hopkins Applied Physics Lab at 7:45 p.m., followed by the "Red" versus the Trane Corporation at 9 p.m. Admission is free. NIH employees, patients, and relatives are welcome to attend.

To get to Key Jr. High School, take the Beltway (I-495) to the New Hampshire Avenue exit north toward White Oak. Continue to Schindler Drive (across from the Naval Ordnance Lab) and turn left—the school will be on the right.

Individual Learning Center Open to All Employees



A student takes a genetics course on the ILC's autotutor machine.

Last November an Individual Learning Center was established at NIH. The center—sponsored by the Training and Education Branch, OPM—is located in Bldg. 31, Room B2B03.

If you haven't seen the facility for yourself, it's well worth a visit. The ILC consists of a room full of sophisticated teaching machines and study carrels.

The learning center is designed to provide NIH employees with a wide range of instruction materials. If you're interested in brushing up on job skills, improving your English, or even learning to speak a new language, ILC has something to offer you.

This alternative to regular classroom instruction is geared to the needs of each individual. Students choose programs that interest them and then pace themselves as their work schedule permits.

They can drop in during a lunch hour, after work, or during the workday itself when it is convenient to be away from the office.

Courses range from English, basic decision making, and statistics to elementary electronics.

Program lengths run from 3 to 150 hours.

Although the main ILC is located in Bldg. 31, there are two other facilities in the National Library of Medicine and in Bldg. 13.

Arrangements can be made for employees to study at the site most convenient for them.

For more information regarding the ILC, contact Pete Eddy, Ext. 62146.

4th New Drug Seminar Will Be Held Feb. 15

The fourth New Drug Seminar will be held on Bleomycin this Friday, Feb. 15, in the Masur Auditorium, by the National Cancer Institute's Division of Cancer Treatment.

Bleomycin (Blenoxane) is a new antitumor antibiotic originally developed in Japan and recently approved by the Food and Drug Administration for use in the United States.

Bleomycin is approved for treatment of malignant lymphomas, squamous cell tumors of the head and neck region, and testicular neoplasms.

Dr. C. Gordon Zubrod, director of the Division of Cancer Treatment, will make introductory remarks at 9 a.m., and the open seminar is expected to last until mid-afternoon.

Help in Computing Taxes Given in Buildings 10, 31

Information and help in computing Federal income tax returns are available to NIH employees in Bldgs. 10 and 31. Schedules are posted on all official bulletin boards.

A draft copy of the tax return should be completed as far as possible and brought to the tax assistant. Tax forms are available at the NIH Credit Union, Bldg. 31; Bldg. 13, Room G1-315, and the Westwood Bldg., Room 436.

Assistance may be requested from: Nellie McLeish, Bldg. 10 cloak room, Ext. 65374, or Mary Spathopoulos, Bldg. 31, Room 4B-36, Ext. 62773.

Hours Stated

Miss McLeish is at her post on Tuesday, 11:30 a.m.-4:30 p.m.; Wednesday, 9 a.m.-4:30 p.m., and Thursday, 11:30 a.m.-4:30 p.m. On Thursday evening, from 5 to 7 p.m.—by appointment only—Miss McLeish also will help employees with their tax returns.

Miss Spathopoulos' schedule is Monday, Tuesday, Wednesday and Friday from 9 a.m. to 2:30 p.m.

Meeting Held in March To Discuss Fed'l Funding

The Ninth Institute on Federal Funding for Colleges, Universities, Hospitals, and Nonprofit Research and Training Organizations will be held March 19-20 in D.C.

This program—arranged by the National Graduate University—will be on research, training and demonstration support from major agencies such as HEW, National Science Foundation, National Endowment for the Humanities, Department of Defense, and the Environmental Protection Agency.

Among those from NIH describing their programs and priorities will be Storm Whaley, Associate Director for Communications, Office of the Director; Dr. William A. Walter, deputy director, Division of Cancer Research Resources and Centers, NCI; Dr. Roman Kulwich, assistant associate director of Extramural Programs, NIAID, and Dr. Samuel Schwartz, Review Branch chief, Division of Extramural Affairs, NHLI.

Information may be obtained from Dr. Jean K. Boek, Division of Special Studies, National Graduate University, 3408 Wisconsin Avenue, N.W., Washington, D.C. (966-5100).

