The NIH Record

U.S. Department of Health and Human Services

April 23 1985 Vol. XXXVII No. 9

National Institutes of Health

Dr. John Barranger, NINCDS Receives Flemming Award

Dr. John Barranger, an NINCDS expert investigator in studies of inherited metabolic disease, has received the Arthur S. Flemming

Dr. Barranger

Award as one of this year's 10 outstanding Federal employees under age 40.

The award recognizes his "outstanding contributions to science and medicine in the field of genetic disorders."

Dr. Barranger's research is conducted in the NINCDS Developmental and Metabolic Neurology Branch under the leadership of Dr. Roscoe O. Brady. Dr. Barranger's work on the biochemistry and molecular genetics of inherited enzyme deficiencies "has substantially advanced the scientific understanding of human disease," his award citation reads, "and may soon lead to definitive therapy for heretofore untreatable disorders."

Dr. Barranger will receive his award at a luncheon at noon on Thursday, Apr. 25, at the Loew's L'Enfant Plaza Hotel, Washington, D.C. A reception preceding the luncheon begins at 11:30 a.m. in the hotel's Monet Room. Luncheon tickets are $19 and may be obtained at the event.

Further information is available from Peggy O'Brien, NIH awards coordinator, at 496-4973.

The awards are given each year by the Arthur S. Flemming Commission and the Downtown Jaycees of Washington, D.C.

(See FLEMMING AWARD, Page 10)

Experts Say:

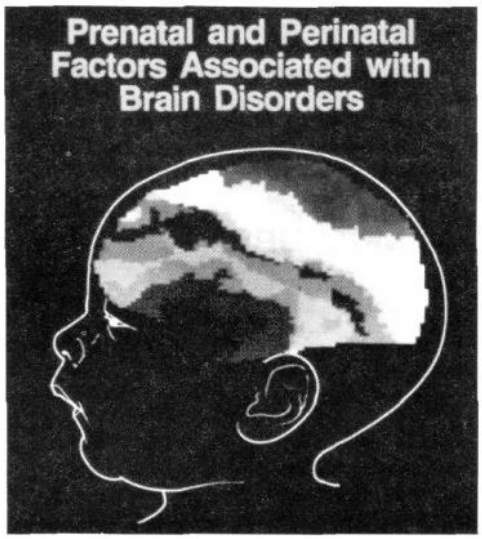
Causes of Birth-Related Brain Disorders Still Not Clear Cut; Trauma Causes Few

By Leslie Fink

"If we were to teach only what we know with certainty to be true," said Dr. John Freeman, Johns Hopkins professor of pediatric neurology, "then much of what we 'know' about the causes of cerebral palsy, mental retardation and epilepsy should no longer be taught." Presenting the results of a vast data search for the causes of pregnancy- and birth-related brain disorders, Dr. Freeman and his colleagues—a group of experts in a variety of medical fields—concluded that "in a majority of infants with these disorders, we cannot find a cause."

Not long ago, physicians blamed physical birth trauma such as prolonged labor, abnormal position of the fetus during delivery, and injury from obstetric forceps for several neurologic disorders among infants and children. Since then, though, advances in obstetric practice such as the increased use of cesarean delivery for some breech and low birth weight babies and the decreased use of obstetric forceps have nearly eliminated physical birth trauma as a cause of neurologic disabilities.

On Apr. 8, the group convened in Lister Hill Auditorium to present their findings, published



in the report *Prenatal and Perinatal Factors Associated with Brain Disorders*. "This report represents a watershed for our thinking about the

(See BRAIN DISORDERS, Page 11)

Dr. Louis Miller, NIAID and Renowned Expert On Malaria, Will Deliver Dyer Lecture on May 1

The annual R. E. Dyer Lecture will be delivered by Dr. Louis Miller, chief of the Malaria Section, Laboratory of Parasitic Diseases, NIAID. Dr. Miller, whose topic is, "Malaria: Cell Surface Proteins as Receptors and Immunogens," will speak Wednesday, May 1 at 8:15 p.m. in the Clinical Center's Masur Auditorium.

The Dyer lecturer is selected each year by the NIH Director from among those scientists internationally recognized for contributions to medical and biological knowledge pertaining specifically to infectious diseases.

The Dyer Lecture was established to honor Dr. Rolla Eugene Dyer, Director of NIH from 1942 to 1950, and an eminent research scientist in the area of infectious diseases.

Dr. Miller, a world-renowed investigator, recently received the prestigious Paul Erlich-Ludwig Darmstaedter Prize for his outstanding accomplishments in the field of malaria research.

Malaria, which strikes about 150 million people each year, killing more than 1 million, is caused by a parasite carried by mosquitoes. It presents a particularly difficult problem because of the growing resistance of the mosquito carrier to insecticides and of the parasite itself to treatment with drugs.

Development of a vaccine is one promising approach to the control of malaria, and progress toward that goal owes much to work at NIH on the *Plasmodium* parasite that causes the disease.

In collaboration with NIAID's Dr. James Dvorak, Dr. Miller observed and photographed, for the first time, the sequence of events by which the malaria parasite invades red blood cells.

Dr. Miller demonstrated that each species of malaria parasite requires a specific receptor to enter the host blood cell. He identified the re-

(See DYER LECTURE, Page 10)

The NIH Record

Published biweekly at Bethesda, Md., by the Editorial Operations Branch, Division of Public Information, for the information of employees of the National Institutes of Health, Department of Health and Human Services, and circulated by request to writers and to researchers in biomedical and related fields. The content is reprintable without permission. Pictures may be available on *request*.

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TRAINING TIPS

The following courses are sponsored by the Division of Personnel Management, Development and Training Operations Branch.

Administrative Systems	*Course Starts*	*Deadline*
Basic Time & Attendance	5/2	4/18
Delpro (for new users only)	5/6	4/22
	6/17	6/3
Letterwriting for Secretaries	5/15	5/1
Technical/Occupational		
Related Training (call 496-6211)		
Advanced Lotus	5/14	4/30
Lotus I, II, III	6/10	5/28
D-Base	6/12	5/29
Computer Literacy	7/30	7/15
	8/1	7/15
Training and Development Services Program (call 496-6211)		
Adult Education Program (call 496-6211)		
Executive, Management, and Supervisory (call 496-6371)		
Effective Presentation Skills	5/6	4/25
OMB Circular A–76 Productivity Improvement Workshop	5/8	4/19
Supervising in the Federal Wage System	5/13	4/26
Federal Budget Process	6/5	5/17
Effective Listening	6/5	5/17
Performance Appraisal Counseling	6/12	5/24
Planning for Results	6/26	6/7

REMINDER:

The NIH Health's Angels Jogging Club is sponsoring its Annual Institute Challenge Relay race on Wednesday, May 15. The relay will begin at noon in front of Bldg. 1.

Entry forms and instruction sheets are available at the R&W Activities Desk in Bldg. 31, Rm. B1W30. Completed forms must be returned to the Activities Desk by Friday, May 10. A $3 entry fee is required of each team. □

NIH Employee Suggestions Saved Thousands in 1984

Employees from many NIH organizations received cash suggestion awards for their ideas last year.

One suggestion saved $51,000 for NIEHS and earned a cash award of $2,230 for its originators.

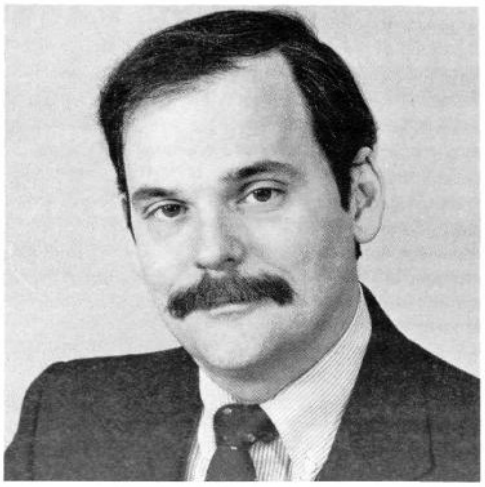
Your money saving ideas are welcome. Submit employee suggestions on Form HHS–170 and see item 55 in the *NIH Telephone and Service Directory*.

Suggestion Awardees

Receiving awards for their suggestions were:

- **Joseph Charuhas,** NLM, showed how display panels for traveling exhibits could be constructed so that they could be quickly and easily changed. Savings amounted to $610.
- **Kathleen Cogan,** NINCDS, proposed that supplies delivered from Danac warehouse be packed in appropriately sized boxes rather than wasting large boxes on small items, thereby saving $337.
- **Diane Dorsch,** NIAID, found a better system to identify job identification numbers on the NIH Merit Promotion Plan Vacancy Listing distributed by the various personnel offices, a benefit of $500.
- **Martha Fewell,** NCI, suggested providing printed directions for patients using a particular Clinical Center clinic which had been recently relocated to a difficult-to-find location. Staff time was saved in giving directions.
- **William Hall,** NIEHS, proposed encapsulating electric motors to prevent moisture from causing them to short out. Savings amounted to $6,400.
- **Eugene Harlow** and **Franklin Young,** NIEHS, proposed a time-delay relay in a chiller system to bring water to proper temperature, thus preventing the loss of research data stored in environmental chambers. Savings amounted to $51,115.
- **Gerald Hecht,** OD, determined that if video cassette purchases were consolidated in the TV unit of the Audiovisual Branch rather than requiring each user to provide a cassette, NIH could save $8,089.
- **Tommy Jones,** NIEHS, suggested using about-to-be-declared surplus materials worth $2,280, in the renovation of a laboratory.
- **John Pruet,** NIEHS, devised a means of controlling temperature and ventilation in elevator machine rooms. NIH saved $1,040.
- **Debra Shoaee-Tehrani,** DRG, submitted a suggestion that led to designing a new computer tracking system, saving the Division of Research Grants $8,805.
- **Barbara Warthen,** ORS, suggested a better way for DPM to notify the parking office about summer employees.
- **Franklin Young,** NIEHS, designed a method to provide and control water for high temperature boilers, thus lessening the burden on plant operating personnel. Savings was $934. □

There are two kinds of people: those who do the work and those who take credit for it.—Anon.



