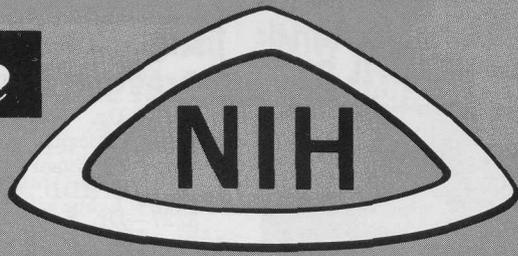


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NATIONAL INSTITUTES OF HEALTH

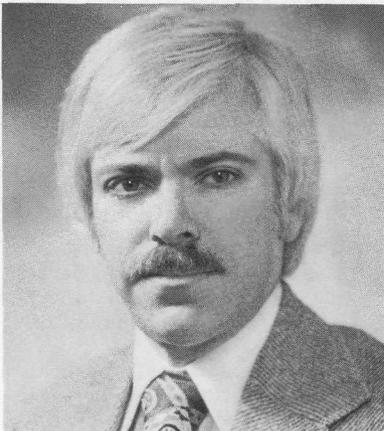
HEW Secretary Announces National Campaign to Immunize Against Childhood Diseases



Secretary Califano (far l and r) explains details and the scope of the new national immunization program as NIH Director Dr. Donald S. Frederickson (center l) and HEW Deputy Assistant Director for Health Dr. James F. Dickson

III (center r) listen. The program announcement received extensive coverage by the press, and news camera equipment and personnel surrounded the Masur Auditorium platform.

Dr. Fishman Is Honored By Washington Academy Of Sciences for Studies



Dr. Fishman joined NINCDS 6 years ago. His contributions are applicable to endocrinology and cancer as well as neurobiology.

Dr. Peter H. Fishman of the Developmental and Metabolic Neurology Branch, National Institute of Neurological and Communicative Disorders and Stroke, received the Washington Academy of Sciences Award for Biological Sciences at the Academy's annual awards dinner held March 17 in Washington. Dr. Fishman was honored for his

Dr. Strominger's April 25 Lecture Honors Rosenthal

Dr. Jack L. Strominger of Harvard University's department of biochemistry and molecular biology will speak on Human Histocompatibility Antigens on April 25 in the Masur Auditorium at 4 p.m.

The program honors the 80th birthday (May 5) of Dr. Sanford Rosenthal, an expert in traumatic shock who retired from NAIMDD in 1961.

work in helping to elucidate the mechanism by which certain external messages are received by the cell and transmitted internally to the cell's machinery.

Interact With Gangliosides

This signalling system involves the interaction of specialized proteins (hormones and toxins) with specific substances on the surfaces of the cells known as gangliosides.

Gangliosides are part lipid and part carbohydrate; the lipid portion is integrated into the cell membrane, whereas the carbohydrate portion is exposed, thereby serving as a recognition site for such proteins.

The role of gangliosides as receptors has been worked out best (See DR. FISHMAN, Page 6)

On April 6, Secretary of Health, Education, and Welfare Joseph A. Califano, Jr., announced the launching of a major national campaign to immunize 20 million American children against all preventable childhood diseases by the fall of 1979.

In his address to the Second National Immunization Conference in Masur Auditorium, he also called for the establishment of a permanent system to provide comprehensive immunization services to the three million children born in the U.S. each year.

Failure Is 'Shocking'

Mr. Califano described the national failure to protect children from diseases such as polio, measles, German measles, whooping cough, and tetanus as "shocking."

Almost 40 percent of U.S. children under the age of 15 are not immunized against one or more of these diseases for which safe, effective vaccines are available.

The new program will aim at raising the immunization levels of American children from today's 60-65 percent to above 90 percent.

Although childhood diseases represent minor health problems for most youngsters they can cause death and permanent physical or mental impairment.

The recent decline in immunization levels could result in serious outbreaks, such as the measles epidemics which occurred in several localities this past year.

President Carter's proposed

budget for 1978 includes \$19 million for the immunization effort—a four-fold increase over the 1977 funds.

Although HEW will serve as the catalyst for this program, Mr. Califano plans to contact and enlist the aid of all sectors of American society, including other Federal agencies, State and local governments, industry, labor, voluntary organizations, educational institutions, family doctors, nurses and other health professionals.

The Center for Disease Control will continue to have the responsibility for implementing the public immunization programs.

Policy Needed

The need for a coherent policy on immunization was recognized by all six of the National Immunization Work Groups which delivered their reports during the April 4-6 Immunization Conference.

Four panels recommended a permanent National Commission or Council to advise the Secretary on immunization policies, saying that such decisions are now made by too narrow a group of specialists.

Members of these panels also See IMMUNIZATION, Page 7)

the NIH Record

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Health Fair Week To Be Held April 18-24; Sign Up Now

The National Health Screening Council is sponsoring Health Fair Week, April 18-24. Free screening tests will be available to the public for blood pressure, vision, hearing, anemia, and other conditions.

For a nominal charge, a series of blood tests will also be available for cholesterol, triglycerides, iron, diabetes, kidney and liver function, gout, and other conditions.

Montgomery County fairs are at:

Woodside Elementary School

April 19 and 20, 3:30 to 9 p.m.

Rockville Mall

April 21 and 22, 10 a.m. to 8 p.m.

April 24, noon to 5 p.m.

For registration or further information on other sites in the metropolitan area, call 652-5040.

Campaign Workers Meet To Help Organize Annual U.S. Savings Bond Drive

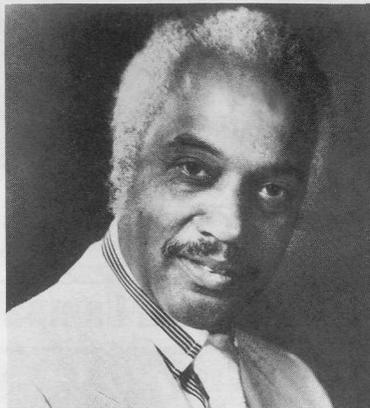
One rite of spring is being celebrated today, April 19, in Masur Auditorium—the annual meeting of key persons and canvassers in the U.S. Savings Bond campaign.

