

The NIH Record

Eminent Embryologist D. Stetten Lecturer

Dr. Donald D. Brown, director of the department of embryology at the Carnegie Institution of Washington in Baltimore, will give the fourth annual DeWitt Stetten Jr. Lecture on Wednesday, Oct. 30, at 3:30 p.m. in Masur Auditorium. His subject: "The Molecular Basis of Differential Gene Activity."

The lecture is sponsored by the National Institute of General Medical Sciences to honor Dr. Stetten, the Institute's third director, for his strong commitment to basic research and his special encouragement of fundamental studies in genetics and cellular and molecular biology.

Among the topics Dr. Brown will cover are DNA signals that influence gene activity during development, the molecules in cells that read these signals, and how the molecular environment in embryos gives rise to the developmental control seen in two related gene families found in the African clawed toad.

Since certain aspects of genes are similar throughout the animal and plant kingdoms, scientists study the genes of lower animals such as toads to gain information about human genes.

(See STETTEN LECTURE, Page 11)

Nobelists in Medicine, Chemistry Funded by NIH

Dr. Joseph L. Goldstein and Dr. Michael S. Brown of the University of Texas Health Science Center at Dallas, announced as winners of the 1985 Nobel Prize in Medicine and Physiology, are both longtime recipients of NIH funding for their research into genetic factors involved in human cholesterol and related medical conditions.

The pair, who were clinical associates at NIH in 1968-70, have been primarily funded by NIH since 1970 by the National Heart, Lung, and Blood Institute and the National Institute of General Medical Sciences.

While at NIH, Dr. Goldstein worked in the Laboratory of Biomedical Genetics headed by Dr. Marshall W. Nirenberg, himself a Nobelist.

Dr. Brown spent his time at NIH in the then Digestive and Hereditary Disease Branch. One of his mentors was Dr. Earl R. Stadtman, chief of the Laboratory of Biochemistry, NHLBI.

(See NOBELISTS, Page 12)

Ground Broken for Wing at Lasker Center



Ground was broken on Oct. 1 for adding a new wing to the Mary Lasker Center for Science and Education to house the NIH-Howard Hughes Medical Institute research scholars. Holding the gold-plated shovels (1 to r) are: Dr. Joseph E. Rall, NIH Deputy Director for Intramural Research; Dr. James B. Wyngaarden, NIH Director; Congressman William H. Natcher, chairman of the House Subcommittee on Labor, Health and Human Services and Education/Appropriations; Leslie Parent, representing the first contingent of 23 science scholars; HHS Secretary Margaret Heckler, and Dr. Donald S. Fredrickson, president of the Howard Hughes Medical Institute.

Ground was broken Oct. 1 for an added wing to the Cloister at which the first 23 (now on campus) and future research scholars in the cooperative medical research program sponsored by NIH and the Howard Hughes Medical Institute will be housed.

The groundbreaking ceremony, co-hosted by Dr. James B. Wyngaarden, Director of NIH and Dr. Donald Frederickson, president of HHMI, initiated the renovation of the former convent as the Mary Woodard Lasker Center for Health Research and Education. The new center honors Mrs. Lasker, renowned philanthropist and longtime supporter of biomedical research.

The project to encourage more young physicians to opt for medical research careers—first announced last August—unites NIH, the largest public biomedical research organization with HHMI, the largest private medical research organization, in a common enterprise.

Dr. Wyngaarden told a large assembly of biomedical figures that the project promises "to increase the vitality of American research."

He also noted that the project was "launched in an unusually short time for a Federal project."

Outgoing HHS Secretary Margaret Heckler, a strong supporter of NIH during her tenure,



Dr. Wyngaarden, NIH Director, speaking at groundbreaking.

said "it is my special pleasure and honor to participate in this groundbreaking."

"This," she continued, "is a very symbolic moment. I salute NIH and HHMI for this innovative step toward solutions through research for the diseases which plague us."

(See GROUNDBREAKING, Page 12)



The National Institute of Child Health and Human Development recently hosted a reception for its former Director, Dr. Mortimer B. Lipsett. At the reception, a portrait of Dr. Lipsett was unveiled. The portrait, which commemorates Dr. Lipsett's 2-year tenure as NICHD Director, will hang in the NICHD conference room. He is now Director of the National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases. Here NICHD Acting Director Dr. Duane F. Alexander presents Dr. Lipsett with a copy of the portrait.

TRAINING TIPS

The following courses are sponsored by the Division of Personnel Management, the NIH Training Center.