Thomas H. Flavin was recently appointed special projects officer and protocol assistant to the NIH Director. Formerly public information officer for the National Institute of Allergy and Infectious Diseases, Mr. Flavin will be advising the NIH Director and staff on policy and procedures relating to special projects involving the NIH scientific and nonscientific communities and alumni worldwide. These projects include the upcoming NIH Centennial Program to be celebrated in 1987; development and operation of the NIH Visitor Information Center in Bldg. 10, and development of programs and itineraries for visitors to NIH, including celebrities, foreign scientists, journalists, diplomats, and heads of state.

TV Spot on Dental Sealant Released by NIDR, ADA

To inform parents about the benefits of applying sealants to children's teeth, a 30-second public service announcement for television, "Paint on Protection," was released in December by the National Institute of Dental Research and the American Dental Association.

Five manufacturers of ADA-accepted dental sealants joined the ADA in providing funds to produce the TV spot. These companies were L.D. Caulk, ESPE Premier Sales Corporation, Johnson & Johnson, Vivedent USA, Inc. and S.S. White.

The purpose of the public service announcement is to explain what sealants are and how they work to prevent tooth decay. Sealants are clear plastic films that are applied to pits and grooves of teeth, especially chewing surfaces of back teeth where decay occurs most often.

The sealant acts as a barrier, preventing food and bacteria from collecting in the pits and fissures of these teeth, thus decreasing the risk of decay. "Paint on Protection" compares protecting a home with paint to protecting children's teeth with sealants.

"Paint on Protection" was distributed to over 600 independent TV stations throughout the country, and has been picked up by the CBS, ABC, NBC, and Life-Time networks.

Sixteen millimeter film prints of the public service announcement may be obtained free of charge by writing to:

The American Dental Association
Bureau of Communications
ATTENTION: Jay Danielian
211 E. Chicago Ave.
Chicago, IL 60611
(312) 440-2808. □

U.S. Savings Bonds Have Been Transformed: Ugly Duckling Into Competitive Investment

The U.S. Savings Bond, once the "ugly duckling" of the financial world, has grown into something worth a second look.

Many people are surprised to learn that savings bonds are now a competitive investment choice in today's financial market. With an interest rate of 10.94 percent for the current semiannual period of November 1984 to April 1985, series EE bonds can be a very good savings and investment opportunity.

To publicize the benefits of savings bonds, DHHS Secretary Margaret Heckler designated Apr. 1 to 30 for the Department-wide savings bond drive. The National Institute of Dental Research is coordinating the NIH effort, with NIDR executive officer John P. Patterson and administrative officer M. Janis Mullaney acting as co-coordinators.

A goal of 50 percent participation in the bond drive throughout DHHS was set by Secretary Heckler. Currently, NIH has about a 13 percent participation rate.

"Now that savings bonds are competitive with the banking industry, we believe that NIH employees will take a closer look at them," Mr. Patterson said. "And by advertising the advantages of bonds through this campaign, we are confident the 'new' bonds will sell themselves.

"I'm sure that NIH participation will increase far beyond our current 13 percent level. And even though we're emphasizing bonds this April, it's important to remember that bonds can be purchased throughout the year."

Bond rates now change every 6 months, with owners receiving an average of the rates for the periods the bonds are held. Each 6-month period is calculated at 85 percent of the average return on 5-year Treasury securities. Tying U.S. Savings Bonds to Treasury security rates allows bond interest to go as high as the market dictates. At the same time, the government guarantees a rate of 7.5 percent even if the market should fall below that level.

Bonds must be held at least 5-years from the date of purchase to earn the market-based rate. Bonds cashed before the 5-year holding period ends receive interest on a fixed, graduated scale beginning at 5.5 percent.

"Many people think bonds only pay interest on a fixed rate system," explained Steven R. Mead, executive director of the U.S. Savings Bonds program. "But when series EE bonds are held for at least 5 years," he continued, "the assigned rate for periods held will be averaged and the average rate, compounded semiannually, will determine the interest received."

At the higher rates which bonds now are enjoying, the bonds will reach face value faster. Based on the guaranteed minimum of 7.5 percent, bonds reach face value in 10 years. Thus, at an average rate of 10 percent they will reach face value in less than 8 years.

If you are surprised by these facts you're probably not alone. Mr. Patterson says the turnaround came in November 1982 when the U.S. Treasury began the market-based variable rate system making bonds an investment choice competitive in the modern market place.

Bonds can be purchased with an investment as small as $25, half the price of a $50 bond. Automatic payroll saving is a good way to build the savings habit, and a minimum payroll deduction of $3.75 per pay period is allowed.

In addition to the floating interest rate, the Federal tax liability on interest earned can be deferred on U.S. Savings Bonds. This feature can raise the effective yield on a bond investment to a figure equal to or better than some money market funds.

This tax deferral feature can also work in favor of those planning for retirement, assuming that they cash the bonds after they retire when their tax bill will be less because of lower income.

Parents planning for the education of their children can purchase bonds in a dependent child's name with a parent as beneficiary. Under the Internal Revenue Service code, up to $1,000 per year may be accumulated without tax liability. Assuming that the child has no other income, a bond could earn interest without subjecting the income to real taxation.

A program like this, started at birth, can yield a good sum of money by the time a child is ready for college. "Personal financial planning involves many considerations," Mr. Patterson pointed out, "—the ability to save, return on investment through interest rates and effective yield, risk, tax position and the reason for the investment. Savings bonds are a favorable alternative when weighing many of the these factors."

Jamie Farr, better known as Klinger, the Army private who wore dresses on the hit TV series MASH, is serving as a honorary chairman of the Federal Interagency Savings Bond Committee for 1985-1986. At a rally held at the Treasury Department on Feb. 21 to kickoff the 1985 bond drive, he congratulated DHHS Secretary Margaret M. Heckler for her work as chairperson of the committee.

To learn more about purchasing savings bonds, contact your Institute representative listed below:

SAVINGS BOND DRIVE

Institute	Name	Bldg./Rm.	Ext.
OD	Roberta Garfinkle	31/4B09	7041
NCI	Robert Velthuis	41/A106	2286
NHLBI	Jack Nance	31/5A50	2411
NLM	Dennis Black	38A/B1N17	6546
NIAID	Patricia Sparks	31/7A10	4701
NIADDK	Debbie Whittington	31/9A20	1202
NICHD	Ben Fulton	31/2A11	4121
	Joyce Pilcher	31/2A25	3365
NIA	Dave Chicchirichi	31/2C05	5345
NIDR	Joanie Shariat	31/2C19	4768
NIEHS	Neil Wingfield, P.O. Box 12233 8-629-3261 Research Triangle Park N.C. 27709 Mail Drop:A210		
NIGMS	Robert Willcoxon	WB/9A09	7161
NINCDS	Robert Knickerbocker	10/5N220	2294
NEI	Carlton Sullivan	10/10N116	3424
CC	John Slovikosky	10/1N262	6544
DCRT	Gloria Richardson	12A/3017	4647
FIC	Sharon Posey	38A/604	4625
DRR	Norman Mills	31/5B31	5451
DRG	John Robertson	WB/434	7577
DRS	Pat Lewis	10/B2C124	3221
NIMH	Sig Clemens	36/1A27	1170 □

Seminar on Computer Capabilities, Program Direction Set by STEP

The Staff Training in Extramural Programs (STEP) Committee will present module I-seminar 5 on computer capabilities and program direction in the Lister Hill Auditorium (Bldg. 38A), Thursday, May 9, from 1:30 to 4:30 p.m.

This seminar is designed to familiarize attendees with the use of computer capabilities in program direction, analysis, planning, evaluation and related activities. An inventory of existing systems will be presented and made available.

Two current systems will be discussed by their users and one developing system will be presented.

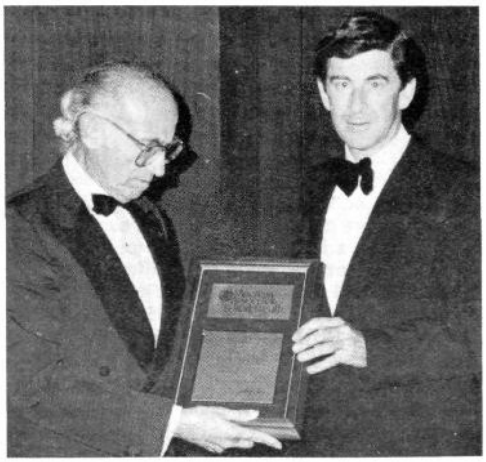
A guest speaker will discuss future applications. Some familiarity with data bases would help but is not necessary for understanding the concepts and applications to be discussed.