Leon Schwartz, NIH Associate Director for Administration, and this year's vice-chairman, opened the meeting. Robert Bateman of the Treasury Department presented facts on tax savings, money management, and campaign information.

The NIH campaign coordinator, Sidney Gottlieb, discussed the organization and administration of the NIH campaign and distributed promotional material.

This year's Government-wide

Duke Ellington's Band: PEF Benefit April 27



Mercer Ellington, the band's director and the Duke's son, has been actively involved with the band for many years as a manager and playing member of the brass section. Under his leadership the band continues the Ellington swing band tradition.

The Duke Ellington band will play in the Clinical Center Masur Auditorium at 8 p.m. on Wednesday, April 27. This R&W-sponsored performance will benefit the Patient Emergency Fund.

You can hear some great sounds and deduct the \$7 ticket price from your income tax, because the PEF is an NIH fund which helps CC patients and their families meet personal, emergency expenses.

Buy Tickets Ahead

Tickets can be purchased at the R&W Activities Desk, Bldg. 31, Room 1A18; at the CC Gift Shop, Room B1C06; and at the Westwood Bldg. Gift Shop, Room 10.

The R&W expects a record turnout, so buy tickets early—first come, first served. Sorry, no reservations.

campaign will start May 2 and continue through the month.

With the enthusiastic support of dedicated NIH'ers, this year's campaign may be the most successful yet conducted here. For further information, call Mr. Gottlieb, Ext. 62461.

Cancer Screening Test Available for NIH'ers

The Occupational Medical Services will offer a cancer detection program for the detection of abnormal bleeding from the intestinal tract. This procedure, the Hemocult II Slide Test, is widely used in screening patients for early detection of colon and rectal cancer.

The test kits are available in all OMS Health Units on the NIH campus and in Federal and Westwood Buildings. The use of these kits is simple and painless. All employees will be furnished the results and follow-up will be done through the OMS when indicated.

The potential for saving lives

NIH Visiting Scientists Program Participants

3/23—Dr. Masako Muraoka, Japan, Laboratory of Molecular Biology. Sponsor: Dr. H. Todd Miles, NIAMDD, Bg. 2, Rm. 201.

3/27—Dr. Kohji Egawa, Japan, Laboratory of Molecular Aging. Sponsor: Dr. Bertram Sacktor, NIA, Gerontology Research Center, Baltimore, Md.

3/27—Dr. Tasuku Honjo, Japan, Laboratory of Molecular Genetics. Sponsor: Dr. Philip Leder, NICHD, Bg. 6, Rm. 416.

Visits North Carolina

4/1—Dr. Lalit Mohan Bahuguna, India, Environmental Mutagenesis Branch. Sponsor: Dr. Shiu Huang, NIEHS, Research Triangle Park, N.C.

4/1—Dr. Thaddeus Robert Rudolph Mann, United Kingdom, Reproduction Research Branch. Sponsor: Dr. Kevin Catt, NICHD, Bg. 10, Rm. 13N246.

4/1—Dr. Narayan C. Rath, India, Molecular Structure Section. Sponsor: Dr. J. D. Termine, NIDR, Bg. 30, Rm. 216.

4/1—Dr. Tsuyoshi Sekizawa, Japan, Laboratory of Oral Medicine. Sponsor: Dr. Abner Notkins, NIDR, Bg. 30, Rm. 121.

4/3—Dr. Jaap Bethlem, Netherlands, Medical Neurology Branch. Sponsor: Dr. W. King Engel, NINCDS, Bg. 10, Rm. 10D18.

4/3—Dr. Tadashi Sakai, Japan, Laboratory of Biochemistry and Metabolism. Sponsor: Dr. Takami Oka, NIAMDD, Bg. 10, Rm. 9B17.

4/3—Dr. Bindu Thakorbbhai Desai, India, Epilepsy Branch. Sponsor: Dr. J. Kiffin Penry, NINCDS, Federal Bg., Rm. 114.

4/6—Dr. John Kao, United Kingdom, Environmental Toxicology Branch. Sponsor: Dr. Robert L. Dixon, NIEHS, Research Triangle Park, N.C.

Employee Injury Claims Now Available From OMS

Employees should report to the Occupational Medical Services every injury sustained while in the performance of duty.

The Occupational Medical Services will provide the employee with the Notice of Injury form that should be completed within 48 hours.

For additional information or assistance in filing a claim, the employee may contact the NIH Compensation Officer on Ext. 65323.

from cancer of the colon and rectum is among the highest for any type of cancer. When this disease is found early and treated promptly and properly, almost 75 percent are saved.



Seven members of the Infectious Diseases Branch, Section on Clinical and Immunological Investigations, NINCDS, recently received awards for sustained superior work performance for completing a 3-year serological study of the role of infections in a large number of abnormal pregnancies. Awardees include (l to r): Mary Krasny, Flora Moder, Anita Ley, Amparo Strickland, and Paul Becker. Also shown are Dr. David Madden, section head, and Dr. John Sever, branch chief. Not present were Jill Dorosz and Sandra Fitzgerald.

Stride Nursing Program Applications Due May 9

Up to 10 persons will be selected for positions in the NIH Stride Nursing Program this year. To apply, send a Standard Form 171 (Personal Qualifications Statement) and a copy of your high school transcript to Stride Nursing, Personnel Office, Clinical Center, Bldg. 10, Room 1A13, by May 9.

In addition, submit transcript(s) for any college level courses. If you are unable to obtain transcripts in person at the school, the CC Personnel Office will provide a form letter for obtaining transcripts by mail.

A career development program which combines nursing experience at the NIH Clinical Center with full-time college academic study for up to 2 years, the Nursing Program's goal is placement in a professional nurse position at the CC.