Executive, Management, and Supervisory 496-6371	Course Starts	Deadline
Performance Appraisal	12/2	10/8
Counseling	12/11	10/18
Working with Personal Differences MBTI part 1		
"The Politics and Economic Implications of the Current Budget" sponsored by the Administrative Training Committee	10/30	—
Support Staff Training 496-6211		
Introduction to Working at NIH	11/26	11/5
Computer Literacy for Secretaries	12/16	11/18
Basic Time & Attendance	11/26	11/5
Travel Orders & Vouchers	11/18	10/25
IBM Displaywriter "Special Applications"	10/29	10/1
Data Base III	11/6	10/7
Displaywrite 3 for Professionals	12/2	11/4
Advanced IBM Displaywriter	12/10	11/5
Advanced Lotus	10/30	10/1
Computer Literacy for Professionals	12/4	11/6
Telephone Techniques	12/18	11/17
Lotus 1-2-3	12/19	11/18
Delpo (for new users)	11/13	10/25
	12/4	11/20

SHARE TRAINING: For complete NIH Training Center information sign on to WYLBUR and enter SHARE TRAINING. First-time users enter x fr &agslugl.@@share (setup) on file37

Adult Education Program ongoing 496-6211
Training & Development Services Program 496-6211
The CAREER CURRICULA PROGRAM 496-6211

R&W Sponsors 'Enjoy Life' Fair

R&W is having a "Life. Be in it" Fair Oct. 31, from 11 a.m. to 1:30 p.m. in the lobby of the ACRF, Bldg. 10. Come learn about the recreational activities available to you through R&W's clubs. Representatives from the various activity clubs will be available to answer questions. They will have literature on their clubs and some demonstrations as well.

Amy German from Occupational Medical Services will be on hand to test blood pressure



Life. Be in it.
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and give information on CPR and First Aid classes.

Dr. Laura Hitchcock, will be speaking on how to get motivated and stay motivated in a sports and recreation program. She has written for such magazines as the *Washingtonian* and Bruce Jenner's *Health and Better Living*. She will speak from noon to 1 p.m. in the ACRF Amphitheatre. □

Latest AIDS Bibliography

The most recent in a series of Literature Searches on acquired immune deficiency syndrome (AIDS) is available without charge from the Library's Reference Section. The bibliography, with 747 citations, covers May 1985 through August 1985, and updates and supplements six earlier bibliographies. Most of the citations are from the MEDLINE database, but an extensive addendum covers references from current non-MEDLINE journals as well as citations to abstracts, guides, and audiovisual materials.

This seventh update and supplement on AIDS includes new research on populations at risk (heterosexual contact, AIDS-related complex (ARC), transfusions), new host tissues for the virus and transmission studies, epidemiologic projections, laboratory tests to detect the HTLV III/LAV antibody, and virus studies (human T-cell leukemia virus III (HTLV III) and lymphadenopathy-associated virus (LAV)).

To request a single copy of the bibliography, send a self-addressed gummed label with LS number and title (LS 85-16, AIDS: 7th Update and Supplement) to: Literature Search Program, Reference Section, National Library of Medicine, Bethesda, MD 20894. □

The NIH Record

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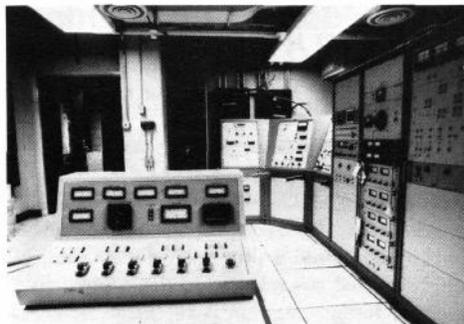
CC's Two New Cyclotrons Readied for Full Operation

One of two new cyclotrons in the Clinical Center's Nuclear Medicine Department was turned on Sept. 16 for the first time. Soon after warming up, it emitted a 30 microamp proton beam, hot enough to light up a victory cigar.

"It's terrific to turn on a machine for the first time and get a beam," said Dr. Paul K. Strudler, administrative officer for the department. "In cyclotron testing, you usually have to debug the system for quite a long time before you produce a beam."

The machine that worked so well is the 38-ton Baby Cyclotron manufactured by Japan Steel Works. Engineers for that company have been working since Aug. 19 on electrical wiring and power supply tests in the new three-story underground facility built by NIH to house cyclotrons.

Working side by side with the Japanese have been electricians and engineers for Computer Technology and Imaging, a Berkeley, California company that built a 20-ton cyclotron for NIH. The two atom smashers are expected to supply radiopharmaceuticals—drugs lightly dosed with radioactivity—to be imaged



The single control panel in the foreground operates the Japanese-made cyclotron while the other equipment runs the U.S.-made machine.

in living patients by PET (positron emission tomography) scanners.