Safety Tips for NIH

1. Wear proper eye protection whenever you are in the laboratory.

2. Wear gloves and aprons when handling cryogenics, corrosives, acids, or caustics.

3. Use additional face and body protection when using reactive chemicals.

4. Use a proper respirator or a supplied air mask when handling highly toxic materials.

For further information contact Radiation Safety, Ext. 65774; Environmental Services, Ext. 66034, or the Safety Office, Ext. 65323.

Was that Fred Flintstone and his good friend Barney Rubble wandering around the Clinical Center recently? Yes, Fred and Barney dropped by the hospital to visit and greet patients and employees on the wards, in the playroom, and at the outpatient clinic. The visit was sponsored by Kings Dominion, a family amusement park opening this spring in Virginia.

Enthusiastic Groups Aid Patient Emergency Fund

Almost $7,000 was donated during the holidays to the Patient Emergency Fund through the Davis Plan—the NIH holiday tradition of contributing to the fund rather than exchanging cards with co-workers.

Donors' Enthusiasm Noted

A major factor in the program's success, according to Barbara A. Murphy, chief of the CC Social Work Department and administrator of the fund, is the continued enthusiasm of group donors.

Members of the ODA Plant Engineering unit assigned to the Clinical Center have participated for years. This year their $300 donation plus $130 collected at their Christmas party flea market set a record.

AAAS MEETING

(Continued from Page 1)

There will be 128 symposia during the 6-day meeting with approximately 1,500 speakers reporting recent developments in all branches of science.

The theme at this year's meeting, Science: Challenges of Today —Outlook for the Future, "has attracted a number and informative symposia," according to *Science* magazine.

Other symposia are grouped together under such broad themes as The Utility of Biological Systems, the Changing Methods of Communication, and Environment and Science in Transition.

The AAAS, which has 130,000 individual members, is organized into sections covering all of the principal fields of science.

It has 300 societies affiliated with it, including 47 academies of science. Their aggregate memberships exceed seven million.

SCIENTISTS STUDY ASTRONAUTS ON CARRIER

(Continued from Page 1)

Previous post-flight observations in astronauts have suggested that prolonged weightlessness produces temporary adverse effects on cardiovascular performance.

For a short time after the astronauts' return to earth, their hearts appear smaller on X-rays than before the flight and their hearts' output of blood during exercise is markedly reduced.

Also, during the post-flight period, astronauts almost invariably experience postural hypotension—an abrupt drop in blood pressure that may cause dizziness when they stand up after sitting or lying down.

Cause Unknown

It is not known whether these temporary cardiovascular effects are due to deterioration in heart function, reduction in circulating blood volume that occurs during space flights, or to temporary impairment of the baroreceptors (nerve terminals located in blood vessels which sense pressure in vessels) that might be caused by prolonged weightlessness.

Blood volume is an important determinant of heart performance because, after all, the heart can pump only as much blood as it receives from the great vein (venous return).

Blood volume is reduced by space flights; consequently the size and output of blood of the main cardiac pumping chambers also are reduced.

Baroreceptors are important because they act to stabilize blood pressure under various conditions, much as a thermostat acts to stabilize room or home temperature.

Baroreceptors, such as those of the carotid sinus (in the carotid artery of the neck), continuously monitor arterial blood pressure. Any abrupt shift in blood pressure causes them to initiate compensatory reflexes through the autonomic nervous system.

These autonomic reflexes bring about appropriate changes in blood-vessel tone or in heart performance, so as to hold blood pressure steady or to minimize the effects of BP shifts on bloodflow to the organs and tissues.

To study the effects of weightlessness on the cardiovascular system, the scientists will use echocardiography, a painless, noninvasive technique by which they can visualize the internal structure of the heart on a beat-by-beat basis.

From this data, they can determine the size of the heart and its main pumping chambers, the amount of blood received and pumped per beat, and other indices of heart performance.

The procedure entails beaming high-frequency sound waves at the heart from a source placed on the chest wall. Like X-rays, ultrasound can penetrate body tissues and fluids.

Wave Is Reflected

However, when ultrasonic waves encounter an interface (such as that between blood and tissue, or *vice versa*)—each differing from the other in the impedance that it offers to the ultrasonic waves—a portion of the wave is reflected.