Advance registration is not required; registration will begin at 1 p.m. All extramural staff are invited. For additional information, contact the STEP program office, Bldg. 31, Rm. 1B63, 496-1493. □

Dr. Jonas Salk Saluted on World Health Day for Vaccine: Eleven Youths Cited for Important Contributions to Health

"World Health Day 1985," celebrated on Apr. 4, was a salute to healthy youth as "our best resource," and to an American medical hero, Dr. Jonas E. Salk, who changed childhood for the better with the first successful vaccine against poliomyelitis.

World Health Day, established by the World Health Organization (WHO) and first celebrated in 1948, is currently observed in 164 countries around the world.



Dr. Salk (l) was presented a commemorative plaque by Dr. Peter Bourne, president of the American Association for World Health, honoring the 30th anniversary of the first use of the Salk polio vaccine.

The Department of Health and Human Services, the Pan Ameican Health Organization (PAHO), and the American Association for World Health (AAWH) sponsored the national U.S. celebration held at PAHO in Washington, D.C.

Eleven youths (ages 12 to 24) were cited for important contributions they made to various health areas.

The students honored by WHO were:

• **Paul Banick,** 23, a second-year medical student at Georgetown University is conducting research on anatomy, physiology and pharmacology of cardiorespiratory centers of the brain. One purpose of his research is to decrease the side effects and increase the efficacy of current treatments used for cardiorespiratory disorders.

• **Lauren Brown,** 21, a counselor in prenatal/neonatal care program in Brooklyn, N.Y., is a spokesperson on the relationship between adolescent pregnancy and birth defects. She is featured in *It's Up to Me*, a widely used March of Dimes film for teenage audiences.

• **Jason B. Crawley,** 12, participates in the Honorary Grandparents Program developed through the Washington Home, a hospice and center for the chronically ill in Washington, D.C. Each child in the program is assigned one resident to "adopt" as his/her grandparent. The main goals of the program are to establish ties of friendship between residents and these young children, and to promote the psychosocial health and development of the residents.

• **Delmar Chesley,** 18, was honored for his excellence in athletics. As a well-rounded athlete, Delmar has been a 2-year starter in both basketball and baseball to accompany his 3-year starter status in football at Anacostia High School in Washington, D.C. His outstanding play earned him a position on the *Washington Post* All-Metropolitan 1st Team; he was selected as an "All American" player by *Parade Magazine,* and received the Washington, D.C. Touchdown Club's 1985 "High School Player of the Year Award."

• **Donald Kerwin Jr.,** 22, while attending Georgetown University, volunteered in downtown Washington at the Sara House for Women one night a week for 4 years, assisting in care of the homeless women and providing meals. After graduation, he asked to volunteer in Peru and is currently in charge of a soup kitchen for 300 children in Chimbote.

• **Michael Lefkowitz,** 16, since last September, has worked in the Biomedical Internship Program under NIH's National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases. He has worked approximately 10 hours a week assisting Dr. Dennis Klinman in laboratory research on autoimmune diseases. He has been dissecting mice which have been injected with antibodies and other factors. After the mice spleens have been cultured and examined, the investigators search for incidence of systemic lupus erythematosus.

• **Dean A. Mistretta,** 21, supervises a paraprofessional staff of 12 to 14 persons at Straight, Inc., all of whom, like himself, once participated in the Straight rehabilitation program. Dean had substance problems (alcohol and marijuana) when he was 17. School grades declined, family problems developed, and he experienced erratic mood swings. Dean will shortly receive his associate's degree with honors in correctional sciences from Northern Virginia Community College.

• **Mary A. Robinson,** 21, has worked in various elderly programs including Emmaus Services for the Aging, where she assisted with recruitment, information, and referral services. A senior at George Washington University, Mary is majoring in human services with a concentration in gerontology, the first student to graduate with that specialty. She is currently examining the elderly's reluctance to accept medical help and/or involve themselves in recreational and social programs.

• **Eleni A. Rossides,** 17, was honored for her outstanding athletic ability in tennis. She is currently ranked one of the top ten players, 18 or under, in the United States. Eleni, who started playing tennis at age 10, will travel next month to Milan, Italy, to represent the U.S. in the Junior World Tennis Championships.

• **Sharon Seanlon,** 25, is legislative affairs director of the American Medical Students Association, and is spending this year on a fellowship in health policy and legislation. Sharon is expecting her medical degree in May 1986 from Georgetown University, and participates in the National Health Service Program.

• **Adam Smith,** 21, a student at Morehouse College, is on the youth advisory committee of the American Red Cross. Sent to Africa twice by the Red Cross, his assessment of the refugee programs in Ethiopia and Senegal have influenced the relief program of that organization.

Principal speakers at the day's activities were M. Peter McPherson, administrator of the Agency for International Development; Drs. C. Everett Koop, Surgeon General of the U.S. Public Health Service; Peter G. Bourne, president of the American Association of World Health, and Carlyle Guerra de Macedo, director of PAHO.

(L to r) Dr. Simopoulos, chairperson of World Health Day, and Dr. de Macedo, and Surgeon General Koop participated in the WHO World Health Day celebration.

Dr. Artemis P. Simopoulos, chairman of the NIH Nutrition Coordinating Committee, was chairperson of World Health Day, 1985.

Later in the day at a black-tie banquet held at the National Academy of Sciences, a special tribute was paid to Dr. Salk in honor of the 30th

(Continued on Page 5)

Some of the young honorees participate in the WHO World Health Day.

Salk and First Vaccine Recipient Meet Again on World Health Day

Rev. William Kirkpatrick, born in 1935 in Pittsburgh, Pa., was the first human being to receive Dr. Jonas Salk's killed virus polio vaccine in 1953. Rev. Kirkpatrick met Dr. Salk while in

Dr. Salk (c) and the Rev. Kirkpatrick (r) met for the first time since Rev. Kirkpatrick became the first person to be inoculated with the Salk vaccine 30 years ago. Mrs. Kirkpatrick (l) joined the two in their recollections.

the hospital recovering from one type of polio he had contracted when he was 17. After receiving the vaccine, Rev. Kirkpatrick was immunized to all three types of polio.

After 30 years, Rev. Kirkpatrick, executive director of the Episcopal Diocese of Washington, remet Dr. Salk at the WHO conference for the first time since he had participated in the first human clinical trial.

Dr. Salk's vaccine was made available to U.S. children in 1955 after the largest field trial ever conducted was completed in 1954 by the March of Dimes.

The polio vaccine still stands as one of the most significant medical achievements of our time.

(Continued from Page 4)

anniversary of "the shot heard around the world," the first polio vaccine.

When the Salk vaccine was announced on Tuesday morning Apr. 12, 1955, church bells pealed all over North America to mark one of the most significant medical achievements of this century, if not of all time. Polio, a word that had terrorized humanity, became preventable, and parents and children entered a new era.

Dr. Salk's vaccine was proven "safe, effective and potent" by massive field trials beginning with the inoculation of the first person, William Kirkpatrick. The now Reverend Kirkpatrick, executive director of the Episcopal Diocese of Washington, and his wife were present at the 30th anniversary celebration, along with Peter Davies, executive director of Interaction.

James P. Grant, executive director of the United Nations Children's Fund (UNICEF), in his banquet address, commended the scientific excellence and achievements of Dr. Salk over the years.

Attendees at the banquet known to the NIH community included: Dr. Frederick C. Robbins, president of the Institute of Medicine, NAS; Dr. Julius B. Richmond, former Assistant Secretary for Health and Surgeon General, DHHS; Emilie A. Black, banquet chairperson and recently retired health scientist administrator, NIGMS, and her husband. □

Flu Virus Takes Off in Space Shuttle For Study by NIAID-Supported Scientists

By Jeanne Winnick

Scientists supported by the National Institute of Allergy and Infectious Diseases recently participated in an "out of this world" experiment involving flu virus placed aboard the NASA space shuttle immediately prior to its launch Apr. 12.

The experiment involves crystallization of the antibody-neuraminidase complex in space. In order to study the structure of neuraminidase protein, it must be crystallized to a much larger size than is possible using available technology here on Earth.

Earlier space shuttle experiments have shown that proteins can be crystallized in space, and, in fact, high-quality crystals have been produced that can be up to 1,000 times the normal size obtained here on Earth.

Scientists are hopeful that this research project will result in a greater understanding of the influenza virus, perhaps leading to the development of better vaccines to prevent this disease.

Drs. Robert G. Webster of St. Jude's Children's Research Hospital, Memphis, Tenn., W. Graeme Laver of the Australian National University in Canberra, Australia, and Peter M. Coleman of the Commonwealth Science and Industry Research Organization in Parkville, Australia, have been studying the three-dimensional structure of neuraminidase, one of the major proteins on the surface of the influenza virus. The other is hemagglutinin.