Eligible applicants:

- Are currently employed in a nonprofessional job (one grade promotions);
 - Have been employed at NIH for at least 90 days prior to May 9 in a career or career-conditional position;
 - Are willing to accept a full-time position during training and upon completion of the program;
 - Are in grade GS-7 or below, or wage grade equivalent at the time of applications;
 - Have a high school diploma or GED certification and less than a bachelor's degree.
 - In addition, final acceptance into the Nursing Program requires passing a complete (free) physical examination provided by NIH.
- Nursing graduates with an A.A.

NIH Women's Advisory Committee Provides Forum And Helps Identify Problems, Recommends Action

The NIH Women's Advisory Committee first met last October and is now in full operation. The committee—chartered in response to a recommendation of the 1975 NIH Affirmative Action Plan—is made up of approximately 35 delegates representing the various B/I/D's and employee groups.

The purposes of the committee, which is advisory to the Federal Women's Program Coordinator, June Caldwell, are to:

- Provide a unified forum for interpreting to management the needs and concerns of women at NIH;
- Act as a conduit between the Federal Women's Program Coordinator and the women at NIH for the dissemination and collection of information about the program;
- Identify specific problems and recommend remedial actions;
- Maintain active and continuing liaison with employees in B/I/D's;
- Identify and coordinate the skills of its members so that they may act as a resource for each other and for other women at NIH.

The committee has elected three officers: chairperson: Virginia Ono, NIGMS; vice-chairperson: Beverly Fischetti, DCG; and executive secretary: Juanita Mildenberg, DES.

One of the first tasks facing the committee was an in-depth review of NIH women's concerns and interests as expressed in a series of meetings of women in the various B/I/D's with the FWPC, June Caldwell.

In response to those concerns the committee has organized itself

degree will be assigned to a professional nurse position at the GS-4 or GS-5 level. A candidate who is selected for the program and is currently above the GS-5 level must request a voluntary reduction-in-grade upon entering training.

Salary will be retained for 2 years for employees who are paid under the General Schedule.

Placement Explained

Each graduate will be placed in the Special Salary Rate for Nurses which at the present time equals the 7th step for GS-4 and the 6th step for GS-5. One year of clinical experience is required for placement as a professional nurse, GS-5.

Beginning on or about June 20, a general academic and chemistry review course will be offered. All individuals selected for the program must attend this course. Time and place will be announced.

Two question and answer periods will be offered May 3 in the Conference Room, 14th Floor, Bldg. 10 for persons to discuss this program: 8:30 to 9:30 a.m., and 3:15 to 4:15 p.m.

For further information call the CC Personnel Office, Ext. 61905, or the Career Development Branch, Ext. 66211.

around six subcommittees dealing with the following areas: 1) awareness and re-education (with a subcommittee of its own: the dual discrimination study group); 2) employment policy; 3) health and physical environment; 4) information and communications; 5) survey and data collection; and 6) training.

Work to Expand Programs

In addition, delegates and their alternates are working in their B/I/D's to expand existing women's activities or to launch programs where none presently exist.

These activities range from informational and educational activities for all B/I/D employees, to formation of discussion/support groups to share experiences and suggest solutions to common problems.

Meet Twice a Month

Meetings of the full committee are held twice monthly, on Wednesdays of the weeks preceding Civil Service paydays, from 9 to 11 a.m.

Meetings are open, but visitors are encouraged to contact their delegates to ascertain the location and ensure that seating space is available. All women of NIH are encouraged to share their concerns with their B/I/D delegate and alternate.

Women's Golf Association Meets Thursday Evening

The first evening meeting of the NIH R&W Women's Golf Association will take place Thursday, April 21 at 7:30 p.m. in the Bldg. 1 cafeteria (third floor). Parking restrictions will not be applicable.

The agenda includes spring outing awards, team and flight placements, election of team captains, discussion of plans for the beginning golfers—and refreshments.

For further information, call Dr. Mary Sears, Ext. 66773.

Vinyl Chloride Is Topic Of NIEHS Conference To Be Held May 2-4

A conference on Comparative Metabolism and Toxicity of Vinyl Chloride Related Compounds—sponsored by the National Institute of Environmental Health Sciences—will be held May 2-4 in the Masur Auditorium.

Drs. Hans L. Falk and Raymond Shapiro of NIEHS are the program organizers.

Dr. John Townsley Is Chief of NIDR Branch



Dr. Townsley's research in microbial biochemistry, enzymology, endocrinology, and the use of non-human primate models has resulted in more than 60 scientific papers and abstracts.

Dr. John D. Townsley has joined the National Caries Program of the National Institute of Dental Research as chief of the Caries Grant Programs Branch. He succeeds Dr. Thomas O'Brien, who has become chief of the Scientific Programs Branch in the National Eye Institute.

The Caries Grant Programs Branch supports research in non-profit institutions to develop information on the etiology, pathogenic mechanisms, and control of dental caries.

Areas of interest include the biochemistry of oral microbes, plaque and teeth; the salivary immune system; mechanisms of caries inhibition by agents such as fluoride, and behavioral aspects of caries prevention.

Dr. Townsley came to NIH in 1971, as chief of the Perinatal Biochemistry Section in the National Institute of Child Health and Human Development.

Born and educated in England, he earned his doctorate in biochemistry at the University of Leeds in 1961. He came to the U.S. for post-doctoral training at the Worcester Foundation for Experimental Biology in Massachusetts and remained there until 1968 when he joined the faculty at Ohio State University and was an NIH grantee.

Dr. Townsley has served on ad hoc grant and contract review committees at NIH, and as managing editor of *Steroids*.

Discussion topics include: carcinogenicity of halogenated olefins; mutagenicity and teratogenicity of halogenated olefins; toxicity of halogenated olefins; and halogenated olefin groups in other important chemicals.

Those interested in attending this conference should contact Janet Riley, NIEHS, P.O. Box 12233, Research Triangle Park, N.C. 27709; or call (919) 549-8411, Ext. 3216 or (FTS) 8-629-3208.