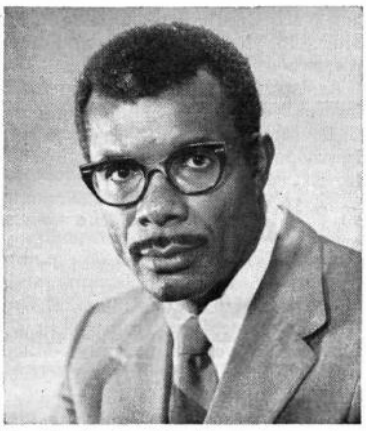
The echo can be picked up, converted into an electrical signal, and recorded for analysis.

For example, an ultrasonic beam directed at the left ventricle (ignoring the echoes from the chest wall, rib cage, lungs, and other intervening tissues) would be reflected first from the anterior surface of the ventricle, then from the interface formed by the interior ventricular wall and the blood contained within the ventricle, and finally from the blood-tissue interface of the posterior ventricular wall and posterior ventricular surface.

The same technique might well be applicable to finding out how many layers there are in an onion.

The scientists used echocardiography to assess heart function under various conditions before liftoff. The same technique will be used to obtain similar functional data after splashdown.

By comparing preflight and postflight data, the scientists hope to determine whether and how much cardiac function is impaired by weightlessness, the mechanisms responsible for any deterioration in cardiovascular performance, and whether it is transient or permanent.



Dr. Benjamin H. Alexander, acting chief, General Research Support Branch, Division of Research Resources, has been named by Mayor Walter Washington as chief of the D.C. Commission on the Arts and Humanities. Dr. Alexander, associated with NIH since 1967, has a long record of public service in Washington. He is a past president of the D.C. Federation of Civic Associations and a former member, D.C. Board of Education.

Dr. Nusser Takes NEI Extramural Prog. Post

Before coming to NIH in 1966, Dr. Nusser was professor of neuroanatomy and headed the physiology department at the College of Osteopathic Medicine and Surgery in Des Moines.

Dr. Wilford L. Nusser, recently appointed chief of the Scientific Programs Branch of the National Eye Institute, will be responsible for developing and administering the research and training activities of the Institute's grants and awards programs.

He will work under Dr. George Brooks, NEI's associate director for Collaborative and Extramural Programs.

A graduate of Bethel College, Dr. Nusser received his M.S. degree in 1950 from Kansas State College, and his Ph.D. in 1958 from Iowa State College.

He was formerly professor of neuroanatomy and head of the department of physiology at the College of Osteopathic Medicine and Surgery in Des Moines.

Dr. Nusser joined NIH in 1966 as a Grants Associate with the Division of Research Grants.

In 1967 he became a health scientist administrator at the National Institute of Arthritis, Metabolism, and Digestive Diseases, serving there until his present appointment.

Employee Health Service To Show 'Heart' Movie

The Employee Health Service will observe Heart Month with the showing of "I Am Joe's Heart," a 26-minute color film, on Feb. 20-21.

The film, an adaptation of a *Reader's Digest* article, is narrated by Henry Morgan.

Film showings are scheduled in the Masur Auditorium for Wednesday, Feb. 20, at 11:30 a.m., 12:15 and 5:30 p.m., and in the Westwood Conference Room D, for Thursday, Feb. 21, at 1:15 and 2 p.m.

Test to Detect Nicotine in Smokers' Blood May Identify High Risk Cancer Patients

By Tom Flavin

A highly sensitive test to detect nicotine in the blood or urine of smokers has been developed under a research contract awarded by the National Cancer Institute.

The test can detect nicotine, and its principal byproduct, cotinine, in amounts of less than a nanogram (one billionth of a gram).

The new technique, developed by Dr. Helen Van Vunakis, Dr. John Langone, and Hilda Gjika, Brandeis University, may aid scientists in identifying those with a high risk of developing lung cancer, heart disease, or other smoking-related illnesses. The test will also contribute to ongoing NCI research for a less hazardous cigarette.

Nicotine is not thought to be a cause of lung cancer (it is linked to heart disease) but it provides a useful measure of a smoker's simultaneous exposure to cancer-causing substances in tobacco smoke.

Previous methods of measuring nicotine and cotinine levels in blood or urine were either too expensive or insensitive for processing large numbers of samples.

This new technique may permit scientists to accurately and economically assess exposure to tobacco smoke, rather than using previous estimates based on the daily number of cigarettes smoked.

New Studies Indicated

Such estimates do not measure critical variables such as: how much of the cigarette is smoked; how deeply the smoke is inhaled; how long it is retained in the lungs, and the strength of the tobacco.