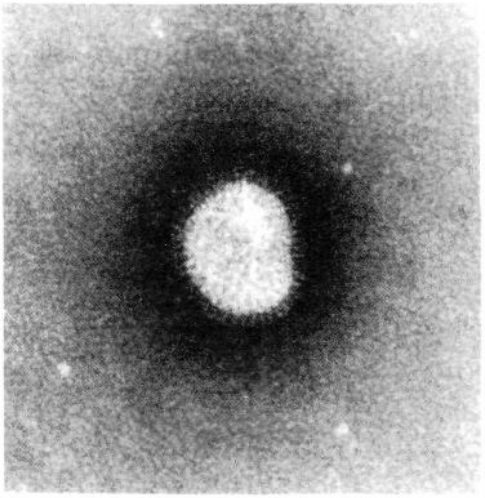
These two proteins act as antigens, stimulating the body to produce antibodies that protect a person from a second attack of the same strain of flu virus. Although investigators have been able to analyze amino acid sequence of this protein successfully, additional information is required before the puzzle of the periodic changes in influenza viruses is solved. It is these antigenic drifts and shifts that, despite effective vaccines, leave vast populations vulnerable to an essentially "new" influenza virus.

The actual material for the experiment was packaged in a self-contained unit 10 inches long, 5 inches wide, and 1 inch deep, with two small syringes and a chamber in the middle. One syringe contained monoclonal antibodies to neuraminidase, prepared by Dr. Webster, and the other neuraminidase, prepared by Dr. Laver.

Monoclonal antibodies and neuraminidase both will form crystals. However, when the two are mixed in space, it is hoped that they will form a crystal which, if suitable for x-ray crystallography, will provide scientists with the means to determine exactly how an antibody combines with an antigen. Earlier, Dr. Laver had flown to the Space Center to show Astronaut Charles Walker, an engineer with McDonnell Douglas Corporation how to mix the material.

This flu virus experiment was part of a large project involving protein crystallography designed by experts at the University of Alabama-Birmingham, with whom the Institute-supported scientists are collaborating.

Dr. Charles Bugg coordinated the project with NASA, and he and colleagues, Drs. Lawrence DeLucas and Fred Suddath, all x-ray crystallographers, are to be on hand to meet



Electromicrograph of a single type A influenza virus.

the returning shuttle and to examine the material. The project is being conducted under the auspices of NASA's Microgravity Science Application Division.

As this issue of the *Record* went to press, the shuttle had not yet landed, and, therefore, it was not known whether sufficiently large crystals were recovered from the mission. If such crystals are recovered, the material will be placed in a sealed container and flown to Australia where Dr. Laver and his colleagues plan to conduct the x-ray crystallography.

They will analyze the structure by passing the beam of an x-ray through the crystal. The x-ray beam will fragment and bend, providing vital information on the three-dimensional structure of neuraminidase-antibody complexes. □

H, I, J, General Parking Permits Must Be Renewed During May

General parking permits for NIH employees whose last name begins with H, I, or J must be renewed during May.

Employees may renew their parking permits any workday at the NIH Parking Office, Bldg. 31, Rm. B1C19, between 8:30 a.m. and 3 p.m. Parking permits will also be available as follows:

Blair Bldg., Wednesday, May 8, 1-2 p.m., Conf. Rm. 110

Federal Bldg., Wednesday, May 15, 1-2 p.m., Conf. Rm. B119

Landow Bldg., Wednesday, May 15, 2:30-3:30 p.m., Conf. Rm. C

Westwood Bldg., Wednesday, May 8, 9-11 a.m., Conf. Rm. 3.

Affected employees will receive a memo reminding them of the upcoming renewal and providing specific instructions on obtaining replacement permits. Employees with preferential (red) or carpool parking permits whose last name begins with H, I, or J do not need to obtain new parking permits during May.

New May general parking permits must be displayed beginning Monday, June 3. □

Give a Little Time, Get a Lot of Satisfaction From Befriending 'Little Pals,' 3 NIHers Say

By Anne Barber

Sue Heidel, a personnel management specialist in the NIH Office of the Director Personnel Office, believes in and supports the Pals Program—a program administered by the Mental Health Association of the Montgomery County, Md., to help provide friendship and guidance to children and youth through a one-to-one relationship with a trained volunteer.

Little Pals are boys and girls, ages 7 to 17, who live in Montgomery County. Referrals for the most part are young people who come from single parent homes and have a need for extra friendship and support, especially in the case of boys where there is often a need for a positive male role model.

From many different backgrounds Little Pals have different levels of need. The one thing all Little Pals have in common, though, is their need for a special friend.

Little Pals are accepted into the program only if they want to participate and have their parents or guardian's approval. Many Little Pals are referred by their parents; others are referred by schools or health care professionals.

Big Pals are concerned volunteers from all economic levels and cultural backgrounds and must be 17 or older. Big and Little Pals are matched, based on the volunteers' skills and the young people's needs, along with cultural backgrounds, similarity of interests, personalities, and geographic location.

One year is the minimum time that a Big and Little Pal are matched. The time they spend together twice a month during that year allows the relationship to grow.

Training sessions are held every quarter for prospective Big Pals. At this time, human services professionals help provide skills and resources the Big Pals to be may need to deal with situations which could arise during their match. Followup training sessions are also held every other month for the volunteers who have been matched for a while.

Sue and her Little Pal, Lisa, are enjoying a fall hayride at Butler's Orchard in Gaithersburg.

All participants in the program—both Big and Little Pals—join in group activities such as camping, picnics, potluck dinners, and parties.

There are no extra financial costs to either the Big or Little Pal; each person pays his/her own way.

"The only cost is in time and energy spent in establishing a relationship with the young person," Sue says.

Sue joined the Pals Program in September 1983 because she wanted to get invovled with a service-type activity that would fit her busy schedule.

Talking about her little Pal, Sue says: "Lisa was 12 years old when we were matched. She is a very delightful and sensitive young girl. She is unusually polite, helpful, and enthusiastic—not at all a typical junior high school kid. We've become great friends during the year and a half we've been matched."

Sue and Lisa go roller skating, take walks along the canal, tour museums, go to craft fairs and do craft projects together because they both enjoy making things.

"Even when we aren't planning to get together," says Sue, "I call her just to chat."

Sue is very active in the Pals Program and writes the program newsletter. She participates in the training sessions, discussing her own experiences and frustrations and ways to cope with them and serves on the committee which makes followup calls to Big Pals to ensure everything is going well with their match. She is also on the committee which works to recruit Big Pals.

Sue had worked for the Mental Health Association of Montgomery County before as a Hotline volunteer. She also taught third grade in the Montgomery County Public School system for 6 years before coming to work for NIH.

Her reason for becoming a Big Pal? "It makes me feel good to be helping someone and to help this young girl feel special during her teenage years. It gives me a lot of personal satisfaction. I am grateful for the opportunity I've had in my life and I'd life to give a little bit of that back."

Chip Denman, a mathematical statistician in the Biometry Branch of NICHD, became involved with Pals about a year ago while visting a friend who was raising his son alone.

"I began thinking that similar parents might not be as fortunate and flexible as my friend, so I searched around for a program like Pals."

Chip is 30 years old, married, with no children of his own at this time. His first Little Pal was 11 years old and moved out of the area before their 1-year contract was up. However, he still says in touch.

He now has a new Little Pal who is 10.

Chip talks about his first kid and how lots of changes were taking place in his life. His mother was remarrying and moving the family out of the area—a lot of stress and trauma for an 11-year-old.

"I was glad I was there for him at that time because he needed someone outside the family to talk with; I think he was equally glad to have me there for him," Chip says.

Chip explains that in Big Pals you enter a contract with your Little Pal for a year. After a year, you may switch or renegotiate to stay together for another year if you choose.

Chip and his Little Pal visited zoos, museums, and went to movies occasionally. Chip also accompanied him to Boy Scout activities and showed him the computer system at work.

"It gives you a good feeling. I feel like I'm doing something that's fun for me yet something important for someone else. I want to stress how much fun it is for me. We're both getting something out of it."

Chip had been involved with kids that age before when he was a camp counselor. He enjoys working with kids and missed that kind of interaction.

"I particularly like the age group of 10-12 because that was the age I worked with at camp and I feel comfortable with them. Also I like to go camping and I wanted someone old enough to enjoy that also."

Chip is active in the Pals Program as a volunteer in planning special activities for the entire group of Big and Little Pals such as camping, picnics, cookouts, parties, etc.

"I like working with the kids and the adults I've met in the program. They are good people," he says.

"Yes, I want to continue my involvement with Pals. I just signed a contract for a year with my second kid."

Chip and his Little Pal, Larry, went on a camping trip last summer.

He is quick to point out that although the Little Pals must live in Montgomery County, Big Pal volunteers don't have to live in the county.

Chip is so enthusiastic about the Pals Program and loves working with kids so much, he talked George Reed, his coworker, into getting involved in the program also.

Dr. George Reed is also a mathematical statistician in the Biometry Branch of NICHD.

George, 38, grew up in Baltimore and now lives in Bethesda. He got involved in the Pals Program because he always wanted to give something back to the community that had nurtured him.

"When Chip found out about Pals, he checked it out and I followed him out of a desire to exert positive influence on kids in the community," George says.

"I used to tutor kids in math, and while working for the Urban League in Minneapolis, Minn., I worked with young adults helping them get into a construction trade."

George's Little Pal is a 9-year-old boy who he's been with since June 1984.