Richard L. Sherbert, Jr., is now the NINCDS executive officer. He came to NIH in 1966, working in DRS, NICHD, and NIAID, before joining NCI in 1971, where he was deputy executive officer for the past year. In 1970 he received a Civil Service Commission Career Service Award, and in 1975 the DHEW Superior Service Award. He succeeds Paul G. Waugman now National Institute of Environmental Health Sciences executive officer in N.C.



Barbara Menick (above, l) in DRR's Office of Science and Health Reports handles public requests for information. Here she measures the size of one Freedom of Information response she recently prepared. Letha McWhirter, Veterinary Resources Branch secretary, speaks through a pathogen-free barrier. These animal foundation colonies provide clean breeding stock for NIH and are a genetic resource recognized by the World Health Organization. Colleen Keegin (c) in the Data Management Branch of DRR calls out of the WYLBUR computer memory banks a report for updating. Elizabeth Long's duties as a CC unit clerk involve daily contact with nurses, like Carmen Williams (r).



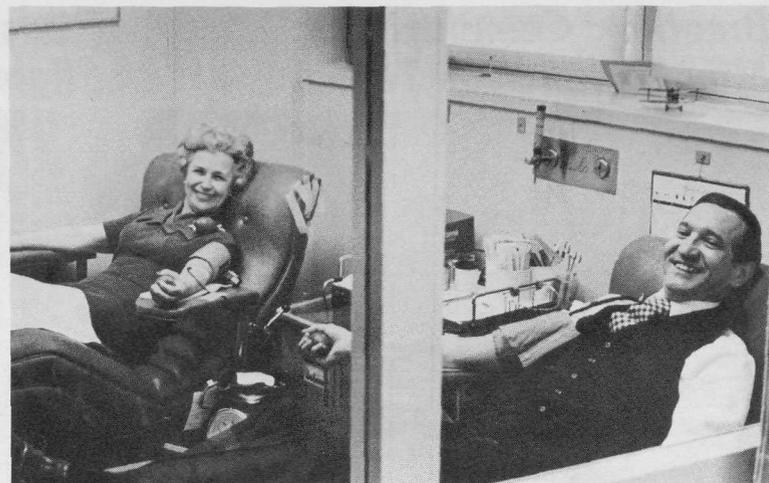
Mary E. Dietterle, a Certified Professional Secretary (above l), keeps pace with Pulitzer Prize winner Dr. Robert N. Butler, Director of NIH's youngest Institute—the National Institute on Aging. Meeting the daily challenges of his leadership in the growing national interest in the needs of older Americans is testimony to her high level of professionalism. A delegate to the NIH Women's Advisory Committee, she was the Bethesda-NSA Secretary of the Year in 1973.



Dr. Estelle Ramey, professor of physiology, Georgetown University Medical Center, will speak Monday, April 25 at 11 a.m. in Wilson Hall, Bldg. 1, on How Far Can a Secretary Advance at NIH. In addition to her academic honors, distinguished career in endocrinology, and service on numerous boards and commissions, she and her husband (an atomic energy advisor) have raised two children. She has written over 150 papers, two books, articles such as *The Fragility of the Male Sex*, and was a *Washingtonian* of the Year in 1972.

Mildred Swenson, a secretary in Fogarty International Center's Stone House, converses with Dr. Olave Makela, a fish biologist. She assists Scholars-in-Residence, and helps them prepare books and articles for publication and for lectures, seminars, and conferences. Getting an early start in the NIH Director's office—sorting the volume of priority matters—are (center, l to r) Nancy Jones, secretary to Dr. Stetten, NIH Deputy Director for Science; Belia Ceja, special assistant to Dr. Fredrickson; and Margaret Quinn, his secretary. A loom is behind Tillie Goldstein in the CC's Rehabilitation Department, where she is one of three secretaries who coordinate activities and encourage patients in the program.





requests for information. Here she measures, Veterinary Resources Branch secretary, breeding stock for NIH and are a genetic management Branch of DCI calls out of the it clerk involve daily contact with nurses,

National Secretaries Week April 24-30

The 26th annual observance of Secretaries Week, April 24-30, is sponsored by the National Secretaries Association (International).

NSA, in cooperation with the U.S. Department of Commerce, originated Secretaries Week to bring recognition to all secretaries and to inform the public of the secretary's contribution to the educational, professional, and civic growth of the community, as well as to remind secretaries of their responsibilities to their profession.

During the second annual NIH observance, posters will announce a variety of programs to be conducted throughout Secretaries Week, including a talk by Dr. Estelle Ramey, *How Far Can a Secretary Advance at NIH*. Dr. Thomas E. Malone, NIH Deputy Director, will introduce Dr. Ramey at 11 a.m., Monday, April 25, in Wilson Hall.

Hundreds of secretaries help carry out important programs at NIH. Their responsibilities and activities—some shown in photos on these pages—add a new dimension to the traditional definition of "secretary."

A "typical day" often takes them away from the desk, telephone, and typewriter to duties that demand some expertise in such areas as management, communications, human relations, modern technology, and domestic and world affairs.

For example, communications may involve working on the writings of a foreign Scholar-in-Residence at the Fogarty International Center. Another secretary may be assisting the family of a patient in the Clinical Center, while still another may be communicating with a computer.