By determining the exact blood level of the nicotine and cotinine, it may be discovered, for example, that a very light inhaler of 40 cigarettes a day is exposed to fewer toxic effects than a deep inhaler of 10 cigarettes every 2 days.

Less hazardous blends of tobaccos and filters can also be identified with greater accuracy because of the test's sensitivity.

The researchers made two observations concerning the future use of this radioimmunoassay test. First, there was little correlation between the number of years an individual had smoked and the nicotine and cotinine levels in his blood or urine.

Cotinine to Be Studied

Secondly, nicotine was quickly detoxified after smoking, but its principal metabolite, cotinine, persisted at relatively stable levels for 12 hours or more. As a result, future studies might more reliably test for cotinine rather than for its less stable parent compound.

In using this technique, antibodies are produced to bind specifically with either cotinine or nicotine. In the later case, a measured amount of pure nicotine is "labeled" with a radioactive tag and mixed with the blood or urine obtained from the smoker.

This mixture is then added to the antibody solution and the antibodies bind the nicotine at random. After any unbound nicotine is removed, the remaining level of radioactivity indicates exactly how much nicotine was present in the smoker's sample.

Dr. Herbert J. Rapp, chief of NCI's Biology Branch and project officer for this contract, said, "The most difficult aspect of the radioimmunoassay technique is to develop specific antibodies. Dr. Van Vunakis and her associates have done an outstanding job of this and the test is highly accurate and specific.

"This technique may be very useful in other areas of cancer research, such as accurately measuring the blood level of cancer drugs in patients receiving treatment, and detecting suspected carcinogens in healthy people."

The study has been published in the December 1973 edition of *Biochemistry*.

Wayne Tolliver Retires From Gov't Service

Wayne E. Tolliver has retired after more than 30 years of service in the Federal Government and over 10 years at NIH as chief of the Manpower Analysis Branch in the Office of the Director.

After serving as a lieutenant in the U.S. Navy during World War II, Mr. Tolliver joined the Veterans Administration as chief of the Educational Benefits Section in the Regional Office in Indianapolis.

He moved to Washington, D.C., in 1950 as a special assistant to the Director, Vocational Rehabilitation and Education in the V.A.

In 1951, Mr. Tolliver became acting head of the Higher Education Surveys Section in the U.S. Office of Education. There he was responsible for the Graduate Enrollment and Earned Degrees Surveys.

Mr. Tolliver joined NIH in 1963. In the Office of Resources Analysis, he directed and coordinated NIH manpower surveys; for most of this period he also helped to coordinate the HEW-wide CASE reporting system for the Assistant Secretary for Health.

He authored a series of publications entitled *Trends in Graduate Enrollment and Ph.D. Output in Selected Science Fields* and *DHEW Obligations to Institutions of Higher Education and other Nonprofit Organizations.*

Mr. Tolliver owns a motor home, and (barring gas rationing) he and his wife plan to travel extensively throughout the North American continent.

Mr. Tolliver was honored by more than 100 colleagues and friends on Jan. 22 at a retirement party at the Commissioned Officers Mess, National Naval Medical Center.

Jim Dickinson (r), Clinical Center unit, Office of Engineering Services, accepts a trophy from John W. Higgins, Jr., executive committee chairman, 1973 Key West, Fla., Fishing Tournament. Mr. Dickinson was awarded first place for his record 240½-pound blue marlin hooked on June 16, 1973. He also set an area record with a catch of three billed fish in one week and received citations in two other categories.

Dr. Jacek Pietrzyk Wins Polish Prize for Thesis

Dr. Jacek Pietrzyk, a guest scientist with the Epidemiology Branch, National Institute of Child Health and Human Development, was recently awarded The Prize of the Minister of Health of Poland.

This award, given annually by the Polish government, is for an outstanding thesis on a scientific subject in the medical field.

Works in Krakow

Dr. Pietrzyk is a pediatrician at the Institute of Pediatrics, Medical Academy in Krakow.

His doctoral thesis, A Study of the HL-A System in Children with Congenital Malformations, examines the association between congenital malformations and HL-A alloimmunization during pregnancy.

Since this past November, he has been working at NICHD on epidemiological problems connected with congenital malformations in children, especially those involving the central nervous system.

Dr. Pietrzyk will remain at NIH until June when he will return to his institute.

