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Monkeys' Behavioral Development Will Be Studied at NIH's New Poolesville Facility

By Susan Johnson

Eric and his family of 14 have just moved to a new home in Poolesville, Md., and they couldn't be happier with the arrangement. The family is situated on almost five acres of land, with a pond to one side where the kids can swim and a corn crib and wooden shed for shelter.

The idea of sleeping in a wooden shed might not appeal to everyone, but Eric and his family are rhesus monkeys, and the setup in Poolesville is ideal as far as they are concerned. The monkeys are the first to take up residence in a new primate research facility at the NIH Animal Center .

When the rest of the facility, which will include a research laboratory and a breeding colony, is completed in about a year, they will be joined by almost 200 more monkeys.

The new facility, directed by psychologist Stephen Suomi of the National Institute of Child Health and Human Development, is a joint undertaking by NICHD and the National Institute of Mental Health. NIMH provided a building and some staff positions for the facility, while NICHD is renovating the building and providing most of the staff positions as well as the monkeys.

At a press briefing held in Poolesville on June 7 to mark the opening of the new facility, NICHD Director Dr. Mortimer B. Lipsett noted that the collaboration between the two Institutes is an effective way of overcoming constraints on resources, space, and personnel.

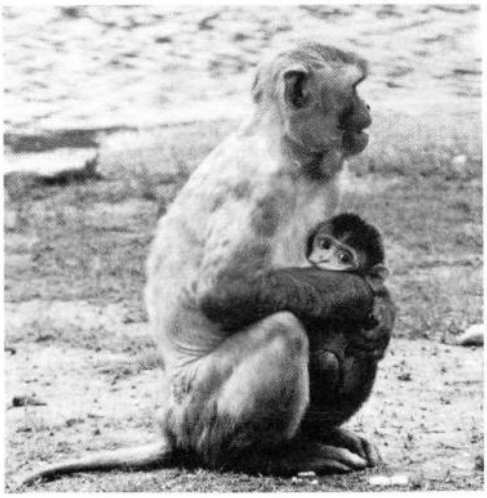
Studies at the new facility in Poolesville will focus on the biological basis for behavioral development in primates. It is the only center in the country where researchers will be able to take full advantage of new neurobiological techniques as well as sophisticated behavioral measures to study the development of behavior and the origins of psychopathology.

Directing the studies will be Dr. Suomi, who joined NICHD last year. He was head of the primate laboratory at the University of Wisconsin in Madison for 10 years before coming to NIH. The monkeys making up the primate colony at Poolesville are also from the Wisconsin lab.

Perhaps the most exciting studies planned at the new primate research center are those on the genetic basis for behavioral differences among individuals.

These studies originated when Dr. Harry Harlow, Dr. Suomi, and their colleagues at

(See MONKEY'S BEHAVIOR, Page 6)



Mom provides both food and security for this 1-month-old infant.

NIAID Director Resigns To Be Emory Med. Dean

Dr. Richard M. Krause has resigned as Director of the National Institute of Allergy and Infectious Diseases (NIAID) to become Dean of the Emory University School of Medicine, in Atlanta, Ga., effective July 6.

At Emory, he was also named Robert W. Woodruff Professor of Medicine. While Director, Dr. Krause brought to the NIAID dramatically increased prestige. He developed a highly acclaimed research program, giving NIAID research new visibility, and stimulated the Institute's growth, both philosophically and fiscally.

Dr. Bernard Talbot has been named NIAID Acting Director.

Dr. Krause came to NIAID in 1975 from the Rockefeller University where he was professor and senior physician to the hospital. Born in Marietta, Ohio, he graduated from Marietta College and the Western Reserve (now Case-Western Reserve) University School of Medicine.

While a medical student he interrupted his studies to participate in an epidemiologic expedition, with Dr. Charles Rammelkamp, on the relationship between streptococcal sore throat and rheumatic fever. It was this experi-

(See DR. KRAUSE, Page 12)

Five Firms Chosen To Develop AIDS Test

Five private pharmaceutical firms have been chosen to develop and distribute a blood test for AIDS (Acquired Immune Deficiency Syndrome), HHS Secretary Margaret M. Heckler has announced.

Representatives of the U.S. Public Health Service signed non-exclusive, royalty-bearing licenses with the five companies June 19, Secretary Heckler said.

The five companies are Abbott Laboratories, North Chicago, Ill.; Electro-Nucleonics, Inc., Columbia, Md.; Litton-Bionetics, Inc., Kensington, Md.; Travenol/Genentech Diagnostics, Cambridge, Mass.; and Du Pont de Nemours and Co., Wilmington, Del. with Biotech Research Laboratories, Inc., Rockville, Md.

"These agreements represent an important milestone in our drive to conquer AIDS," Mrs. Heckler said. "They mean expanded tools for research and an effective test to ensure the integrity of our nation's blood supply."

The five companies will be given samples of the virus recently identified as the probable cause of AIDS, from which they will produce enough new virus to provide test material for a broad range of research needs.

This work will help scientists better define AIDS and understand progression of the disorder, Secretary Heckler said.

Specifically, the research is to lead to development of assay kits to detect antibodies to the virus. When the kits become commercially available, they can be used to screen blood donated for transfusions and for producing blood products for hemophiliacs.

Blood from donors who have been exposed to the AIDS virus can then be rejected, thus further reducing the chances of transmitting AIDS to people needing blood or blood products.

Scientists also hope that early identification of people who have been exposed to the virus may lead to new methods of treatment.

Work on blood tests will be performed under an Investigational New Drug Application held by the National Cancer Institute, or an IND held by the company. Any work done will be subject to approval by PHS. Prior to commercial distribution, any assay kit will require a product license from the Food and Drug Administration.

Lincense applicants are screened by a panel of 10 PHS scientists from the NIH and FDA. Final selection of licensees was made by Dr. Edward N. Brandt, Assistant Secretary for Health. □

The NIH Record

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Training Tips

The following courses sponsored by the Division of Personnel Management are given in Bldg. 31.

Executive, Management and Supervisory	*Course Starts*	*Deadline*
Communicating for Results	8/7	7/20
Effective Communications	9/11	7/24
The Federal Budget Process	9/17	8/31
Administrative Systems		
(IBM Display Writer): Open to all operators with 3 months experience		
Basic	8/6 8/13	7/23 7/30
Advanced	8/20	8/6
Specialized Needs	8/27	8/13
DELPRO (Delegated Procurement for new users only)	7/23	7/11

To learn more about these and other courses contact the Development and Training Operations Branch, DPM, 496-6371.

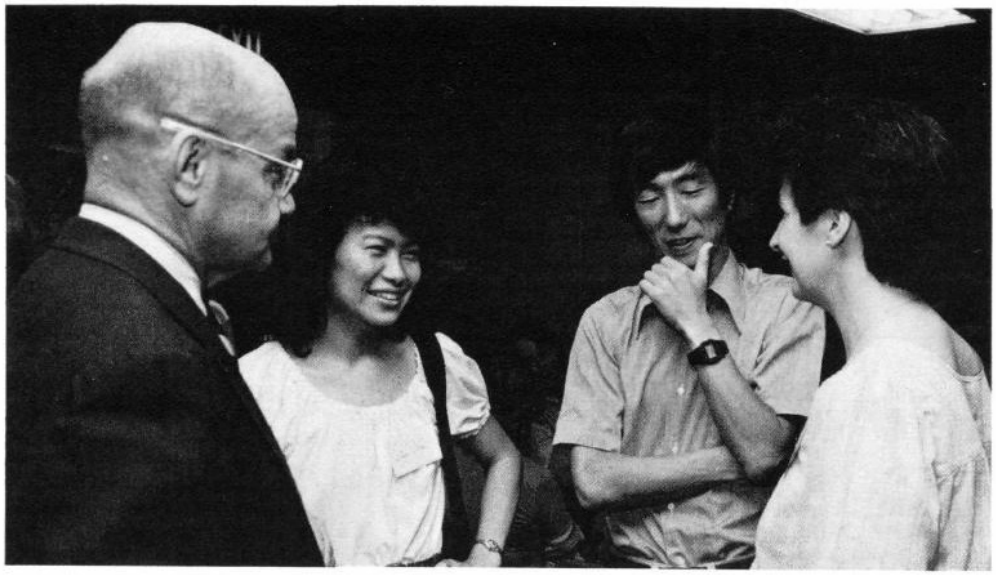
CORRECTION

The *Record* of June 19, page 10, in reporting on the June 1 meeting of the NIH Recombinant DNA Advisory Committee (RAC), stated that an experiment proposed by Advanced Genetic Sciences, Inc., involves spraying fields with genetically modified bacteria in an attempt to reduce frost damage to potato plants.

The proposal from Advanced Genetic Sciences, Inc. does not involve potato plants.

A similar experiment proposed to the RAC by the University of California at Berkley did involve potato plants. The identification of the plants involved in the proposed Advanced Genetic Sciences experiment is considered proprietary information and has not been disclosed. □

IWG Founding Member Returns to Homeland



(l to r): Dr. Wallace, Mrs. Imai, Dr. Imai, and Liz Harrington (her husband, Dr. Michael Harrington is a Visiting Fellow with NIMH from Scotland).