Professor of physiology at the University Medical Center, Monday, April 25 in Wilson Hall, Bldg. 1, Secretary Advance to her academic career in endocrinology on numerous occasions, she and her energy advisor) children. She has published two books, *Fragility of the* Washingtonian

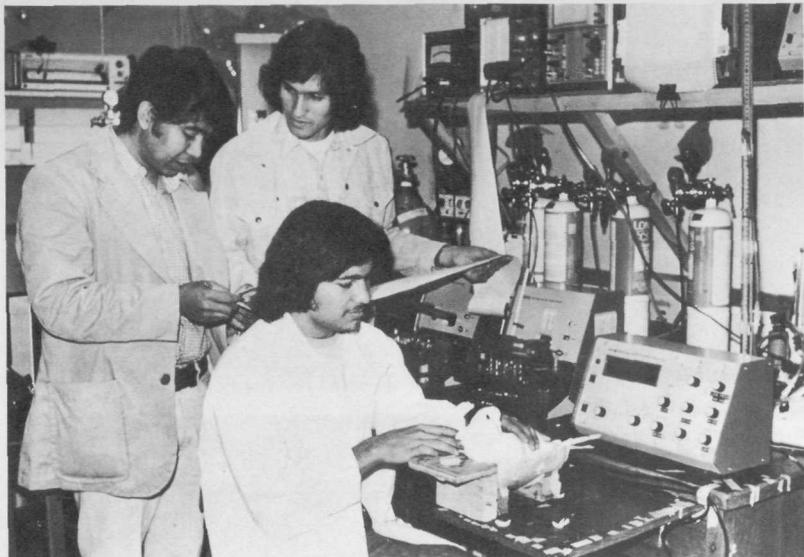
Dr. Olave Makela, a fish biologist. She lectures, seminars, and conferences. Get-center, l to r) Nancy Ches, secretary to ; and Margaret Quinn, his secretary. A three secretaries who coordinate activities



As one "secretarial activity," Cecile Fecteau (top l) makes a Blood Bank donation with her supervisor, Dr. George Eaves of the Division of Blood Diseases and Resources, NHLBI. Veasie Parks (center l) advises a mother in the NICHD Neonatal and Pediatric Medicine Branch playroom. Mrs. Parks schedules admissions of the ward's small patients and maintains contact with the mothers, most of whom are not free to stay on with their children. Joan Lee (below r), secretary to the NEI clinical director, assists Dr. John Gittlinger, a clinical associate, in preparing a scientific manuscript. She also supervises secretarial support staff and handles the pre-registry of eye research patients and communications with their physicians.



Breathing Complexity of Domestic Birds May Explain How They Cope With Flight



Mr. Escobedo (standing I) and Mr. Samaniego compare oscillograph readings as Mr. Gonzales (seated) places the lightly restrained pigeon in position for heat stress breathing examination. These biologists at New Mexico State University are studying the respiratory pattern of pigeons in an effort to further understand how the birds cope with flight at high altitudes without oxygen loss.

The breathing complexity of domestic pigeons at high temperatures may explain the mystery of how birds cope with the physical ordeal of flight, according to New Mexico State University biomedical researchers.

Their studies, although base line, could eventually enable scientists to gain new insights relevant to human problems of oxygen starvation.

The researchers have advanced the explanation that compound ventilation during heavy breathing makes it possible for birds to experience heat stress, such as that associated with flight, without disrupting the delicate acidity balance of the blood.

Monitors Patterns

Dr. Marvin Bernstein, associate professor of biology, and a team of undergraduate scientists have been monitoring breathing patterns and blood chemistry of domestic pigeons by use of thermal control boxes and hot-wire platinum sensors in their laboratory at Las Cruces, N.M., in an effort to develop a possible mechanism for minimizing hypocapnic alkalosis (deficiency of carbon dioxide in the blood).

The research is under the Minority Biomedical Support program activity sponsored by the Division of Research Resources and in part by the National Heart, Lung, and Blood Institute.

Because birds do overheat in flight, as a human might in running, they pant to cool off. This process is called evaporative cooling. During such panting or hyperventilation, a mammal would lose an excessive amount of carbon dioxide causing a drastic drop in blood acidity and eventual death.

While monitoring a pigeon's respiration, the researchers found that during rest, the bird breathed like

a mammal with deep, even inhaling and exhaling.

Under mild heat stress, it appeared that the bird's breathing became shallow and rapid, as would a mammal's.

But under closer testing, they found that the heat-stressed bird practiced both methods of breathing, one superimposed upon the other.

Enough air goes deep into the bird's lungs to carry on body processes, but most is confined to the mouth where the evaporative cooling takes place. They then found that under extreme stress, both components (maxi and mini breaths) became deeper.

Air to the lungs increased, carbon dioxide in the blood decreased, which should have reduced blood acidity to dangerous levels. But the blood acidity did not go down as expected.

Blood acidity is dependent on temperature as well as carbon dioxide. With rising temperature, acid in the blood increases.

The researchers now believe birds lose carbon dioxide by hyperventilating, which would decrease blood acidity; but this decrease is offset because the bird allows its body temperature to rise, which would increase acidity.

"Thus, caught between these equal and opposing factors, the bird's blood acidity remains steady at healthy levels," Dr. Bernstein reports.

To investigate the compound breathing response in minute detail a small micro-anemometer

Howard Brubach Retires, Ending Inventive Career As NIAMDD Technician

"In those days, 20 cents got you a lunch of two sandwiches, a bowl of soup, and a cup of coffee."

What days were those?

Why, 1938—the worst of the Great Depression—when Howard Brubach avers he felt lucky to have a job at NIH.

Born in Pittsburgh, he graduated from Westinghouse High School in 1924 and went to work for the Bureau of Mines, where he assisted in toxicological and physiological studies of the effects of gases, vapors, fumes, and dusts.

Joined Band

From 1925 until 1931, however, evening and weekend engagements playing banjo in a band brought in more folding money than his daytime job.

After a full-time tour in 1933 with a traveling band, he moved to Washington, D.C. for a position in the PHS Industrial Hygiene Division and ended his musical career.

At that laboratory, he worked as a medical technician, sampling and determining the contaminants in various industrial fields before the laboratory moved to Bethesda in 1938-39 and became part of the Experimental Biology and Medi-



A biologist with NIH since 1935, Mr. Brubach and his wife recently celebrated his 70th birthday and mandatory retirement. "I'm not ready to retire, but it's good that mandatory rule exists, because it makes way for new blood," he says.

flowmeter, encased in a mouth piece, was used.

The lightly restrained pigeons wore the mouthpiece so that all respiratory air passed through the flowmeter with no increase in dead space or resistance to air flow.

After suitable signal conditioning, the flow information was integrated after each respiratory half-cycle. The volume of air inspired and expired with each breath was recorded continuously on an oscillograph.