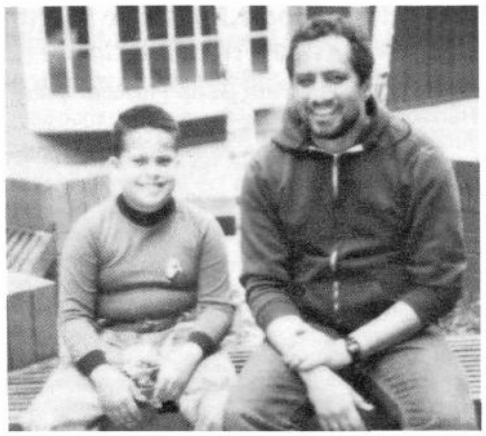
"I picked his age group because I thought it was the best chance for a compatible match, although I was still apprehensive before I met him.

"Nina Ellins, director of the Pals Program, tried to assure me by saying, 'He will be happy that you will be there for him.'

"She was right. Pals choose to be there, so they are glad to see you," says George.

Mario, George's Little Pal, and he go fishing, visit museums, go to movies, to the library, and

(Continued on Page 7)



George and his pal, Mario, sit on a bench waiting for the movie to begin.

(Continued from Page 6)
feed the ducks at Lake Whetstone in Montgomery Village in Gaithersburg, which is one of Mario's favorite things to do.

"Some Sundays, I have Mario over for lunch, and we watch TV and play with my home computer. Lately, I've been trying to teach him how to play chess.

"I think by the end of our first year, we will have developed a durable friendship."

George says, "Sometimes, I may spend three weekends in a row with Mario, but my problem is that the weekends are my only free time."

You are only required to get together twice a month with your Little Pal.

"Even twice a month is often enough to let the kid know he has someone special in his corner," says George.

George is also on the recruitment committee for the Pals Program.

"We need black male volunteers; we have only two in the program right now and we have a waiting list of over 30 young boys, almost half of whom are black.

"We have done radio spots on several radio stations and we plan to do some TV spots also."

George is also speaking to black male groups trying to get volunteers into the program.

PALS ... Windows to the World

"It is an easy way to be directly involved," George says about the Pals Program. "You don't have to donate $5,000 or 10 hours a week of your time.

"It gets you to spend time thinking of someone other than yourself and that alone makes the program worthwhile."

Sue, Chip and George all stress that there its an urgent for more men to participate in the program as a Big Pal to one of the many boys on the waiting list.

If you are interested in becoming a Big Pal volunteer or would like more information about the program, you may call Sue, Chip, or George and they will be happy to discuss the program with you. Or you may call Ms. Ellins, director of the program at 949-1255. □

RML's Dr. Willy Burgdorfer Honored by German Society For Discovery of Cause of Lyme Disease, Other Research

Dr. Willy Burgdorfer, acting chief of the Laboratory of Pathobiology of NIAID's Rocky Mountain Laboratories, Hamilton, Mont., was awarded the Schaudinn-Hoffmann Plaque Mar. 21 during the 34th Congress of the German Society of Dermatologists in Zurich, Switzerland. He also presented, by invitation, a keynote lecture on his discovery of the causative agent of Lyme disease.

The prestigious Schaudinn-Hoffmann Plaque was initiated in 1953 to honor the scientists who in 1903 discovered that the spirochete *Treponema pallidum* caused syphilis. Since then, the plaque has been awarded to seven physicians and scientists in recognition of their outstanding achievements in research, treatment, and control of infectious diseases, particularly those of the skin and associated mucous membranes.

Dr. Burgdorfer was honored for his scientific contributions in the field of medical entomology, especially research related to diseases maintained in nature and transmitted to man by anthropods such as ticks, and for his discovery in 1981 that a tick-borne spirochete is the causative agent of Lyme disease.

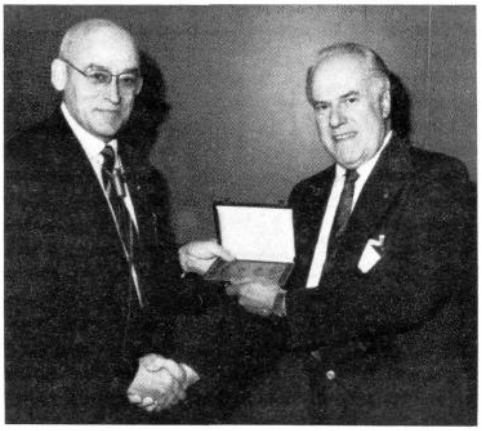
Lyme disease is a debilitating inflammatory disorder which usually begins with a skin lesion called erythema (chronicum) migrans. Weeks to months after the lesions appear, neurologic or cardiac abnormalities and various forms of arthritis may follow.

The causative agent, now known as *Borrelia burgdorferi*, in honor of Dr. Burgdorfer's work, is usually transmitted by ticks of the genus *Ixodes* namely *I. dammini* in the Eastern and Midwestern, and *I. pacificus* in the Western parts of the United States, and *I. ricinus* in Europe.

Other species of ticks have been found infected with *B. burgdorferi* but their role in the transmission of this agent has not as yet been established.

Biting insects such as deer flies and mosquitos may also be capable of transmitting the spirochetes.

Dr. Burgdorfer's discovery has led to intensive microbiological and clinical research on Lyme disease, the development of diagnostic procedures and to more effective treatment with antibiotics in this country as well as abroad. □



Prof. Dr. O. Braun-Falco (l) president of the German Society of Dermatologists awards RML's Dr. Burgdorfer (r) the Schaudinn-Hoffmann Plaque, for medical research during the 34th Congress of the society in Zurich, Switzerland.

Former NINCDS Scientist Gets Neurochemistry Prize

Dr. Bruce D. Trapp, an NINCDS intramural investigator from 1976 to 1984, has been named the third recipient of the American Society for Neurochemistry's Jordi Folch-Pi Memorial Award.

Dr. Trapp is being honored for his work on immunocytochemical localization of myelin proteins.

His prize-winning studies were carried out in the NINCDS Laboratory of Neuropathology and Neuroanatomical Sciences and the Laboratory of Molecular Genetics. He also worked in the NINCDS Infectious Diseases Branch.

Developed Method

Dr. Trapp developed a method of using myelin protein antibodies to locate structural proteins in tissues. This procedure is yielding clues to these proteins' functions. He is now an assistant professor of neurology with the Johns Hopkins University department of neurology.

The Folch-Pi Award, named for a founder of the American Society for Neurochemistry, is given to an outstanding young neurochemist within 10 years of receiving the Ph.D. degree.

The $1,500 prize is intended to help finance travel to international meetings and collaborations with foreign scientists. □

Dr. Sharon Seltzer Joins NINCDS as Grants Officer

Dr. Sharon Seltzer has joined the NINCDS extramural Communicative Disorders Program as a focal point for grants and contract-supported research in otolaryngology (eye, ear, nose and throat) and the communicative sciences.

As a medical officer specializing in otolaryngology, she will serve as a health scientist administrator for grants and as a project officer for contracts in both basic and clinical research. Her other responsibilities include such initiatives as research training programs and planning and organizing a workshop on communicative prostheses for pre-lingual deaf children.

Dr. Seltzer, a native of Los Angeles, completed her residency training in otolaryngology at the University of Iowa Hospital. She received her M.D. degree from the University of California at Irvine College of Medicine.

She brings to NINCDS research training and experience in magnetic resonance spectroscopy, gained at the University of California-Los Angeles and Oxford University in England.

She also pursued studies in theoretical chemistry, leading to a M.S. degree from the Massachusetts Institute of Technology. □

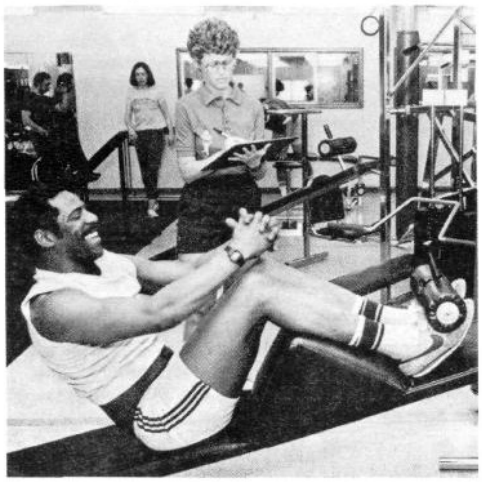
NIH's First Liftathon Raises Over $1,000

The first LiftAmerica event jointly sponsored by the NIH Police Department and the NIH Fitness Center was conducted on Mar. 27, raising over $1,000 in pledges.

LiftAmerica is a nationwide fundraising program based on community liftathons. LiftAmerica helps support Special Olympics programs for mentally retarded athletes and the National Strength and Conditioning Association's continuing sports science research and education.

Participants secure pledges and then perform a specific strength or conditioning exercise such as bench press, sit ups, push ups, bicycle riding, jump rope, etc.

Although the number of participants in this first liftathon was modest, the enthusiasm of the participants and their donors was overwhelming.