The International Women's Group (IWG) was founded in 1979 in response to a request from 10 wives of NIH Visiting Program participants who wanted to form a support group for the dependents of foreign scientists. Since that time, the IWG has expanded to 100 members. They meet monthly.

FIC Director Dr. Craig K. Wallace addressed a recent meeting of the group in honor of Junko Imai, a founding member who will soon be returning to Japan.

Dr. Wallace thanked Mrs. Imai for her many contributions to NIH over the last 5 years and cited her translation of the *NIH Visiting Program Participants Handbook* into Japanese as particularly valuable. She and her husband, Dr. Jiro Imai, a visiting associate at NIADDK, were instrumental in both editing and printing copies of the handbook. She also translated a health questionnaire for the NIH Occupational Medical Service.

As a founding member of the International Women's Group, Mrs. Imai helped develop and distribute the IWG Letter of Welcome and served as a contact person for newly arrived Japanese families. In addition, she organized and presented several programs on Japanese culture, customs, and cuisine.

Dr. Wallace expressed gratitude for all these services, and praised the efforts of the International Women's Group. He also stressed FIC's continued commitment to making foreign visitors feel welcome.

For further information on this program, call Janet Bartch, 496-6318. □

NIH Library Announces Revised Weekday Hours

Weekday evening hours of The NIH Library will be shortened, beginning July 9. The new Monday-Friday library hours will be 7:45 a.m.—10 p.m. The weekend schedule will remain unchanged.

In a second change beginning Jan. 1, 1985, the weekday hours of operation will be as follows: Mon.-Thurs. 7:45 a.m.—10 p.m.; Fri. 7:45 a.m.—6 p.m. The Saturday-Sunday hours of operation will not change.

These changes are based on two surveys of NIH Library use which showed an average of only 10 NIH staff members using the library between 10 p.m. and midnight, and very low usage on Friday evenings.

The NIH Library Advisory Committee discussed the library's evening schedule and the two usage surveys at its last three meetings and passed a resolution on May 30, 1984, to change the weekday schedule.

Redeployment of library personnel to hours of higher usage is expected to better service for NIH staff.

For the convenience of NIH staff, the library has also recently extended its hours on most holidays to 8:30 a.m.—6 p.m.□

Parking Lot 5A to Close Temporarily For Next Phase of Bldg. 8 Renovation

Beginning Monday, July 9, parking lot 5–A, located between Bldgs. 5 and 8, will be temporarily closed. This is necessary to allow for the next step in renovating Bldg. 8.

Sixty-seven parking spaces in the four northern lanes of parking lot 1–B, located just north of parking lot 5–A, will be reallocated for carpool parking until 10:30 a.m. After 10:30 a.m. these spaces will be available for vehicles displaying general employee parking permits. Each space will be painted with a 'CP' and each row will be posted with signs stating "CP Spaces Reserved Until 10:30 a.m." The entrance to parking lot 1–B is from Memorial Rd.

Previously the 67 parking spaces being converted to carpool parking were reserved for visitors, along with the spaces on the P–3 level of the ACRF garage. Beginning July 9, visitors accustomed to parking in lot 1–B will be redirected across Memorial Rd. to the P–3 level of the garage.

All other parking spaces in lot 1–B presently reserved for vehicles displaying Handicap or Preferential (red) parking permits, and the spaces reserved for Government Vehicles will not change. □

From Furry Creatures to Floppy Disks: Joe Slater Takes Computers in STRIDE

The transition from laboratory animal technician to working with computers may seem like a giant career leap—from furry creatures to floppy disks, from bites to bytes, from animal cages to a video display terminal.

But Joseph G. Slater took this step at the National Institute of Environmental Health Sciences in Research Triangle Park, N.C., and along the way earned a Bachelor of Science degree at North Carolina University in Raleigh, as a participant in the STRIDE Program.

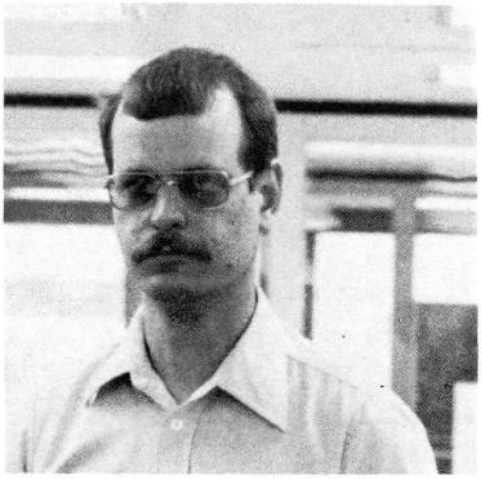
STRIDE is part of the Upward Mobility and Equal Employment Opportunity Programs of the Department of Health and Human Services. STRIDE provides the opportunity for persons in nonprofessional positions to move into targeted professional slots, after appropriate training, to meet the organizational and staffing needs of the agency.

The best part of the program, according to Mr. Slater, was that once he had been selected through a rigorous screening in competition with other applicants, the Institute continued to provide a salary while he worked part-time and went to school full-time. The rough part was that between working and studying—there was little personal time left, with many all-night sessions to complete assignments for school.

What inspired him to undertake such a demanding program? "I'd already been taking some courses before I was selected for the STRIDE Program," he said. "I had more or less decided to complete a college degree. I'm the type of person who becomes bored quickly if I don't have something to challenge me."

But before he could start course work full-time, Mr. Slater had to make it through the STRIDE selection process, which involved several tiers of interviews, tests, etc.

Some STRIDE candidates find this an arduous process, but Mr. Slater said, "It didn't really bother me. I saw this as a part of the competitive hiring process that is standard in the government."



Mr. Slater

So what does a product of the STRIDE Program do to celebrate his graduation? Probably few have been as lucky as Mr. Slater: He is spending over 2 weeks touring the British Isles. Once he returns to N.C., he will continue full-time in the Systems Programming Unit of the Computer Engineering Group, the Biometry and Risk Assessment Program.

NIEHS has produced two other STRIDE graduates: Lucille Reaves, a supervisory communications specialist in the Office of Administrative Management, and Norma Daye, a personnel management specialist in the Personnel Office. The Institute is currently weighing the initiation of yet another STRIDE position. □

Former CC Administrator Dr. Roger Block, 60, Dies

Dr. Roger L. Black, 60, former acting director of the Clinical Center and CC associate director for 11 years, died of cancer on June 4, 1984 in Cleveland.

A 30-year veteran of the Public Health Service, Dr. Black had recently retired as senior vice president for medical affairs at St. Luke's Hospital in Cleveland.

From September 1, 1965 until March 1, 1976, Dr. Black was associate director of the CC. He was acting director at the time of his retirement in 1976.

"He was always a very kind man who was totally committed to both his profession and the commissioned corps," said one close associate here. "It was a pleasure to work with him."

Dr. Black began his NIH career in 1955 as a clinical investigator for NIAMD (now NIADDK). The Syracuse, N.Y., native and magna cum laude graduate of the College of Medicine at Syracuse University was a specialist in rheumatology.

In 1976, Dr. Black won a PHS Meritorious Service Medal. He also held the rank of assistant surgeon general in the PHS.

Dr. Black was a fellow of the American College of Physicians and a member of the American Medical Association. He is survived by his wife, Dottie V., two sons, a daughter, a brother and three grandchildren.

Immediate Return of All Books Requested by NIH Library

During July, the NIH Library will be preparing all its books for inclusion in our new automated system. The Library requests that all books currently checked out be returned promptly, whether due or not. (This does not include journals.)

Library users' cooperation is extremely important to speed the transition to a new system while summer help is available, and to prevent a slow piece-by-piece operation.

If you have further need of an item, please inform our staff when returning it. It will be tagged for reserve and they will let you know when it has been processed. □

Same 'Bug' Causes Diarrhea In Travelers, AIDS Victims

Once considered rare, human infection with the parasite *Cryptosporidium* is being diagnosed with increasing frequency. Not only is the parasite proving to be a common cause of severe protracted watery diarrhea in patients with acquired immune deficiency syndrome (AIDS), it has also been implicated in the number of cases of "traveler's diarrhea."

The role of this newly emerging infectious agent in human gastroenteritis has become apparent through a three-step stool examination that combines existing laboratory tests in a less invasive, less costly, more sensitive test than the previously employed intestinal biopsy.

Work Supported by NIAID

The test combination was developed by Dr. Pearl Ma of St. Vincent's Hospital and Medical Center of New York, and Dr. Rosemary Soave of Cornell University Medical College, in work supported by the National Institute of Allergy and Infectious Diseases.

Drs. Ma and Soave initially used the new combination of tests to diagnose cryptosporidiosis in 10 patients with AIDS. Between January 1983 and March 1984 that number grew to more than 60, Dr. Ma reported.

In addition, she has documented cryptosporidial infection in a dozen persons who developed diarrhea after traveling to parts of the world where the *Cryptosporidium* parasite is endemic.