Dr. Thomas J. King has been named NCI's acting associate director for Research Programs, Division of Cancer Research Resources and Centers. Prior to this appointment, he was program director, National Bladder Cancer Project and the National Prostatic Cancer Project. In 1972, Dr. King was a co-recipient of the Charles Leopold Mayer Prize awarded by the Academie de Science, Institut de France.

DRR Awards Battelle Labs Three-Year Grant

A 3-year grant to further develop mass spectrometric techniques for biomedical analyses and to make these available to NIH grantees has been awarded to Battelle's Columbus Laboratories.

The grant from the Division of Research Resources provides $87,000 for the first year of research and calls for:

- Developing improved mass spectrometry instrumentation and techniques for serving biomedical researchers,

Provides Training

- Providing analytical support for NIH grantees who do not otherwise have access to this type of analytical instrumentation, and
- Providing training and educational opportunities for scientists wishing to become more familiar with mass spectrometry and ancillary techniques.

According to to Battelle's Dr. Rodger L. Foltz, who heads the program, mass spectrometry is assuming an important role in many areas of biomedical research because of its ability to permit detection and identification of a wide variety of biologically important compounds at very low concentrations.

Areas Identified

Specific areas of application include the identification of new pharmaceutical agents, the analysis of drugs in body fluids, and the detection of environmental pollutants.

Dr. Foltz expects the mass spectrometry resource center program at Battelle-Columbus to receive samples for analysis from universities, hospitals, research institutes, and other research organizations which have support from NIH.

Battelle will conduct analyses involving high-resolution electron-impact mass spectrometry, computerized gas chromatography mass spectrometry, and chemical-ionization mass spectrometry.

Extensive use will be made of data processing by computer so that all of the mass spectral data can be supplied as computer printouts and plots.

Centers Total Nine

The establishment of the new resource center brings to nine the total number of mass spectrometry centers currently funded by DRR. The research service aspect of the resource centers is intended to become self-supporting through user charges.

Those interested in using the facility at Battelle may write or call Dr. Foltz at Battelle's Columbus Laboratories, 505 King Avenue, Columbus, Ohio 43201 (Area Code 614) 299-3151, Ext. 1543.

Dr. George B. Darling (r), Fogarty Scholar, chats with the NICHD Gerontology Research Center staff after a recent seminar held in Baltimore. He spoke on Longitudinal Studies of Aging in a Japanese Population. Dr. Reubin Andres, GRC assistant chief, also attended the seminar.

Nat'l Symposium on Sickle Cell Disease Held in June

The first National Symposium on Sickle Cell Disease, sponsored by the National Heart and Lung Institute, will be held June 27-29 at the Washington Hilton Hotel in D.C. Three types of sessions are planned: molecular, cellular, and clinical.

The program will be selected from abstracts submitted by scientists. They may send their papers—on a single 8½ x 11 inch page—to Dr. John I. Hercules, Sickle Cell Disease Branch, NHLI, Bldg. 31, Room 5A-03, NIH, Bethesda, Md. 20014.

Papers selected for presentation will be due in manuscript form at the time of the meeting. The abstracts may be reproduced and distributed at the meeting.

Scientists planning to attend may inform Dr. Hercules of their intentions. The proceedings of the symposium will be published.

Shepard Kamp, NIMH Property Management Specialist, Retires

Shepard Kamp, a property management specialist with the National Institute of Mental Health, has retired after 31 years of Federal service.

At a farewell luncheon attended by friends and fellow workers, he was presented with a portable color television set. His wife, Ina Lee of the National Cancer Institute, and their daughter, Mary Lee were also at the luncheon.

Mr. Kamp had worked with researchers in the NIMH Intramural Program since 1958. He was known for his ability to quickly locate many hard-to-get items that were required for special studies.

Noted Scientist Sought To Direct Basic Cancer Research at Frederick

A search committee is seeking a scientist of international reputation in cancer research to develop, organize, and direct a program of basic investigations relating to cancer at the Frederick Cancer Research Center of the National Cancer Institute.

The Center is operated by Litton Bionetics, Inc., a Bethesda division of Litton Industries, under contract with NCI. The basic research director will be a Litton Bionetics employee.

One to two years will be required to put the basic research program into full operation, at which time its annual budget may reach $2.5 million.

It is estimated that 80 to 100 technical and support personnel will be employed, including 10 to 20 senior research scientists.

"The development of this program under a strong director will be an important step in making FCRC a center of excellence in cancer research," said Dr. Frank J. Rauscher, Jr., NCI Director.