Four undergraduate scientists working with Dr. Bernstein are: John Ramirez, Felipe Samaniego,

DR. FISHMAN

(Continued from Page 1)

for the toxin produced by the bacteria *Vibrio Cholera*, which causes the disease cholera.

Dr. Fishman and colleagues in the National Heart, Lung, and Blood Institute were able to insert ganglioside into ganglioside-deficient cells and thereby make the cells sensitive to the toxin. Gangliosides may also serve as receptors for hormones.

The Academy's awards program was established in 1939 to recognize young scientists in the Washington area for "noteworthy discovery, accomplishment, or publication" in the biological, physical, and engineering sciences.

Distinguished scientists who have been honored in the past by the Academy for their early scientific achievements include Nobel prize winner Dr. Marshall Nirenberg, Dr. Leon Jacobs (presently NIH Associate Director for collaborative research), and Drs. Robert Huebner, Earl Stadtman, Maxine Singer, and French Anderson.

cine Institute, the forerunner of the National Institute of Arthritis, Metabolism, and Digestive Diseases, from which he is retiring as a technical biologist.

During his NIH career, Mr. Brubach has contributed to research on respiration and stress physiology, especially in the design and fabrication of pressure regulating devices.

He has received awards and commendations for proficiency and for his inventions, particularly the Dessicator Cover Remover, an oxygen-helium breathing apparatus; a multiple slide staining device, and many safety devices.

He holds a patent and has authored or co-authored more than 40 publications, several on aviation medicine.

One of the NIAMDD workers who surveyed the effects of pressure on divers during construction of the Queens mid-town tunnel in New York City, he also participated in studies of lung diseases incurred by coal, silver, and silica miners in Utah and North Carolina.

What's he going to do now? "I want to tour the Northwest and help my wife with her gardening," he says.

Miguel Escobedo, and David Gonzales.

An initial scientific report on compound breathing of pigeons appeared in the December 1976 issue of *Federation Proceedings*, which contained eight papers produced by undergraduate scientists throughout the country participating in the Minority Biomedical Support program.

Felipe Samaniego made a further report at the annual Xavier-MBS Biomedical Symposium, April 11-13, in New Orleans.

IMMUNIZATION

(Continued from Page 1)

felt that a major problem of immunization programs in the U.S. has not been lack of vaccines but public apathy and the failure to reach and involve important segments of the population, such as the urban poor.

The panels—appointed last fall by the Office of the Assistant Secretary for Health—have met repeatedly to discuss immunization from six perspectives: production and supply; research and development; consent; liability; health information and public awareness; and policy.

Panelists Represent Broad Range

The 70 men and women on the panels represent a broad range of constituencies, including consumers, scientists, professional organizations, volunteer health groups, the insurance industry and vaccine manufacturers.

Among the recommendations of the task force on research and development was one to strengthen and increase support for programs at NIH dealing with immunization.

Recognizing the National Institute of Allergy and Infectious Diseases' long history of supporting research in this field, the panel felt NIAID should have the responsibility for setting priorities for basic and developmental research on immunizing agents.

Expedite Transfer

In addition, this panel recommended that NIH attempt to expedite the transfer of new technology into use in the prevention of disease and maintain training programs to insure an adequate supply of investigators for clinical, laboratory, and epidemiological research on immunizing agents.

Biohazard Containment, Control Courses Offered

The University of Minnesota School of Public Health, under contract from the National Cancer Institute Office of Research Safety, is conducting two series of laboratory safety training courses this year for scientists actively engaged in research in these particular areas.

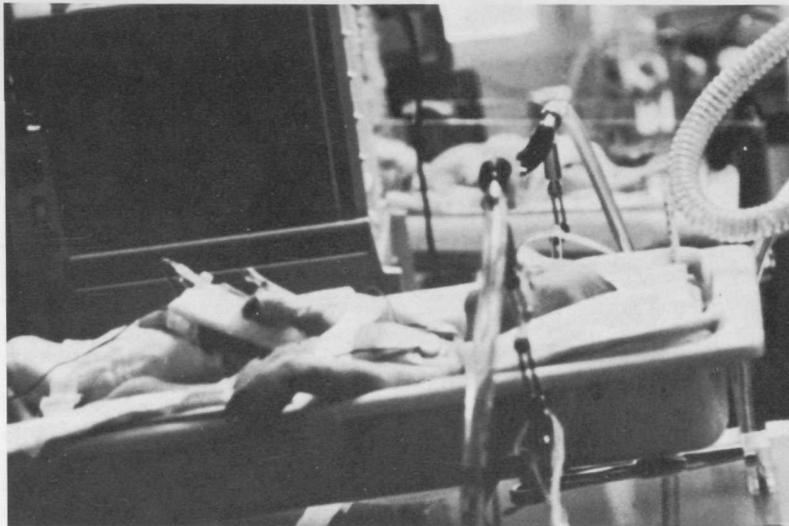
Biohazard and Injury Control in the Biomedical Laboratory is designed for senior technicians and scientists working in fields related to cancer virology.

Plan 3-Day Programs

Three-day courses of lectures and workshops will be held June 20-22 at Northwestern University, Chicago, Ill., and Nov. 1-3 at the University of Alabama, Birmingham.

Biohazard Containment and Control for Recombinant DNA Molecules—for principal investigators, scientists, and senior technicians working with genetic recombinants

Hormones Stimulate Lecithin Production; May Prevent Premature Babies' IRDS



An infant in an Oklahoma hospital undergoes treatment for Infantile Respiratory Distress Syndrome. Such often-fatal crises may be prevented by administering glucocorticoid hormones to stimulate lecithin production and rapid lung maturation.—Photo by Dr. Robert Kotas

Premature infants are susceptible to a variety of disorders associated with insufficient development of key organ systems. One of the most frequent problems, infantile respiratory distress syndrome (IRDS), is characterized by diffuse collapse of the lungs and severe breathing difficulty.