Infection with *Cryptosporidium*, a coccidial protozoan, is well-known to veterinarians as a cause of severe and protracted watery diarrhea in farm animals, especially the young or the immune-deficient. It also affects domestic animals, poultry, reptiles and rodents. As recently as 1981, however, human cryptosporidiosis was considered unusual enough to merit individual case reports.

First Found in Man in 1981

Cryptosporidiosis was first diagnosed in a man with AIDS in 1981, and other reports followed. Most of these cases were diagnosed by intestinal or rectal biopsy.

Most of the reported cases involved persons whose immune systems were compromised. In persons with immune abnormalities, including AIDS, the diarrhea produced by *Cryptosporidium* is a devastating condition for which there is no known treatment at the present time. (For persons whose immune systems are intact, the disease is self-limiting and lasts from one to 14 days.)

The severe diarrhea common in persons with AIDS generated numerous requests for tests to parasitology laboratories, Dr. Ma reported. Because the *Cryptosporidium* species has been practically unknown to clinicians, the New York researchers set about to devise a workable method that could easily be instituted as a routine laboratory procedure.

The result is a three-step test that identifies the protozoan oocysts in stool specimens, and distinguishes them from yeast cells that are frequently present in stool and that have the same size and shape. □

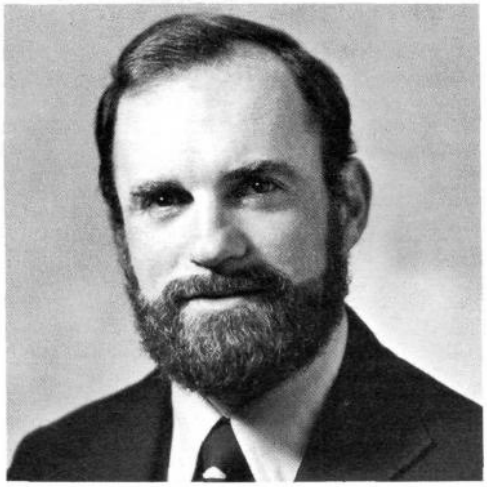
Dr. William T. Friedewald Named Head of New NHLBI Division

Formation of a new Division of Epidemiology and Clinical Applications within the National Heart, Lung, and Blood Institute has been announced by Dr. Claude Lenfant, NHLBI Director.

The new division will include the Institute's Behavioral Medicine Branch, the Biometrics Research Unit, the Epidemiology Branch, the Clinical Trials Branch and demonstration and education research activities.

"By pulling all of these activities into one unit at a division level," said Dr. Lenfant, "we will create not only increased visibility for these important areas of the Institute, but also increased opportunity for more efficient use of personnel and for integrated research efforts."

Dr. William T. Friedewald, newly named director of DECA, says that the division represents an important step in enhancing the progress of scientific efforts from basic laboratory research toward improved disease prevention, treatment and health care delivery in heart, lung and blood diseases.



Dr. Friedewald

Until now, Dr. Friedewald noted, the institute's efforts in behavioral, epidemiologic, biometric and clinical trial research were focused primarily on heart and vascular diseases.

These diseases benefited from research emphasis and support and were able to reach the stage for clinical and epidemiologic development much sooner than did lung and blood research.

Big Strides Made

But impressive strides have been made in lung and blood research over the years, and now all the Institute's national program responsibilities can benefit from the accumulated experience in the specialties within DECA, he said.

"Diseases of the heart, lungs and blood are not unrelated," said Dr. Lenfant. "Now we have the opportunity and the means to examine the interrelatedness of these areas and to foster a stronger research effort into the epidemiology and prevention of these diseases and to assess demonstration and education applications." □

Oral Acyclovir Reduces Genital Herpes Recurrences

Daily doses of oral acyclovir, an experimental drug not yet available for general use, effectively reduced the rate of recurrent genital herpes infections in otherwise healthy men and women, according to two studies supported by the National Institute of Allergy and Infectious Diseases. The studies were reported in *The New England Journal of Medicine* June 14.

Both groups of investigators stress that while these studies are very promising, further investigations are necessary to evaluate the potential for problems of drug resistance and longterm safety. A large-scale, multicenter study is currently underway to provide more information about longterm use.

Recurrent and Contagious

Genital herpes is a recurrent contagious disease, usually spread by sexual intercourse. It affects an estimated 20 million Americans. At least 300,000 new cases occur annually, particularly among sexually active young adults and adolescents.

All participants in the double-blind, placebo-controlled studies had histories of unusually frequent recurrences of genital herpes, averaging 12 to 16 episodes a year. Most individuals with recurrent herpes experience three to four episodes each year.

Patients received either placebo or acyclovir (400 mg., 600 mg., or 1000 mg. each day) in 200 mg. capsules for up to 125 days with few side effects. The frequency of recurrent infections was markedly reduced in patients taking acyclovir.

The amount of the daily dose did not significantly affect the results. After the treatment period was completed, the number of herpetic episodes returned to pretreatment levels in all patients.

One study was headed by Dr. Stephen E. Straus, head of the Medical Virology Section of NIAID's Laboratory of Clinical Investigation. A treatment course consisted of a placebo or acyclovir capsule given three times a day for 125 days or until herpes recurred. In all, 35 courses of oral acyclovir were given to 31 patients; only six courses were interrupted by herpes recurrences.

Testing of herpes viruses isolated during outbreaks in acyclovir-treated patients revealed some drug-resistant virus. Although post-treatment recurrences in the same patients were associated with drug-sensitive virus, Dr. Straus and his colleagues expressed concern that longterm treatment with acyclovir might favor increased drug resistance.

The second study, done at University of Washington Herpes Research Clinic, Seattle, Wash., was headed by Dr. Lawrence Corey, University of Washington and the Children's Orthopedic Hospital. It was supported by grants from NIAID and the Burroughs Wellcome Co.

In this study, 143 men and women completed 120 days of treatment with either placebo, two capsules of acyclovir each day, or five capsules of acyclovir each day. The patients were followed for an additional 120 days without treatment.

Before treatment, the patients had reported a mean of 1.04 recurrences of genital herpes each month. Treatment with acyclovir completely prevented recurrences in 68 percent of the 96 drug-treated patients, reduced the frequency of overall recurrences to 0.14 recurrences per month, and reduced the severity of episodes that did occur.

Two forms of acyclovir have been approved for treating herpes patients, neither of which affects the rate of recurrences. An ointment and an intravenous solution are available under the name Zovirax from Burroughs Wellcome Co., Research Triangle Park, N.C. Acyclovir ointment speeds healing of sores and reduces virus growth during the first episode of genital herpes.

The intravenous form may be used in patients with severe first episodes of genital herpes and to treat immunocompromised patients with severe oral and genital herpes infections. □

Dr. Robert Gallo Receives Alpha Therapeutics Award

Dr. Robert C. Gallo, chief of the National Cancer Institute's Laboratory of Tumor Cell Biology, Experimental Therapeutics, received the Fourth Annual Alpha Therapeutic Award on June 20. The award was presented by Dr. Clyde McAuley, medical director of Alpha, in Arlington, Va. during the 1984 Plasma Forum sponsored by the American Blood Resources Association.

The Alpha Therapeutic Award is given to further the understanding of the role of blood components in contemporary medical care. In selecting Dr. Gallo, this committee noted his work in detecting a newly discovered member of the human T-cell leukemia virus family and identifying its close link to AIDS. □

Biosafety Awareness Course Scheduled at Lister Hill

The first presentation of the new Biosafety Awarness course will be offered to the NIH community on Thursday, July 19, from 8:30 a.m. to noon in the Lister Hill Auditorium.

The half-day course—developed by the Division of Safety—will help researchers, technicians and other laboratory workers identify and minimize the potential for accidents which may result in laboratory-acquired infections.

Topics include risk assessment, techniques to reduce contamination, safe handling of laboratory animals and control of hazards associated with specific equipment and procedures.

Persons working in microbiological laboratories, investigators who are engaged in recombinant DNA research, and all employees who are concerned about safety in their work place are urged to attend. The course is open to all NIH employees. If you are interested in this course, please call 496-2346 for a registration form. □

Virus May Be the Cause of Rheumatoid Arthritis

A group of scientists report that they have identified a virus that may be the cause of rheumatoid arthritis. The virus was located in the joint linings of people with the disease. The study was published in the Mar. 30 issue of *Science*.

Rheumatoid arthritis is a chronic disease characterized by inflammation and thickening of the synovial tissues that surround and lubricate the joints of the body. Affecting more than 7 million Americans, the disease can lead to bone deterioration, deformity, and eventually, disability. It can be very mild in some people while others suffer severe crippling effects.

Immune abnormalities, genetic factors, and infectious agents, including viruses, have all been studied as possible causes of rheumatoid arthritis, but to date, no cause or cure has been established.

In previous investigations, scientists have observed immunological disturbances associated with chronic joint inflammation in rheumatoid arthritis patients. Researchers believe that these disturbances might be triggered by an agent such as a virus.