"It will enable us to achieve our goal of an optimum balance between basic and applied research.

"FCRC has made good progress in converting facilities and establishing a sound applied research program," he noted.

"Now we are ready for a top-flight scientist who can organize a program of innovative biological research relating to the cause, treatment, and prevention of cancer."

The program was approved by the National Cancer Advisory Board at its Nov. 27, 1973, meeting.

Given Full Responsibility

"The new director will have full responsibility for developing the program and recruiting a staff," Dr. Robert Stevenson, general manager of FCRC, said.

"Candidates must not only have demonstrated high competence in fields related to cancer, they must also be ready and able to submit a program plan which will be acceptable to NCI," he added.

Dr. Stevenson is chairman of the search committee, composed of senior scientists and science administrators, which has been selected to assist in recruiting the new basic research director.

After the renovation of the facilities at Fort Detrick—begun in July 1972—a broad program of applied research and development was initiated. The FCRC staff of 20 has grown to 475.

Some of the programs now underway at the Center are:

- Studies of the role of viruses in human cancer.
- Studies attempting to identify cancer-causing substances that might be produced by the action of human intestinal bacteria on dietary components and bile acids.
- Large-scale production of viruses that cause cancer in animals. These viruses, produced in tissue culture, are used by scientists conducting cancer research throughout the United States and abroad.

Dr. Steinschneider Gives First Lecture in Series On Sudden Infant Death

A series of lectures, entitled New Research Perspectives in the Sudden Infant Death Syndrome 1974, will be given at NIH.

The series are sponsored by the Perinatal Biology and Infant Mortality Branch, National Institute of Child Health and Human Development.

Dr. Alfred Steinschneider will deliver the first lecture. His talk, New Approaches for Evaluating Infants at Risk for Sudden Infant Death Syndrome, will be given Feb. 19 at 7:30 p.m. in Wilson Hall, Bldg. 1. Dr. Steinschneider is associate professor of pediatrics, State University of New York, Upstate Medical Center.

DR. FREDRICKSON

(Continued from Page 1)

tem for identifying and classifying blood-lipid abnormalities on the basis of plasma lipoprotein patterns.

Using this system, they demonstrated that elevated blood lipids might be indicative of any of five distinct lipid-transport disorders, termed hyperlipoproteinemias Types I-V.

They further established that each type differs from the others in the threat it poses of premature development of atherosclerosis and coronary heart disease, in its clinical manifestations, and in its responsiveness to treatment by therapeutic diets and/or lipid-lowering drugs.

This system is now widely used in this country and in a number of foreign countries.

Dr. Fredrickson was appointed Director of NHLI in 1966. He served in this post until 1968, when he elected to return to research as chief of the NHLI Molecular Diseases Branch. He was appointed Director of the Institute's intramural research in 1969.

Honors received by Dr. Fredrickson include: the Convocation Gold Medal of the American College of Cardiology; the James F. Mitchell Foundation Award for Heart and Vascular Research; the McCollum Award from the American Society of Clinical Nutrition; the DHEW Distinguished Service Award, and the *Modern Medicine* Award for Distinguished Achievement.

NIH BUDGET REQUEST PROVIDES $1.8 BILLION

(Continued from Page 1)

The National Heart and Lung Institute budget for FY 1975 is $309 million, an increase of $22 million above the FY 1974 level.

The National Blood Research program will continue to emphasize studies and research in blood resources, including the development of a rapid screening blood test for hepatitis, new methods of plasma fractionation, and techniques for automatic blood typing and donor-recipient blood transfusion identification.

NHLI's Sickle Cell Disease Program will continue to seek out new therapy and support the National Comprehensive Research Centers for sickle cell research and the demonstration of community services.

During FY 1975 six National Research and Demonstration Centers will be established at an estimated cost of $5 million to facilitate the translation of research results to clinical practice at the community level.

SCOR's to Expand Research

The existing network of Specialized Centers of Research will continue to expand research in coronary and congenital heart diseases, lung diseases, and bleeding and clotting disorders.

The FY 1975 budget figure for the other Institutes is about the same level as the FY 1974 appropriation.

Studies supported by these Institutes range from research into the cellular and molecular basis of disease through specific diseases such as arthritis, diabetes, and asthma, and into special areas of interest such as the sudden infant death syndrome and acupuncture and pain.

Funds budgeted for the National Library of Medicine, $27.7 million —$1.4 million above FY 1974—will enable it to continue basic library operations.