The low-level beam tests of the California-made cyclotron should start in early October. Acceptance testing should be complete by Thanksgiving. On Oct. 21, Japan Steel Works will begin training NIH cyclotron personnel in the use of its machine. □

NLM to Telecast Conference on Artificial Intelligence

NLM's Lister Hill National Center for Biomedical Communications will coordinate a satellite teleconference on Artificial Intelligence, "Knowledge Based Systems and Their Applications," on Nov. 13. The 7-hour broadcast, sponsored by Texas Instruments, will be a mix of tutorials, panel discussions and telephone questions and answers.

Conference Conductors

Conference conductors will include:

- Edward A. Feigenbaum, Stanford University, coauthor of "The Fifth Generation," who will provide an overview of AI, knowledge engineering and expert systems;

- Bruce Buchanan, Stanford University, contributor to DENDRAL and MYCIN, coauthor of "Rule-based Expert Systems," will address acquisition, representation and use of knowledge;

- Randall Davis, MIT, coauthor of "Knowledge-Based Systems in AI" will discuss applications of expert systems and how to begin;

- Mark Fox, head of Intelligent Systems Laboratory of the Robotics Institute at Carnegie-Mellon, will discuss applications of

expert systems to enhance productivity in manufacturing;

- Harry Tennant, author of "Natural Language Processing: An Introduction to an Emerging Technology," will host a variety of expert systems case histories.

The symposium will be broadcast throughout North America and will run from 9:15 a.m. to 5:30 p.m. EST. NLM will feed the broadcast signal to the NIH Audio Visual Section so individual Institutes can have it delivered to their own sites via the NIH cable television system.

Space Limited

NLM will make two conference rooms available for viewing the program but space is limited. If you wish to have the programming delivered to your Institute via the NIH cable system contact the NIH Audio Visual Section, Gene Cowgill, 496-4700.

For additional program information, call the Audio Visual Program Development Branch at the Lister Hill Center, 496-5721. □

A smart mother often makes a better diagnosis than a poor doctor.—August Bier

Extramural Activities at NIH Subject of January Session

The Grants Associates Office will present a 2-day orientation session entitled "Fundamentals of NIH Extramural Activities."

The first of the two annual offerings will be on Jan. 21-22, 1986; the second will be held in July of 1986, date to be announced.

The January 1986 session will be held in Bldg. 31, Conf. Rm. 6, starting at 8:30 a.m., with registration at 8 a.m. The course will cover an overview of extramural activities, grants, contracts, cooperative agreements, their review and scientific and fiscal management.

Participants will be limited at each offering to about 50 people. Priority will be given to those new to the extramural side of NIH at all grade levels. Consideration will also be given, on a space available basis, to intramural staff who are interested in NIH extramural activities.

Form 350

Those interested are to submit a DHHS-350 form (Training, Nomination and Authorization) through their appropriate BID channels to the GA Office (Bldg. 31, Rm. 1B-55). PHS commissioned officers are asked to use this form also.

Please be very specific in items 16 and 17. In item 10, please list your complete office address, NOT your home address; item 14—no cost; item 20 A(8), B(8), C(1), D(NA); item 21 (NA) and item 222 (9998). All other instructions are on the back of the DHHS-350.

Send the vendor's copy to the GA Office, Bldg., 31, Rm. 1B-55. The deadline date for receipt of applications is Nov. 20 for the January course. Each applicant will be informed of the decision concerning his/her application. Those selected will be provided with further details of the sessions and with appropriate materials.

For more information, or clarification, call A. Robert Polcari or Roberta Light at 496-1736, or Dr. Catherine Henley, NEI, at 496-5561. □

FAES Offers English Course For Non-English Speakers

The Foundation for Advanced Education in the Sciences will offer an intensive course in conversational English called ILPAN, beginning Oct. 28 and ending Nov. 21.

The class, which will meet Monday, Wednesday and Thursday from 5:30 to 7:30 p.m., is designed for speakers of languages other than English.

Tuition is \$80 plus cost of books. For more information, call 496-7976. □

Seven Foreign Scientists Begin Fogarty Scholarships

Seven more foreign scientists have recently arrived to begin Fogarty Scholarships-in-Residence.

Dr. Pierre May, chief, Laboratory of Molecular Oncology, Institut de Recherches Scientifiques sur le Cancer, C.N.R.S., Villejuif, France, arrived on Aug. 20. He will be in residence until July 1986.

Dr. May received his university training in Nancy, where he graduated from Ecole Nationale Supérieure des Industries Chimiques with a degree in engineering in 1950. He received his doctoral degree from the Faculty of Sciences, Paris, in 1959.

Dr. May is well-known for his work on papovaviruses and their role in oncogenesis. His use of SV-40, as a model system for studying gene regulation and cell transformation, has led to a better understanding of the mechanisms of cell transformation and the involvement of transforming proteins in this process.