Dr. Carol A. Smith, of the Montefiore Medical Center in New York, collaborating with Drs. Robert W. Simpson, Laurel McGinty, and Lee Simon, of the Waksman Institute of Microbiology at Rutgers University, and Drs. Carol W. Godzeski and Robert Boyd of the Eli Lilly pharmaceutical company in Indianapolis, believe they have located the virus particle that could be related to the immunological disturbances observed in rheumatoid arthritis patients.

The virus, designated RA-1 in light of its association with rheumatoid arthritis, seems to be a member of the parvovirus family.

Rheumatoid arthritis affects over 7 million Americans and can cause severe crippling effects involving bone deterioration, deformity, and disability.

Parvoviruses have been linked to certain diseases in dogs, cats, and mice, but only recently have they been associated with human disease, specifically in a chronic form of anemia found among black children in Jamaica.

The scientists have not been able to grow the RA-1 virus in culture, but they have maintained it for further studies by injecting samples of the virus taken from rheumatoid arthritis patients into the brains of newborn mice.

Extracts from the mouse brains infected with the RA-1 virus were then injected into rabbits to obtain antibodies to the virus. The antibodies were used to look for a virus antigen in pieces of synovial tissue removed from patients with rheumatoid arthritis. So far, 13 of 14 synovial specimens have shown evidence of the viral antigen.

Osteoarthritis Patients Tested

The group also used the antibodies to test eight specimens taken from patients with osteoarthritis, a separate form of arthritis usually associated with the degeneration of joint cartilage.

None of these eight specimens demonstrated the presence of the viral antigen, thus improving the possibility that the RA-1 virus could be related to rheumatoid arthritis.

Their findings need to be confirmed through further laboratory research and testing. The authors are cautious, and state that there is "a yet undefined link with rheumatoid arthritis." It may be possible that the RA-1 virus is a cause of rheumatoid arthritis, or it may simply reside in the diseased joint tissue.

Says Dr. Smith, "The real thrust of future studies will be to try to relate the virus to the immunological activities that are occurring in RA patients, and then make comparisons to similar tests done on people with other forms of arthritis and other chronic diseases. Then we can begin to determine if the RA-1 virus is actually causing rheumatoid arthritis."

The research was supported by the National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases, the National Institute of Allergy and Infectious Diseases, and private foundations. □

Summer Aide Creates NICHD Computer Program

Summer students have made many contributions to NIH. They help to keep offices and laboratories running smoothly when employees are on vacation, assisting scientists in the labs and filling in for typists and file clerks, among other duties.

Some students distinguish themselves by making long-lasting contributions. The work of one summer aide at the National Institute of Child Health and Human Development (NICHD) will be remembered for years to come.

Margie Baer designed a system that can retrieve projects by number, subject or principal investigator.

Margaret L. Baer, 20, came to NIH last summer to write summaries of grants and ended up creating a sophisticated computer program, complete with a 40-page instruction manual.

"This is a remarkable story," says Dr. Thorsten Fjellstedt, a health scientist administrator in NICHD's Clinical Nutrition and Early Development Branch.

"Margie's system helps us to keep better track of the progress of our grants and contracts," Dr. Fjellstedt said. "We can retrieve projects by number, subject or principal investigator, enabling us to respond quickly to administrative questions and to do research highlights in a more timely manner.

"She is an incredibly diligent and obviously brilliant individual who has a real ability to take something complicated and simplify it," he said.

"One day I said something like, 'Gee it would be nice if we had a computer system to retrieve scientific information on our projects . . .' and within a few weeks she had designed a computer program that met our needs."

In fact, not only does it meet NICHD's needs, but Dr. Fjellstedt describes it as a prototype for NIH. "We are hoping that others will use it and build on it," he added. After giving a lecture on the computer system, Dr. Fjellstedt received 12 requests from other NIH components.

Margie worked during her breaks from classes at Yale, where she is in her senior year of a biochemistry B.S. M.S. program, to update the program. This summer she returned to spend a month perfecting the program even further.

Despite numerous accolades from her supervisor, Dr. Fjellstedt, Margie is unaffected. "Don't portray me as a genius-kid," she says. "A lot of people could have done what I've done. They just weren't given the opportunity."

The past editor of *Yale Scientific* magazine says her first "real job" at NICHD was "a lot of fun."

"This has been a good experience," says Margie. "I'll probably never design a computer program again. I was able to work independently on something that was rewarding to me. I hope I've created something that will be of use. It's nice to know that people like it."

Beyond Yale, Margie's future plans include becoming a physician.—**James Hadley** □

Computer Technology Nursing Conference Held

Yesterday's dreams, today's realities and tomorrow's challenges were explored at the Fourth National Conference on Computer Technology and Nursing held recently at the Clinical Center.

More than 500 nurses from 30 states participated in the day-long event cosponsored by the Department of Nursing, CC; Division of Nursing, Bureau of Health Professionals, Health Resources and Services Administration, and the Army Nurse Consultant Team of P–M Tri Service Medical Information System.

Four CC nurses presented experiences related to computer applications in nursing.

Laura Ryan, clinical nurse specialist, discussed the enhancement of humanistic care; Jean Harris, ambulatory care head nurse, presented the integration of a computer system with the nursing process; Priscilla Boykin, nurse educator, describing the education programs; and Maureen Power, head nurse, Aging Research Nursing Service, shared the evaluation process conducted by the Nursing Practice Task Force.

The application of artificial intelligence to facilitate the education of nurses and the relationship between nursing workload measures and diagnosis-related groups, were addressed by the program panelists: Dr. Sheila Ryan, Creighton University, and Dr. Phyllis Giovannetti, University of Alberta.

Carol Romano, nursing information system specialist at the CC and chairperson of the conference, concluded the program with a paper, "Tomorrow's Challenge—Predictions for the Future."

Proceedings from the conference are scheduled for publication in the June 1985 journal issue of *Computers in Nursing*. □

Dr. Richard M. Simon, chief of the Biometric Research Branch, NCI Division of Cancer Treatment, has been elected a Fellow of the American Statistical Association. He is being cited for "outstanding biometric research on the methodology of clinical trials and biological experimentation; for his contributions to the treatment of cancer patients and understanding of tumor biology; and for important contributions to his profession in enhancing the status of statisticians in medical research."

MONKEYS' BEHAVIOR

(Continued from Page 1)

Wisconsin found that some infant monkeys became withdrawn and apparently depressed when separated from their mothers for a few weeks.

Dr. Suomi noticed that not all the infants became depressed. Some adjusted to the situation. These same monkeys, he found, were generally less fearful and anxious in stressful situations than the monkeys who became depressed.

The two groups of monkeys also differed in their physiological reaction to stress. Heart rate and cortisol output increased dramatically in naturally anxious monkeys exposed to new or threatening situations, compared to minor increases in monkeys who took stressful events in stride.

Interestingly, both the behavioral and physiological differences between the "uptight" and "laid-back" monkeys emerged only during times of stress. The two groups were indistinguishable under normal conditions.

Inborn differences in temperament with respect to fearfulness and anxiety can be detected in monkeys by 1 month of age, and are relatively constant throughout development.

A particularly attractive feature of the new primate research facility is the outdoor preserve, where the monkeys are free to come and go as they please.

Dr. Suomi and his colleagues can now predict the response of an adult monkey to a stressful situation based on its reaction to stress during infancy.

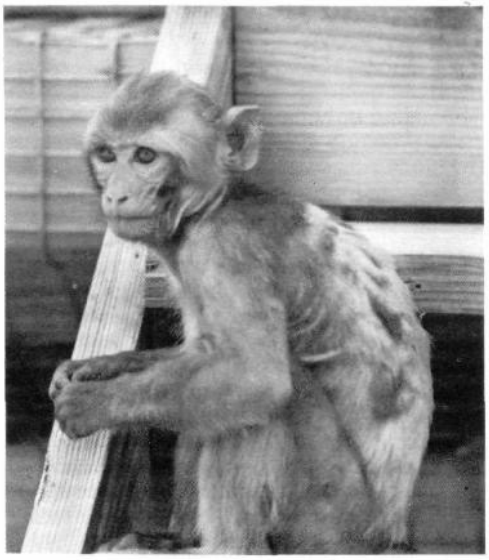
There is strong evidence that these temperamental differences are genetically determined, and it may be possible to predict reactions to stress merely by knowing the animal's genetic background.

Naturally uptight monkeys are at greater risk for depression, addictions, and other mental health disorders than their more laid-back counterparts.

Dr. Suomi has also found that uptight mothers who were separated from their own parents during childhood are more likely to neglect or abuse their children.

One aim of the Poolesville studies is to look for ways to prevent or improve the unhealthy consequences of stress in genetically fearful or anxious individuals.

Dr. Suomi also plans to take a closer look at the basic reasons for the temperamental differences he has found in rhesus monkeys. In one study under way, he is taking two groups of newborns—an uptight group and a laid-back group—and placing members of each group with one of two types of foster mothers.



E.T., a young rhesus monkey, contemplates his new surroundings.

One type of mother is unusually nurturing toward their offspring, while the second type is unusually rejecting or punishing.

"We're interested in seeing how animals who are biologically predisposed to be unusually reactive or unusually resistant to stress grow up when raised by these different types of mothers," said Dr. Suomi.