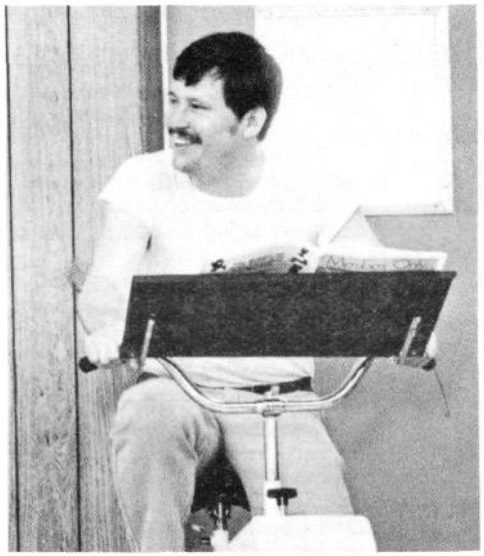
Greg Taylor of NLM does sit ups while Janet charts his progress.

The following participants secured pledges of over $100: Sally Nalley, Beverly Rogers, and Nancy Tineo, all from the Division of Safety, ORS.

Officer Richard Bruckelmyer, NIH Police Department, secured pledges of over $200 and Captain William Magers, NIH Fire Department, over $300.

Cochairpersons Janet Vizard, NIH Fitness Center, and James Koerber, NIH Police Department, are pleased with the results of the first NIH liftathon.

"We want to thank all those who pledged a donation and to all of those who participated in the liftathon."



Officer Bruckelmyer amuses himself by watching others and reading a magazine as he pedals to secure pledges of over $200.

Sally Nalley, on the bike, secured pledges of over $100. Talking with Sally is Janet Vizzard of the NIH Fitness Center.

Fitness Center's Run/Walk, May 8

The NIH Fitness Center's 2nd anniversary run/walk will be held on May 8 at 12 noon. Applications are now being accepted and are available at all R&W stores, the Fitness Center, Activities Desk and through Health's Angels Running Club.

The run will consist of a 2.5-mile course through NIH. There will also be a 1-mile walk.

Prizes will be awarded to the top male and female finishers in the open and masters (40 and up) divisions and to the first walker to complete the course.

For further information call Janet or Tom at 496-8746. □

DCRT Cosponsors Symposium On Chemical Physics Processes

The Division of Computer Research and Technology, the Office of Naval Research, and the La Jolla Institute will sponsor a 3-day symposium, "Rate Processes and First Passage Times in Chemical Physics" on May 6 to May 8, in Lister Hill Auditorium, (Bldg. 38A) from 9 a.m. to 5:30 p.m.

The objective is to discuss recent results from chemists and physicists at NIH and others.

For additional information contact Dr. George Weiss, 496-1135, or Dr. Attila Szabo, 496-2650. □

May, High Blood Pressure Month; OMS Will Give Free Readings

May is National High Blood Pressure Month. Traditionally health facilities and communities throughout the United States have provided intensive blood pressure screening programs for people in their areas.

NIH, as a major contributor to research and health promotion programs, is no exception.

High blood pressure, one of the major killers in the United States, is aptly named the "silent killer" because it has no symptoms.

Occupational Medical Service has provided a yearly screening program for all NIH employees in the past and will do so again in 1985.

OMS urges everyone to take advantage of the program, particularly if you have not had a yearly blood pressure check in the past or if high blood pressure runs in your family.

Come to one of the following sites, from 9 a.m. to 1 p.m., and have your blood pressure checked:

May 2	*Bldg. 1, Wilson Hall*
May 3	*Bldg. 29, Rm. 115*
May 7	*Bldg. 12A, Rm. 3026*
May 9	*Bldg. 10, Rm. B1C02*
May 10	*Bldg. 14G, Rm. 104*
May 13	*Bldg. 36, Lobby*
May 16	*Bldg. 30, Rm. 117*
May 23	*Bldg. 10, ACRF Lobby*
May 28	*Bldg. 7, 4th Fl. Conf. Rm.*

Screening will also be available at the following sites and times:

Date	*Bldg.*	*Rm.*	*Time*
May 1-31	*10, OMS Main Health Unit*	*6C306*	*8:30-11:30*
May 1-31	*Federal*	*5C12*	*8:30-5*
May 1-31	*Westwood*	*28*	*8:30-5*
May 1-31	*13*	*G901*	*8:30-5*
May 2,9,15,23,30	*Landow*	*7B01*	*8:30-10:30*
May 10	*Blair*	*110*	*8:30-10:30*
May 24	*Blair*	*110*	*2-4*
May 6,13,20	*31*	*B2B57*	*1:30-3:30*
May 1,8,15,23	*38A*	*B1N14*	*1:30-3:30* □

Bicycle Repair Course Offered

A bicycle repair course so popular over the past 3 years is being offered again by the R&W Bike Club. Open to all NIHers and their families, it will consist of four Tuesday evening sessions May 28 through June 18, from 5:30 to 7:30 p.m.

The course, taught by two experienced club members, will be held in the lunchroom of the Grounds Maintenance Bldg. (Bldg. 22, West entrance).

The four sessions will cover:

- Operation of a bicycle and maintaining a bike in proper operating condition.
- Overhaul: hubs, bottom bracket, cotter pins, pedals and headset.
- Overhaul: Gears, derailleurs, free wheels, changing gearing.
- Brake, wheel truing, spoke replacement.

Hands On Course

The course will be hands on (not your own bike) and will be limited to the first 15 people to sign up. The cost is $15 for the complete course, or $5 for single sessions. An illustrated course syllabus will be provided.

For more information or to sign up, call Louis Mocca, 496-1220. □

NIDR-Sponsored Scientists Improve Face Restoration

In the search for better artificial replacements for damaged portions of the face and jaws, dental scientists at the Gulf South Research Institute in New Orleans have developed a new restorative material—chlorinated polyethylene (CPE). This substance not only has improved molding and elastic properties, but also can be permanently custom-colored to match a person's facial complexion.

Dr. Lawrence Gettleman reported these findings at the International Association for Dental Research's 63rd General Session in Las Vegas.

Supported by the National Institute of Dental Research, this advance offers hope to thousands of people who suffer from the physical and psychological pain of facial disfigurement caused by tumors, birth defects, infections and other diseases, and accidents.

The challenge is to develop artificial materials, or prostheses, that are life-like in color, form, function, and touch to rebuild these damaged or deformed tissues.

The investigators focused their research on chlorinated polyethylene, an industrial elastic material, because it is both stable and durable. Other substances currently in use such as silicone rubber can fray or tear at the edges, requiring periodic replacement of the facial prostheses.

Dr. Gettleman combined CPE with other ingredients to make it softer and to give it the color of human skin. The material was then heated in plaster molds and cast into noses, ears, chins and eyes. Finally, the scientists touched-up the surface coloring of the prostheses with cosmetics to perfect the resemblance to natural skin.

Surface coloring can be altered by patients as often as they wish, for example, to reflect seasonal changes in skin tone.

A special advantage of the chlorinated polyethylene compound is that it can be molded repeatedly. Moreover, its color and texture can be adjusted by permanently embedding cosmetic pigments and/or fibers to achieve a very life-like appearance. Studies with patients are under way to test the comfort, effectiveness and durability of these new facial replacements. □

Walking/Hiking Club Schedule

The R&W Walking/Hiking Club schedule for May is as follows:

Sunday, May 5: Violettes Lock to Edwards Ferry (8.7 miles). Meet at NIH at 8:30 a.m. For information call Sally Stevens (w) 496-4124.

Sunday, May 19: Edwards Ferry to Monocacy Aqueduct (11.4 miles). Meet at NIH at 8:30 a.m. For information call Ed El-Hoshy (w) 496-4666.

Tuesday, May 21: Leaders' meeting at noon to set up future hikes. If you would like to participate, join lunchtime meeting in Bldg. 31, Rm. 2A52. For information call Ed El-Hoshy at (w) 496-4666.

Saturday, May 25: A moderate 15-mile circuit hike from Elkwallow, Shenandoah National Park thru Neighbor and Knob mountains. Bring lunch and sturdy footware. Leave NIH at 7:30 a.m. or Ballston Metro at 8:30 a.m. For information call Elizabeth Weisburger (w) 496-6272, (h) 530-4042. □

1985 CFC Campaign Results: NIH Gave 13.6 Percent More

The National Institutes of Health had an overall increase of 13.6 percent in the 1985 Combined Federal Campaign over the previous year. The total contribution for 1985 was $363,439 with over 5,000 employees participating.

Dr. James B. Wyngaarden, NIH Director, presented several Institute coordinators with CFC awards on Apr. 3. These were among the awards presented to Federal agencies and units achieving high support of the CFC.

Awards received included: the President's Award, for total contributions averaging $75 or more per employee; the Honor Award, for an average gift of $50 per employee and 75 percent participation; the Merit Award for an average gift of $30 per employee and 65 percent participation.

Receiving the President's Award from Dr. Wyngaarden for the Fogarty International Center is Wanda Pifer, the CFC coordinator.

CFC coordinators Suzanna H. Porter (l) and Loretta Alexander receive a Meritt Award on behalf of NIA from Dr. Wyngaarden.

Honor Awards on behalf of their Institutes were presented to the following CFC coordinators (l to r): Dave Dwyer, DRG; Mark Rotariu, NLM; Dr. Wyngaarden; Diane White, NIH Office of the Director; and Rob Wilcoxon, NIGMS.

Merit Awards were presented to the CFC coordinators of the following Institutes (l to r): Dennis Askwith, NICHD; Bea McKinley, NIAID; Mildred Warfield, NIAID; Dr. Wyngaarden; Norman Mills, DRR; and Gordon Cecil, CC Office of the Director.