These include providing services to regional medical libraries; publishing the *Index Medicus;* acquiring, cataloging, and preserving biomedical publications, and maintaining its National Medical Audiovisual Center.

The fiscal 1975 budget also provides $3 million for Buildings and Facilities ($5 million below FY 1974) out of which $1 million is for normal repairs and improvements plus an additional $2 million to finance improvements directly related to program needs formerly funded from various Institute operating funds.

In addition, carry-over funds for Buildings and Facilities from fiscal 1974 will allow air-conditioning and electrical improvements in the Clinical Center and normal repairs and improvements.

In 1974 there will be available for obligation, in addition to the reduced appropriation amounts, about $230 million from funds appropriated in 1973 released by the President on Dec. 19, 1973.

The estimated obligations for all of NIH in 1974 will be at a $2 billion level.

Last July Secy. Caspar W. Weinberger announced a new NIH Manpower Development Program for Postdoctoral Research Fellowships and Institutional Research Fellowships. This program will support researchers in Institute priority biomedical research areas.

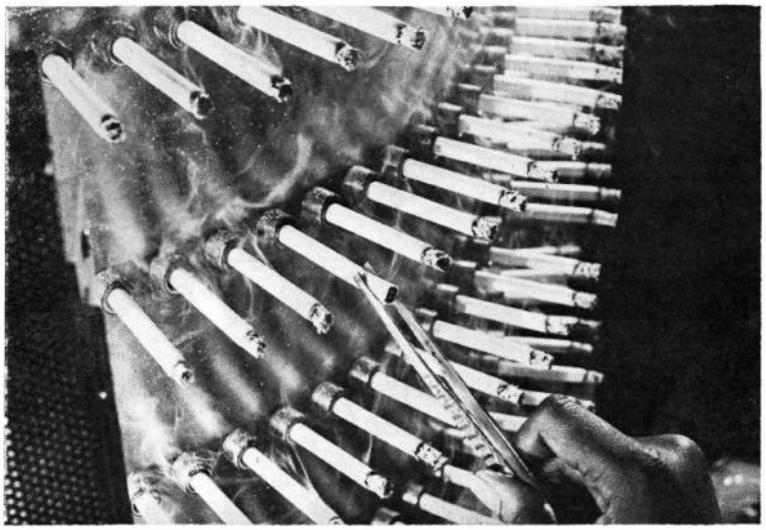
This program requires that research fellows agree to a period of service in a research field subsequent to the completion of their training.

Approximately $27.5 million is available for this program during FY 1974. Fellowships, to be awarded in May-June 1974, will support a minimum of 1,825 researchers.

Fiscal 1975 NIH Budget Summary

Components	*Amounts in Thousands*		
	1974	1975	Change
NCI	$527,306	$600,000	$72,694
NHLI	286,465	309,299	22,834
NIDR	43,949	43,959	10
NIAMDD	152,941	152,961	20
NINDS	119,903	119,958	55
NIAID	110,369	110,404	35
NIGMS	168,329	168,329	—
NICHD	124,867	124,897	30
NEI	39,938	39,947	9
NIEHS	28,386	28,684	298
Research Resources	126,935	82,700	–44,235
FIC	4,762	4,784	22
Total Research	1,734,150	1,785,922	51,772
NLM	26,309	27,738	1,429
Bldgs. & Facilities	8,000	3,000	–5,000
OD	12,875	18,124	5,249
Total NIH	1,781,334	1,834,784	53,450

Tobacco Research and Smoking Machines Employed in Search of Safer Cigarettes



Here is a smoker that puffs 2,000 cigarettes an hour. The smoking machine—one of four being used in the NCI project—collects the same tar and nicotine residues that are normally trapped in a human smoker's lungs.

The year 1974 marks the 10th anniversary of the Surgeon General's report linking cigarette smoking to lung cancer. In 1968 the National Cancer Institute started a research program to find a cigarette for smokers who cannot quit.

Dr. Gio B. Gori, acting deputy director, Division of Cancer Cause and Prevention, NCI, said, "If we can produce a tobacco with a low rating for tar and nicotine and make a filtered cigarette that will burn more efficiently—and also a good tasting cigarette—then those of you who must smoke will be less likely to develop disease."

Dr. Gori

Special machines have already smoked over 50 million cigarettes. Smoke from these experimental cigarettes is condensed by the smoking machine and collected in a glass trapping system.