Studies of the biological basis of individual differences in temperament in human children are also planned, he said.

Dr. Suomi's research on the genetics of behavior in primates is complemented by other studies under way in his laboratory. Researchers in the Section on Brain, Behavior, and Communication, headed by Dr. David Symmes, are studying social behavior in another primate model, the squirrel monkey. They are particularly interested in the genetically determined neural mechanisms involved in vocal communication, learning, and play in these animals.

Dr. Frank Pedersen and his colleagues in the Section on Child and Family Research are studying the effects of early family experiences, such as maternal employment, on child development. A major area of interest to these researchers is the complex of environmental and genetic factors that promote or inhibit the development of competence in infants. □

Fitness for Two at Fitness Center

A new exercise program at the NIH Fitness Center is specifically designed to increase and/or maintain the fitness of women who are pregnant or postpartum. Classes will emphasize stretching and exercises to increase muscle tone, strength, and cardiovascular endurance. Proper posture and relaxation techniques are stressed. Permission slips, must be filled out by your private physician and brought to the first class, can be obtained at the Fitness Center. Classes July 23 through Aug. 23, will be held Mondays and Wednesdays from 10:30 to 11:30 a.m. The fee is $30. Call 496-TRIM for more information. □

Continued Research, Major Control Campaigns Urged Against Yaws and Related Diseases by Symposium

After two decades of control, yaws has once again resurged and the Fogarty International Center, the World Health Organization, and other groups convened a symposium recently with scientists from 25 nations in attendance at the Pan American Health Organization in Washington, D.C.

The endemic treponematoses, which include yaws, endemic syphilis, and pinta, are a group of non-venereal chronic bacterial infections. Symptoms vary from skin lesions to gross destruction of tissue and bone.

Tribute was paid at the meeting to the World Health Organization, UNICEF, and the member governments and other groups which participated in what was described as the great humanitarian effort which, for the first time brought the miracle of modern medicine to the world's poor in the mass anti-yaws campaigns of the 1950s and 1960s.

By the use of penicillin approximately 46 million persons were cured of this disfiguring and disabling disease which mainly afflicts children in the poorest and most remote areas.

Evidence presented at the meeting indicated that penicillin is as effective as ever against the endemic treponematoses; however, clinical experience with antibiotics has shown that resistance can develop overnight after decades of exquisite sensitivity.

Convincing evidence was presented that the related spirochete, T. pallidum, which causes venereal syphilis, has developed resistance to erythromycin, a "back-up"antibiotic for use against the non-venereal treponematoses.

It is estimated that approximately one and one-half million people are now afflicted with yaws. The resurgence of yaws was due in part to a premature cessation of surveillance after the mass campaigns, and to a change in health priorities in the countries affected.

Symposium participants concluded that there is no scientific doubt that the human transmission of yaws, endemic syphilis, and pinta is technically preventable.

It was further recommended that efforts to completely control all three diseases be attempted. What is needed is a firm commitment from governments to the affected countries and assistance from other nations and the international organizations.

Control methods should be tailored to individual countries based on the assessed level of nonvenereal treponematoses as well as the capacity of the primary health care system.

Health authorities and governments in tropical and subtropical countries were advised to take special steps to assess the status of the nonvenereal treponematoses and report this information to WHO for annual reports to the World Health Assembly. Participants also concluded that support for continued fundamental research on the endemic treponematoses will be required.

At present, the treponematoses cannot be cultured or differentiated, nor is it known whether yaws, pinta, and endemic syphilis, or for that matter, venereal syphilis, are caused by different treponeme species, or different strains within the same species or subspecies.

Within the past 4 years, remarkable advances in molecular biology have made the answers to these questions possible. At the symposium it was reported that the prospects for new diagnostic tests are good: for example, monoclonal antibodies certainly have the potential to differentiate and identify the subtle antigenic diversity that may exist among strains or subspecies of the pathogenic treponemes.

DNA homology studies and the use of polyacrylamide gels have led to the identification of many protein antigens that are shared by the various species of treponemes. It has also been demonstrated that T. pallidum, T. pertenue (which causes yaws) and non-pathogenic trepones are genetically related to a high degree.

DNA sequencing of T. Pallidum has been used by investigators in the Netherlands and in Denmark to identify peptides that will be tested as potential immunogens and diagnostic reagents.

Despite intense interest in the applications of molecular biology, prospects for a vaccine are on the far horizon, it was agreed. Continued support for such research programs were recommended.

It was generally agreed that mass campaigns to interrupt transmission are now out of favor, it was indicated. Emphasis and resources are being devoted to the concept of primary health care towards the goal of "health for all by the year 2000." However, it was recommended that when the clinical cases rise higher than 10 percent, mass treatment of the entire population should be used.

When the disease reaches a low enough level, the consolidation phase should include resurveys, surveillance and maintenance activities that, where possible, would be integrated into the existing health care system.

Representatives of the major international organizations which sponsored the symposium were present including UNICEF, the U.S. Agency for International Development, the International Union Against Venereal Diseases and the Treponematoses, the Commission of the European Communities, the World Health Organization, the Pan American Health Organization, the Centers for Disease Control, and the National Institutes of Health, among others.

The proceedings of the symposium will be published in the Review of Infectious Diseases. For further information you may write to the International Studies Branch, Fogarty International Center, Bldg. 16A, Rm. 205, National Institutes of Health, Bethesda, MD 20205. □

R&W Has Discount Tickets For Summer Fun

R&W has discount tickets available for Kings Dominion, Wild World, Busch Gardens, Great Adventure, Hershey Park, Williamsburg, Disney World, and Epcot Center. Pick them up at the R & W Activities Desk in Bldg. 31 or at the Westwood R & W Gift Shop. □

Dr. Ruth I. Geran Honored By Former NCI Colleagues

Dr. Ruth I. Geran, who retired last year with 25 years service with NCI, has been honored by former colleagues in the Drug Evaluation Branch of the Developmental Therapeutics Program by dedicating to her its newly published edition of *In Vivo Cancer Models*. The dedication expresses appreciation for her contributions to the book's completion and to the program. The program is part of the Division of Cancer Treatment.

Dr. Geran spent all of her years of service with NCI as a biologist in the Drug Evaluation Branch. For much of that time, she served as the chairperson or a member of the branch's protocol committee for screening potential anticancer agents.

"A recounting of Ruth's many contributions to the NCI contract-based drug discovery program would require an entire issue of *The NIH Record*," commented Dr. John M. Venditti, chief of the Drug Evaluation Branch. "Over more than 20 years' association we learned that we could have utmost confidence in her work, whether she was generating experimental protocols, evaluating results, managing contracts, or advising us on program matters.

"Ruth's profound personal commitment to thoroughness and detail and the diplomatic and sensitive manner in which she related to others made all of us feel very comfortable. We have been fortunate to know and to work with her, and we miss her," he said.

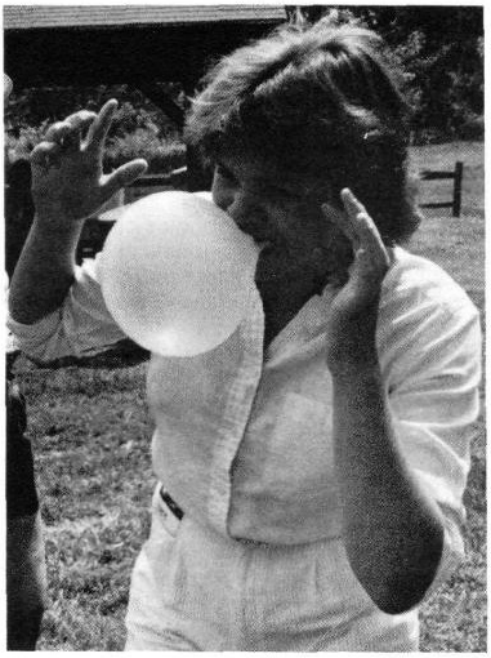
The new publication supplements existing protocols for screening potential anticancer agents by providing information on the principal preclinical *in vivo* cancer models used from 1976 through 1982 by the Developmental Therapeutics Program in its search for new agents to treat cancer. □

Michael I. Goldrich has been appointed executive officer of NIAID. He will also serve as chief of the office of administrative management. Mr. Goldrich joined NCI in 1973, serving first as a grants financial analyst, then as administrative officer for the developmental therapeutics program within the Division of Cancer Treatment. Since 1979, he has been administrative officer of that division. Among his honors are five high quality work performance awards, the NIH Award of Merit in 1979, the NCI Equal Employment Opportunity Honorable Recognition Award in 1981, and the PHS Superior Service Award in 1983.

Scenes at NIH/R&W Annual Family Picnic

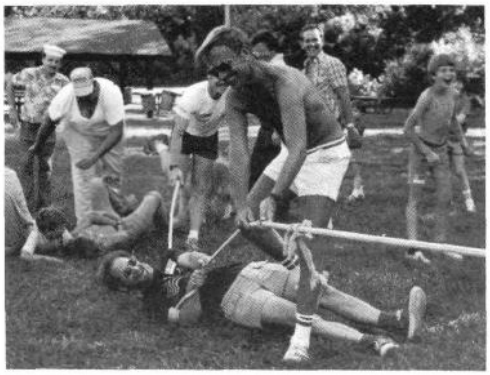
Photos by Herbert Alvord, Jr.