Epidemiologic studies conducted by the National Institute of Child Health and Human Development and the National Center for Health Statistics indicate that nearly 12,000 newborns die annually because of this disease and that the total number of afflicted infants approximates 40,000 a year.

Infantile respiratory distress syndrome is caused by a deficiency in pulmonary surfactant, the phospholipid-rich material that lines the airways and prevents collapse of the tiny sac-like alveoli during the expiratory phase of breathing.

Scientists have known that the major phospholipid of the surfactant complex is lecithin, but until recently, very little information

—combines lectures, workshops, and laboratory demonstrations on specific hazard potentials involved in this research.

Two courses will be held: June 6-7 at the Given Institute of Pathobiology, Aspen, Colo., and Sept. 7-8 at the Frederick Cancer Research Center, Frederick, Md.

NCI Supports Courses

Both courses are NCI-supported and tuition-free. Participants pay only for travel and living expenses.

Enrollment is limited. Early application, specifying the course in which one is interested, is recommended.

For information, contact Dr. Donald Vesley, School of Public Health, 1158 Mayo Memorial Bldg., 420 Delaware St., S.E., University of Minnesota, Minneapolis, Minn. 55455; tel. 612-373-5943.

was available on lecithin metabolism in developing lung tissue, particularly mechanisms regulating its synthesis.

Infants with respiratory distress syndrome are severely ill during the acute phase of the disease. As a consequence of this, and because of the difficulty of assessing lung function and biochemistry in human infants, NICHD intramural scientists study lung lecithin metabolism in fetal and newborn Rhesus monkeys.

Identify Mechanisms

Dr. Philip Farrell and Dr. Ronald Chez collaborated in studies designed to identify the primary mechanisms of lung lecithin synthesis and the role of biochemical events in the overall maturation of the fetal lung.

They found that the choline pathway is predominantly responsible for production of lecithin in fetal lung, a hypothesis under dispute among researchers for some time.

Furthermore, the conversion of choline to phospholipid is markedly accelerated during the last weeks of gestation. Increases in this activity correlated with maturation of pulmonary function and with prenatal indicators of lung maturity, such as the lecithin/sphingomyelin ratio in amniotic fluid.

In a related study, Dr. Farrell and Dr. Rodney Ulane succeeded in isolating the first enzyme of the pathway, choline kinase, in a highly purified form.

This accomplishment led to detailed studies of the enzyme's chemical properties, which explain

USDA Offers Courses For All Gov't Employees Through Correspondence

The U.S. Department of Agriculture Graduate School makes it possible for all Federal employees nationwide and overseas to take correspondence courses to help improve their job performance through the school's Independent Study Programs.

The curriculum includes 26 courses such as: refresher English; writing for Government and business; principles of accounting; modern supervisory practice; college algebra; sample survey methods; and basic electronics.

Participants can study at their own rate and at the time and place of their choice. Students receive individualized notes from instructors on returned lessons.

Tuition costs vary with each course and include textbooks. Agencies may pay part or all tuition costs for job-related training.

Registration for correspondence courses is open throughout the year. A student has 1 year in which to complete a course, starting from the date of registration.

For further information and a copy of *Independent Study Bulletin* call (202) 447-4419, or write: Graduate School, USDA, *Independent Study Programs*, Room 6847-S, Washington, D.C. 20250.

the dominance of the choline pathway, as compared to alternate mechanisms for lecithin production.

Other investigations demonstrated that the rate of lung lecithin synthesis can be stimulated by administering glucocorticoid hormones to immature animal fetuses, accelerating development of the pulmonary surfactant system and leading to rapid maturation of the fetal lung.

The mechanism underlying this stimulatory effect appears to be induction of key enzymes in alveolar cells. Such cells can now be isolated and studied in tissue culture to define further the regulation of lecithin metabolism.

The ultimate goal of basic research with animal models of lung development is to identify agents capable of promoting lung maturation.

Hormones Cross Placenta

Recent clinical trials in which synthetic glucocorticoids were administered to mothers in premature labor revealed that these hormones cross the placenta, reach appropriate concentrations in the fetus, and rapidly accelerate lung development, thereby lowering the incidence of IRDS in their babies.

Further clinical studies to confirm these early observations are now being organized by the Lung Division of NHLBI. This would clearly amount to a therapeutic breakthrough in preventing a leading cause of neonatal death.

Grantee Dr. Stanley Cohen Wins Award For Research on Immunity, Lymphokines

Dr. Stanley Cohen, professor and associate head of pathology at the University of Connecticut School of Medicine in Farmington and currently holder of grants from NIAID and NCI, received the 21st Parke, Davis Award of the American Association of Pathologists on April 7 during the annual meeting of the Federation of American Societies for Experimental Biology held in Chicago.

The award is given annually to the AAP member under 40 years of age "who has contributed most to the conquest of disease."

Dr. Cohen delivered a lecture on The Role of Cell Mediated Immunity in Induction of the Inflammatory Response.

Dr. Cohen was honored for helping demonstrate the importance of cell mediated immunity in protecting the body against disease-producing organisms and malignant cells.

Working through lymphocytes known as T cells which originate in the thymus and B cells which originate in the bone marrow, the system combats diseases that cannot be controlled by antibodies of the humoral immune system.

Can Prevent Metastases

Dr. Cohen's major contributions have been in the study of lymphokines, the active substances of lymphocytes that can in some instances prevent cancer cells from spreading.

He was the first to show that lymphokines are produced not only by T cells—as previously known—but also under certain conditions by B cells. Dr. Cohen's observations of B cells have changed many concepts in this field and have since been borne out and expanded by other investigators.

With his University of Connecticut associate, Dr. Takeshi Yoshida, he has also demonstrated that some lymphokines that were believed to interact only with inflammatory cells can also be made to halt the spread of tumor cells.