Technicians extract the tars and ship them to laboratories where researchers use the condensate to paint the backs of white mice, which sometimes produces tumors.

However, the lower the amount of tar in the condensate, the fewer tumors induced.

Long-Term Picture Given

In addition, smoke inhalation tests done throughout the normal life span of experimental animals give scientists a long-term picture of the amount of lung damage caused by smoke from the newly-developed cigarettes.

Researchers will continue to tell cigarette companies and the public about lessons learned as soon as they come to light.

Many smokers have quit. However, millions of Americans still smoke. As the search for a safer cigarette continues, NCI officials point out: If you are not a machine, don't smoke.

Over 7 Million Inquiries Received

The Civil Service Commission's Bureau of Recruiting and Examining answered more than 7 million job inquiries, received more than 2 million applications, and held 29,000 test sessions in Fiscal Year 1973.

During this period, the Bureau received 200,000 agency requests for lists of eligibles and certified the qualifications of more than 1.2 million candidates for agency consideration.

Tobacco plants grow in a water and chemical solution before being made into cigarettes smoked by the machine. New methods of breeding, growing, and processing tobaccos have resulted in 50 different types of experimental cigarettes. Dr. T. C. Tso heads the tobacco growing studies at the U.S. Department of Agriculture facilities in Beltsville, Md.

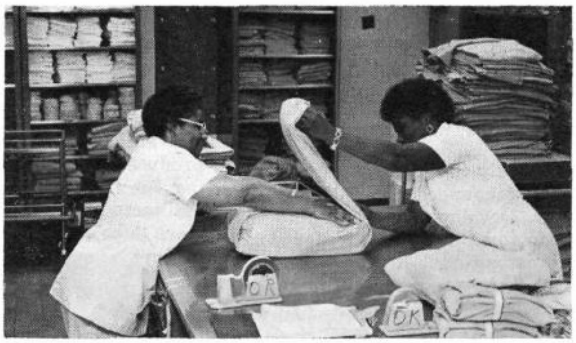
Germs Don't Stand a Chance . . .

Frances Barber (l) and Ella Burton assemble treatment trays.

Novella Oglesby prepares a special tray of supplies.

Dorothy Fox, night supervisor, closes the door of the sterilizer.

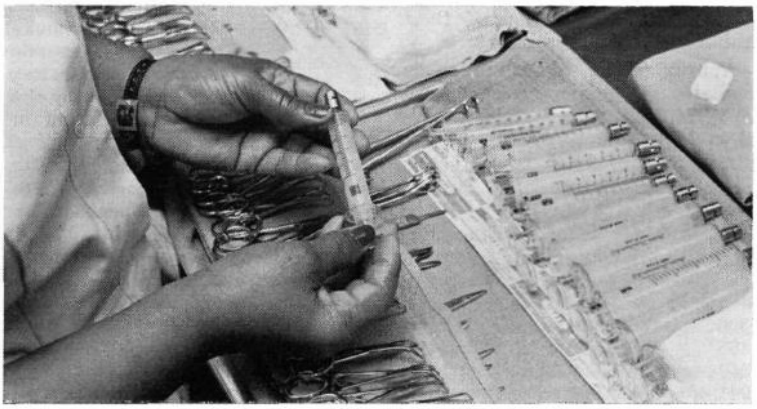
Stanford Hunsucker loads a gas aerator. (Items must be aired for 1 day following gas sterilization.)



Annie Caldwell (l), coordinator, and Pearl Soloman fold an operating pac.

Evelyn Bowling sets the potentiometer, a device that indicates the amount of heat present throughout the sterilizing cycle.

Rosa Seabrooks loads supplies ready for decontamination.



Syringe barrels and shafts are carefully checked and matched up.

Helen Smith, member of the laminar flow crew, seals an item in plastic. All articles in the laminar flow rooms must be sterile.

The success of many a medical procedure performed in the Clinical Center hinges on the work of 28 people, each with an average of 8 years experience in the Central Sterile Supply Service. CSS cleans and sterilizes most of the nondisposable medical supplies used in the hospital. Over 2,600 different supplies and instruments are requested by and distributed to 59 areas in the Clinical Center complex. Bandages, needles, treatment trays, medical instruments, cardiac catheters, and operating room linen are just some of the items that go through a whole battery of sterilizing processes. Dishwashers, ultrasonic cleaning machines, steam and gas sterilizers, are all used in the fight against germs.

Photos by VIA

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