In volleyball, the competition can get fierce at times.



Blowing a large bubble with gum isn't always easy.

The clown, Judy Blumenthal, NIHer from NLM, gets a hair cut from a fan.



The women were triumphant in the traditional tug-of-war between the sexes. However, the losers seem to be having a good time.

These young NIHers seem to be enjoying bobbing for apples, water, et al. The two young ladies on the left are Kristin and Lauren, daughters of Rick Rhoads in Financial Management.

NIA Awardees Honored

Fifty NIA employees received awards from Director Dr. T. Franklin Williams at the Institute's June 12 Awards ceremony. NIA Scientific Director Dr. Richard C. Greulich presented the awards to NIA's Gerontology Research Center employees.

- Dr. Don C. Gibson, associate director for planning and extramural affairs, the Meritorious Service Medal. He was cited for "consistent contributions to the development of programs of the (NIA) through establishment of procedures for program planning, evaluation and scientific review."
- Dr. Daniel C. Cowell, formerly NIA assistant director for health promotion, and now NIH associate director for medical education, a PHS citation for "dedication to and achievements in assignment as the (NIA) liaison to the 1981 United States White House Conference on Aging."
- Dr. Zaven S. Khachaturian, chief of the Physiology of Aging Branch, the NIH Director's Award for "sustained and successful effort in developing the Neuroscience of Aging Program, and for leadership in NIA's initiative on Alzheimer's disease."

Three employees won NIH Merit Awards: Anne M. Connors, administrative officer, for creative and energetic provision of administrative support services to the programs of the NIA;" Guenter Baartz, electronics technician at GRC, Baltimore, "for innovative application of technology in the development of laboratory instrumentation;" Melvin Ware Sr., animal caretaker leader, "for unselfish dedication and loyalty to the mission of the Animal Resources Facility . . ."

Three GRC employees were recognized for having received Special Community Service Awards from Mayor Shaeffer of Baltimore, for providing emergency aid to a man stricken ill on the street. Jeanette Wright, a cardiovascular technician, applied CPR, while Donna Wade and Carolyn Eames summoned emergency help. □

Medical Genetics Reviewed At Interinstitute Program

Scientists from around the country recently attended "Medical Genetics: 1984," a course sponsored by the Interinstitute Program in Medical Genetics.

The program, organized by Drs. John Mulvihill, Dan Camerini-Otero and Alan N. Schecter, shared current knowledge and questions with the general community of medical geneticists.

Several programs in various subspecialties of clinical genetics were presented, including counseling, cytogenetics, biochemical genetics and molecular genetics.

Participants included leading investigators from NIH as well as guest faculty from neighboring institutions—George Washington University, Children's Hospital National Medical Center, Johns Hopkins University—and several other national genetics centers.

A syllabus of the course is available from the FAES Bookstore. The course will likely be repeated in the spring of 1986. □

Visiting Scientist Program Participants

Sponsored by Fogarty International Center

4/1—**Dr. Beatrice Hahn,** Germany. Sponsor: Dr. Flossie Wong-Stahl, Laboratory of Tumor Cell Biology, NCI, Bg. 37, Rm. 6C03.

4/1—**Dr. Haruhiro Higashida,** Japan. Sponsor: Dr. Marshall Nirenberg, Laboratory of Biochemical Genetics, NHLBI, Bg. 36, Rm. 1C27.

4/1—**Dr. Henrik Huitfeldt,** Norway. Sponsor: Dr. Miriam Poirier, Laboratory of Cellular Carcinogenesis and Tumor Promotion, NCI, Bg. 37, Rm. 3B22.

4/1—**Dr. Malathi Lakshimikumaran,** India. Sponsor: Dr. Anthony Furano, Laboratory of Biochemical Pharmacology, NIADDK, Bg. 4, Rm. 104.

4/1—**Dr. Aidan McElduff,** United Kingdom. Sponsor: Dr. Phillip Gorden, Diabetes Branch, NIADDK, Bg. 10, Rm. 8S243.

4/1—**Dr. Livia Poenaru,** France. Sponsor: Dr. Elizabeth Neufeld, Genetics and Biochemistry Branch, NIADDK, Bg. 10, Rm. 9D15.

4/1—**Dr. Salim Yusuf,** India. Sponsor: Dr. Curt Furburg, Clinical Trials Branch, NHLBI, Federal Bg., Rm. 216.

4/1—**Dr. Euan Scrimgeour,** Australia. Sponsor: Dr. D. C. Gajdusek, Laboratory of Central Nervous System Studies, NINCDS, Bg. 36, Rm 5B35.

4/1—**Dr. Shoichi Ozaki,** Japan. Sponsor: Dr. Jay Berzofsky, Metabolism Branch, NCI, Bg. 10, Rm. 6B12.

4/1—**Dr. Noriho Tanaka,** Japan. Sponsor: Dr. J. Carl Barrett, Laboratory of Pulmonary Function and Toxicology, NIEHS, Research Triangle Park, N.C.

4/1—**Dr. James Vilas,** U.S. Sponsor: Dr. Henry Metzger, Arthritis and Rheumatism Branch, NIADDK, Bg. 10, Rm. 9N240.

4/2—**Dr. Shoji Tsuji,** Japan. Sponsor: Dr. John A. Barranger, Developmental and Metabolic Neurology Branch, NINCDS, Bg. 10, Rm. 4N248.

4/3—**Dr. Nobuo Masataka,** Japan. Sponsor: Dr. David Symmes, Laboratory of Contraceptive Evaluation Branch, Bg. T18 (NIHAC), Poolesville.

4/4—**Dr. Ulrike Berresheim,** Germany. Sponsor: Dr. Ingeborg Hanbauer, Clinical Hematology Branch, NHLBI, Bg. 10, Rm. 7N244.

4/4—**Dr. Kiyotata Toshimori,** Japan. Sponsor: Dr. E. M. Eddy, Gamete Biology Section, NIEHS, Research Triangle Park, N.C.

4/4—**Dr. Jacob Wilf,** Israel. Sponsor: Dr. Allen Minton, Laboratory of Biochemical Pharmacology, NIADDK, Bg. 4, Rm. B1-27.

4/5—**Dr. Urs Rickenbacher,** Switzerland. Sponsor: Dr. James McKinney, NIEHS, Research Triangle Park, N.C.

4/9—**Dr. Akio Adachi,** Japan. Sponsor: Dr. Malcolm A. Martin, Laboratory of Molecular Microbiology, NIAID, Bg. 5, Rm. B129.

4/9—**Dr. Kiyoshi Nagata,** Japan. Sponsor: Laboratory of Pharmacology, NHLBI, Bg. 10, Rm. 8N117.

4/9—**Dr. Hiroki Nakabayashi,** Japan. Sponsor: Kuo-Ping Huang, Endocrinology and Reproduction Research Branch, NICHD, Bg. 6, Rm. 126.

4/9—**Dr. Leonidas C. Platanias,** Greece. Sponsor: Dr. Neal Young, Clinical Hematology Branch, NHLBI, Bg. 10, Rm. 7C108.

4/10—**Dr. Jiang Yi-wen,** China. Sponsor: Dr. Pierre Henkart, Immunology Branch, NCI, Bg. 10, Rm. 4B02.

4/12—**Dr. Tapas Biswas,** India. Sponsor: Dr. Paul H. Plotz, Arthritis and Rheumatism Branch, NIADDK, Bg. 10, Rm. 9N210.

4/12—**Dr. Rosa E. Canibano,** Spain. Sponsor: Dr. Reed Wickner, Laboratory of Biochemical Pharmacology, NIADDK, Bg. 4, Rm. 103.

4/13—**Dr. Jiro Uozumi,** Japan. Sponsor: Dr. Charles Litterst, Laboratory of Medicinal Chemistry and Biology, NCI, Bg. 37, Rm. 5B22.

Dr. William Walter Jr., Deputy Director, Retires From NCI's Division of Extramural Activities

Dr. Walter

Dr. William A. Walter, Jr., deputy director of NCI's Division of Extramural Activities since 1972, is retiring this month after more than 35 years as a commissioned officer in the U.S. Public Health Service.

Dr. Walter received his A.B. degree from Indiana University and his M.D. degree from its school of medicine. He served as a captain in the U.S. Army from 1946–48. In 1951 he received a master of public health degree from the Johns Hopkins School of Hygiene and Public Health.

Following assignments to the State Boards of Health of Kentucky and Florida, Dr. Walter came to NCI in 1955 as an epidemiologist. He was project officer in charge of the NCI-funded Houston Pulmonary Cytology Project at M. D. Anderson Hospital and Tumor Institute, and the Philadelphia Cytology Project at Women's Medical College of Pennsylvania.