Ex-Sen. Jacob Javits, Champion of Biomedical Research, Tells NINCDS Employees: You Give Healing and Hope

Former U.S. Senator Jacob Javits, himself the victim of a neurological disease, was the principal speaker at the most recent annual NINCDS All-Employees Meeting.

Guest speaker Sen. Javits received a standing ovation at the annual NINCDS All Employees' Meeting Mar. 25.

Former speakers have included the late Marjorie Guthrie, whose husband, folksinger Woody Guthrie, died of Huntington's disease, and James Roosevelt, son of President Franklin D. Roosevelt, who had polio.

The All-Employees Meeting, sponsored each year by the NINCDS Equal Employment Opportunity Advisory Committee, gives Institute staff an opportunity to share information about issues affecting the Institute, air their views, and ask questions.

Sen. Javits was introduced by NIH Director, Dr. James B. Wyngaarden, who spoke warmly about the former senator's continuing leadership and vision.

"The special awards set up in your honor are prototypes by which I believe future grants will be fashioned," Dr. Wyngaarden said, referring to congressionally mandated neuroscience awards honoring Sen. Javits.

To date, 100 investigators have been chosen to receive Javits Awards, which provide research grant support for up 7 years for basic or clinical research in the neurological and communicative sciences.

Sen. Javits spoke from first-hand experience. The longtime champion of biomedical research has had amyotrophic lateral sclerosis, a neurological disorder sometimes called "Lou Gehrig's disease," for several years. He described his view of research before a standing-room-only crowd on Mar. 25 at the annual NINCDS meeting.

"The neurosciences deal with the living dead," Sen. Javits told a rapt audience, "with people who suffer and whose suffering affects friends and relatives all around them. Consider the hopelessness and frustration of these people. Their lives are unendurable. Yet they endure, because you give them hope. You make the difference in terminal illness. You inspire the desire to continue with the life force.

"No matter in what capacity you work, you're not only healers, you're psychologists. You give the one indispensable element of healing—you give hope.

"Remember, we're all terminal—it's a matter of what you do with the time you have left!" □

FLEMMING AWARD

(Continued from Page 1)

Dr. Arthur S. Flemming, Secretary of the Department of Health, Education, and Welfare from 1958 to 1961, is to be a guest speaker at the luncheon honoring Dr. Barranger.

Another guest speaker is James Sanders, director of the Small Business Administration.

Studies Enzyme Deficiencies

Dr. Barranger, who holds Ph.D. and M.D. degrees from the University of Southern California, joined the NINCDS in 1976. His research focuses on understanding and finding therapies for inherited metabolic disease, particularly the enzyme deficiency disorders.

He and his colleague, Dr. Gary Murray, have developed methods to isolate, purify, and store enzymes deficient in Gaucher's disease, Fabry's disease, and Tay-Sachs disease. These new procedures make the deficient enzymes available for the clinical enzyme replacement trials he has undertaken, as well as for further biochemical studies.

His work with pure enzymes and antibodies led Dr. Barranger and his colleague, Dr. Edward Ginns, to the development of a reliable biochemical diagnostic procedure for accurately subtyping Gaucher's disease. With this advance, genetic counseling for Gaucher's families is now more precise.

Clues to Metabolic Diseases

Dr. Barranger and the investigative team he directs have made significant progress in defining the structures of several human enzymes. Their research is yielding clues to the mutations these enzymes undergo that lead to their deficiency in metabolic diseases.

In addition, Dr. Barranger and Dr. Ginns have developed a procedure for cloning the gene responsible for the deficient enzyme in Gaucher's disease. They and collaborators at the Massachusetts Institute of Technology are currently studying the possibility of treating this disorder by replacing the defective gene with a fully normal one.

Other Recognition

For his achievements, Dr. Barranger received the U.S. Public Health Service Commendation Medal in 1980.

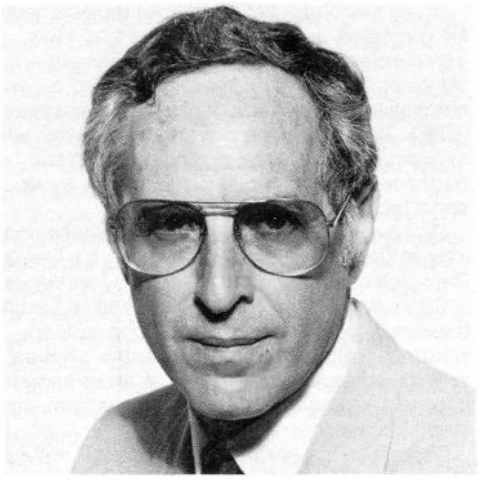
During his career, he has written and contributed to nearly 100 scientific publications. He also finds the time to write a "Dear Dr." column for the Gaucher Disease Newsletter, the lay-language publication of a patient information network and self-help group.

Dr. Barranger serves as a consultant to several research foundations and advisory boards. He also speaks to volunteer and patient groups here and abroad about the diagnosis of inherited disorders and about genetic counseling. □

There is no such source of error as the pursuit of absolute truth.—Samuel Butler

DYER LECTURE

(Continued from Page 1)



Dr. Miller

ceptors involved for several species, providing knowledge of the molecular basis for susceptibility to the parasite.

One of Dr. Miller's discoveries explains why most West African blacks are resistant to the species *Plasmodium vivax*. He found that one of the host receptors necessary for interaction between the parasite and red blood cells is the Duffy blood group antigen. Most blacks have red blood cells that are Duffy-negative and that therefore cannot be penetrated by that species.

Dr. Miller found that when *Plasmodium falciparum*, the most lethal malaria parasite, infects the red blood cells and matures, characteristic knobs appear on the cell membrane. These knobs are the points at which the *falciparum*-infected blood cells attach to blood vessel walls.

With other NIAID investigators, he developed an *in vitro* assay to detect the binding of red blood cells to blood vessel walls and showed that antibody could block this binding.

Recent collaborative efforts between Dr. Miller and his colleagues in the Laboratory of Parasitic Diseases, and researchers at Walter Reed Army Institute of Research, at Smith Kline and French Laboratories, and at the Naval Medical Research Institute, have led to exciting advances in the continuing effort to conquer malaria. A recombinant malaria vaccine, developed recently and tested extensively in animals, is expected to undergo phase I clinical trials within the next 5 months. □

Art Auction Tickets Available

Tickets for the art auction sponsored by the NIH Lodge of the Sons of Italy—$3 each—are available from the R&W Activities Desk, Bldg. 31, Rm. B1W30; Isabel Phillips, 496-5366, or may be purchased at the door.

The auction will be held Friday, May 10, at St. Andrews Episcopal School, 8935 Bradmoor Dr. off Greentree Rd. in Bethesda.

The auction begins at 7:30 p.m. and the bidding at 8:30. Proceeds will benefit Camp Fantastic and other charities. □

BRAIN DISORDERS

(Continued from Page 1)

"Few infants who experience difficult labor and delivery develop later neurologic handicaps," said Dr. John Freeman, chairman of the recent NICHD/NINCDS sponsored conference, Prenatal and Perinatal Factors Associated with Brain Disorders. "Most infants who experience similar difficulties develop normally."

causes of cerebral palsy, mental retardation and epilepsy," said Dr. Freeman, chairman of the group. "Few areas in medicine have changed in recent years as dramatically as those of neonatology and perinatology."

Still, neurologic and communicative disorders affect 42 million Americans. This number includes 780,000 mentally retarded school-age children, 750,000 Americans afflicted by cerebral palsy, and nearly 2 million people affected by epilepsy. Among the 42 million are countless individuals who suffer from combinations of these neurologic disabilities.

Birth Injuries Fewer

Because injury during labor and delivery no longer accounts for the high incidence of these neurologic disorders, NIH began a massive study to search for other causes. In 1959, researchers in the Neurological Collaborative Perinatal Project (NCPP) enrolled 55,000 pregnant women in the study and carefully documented prenatal and perinatal (from 20 weeks gestation to the 28th day of newborn life) events as they occurred. Following these women's children to age 7, this study has yielded much information linking the prenatal and perinatal histories of these infants to their later neurologic development.

Last year, the National Institute of Child Health and Human Development and the National Institute of Neurological and Communicative Disorders and Stroke convened the group—experts in obstetrics, genetics and development, teratology (study of malformed fetuses) and epidemiology—to examine data, including that from the NCPP, to identify pregnancy- and birth-related events that may account for neurologic handicap in infants and children.

In the report, the group sought to assess risk for later neurologic handicaps among infants who experienced problems during labor and delivery. Is it possible to estimate, for example, that an infant who had perinatal problems has a 10 or 30 or 50 percent greater chance of developing a neurologic handicap than does an infant who did not have the problems?

Lowering Risk

Lowering the risk for having an infant with a neurologic handicap begins well before pregnancy, said Dr. Calvin Hobel, director of maternal-fetal medicine at Cedars-Sinai Medical Center in Los Angeles. Reports from a few experimental clinics in Europe have shown that women at high risk for a problem pregnancy, such as diabetic women, bear children with fewer neurologic handicaps when the mother's illness is well-managed before she becomes pregnant.

Commenting on the role of medical care during pregnancy, Dr. Hobel said: "In the 30 percent of patients who are at high risk for a problem pregnancy, I have found important information missing from medical records that might have enabled the physician to identify the problem early." Physical measurements of the pregnant uterus (fundal height) can detect early the fetus whose growth may be slowed, a risk factor for some brain disorders.