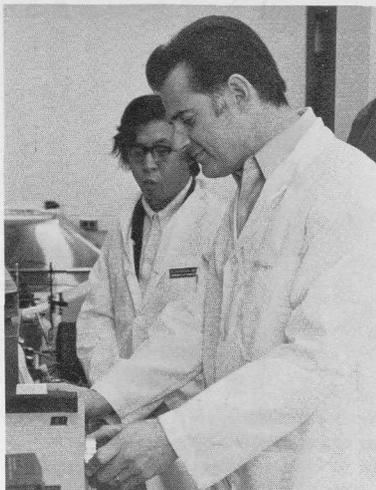
Demonstrated in Animals

While most lymphokine studies have been done *in vitro*, Dr. Cohen has demonstrated lymphokines in animals and has been the first to detect circulating lymphokines in patients with certain lymphoproliferative disorders.

Dr. Cohen is now working at finding the regulatory mechanisms which control the sequence of events along the cell mediated immune response pathway.

Problems of transplant rejection, for example, might be overcome if ways could be found to selectively "switch off" the production of certain kinds of lymphokines.

Dr. Cohen currently serves on the Immunological Sciences Study Section for the National Institute for Allergy and Infectious Diseases.



Drs. Yoshida and Cohen check the results of a lymphokine experiment in their University of Connecticut laboratory.

A Ford Foundation scholar as an undergraduate at Columbia College, N.Y.C., he received the Borden Award while studying for his M.D. degree at Columbia's College of Physicians and Surgeons.

Career Detailed

After interning in medicine at Bronx Municipal Hospital and Albert Einstein Medical Center, he served 2 years of residency in pathology at Massachusetts General Hospital before becoming a teaching fellow at Harvard Medical School.

He also taught at New York University Medical Center, served as a Captain in the U.S. Army Medical Corps at Walter Reed Army Institute of Research, and became acting director of the Center for Immunology at the State University of New York at Buffalo before joining the University of Connecticut in 1974.

Native American Program Is Planned for This Week

The NIH Cultural Committee will sponsor a Native American Program April 20, 21 and 22 in Masur Auditorium.

The 1-hour programs on April 20 and 21 beginning at noon will feature music and dancing of Native Americans.

The program on April 22, from 1:30 to 3 p.m., will feature a Native American Fashion Show.

All NIH employees are invited to attend.

NIAID's Dr. Krause Outlines Task Force For Asthma, Allergic Diseases Program

Speaking in New York at the recent American Congress of Allergy and Immunology, Dr. Richard M. Krause, Director of the National Institute of Allergy and Infectious Diseases, called for a national program for asthma and other allergic diseases. Dr. Krause also announced that, to catalyze such a program, he is establishing a special Task Force.

As outlined by Dr. Krause, the program would include four components: basic research on the biology and biochemistry of the immune system; research on the pathophysiology, diagnosis, treatment, and prevention of the allergic process; training to increase the number of physicians and researchers specializing in allergy, and expansion of opportunities for continuing medical education in this field; and hastening the transfer of existing and new knowledge to the care of the patient.

Stresses Partnership

In presenting the annual Cooke Memorial Lecture sponsored by the American Academy of Allergy, Dr. Krause stressed that the national program would be a partnership between Government agencies, lay groups, and professional organizations with special concern for the

Compilation of Acts Available

Copies are now available of the *Compilation of Selected Acts Within the Jurisdiction of the Committee on Interstate and Foreign Commerce*, Vols. I-IV, March 1977.

- Vol. I—Health Law (including the PHS Act)
- Vol. II—FDA Law
- Vol. III—Environment Law
- Vol. IV—Consumer Protection Law

Due to a limited supply, orders will be filled on a first come, first served basis. Call the Division of Legislative Analysis, Ext. 61321.

Role of DCRRC Is Topic Of NCI 4th Wed. Forum

Dr. Thomas J. King, director of NCI's Division of Cancer Research Resources and Centers, will speak on that Division's role in the National Cancer Program at the Fourth Wednesday Forum on April 27. The meeting, open to all NIH staff, will be held in Wilson Hall from noon to 1 p.m.

The Division of Cancer Research Resources and Centers administers most of the grants awarded by NCI. The Division provides for review of grant applications; awards funds for research, training, construction and the development of centers; and monitors the progress of supported projects.

Approximately half of the total NCI appropriation is allotted annually to DCRRC. Almost one-third of the total resources of the National Cancer Program are administered and managed by the Division's program directors.

allergic patient.

According to Dr. Krause, recent basic research advances have opened up a number of clinical research opportunities.

He mentioned specifically the availability of purified antigenic fractions of such common allergens as ragweed pollen which may be used to improve the specificity of skin tests and subsequent immunotherapy.

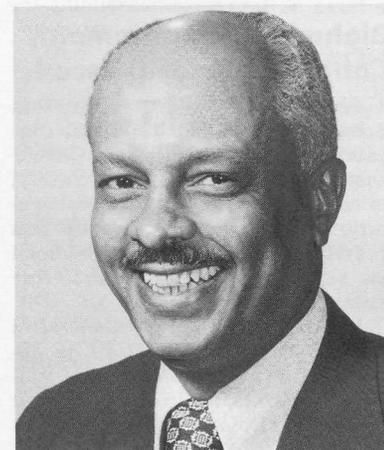
New Procedures Used

Other new diagnostic procedures might involve assays of IgE—the class of antibodies most frequently associated with allergies—as well as respiratory tract inhalation tests to pinpoint causative factors in asthma and other allergic diseases.

In describing such opportunities for the development and use of new diagnostic and treatment methods, Dr. Krause spoke of the need for reaching agreement by all appropriate interested parties—the Government agencies, the medical profession, the patient and family.

He noted that evaluation and demonstration programs should be the result of community efforts tailored to suit the special needs of each locality.

Although NIAID's primary mission is research, Dr. Krause pledged that NIAID would work with communities in trying to meet the needs of patients with asthma and allergic diseases.



Dr. David F. Johnson has been elected chairman of the Association of Governing Boards of Universities and Colleges for 1977-78. An NIAMDD chemist, he is also on the Prince Georges Community College board of trustees, and on the board of directors of FAES, where he teaches organic chemistry.