Since 1960, NCI's cancer center, construction and clinical activities programs have been his special interests, together with administrative duties. He was program director of the Research Grants Branch, chief of the Special Programs Branch, then deputy associate director of extramural activities.

In 1972 Dr. Walter became deputy director of the Division of Cancer Grants (later renamed the Division of Cancer Research Resources and Centers and more recently, the Division of Extramural Activities). In 1976-1977 he was also acting director of the division's Centers and Treatment Program.

From 1980 to 1981 he was acting director as well as deputy director of the division, and in addition was the executive secretary of the National Cancer Advisory Board.

Dr. Walter received the Public Health Service's Commendation Medal in 1969 and again in 1974. He has served on many NIH and NCI committees, including Review Policy, Research Resources and Extramural Program Management committees, as well as working groups on diet and nutrition and on smoking and health.

"Almost 30 years at NCI have given me an overview of tremendous progress in the whole field of cancer," Dr. Walter commented, "from basic research through treatment to professional and public education.

"Since 1955 I have observed the growth of radiation therapy and medical oncology into major medical specialities. I have also seen a huge increase in the number of basic science researchers and the development of more than 50 NCI-supported centers that are making significant contributions to the understanding and control of cancer. Effective community programs have also been developed," Dr. Walter noted, "and the outlook for cancer patients has improved remarkably." □

Fitness Center Program For a Healthy Back

A unique program has been developed by Dr. Hans Kraus and Alexander Melleby, specifically for relaxing, stretching, and strengthening the back. Participants receive a manual and a cassette for home use. A physician's consent form is needed to participate in this class. Classes begin July 2 through Aug. 9, on Tuesdays and Thursdays, from 1 to 1:45 p.m. The fee is $50. Register at the NIH Fitness Center or call 496-TRIM. □

Several awards were presented at R&W's Annual Meeting held recently. Leo Buscher (left), for outstanding effort while serving on the activities budget committee. (right) Awards for outstanding service and volunteer work on behalf of the NIH community: (l to r) Robert Bingaman, NIH R&W Ski Club; Dr. Carl Frasch, NIH R&W Bicycle Commuter Club; and Gilbert Wright, Jr., NIH R&W Toastmasters Club.

Three CC Nurses Honored at Symposium

Three Clinical Center nurses were honored at the Tenth Annual Nursing Research Symposium held recently in Masur Auditorium.

Mary Culnane was named "Nurse of the Year;" Clare Hastings, was presented the "Nursing Research Award," and Laura Ryan, the "Distinguished Nurse of the Year."

The awards were presented by Rena Murtha, chief of the CC Nursing Department who noted that selection was difficult because of the quality of all the proposed candidates. The top nurses were chosen from among 27 nominees by a committee made up of their peers and outside consultants.

"Each nominee is involved in clinical practice and professional activities at a level that indicates that Clinical Center nurses are making a major contribution to the well-being of patients and to the profession," said Ms. Murtha.

Distinguished Nurse of the Year

Laura Ryan, a clinical nurse specialist on the Mental Health Nursing Service was honored for her "expertise in practice, education, and research and administration. Her expertise is often called upon to assist with emotional support of medical and surgical patients and their families," said Ms. Murtha. She serves on the nursing research committee and conducts research.

Ms. Ryan has presented her research findings nationally and regionally and has published on the topics of primary nursing and AIDS. She is a member of the Maryland Nurses Association and Sigma Theta Tau.

Nurse of the Year

Mary Culnane, a clinical nurse in the pain research clinic, "has adapted high level skills of an inpatient primary nurse to the care of ambulatory patients on complex pain research regimens," said Ms. Murtha.

Ms. Culnane incorporates patient teaching into general care, orients patients on research design and protocol requirements, and educates groups of patients on the side effects of chemotherapy. She is a member of the Oncology Nursing Society and the Montgomery Hospice Society.

Nursing Research Award

Clare Hastings is head nurse of the Arthritis and Metabolic Diseases, Allergy and Infectious Diseases, and the Child Health and Human Development Nursing Services. Her research has included development of nursing investigations related to disease characteristics and outcome of pregnancy in patients with lupus erythematosus, nursing assessment and functional mobility, the role of the nurse in ambulatory care, and the relationship between physical and psychosocial characteristics of lupus patients.

"Her research endeavors exemplify a variety of research designs and concepts and a unique blend of collaborative efforts," said Ms. Murtha.

She is a member of the Arthritis Health Professions Association, the American Nurses Association, and the American Academy of Ambulatory Nursing Administration. □

Ms. Ryan (r) accepts Distinguished Nurse of the Year Award from Ms. Murtha, chief of the CC Nursing Department.

Ms. Culnane displays her award for Nurse of the Year.

Ms. Hastings received the Nursing Research Award at the 10th Annual Nursing Research Symposium.

Dr. Saul Schepartz Leaves NCI After 26 Years Service

Dr. Saul A. Schepartz, deputy director of the National Cancer Institute's Division of Cancer Treatment (DCT), left in June after 26 years of government service to accept a position with the University of Medicine and Dentistry of New Jersey (UMDNJ).

He will serve as associate vice president of academic and industrial relations at UMDNJ, using his knowledge and experience in drug development, technology transfer, patents, and licensing procedures to help coordinate joint research efforts between the university and the pharmaceutical industry.

"There has been tremendous progress made in cancer treatment during Saul Schepartz' tenure at NCI. More effective drugs, and better regimens of chemotherapy have been introduced. He has played an essential role in that progress," said Dr. Vincent T. DeVita Jr., NCI Director.

"Saul Schepartz will definitely be missed. He is among the most knowledgeable scientists there are in the field of anticancer drug development," said Dr. Bruce Chabner, DCT director.

"He has been instrumental in procuring new compounds, expediting their testing, and getting the drugs into clinical trials. His true expertise is his ability to serve as an interface between university researchers and industry. He has been invaluable to our program" Dr. Chabner said.

After receiving an A.B. in chemistry from Indiana University in 1951, Dr. Schepartz earned M.S. and Ph.D. degrees in biochemistry from the University of Wisconsin in 1953 and 1955. He has been a part of NCI's anticancer drug development program since its earliest days, beginning as a biochemist in the Drug Evaluation Branch in 1958. That program began as the Cancer Chemotherapy National Service Center in 1955, and later became the Division of Cancer Treatment.

"I've seen NCI's chemotherapy program evolve over three decades," Dr. Schepartz said. "The original impetus for the program came from the community and Congress, but it was not well received by the NIH initially. It is now generally accepted that new and improved drugs are necessary for effective cancer treatment and that the government has a role to play in their development."

He was named DCT's deputy director 8 years ago, a position that entails the day-to-day management of a staff of 600, and more than $300 million worth of contracts, grants, cooperative agreements, and intramural laboratory and clinical programs.

During his career with NCI, Dr. Schepartz authored or coauthored more than 60 scientific publications. He was awarded the DHEW Superior Service Award in 1972.

Originally from Nutley, N.J., Dr. Schepartz will be returning close to his home turf. The university has campuses in Newark and Piscataway.

"It's really been a team effort over the years. I'm happy to have been part of the team; happy to have witnessed the substantial progress we have made in treating cancer," Dr. Schepartz said. □

Discovering How Cancers Spread Could Yield More Cures, Science Writers Told

Despite remarkable advances in cancer treatment, most cancer patients die because of metastases (the spread of malignant cells to other parts of the body from the original cancer site).

The progress that intramural scientists are making in understanding tumor invasion and metastasis and the possible application of their findings in detecting, preventing, or eliminating metastases was the focus of a recent NIH Science Writers' Seminar.

The moderator, Dr. Lance Liotta, chief, Laboratory of Pathology, NCI, described the multistep metastatic process by which tumor cells repeatedly penetrate many tissue barriers. One of these barriers is the extracellular matrix, a dense meshwork that mechanically supports tissue and separates one tissue from another.

The first step in the metastatic process is attachment of the tumor cell to the basement membrane, one component of the extracellular matrix. This attachment many be facilitated by laminin, a protein found only in the basement membrane.

Dr. Liotta and his associate Dr. Victor P. Terranova in the National Institute of Dental Research have found that there is an increased number of exposed laminin receptors on the surface of an invading tumor cell. An assay (test) which they developed to measures these receptors should yield information potentially valuable in predicting the aggressiveness of a patient's tumor.

Dr. Liotta's group also has found that a fragment of the laminin molecule can bind to the receptor and block the attachment of tumor cells. This fragment can inhibit or abolish metastasis formation in the lungs of mice with melanoma.

The second step in invasion by a tumor cell is its release of enzymes that cut holes in the matrix allowing the cell to move through this barrier. Dr. Liotta and his colleagues have isolated and purified an enzyme—augmented (strengthened) in certain types of tumor cells—that selectively degrades type IV collagen, the protein which forms the backbone of the basement membrane.