This information can then alert physicians to monitor the growth of the high-risk fetus more closely with such techniques as ultrasound.

Although he recommeded ultrasound only for special circumstances, Dr. Hobel said, "physicians must assess *all* pregnancies with careful clinical examinations so that we can detect the few problem pregnancies early and intervene with more sophisticated techniques before a condition results in damage to the fetus."

The group found that birth-related factors such as premature birth appear to be the most important risk factor for cerebral palsy. Premature infants, born early and often weighing much less than fullterm babies, may suffer from problems such as lack of oxygen, respiratory problems and brain hemorrhage, which may place these infants at high risk for cerebral palsy.

Reduced oxygen supply to the fetus that may occur during abnormal labor and delivery is a strong risk factor for cerebral palsy only among infants later found to be quadriplegic or severely mentally retarded.

Pregnancy and birth-related risk factors for epilepsy cannot yet be established. However, newborn infants who show evidence of brain injury in the form of seizures soon after birth or later cerebral palsy are at very high risk of developing epilepsy.

Epilepsy is one of several problems that results from neurologic damage, but pre- or perinatal risk factors have not been established for epilepsy alone. The condition occurs frequently among children who have other neurologic disabilities, such as cerebral palsy or mental retardation.

Factors in Mental Retardation

Mild mental retardation, the most common degree of mental retardation, appears to relate not to pregnancy or birth events, but rather to social and environmental conditions, said Dr. Gordon Avery, department of neonatology, Children's Hospital in Washington, D.C. These factors include aspects of maternal lifestyle such as poor nutrition, cigarette smoking, and alcohol and drug abuse. In addition, infants who grow up in an impoverished environment often fail to develop optimally.

"In a growing and differentiating brain, inborn abilities, experiences and environmental factors constantly interact to condition the way a baby's brain develops," said Dr. Avery.

Because risk estimates are merely probabilities, the group also looked for frank causes of neurologic dysfunction. However, puzzling differences among individual infants complicate the task of establishing the cause of pregnancy and birth-related brain disorders.

Dr. Freeman said, "Few infants who experience difficult labor and birth develop later neurologic handicaps; most infants who experience similar difficulties develop normally."

No Single Cause?

Although it once seemed simple to say that a specific event such as birth trauma or reduced oxygen supply to the fetus was the cause of brain disorders, information in the report shows that it is nearly impossible to pinpoint a single cause and its effect. These birth-related events, either alone or together, can cause brain damage.

By themselves, though, these events are not frequent causes of severe mental retardation. The causes of this form of mental retardation seem to be rooted in genetic, biochemical or viral conditions not related to birth events.

"We have found that only cerebral palsy can be related to perinatal events," said Dr. Freeman. Asphyxia—the inability of the infant to breathe, as well as reduced oxygen supply to the brain and the biochemical changes this may effect—has become an apparent cause of cerebral palsy and the mental retardation that often accompanies it.

Major challenges now lie in detecting asphyxia early and knowing its duration. While low 10- or 15-minute Apgar scores (the results of a type of physical exam given to newborns) place infants at high risk for both cerebral palsy and mental retardation, only one-half of the infants who have low scores for a long period ever develop neurologic abnormalities.

Conversely, results from one study showed that about two-thirds of infants who later developed cerebral palsy had normal Apgar scores.

On behalf of the members of the group, Dr. Freeman concluded that they knew "less than they thought" they knew about the prenatal and perinatal causes of cerebral palsy, mental retardation and epilepsy. Owing to the current lack of knowledge, the group identified important areas for future research that could reduce the human and economic burdens of these disorders.

"We need to resurrect animal models to study and develop intervention techniques," said Dr. Freeman. "Research in identification of infants at high risk, of approaches to the prevention of prematurity and low birth weight, and of the management of asphyxia, could alter the major causes of cerebral palsy and its attendant handicaps," he said. □

Celebrate Armed Forces Day

R&W will celebrate Armed Forces Day on Saturday, May 18, at Wild World in Largo, Md.

The special $6 admission price for this day (including service charge) covers use of all park facilities, rides, shows, and water activity.

Tickets are available at the R&W Activities Desk, Bldg. 31, and the Westwood R&W Gift Shop. □

Use of Plastic IUD for Birth Control Increases Infertility; Copper-Covered Device Less Risky, 2 Studies Show

Women who have used intrauterine devices (IUDs) for birth control are more likely than other women to become infertile. This increased risk seems, however, to depend largely upon the type of IUD used.

These findings, the first direct evidence of a long-suspected link between the IUD and infertility, come from two studies reported in the Apr. 11 issue of the *New England Journal of Medicine*.

An estimated 2.2 million women in the United States use the IUD—a small device made of plastic, or plastic wrapped with thin copper wire, that is inserted into the uterus.

The studies indicate that the copper-bearing devices, the most popular type of IUD in use today, are less likely than other IUDs to lead to infertility.

"Both of these investigations confirm what doctors have strongly suspected for years—that the IUD increases the risk of infertility," said Dr. Bruce Stadel of the National Institute of Child Health and Human Development.

The studies, both sponsored by NICHD, show that IUD use increases the risk that a woman who has not had children will develop "tubal infertility." This type of infertility happens when the fallopian tubes are damaged, so that an egg cannot travel from the ovary to the uterus.

The most common source of fallopian tube damage is pelvic inflammatory disease (PID), an infection often caused by gonorrhea or other sexually transmitted diseases.

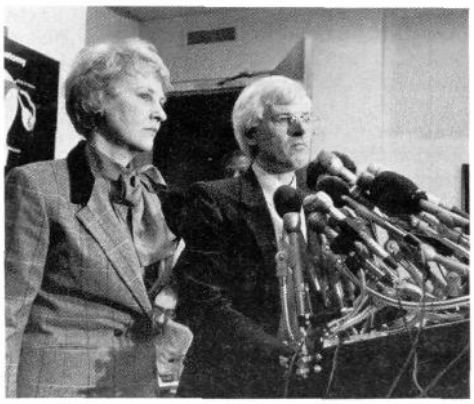
In the first study to be completed, researchers compared the rates of IUD use by 159 childless women who had tubal infertility and an equal number of new mothers. The project, a study involving approximately 90 percent of the infertility specialists in Seattle, Wash., was directed by Dr. Janet Daling of the University of Washington.

Researchers in the second study evaluated IUD use in 283 childless women with tubal infertility and 3,833 new mothers. This project involved seven infertility centers and collaborating hospitals, most in the eastern United States. Dr. Daniel Cramer of Brigham and Women's Hospital in Boston headed the study.

In their report, Dr. Cramer and his colleagues estimate that IUDs may account for tubal infertility in roughly 88,000 women in the United States. They found that women using IUDs are more likely to become infertile if they use the device for more than 3 years, or if they have complications, especially infection or pain, while using it.

But even women who have had no signs of pelvic infection with the IUD still have a greater chance of becoming infertile than those who never used the device, acccording to findings from the Seattle project. Dr. Daling and her colleagues stress in their study that the risk of tubal infertility for IUD users was higher among women who did not have tubal symptoms of infection as well as those who did.

Different types of IUDs carry different risks of infertility, both research groups noted. They found that devices made entirely of plastic are more likely than the copper-bearing IUDs to lead to tubal infertility.



Drs. Daling and Cramer (r) respond to press questions about their studies on IUD-caused infertility.

The studies ranked the devices in the same order: The highest risk of tubal infertility was associated with the Dalkon shield (three to seven times the risk compared to women who never used IUDs), followed by the plastic Lippes Loop and Saf-T-Coil devices (three times the risk). Copper-bearing IUDs such as the Copper-7 the most popular type in use today, carried the least risk (about two times the risk or less.)

Dr. Daling and her colleagues reported that women who used copper-bearing IUDs "experienced very little excess risk" of tubal infertility. "Although our data cannot rule out a small increase in risk," they note, "this result is reassuring."

Researchers in Dr. Cramer's group found that copper-bearing IUDs did not raise the risk of tubal infertility in women who were at least 25 years old when they started using the device.

While both projects focused mainly on infertility in women with no children, the Boston-based study also looked at "secondary infertility" in women who had one child but could not conceive another.

They found that women who used copper-bearing IUDs after their first child did not have a significantly higher risk of secondary infertility. Other IUDs nearly tripled the risk of tubal infertility in women who already had one child.

What do the results mean for women trying to choose a form of birth control? According to Dr. Stadel, "both studies indicate that the IUD should not be the first choice method of birth control for women who have not had children."—**Maureen Gardner** □

Pamphlet on Headaches

Headache: Hope Through Research, a new lay-language pamphlet produced by the National Institute of Neurological and Communicative Disorders and Stroke, is now available through the Institute's Office of Scientific and Health Reports.

The 36-page pamphlet discusses the various types of headache, their diagnosis, causes, and treatments.

Single copies of *Headache* may be obtained from the Office of Scientific and Health Reports, NINCDS, Bldg. 31, Rm. 8A06, Bethesda, MD 20205; telephone: (301) 496-5751. □

U.S. GOVERNMENT PRINTING OFFICE 1985—461-310/10014

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
National Institutes of Health
Building 31, Room 2B-03
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Office Business
Penalty for Private Use $300

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