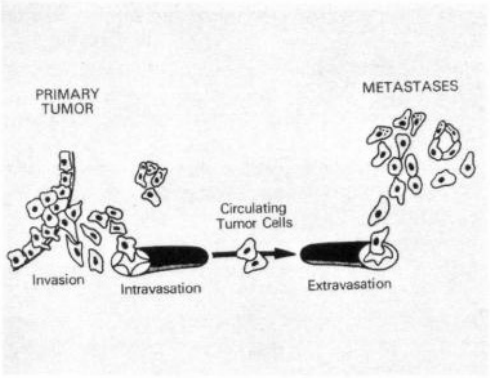
Antibody Against Enzyme

They have used an antibody directed against this enzyme to identify microscopic metastases in the lymph nodes of patients with breast cancer. This test has the potential to determine the presence of such metastases or the likelihood of a patient's tumor metastasizing.

Dr. Liotta pointed out that several laboratories are studying other binding factors and enzymes that may also play a role in the tumor cell's attachment to and destruction of the extracellular matrix.

Dr. James Talmadge, head, Preclinical Screening Laboratory, Program Reources, Inc., NCI Frederick Cancer Research Facility, discussed the heterogeneity found in both primary tumors and metastases. The heterogeneity of cells within individual metastases as well as among metastases may be the most formidable obstacle to the successful treatment of metastases.

To circumvent this heterogeneity (the different kinds of cells in a given cancer), Dr.



The complex process of metastasis begins when tumor cells in the primary tumor acquire the ability to invade the surrounding host tissue. Next, they invade the walls of the blood vessels of lymphatics (intravasation) and enter the circulation until they are arrested in the target organ. The arrested tumor cells must invade through the walls of the blood vessel (extravasation) and then initiate the new tumor growth in the target organ or tissue.

Talmadge's group is using activated macrophages—cells which ingest foreign particles such as bacteria. Laboratory studies have shown that these macrophages can mediate (cause) the destruction of tumor cells independent of such tumor characteristics as antigenicity and drug sensitivity. Furthermore, efforts to date to select tumor cells resistant to tumoricidal (tumor-killing) macrophages have been unsuccessful.

Dr. Talmadge and his group have shown in animal studies that activation of macrophages by biological response modifiers can increase the survival of animals with spontaneous metastases to the point where one could consider them cured.

Unfortunately, activated macrophages are unable to control more than a limited number of tumor cells. This means that most tumors would not be diagnosed early enough to use this approach.

However, Dr. Talmadge has shown in animal studies that if the tumor is first debulked (shrunk) by chemotherapy and radiotherapy, then the activated macrophages can handle the residual disease. He pointed out that this multimodal approach works only if the cytotoxic agent can be used in doses which do not abrogate (knock out) the immune response.

Dr. John Weinstein of NCI's Laboratory of Mathematical Biology described his efforts to use a more direct and effective route for delivering monoclonal antibodies to a major metasasis site—the lymph nodes—than the commonly used method of intravenous injection.

Tumor cells which escape the primary tumor can pass not only into the bloodstream but also into the lymphatics which drain fluid, large molecules, and cells from tissues all over the body. By this route, tumor cells can enter lymph nodes located in the armpits, groin, neck, and elsewhere and form metastases. These metastases are often the first evidence that a tumor is spreading.

In animal experiments, Dr. Weinstein found that radiolabelled monoclonal antibodies injected subcutaneously (under the skin) followed the same lynmphatic route as the tumor cells and bound with high efficiency to the metastases in the lymph nodes. Using gamma camera imagng, he was thus able to detect very early metastases.

This technique represents a significant advance because it can detect approximately one-three hundredth of the amount of tumor detectable by today's X-ray, CT scanning, or nuclear magnetic resonance imaging, and a much smaller amount than that detected by intravenous administration of radiolabelled antibodies.

Use of this technique would be limited to the detection of lymph node metastases which are at an early stage, that is, ones that have not yet grown large enough to obstruct the lymph flow.

Dr. Weinstein also pointed out that a "cocktail" of several monoclonal antibodies will probably be required to detect all metastases due to their heterogeneity.

Advantages of this route include the use of smaller doses of monoclonal antibodies with a corresponding reduction in toxicity and the avoidance of cross-reactivity with normal cells which can be a problem when the intravenous route is used. (In most cases, cross-reacting normal cells are not present in the lymph system).

Clinical studies of this lymphatic approach to detecting metastases have just begun.

Dr. Weinstein's longterm goal is to see if this technique could be used to kill cancer cells selectively, either by marking them for destruction by the body's own defense mechanisms or by attaching a drug, toxin, or radioactive atom to the antibodies.—**Bobbi Bennett** □

Dr. Dorothy Gail Appointed Chief, Lung Diseases Branch

Dr. Dorothy Berlin Gail has been appointed chief of the Structure and Function Branch, Division of Lung Diseases, NHLBI. In her position, Dr. Gail will be responsible for the overall planning and directing of the Institute's efforts in lung cell biology, respiratory physiology, lung growth and development and certain aspects of the division's program in pediatric pulmonary diseases.

Dr. Gail received her degree in physiology from Georgetown University, and conducted research on lung surfactant function and lung metabolism at Harvard School of Medicine and the Veterans Administration Hospital in Washington, D.C.

She joined the Institute in 1977 as a member of the Structure and Function Branch. Since then she has worked to develop a program in lung cell biology including metabolic and defense functions of the lung.

Among other honors, Dr. Gail has been awarded the Young Pulmonary Investigator Award by the (then) National Heart and Lung Institute in 1975, and the NIH Merit Award. She is a member of the American Physiological Society and the American Thoracic Society. □

Imagination is more important than knowledge.—*Albert Einstein*

DR. KRAUSE

(Continued from Page 1)

Dr. Krause

ence that stimulated his lifelong fascination and enthusiasm for research.

Dr. Krause achieved an international reputation for his work in immunology and microbiology. A persistent theme of his research was the significance of substances in bacteria that stimulate the immune system; he concentrated on the genetic factors influencing these intricate processes.

In 1965, Dr. Krause became the first to note the development, in rabbits, of a single homogeneous antibody following immunization with different streptococcal bacteria. This rabbit model has since formed the basis of subsequent studies of the genetic control of immune response and the structure of antibodies.

In addition to his scientific reputation, Dr. Krause brought to NIAID a sensitivity to the extreme importance of continued basic and clinical research in infectious diseases. With the advent of effective antibiotics and vaccines, many believed the problem of infectious diseases had been virtually solved and that the field should be relegated to the back burner of scientific priorities. Dr. Krause did not.

He appropriately and effectively rekindled interest in infectious diseases, convincing the public, Congress, and the scientific community that we live in a sea of microbes that will be a major cause of human disease for some time to come. Of Dr. Krause, Dr. Robert Chanock, chief of NIAID's Laboratory of Infectious Diseases, says: "He eloquently and effectively sounded the alarm within the scientific community and generated a renaissance in infectious disease research."

Dr. Krause was also an articulate and popular spokesman for the field of allergic and immunologic diseases research. He was well aware that increased knowledge of the immune system would give physicians new tools to amplify the powers of this system to protect against microbial invaders and, at the same time, divert these destructive forces that may erupt in immunologic disorders. □

He who rules, cannot be just; he who is just, cannot rule.—*Louis Saint-Just* (during French Revolution).

NIDR Administrator Receives Special Biomaterials Award

Dr. Thomas M. Valega of the National Institute of Dental Research recently received a special award from the Society of Biomaterials for his enthusiastic and long-term commitment to the society and biomaterials research.

Dr. Valega, a health scientist administrator in the NIDR extramural programs, has been with the Institute since 1972. His research interests encompass all aspects of biomaterials, and implant materials in particular.

A charter member, Dr. Valega has been an active supporter of the society since its inception in 1975. Every year the society presents three awards to individuals who have advanced the fields of biomaterials, science and engineering.

Dr. Valega received his award during the Second World Congress on Biomaterials and the society's tenth annual meeting, held Apr. 27 to May 1 in Washington, D.C.

An active member of the NIH Staff Training in Extramural Programs (STEP) Committee since 1980, Dr. Valega is a member of the American Chemical Society, the American Association for the Advancement of Science, the dental materials group of the International Association for Dental Research (IADR).

He also serves as secretary-treasurer of the IADR Implantology Research Group and on the board of directors of the American Academy of Implant Dentistry Research Foundation. □

WARNING: Centrifuge Users

Beckman Instruments, Inc. has issued an **urgent corrective action notice** to all Beckman ultracentrifuge owners they have on record.

The warning concerns Models L, L2, L3, and L4 ultracentrifuges, and Type 35 and 42.1 rotors with serial numbers below 1299.

Beckman lists certain rotors which should no longer be used in the above centrifuges. The listed ultracentrifuge-rotor combinations are hazardous due to potential electronic malfunctions that can result in overspeed.

If the rotor subsequently fractures and disintegrates, metallic particles might combine with water from samples and Freon from ruptured cooling coils. A spark could then trigger an explosion of sufficient force to literally blow the lid off the centrifuge. This has happened twice in the last 90 days.

Additionally, Beckman recommends immediate retirement of Type 35 and Type 42.1 rotors having serial numbers below 1299 regardless of the centrifuge in which they are used.

If you have not received the Beckman notice, contact the Division of Safety at 496-2346 to obtain a copy. The notice identifies the Beckman persons to whom technical questions can be addressed.

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