During his scholarship, Dr. May will collaborate with members of the Laboratory of Biology of Viruses, NIAID, whose chief, Dr. Norman Salzman, is Dr. May's sponsor. He will also have an office in the Stone House, where he can be reached on 496-2590.

Dr. Bruce Fraser, chief research scientist, Division of Protein Chemistry, Commonwealth Scientific and Industrial Research Organization (CSIRO), Parkville, Victoria, Australia, arrived Sept. 16. He will be in residence until January 31, 1986.

Dr. Fraser was educated in London, graduating with honors in physics from King's College, London University, in 1948. He took his Ph.D. at London University in 1951 and a D.Sc. in 1961.

He emigrated to Australia in 1952 after spending 4 years in the Medical Research Unit at King's College, where he built some early 3-chain models of DNA that were the basis for the later double-helix model of DNA.

Since moving to Australia he has been on the staff of the CSIRO, where he has worked on the structure of fibrous proteins. He is the author, with his collaborator Dr. T. P. MacRae, of "Conformation in Fibrous Proteins and Related Synthetic Polypeptides," first published in 1973.

This monograph is regarded as the definitive text for the present generation of researchers in the field. Dr. Fraser's work is now recognized as having important implications in neurobiology, myofibrillar morphology, and epithelial differentiation.

During his scholarship, Dr. Fraser will collaborate with Dr. Alasdair C. Steven, his sponsor, in the Laboratory of Physical Biology, NIADDK.

Dr. William Jarrett, who was first appointed a Fogarty Scholar-in-Residence on Sept. 27, 1984, has returned for his second term.

Dr. Jarrett, professor of veterinary pathology at the University of Glasgow, is a noted immunologist and virologist interested in animal diseases. He developed the first vaccines for a parasitic and a protozoan disease, and he has discovered several new virally caused diseases, including papillomas in cattle.

He has carried out a series of classical investigations into the transmission of feline leukemia and he developed the first vaccine against an oncornavirus-induced leukemia. His work has direct implications for the development of immunological approaches to control human leukemias and diseases such as AIDS that are induced by retroviruses.

Dr. Jarrett will continue his collaboration with his sponsor, Dr. Robert Gallo, NCI, in studies of vaccine development for AIDS.

He can be reached at the Stone House on 496-2087, or in Dr. Gallo's laboratory on 496-6007.

Professor Natan Goldblum began his Fogarty Scholarship-in-Residence on October 1. He will be in residence until July 30, 1986.

Dr. Goldblum was born in Poland. He received his scientific education in Israel, where he obtained his M.Sc. in microbiology at the Hebrew University in 1943 and a Ph.D. from the same institution in 1951.

In 1951 and 1952 he was a postdoctoral fellow in the department of preventive medicine at Yale. He returned to Israel, where he was appointed head, department of epidemiology in the medical research laboratories of the Israeli Defense Forces.

In 1956 he became director of the Virus Laboratory at the Ministry of Health in Tel Aviv, where he remained until 1960 when he joined the faculty of the Hebrew University Hadassah Medical School, in Jerusalem. Since 1967 he has been chairman and professor in the department of virology.

Dr. Goldblum has made a number of important contributions to science, including the discovery of an extra erythrocytic cycle of bat malaria in 1947, establishment of West Nile virus as the etiologic (causative) agent of West Nile fever in 1957, and production of poliomyelitis vaccine on a semi-industrial scale in 1957. He is well-known for his research on poliomyelitis and immunization with polio vaccines.

He is also an expert on snake venoms and their toxicity and the purification of toxic fractions. He has demonstrated the antiviral effect of rifampicin. He has conducted extensive studies on SV40 virus antigen and determined the

molecular size as well as induction of the antigen in various cell types.

Professor Goldblum is sponsored by Dr. John L. Sever, NINCDS, with whom he will collaborate in studies of AIDS and SAIDS. He can be reached at the Stone House on 496-4161.

Dr. Victor A. Bloomfield arrived at NIH Oct. 1.

Dr. Bloomfield is professor of biochemistry at the University of Minnesota. He is chairman of the biochemistry department and director of the biotechnology research center at that institution.

He is an internationally recognized authority in several areas of physical biochemistry. In particular, he has been a pioneer in using quasi-elastic light scattering to study a wide range of phenomena—from the conformations of biological macromolecules to the assembly of T-4 bacteriophage.

He has been a leader in applying concepts of statistical mechanics and polymer dynamics to macromolecular structures. His research is unique in that it combines novel and difficult aspects of biology, chemistry, and physics. Prof. Bloomfield has played a special role by working in seemingly disparate fields such as biochemistry and chemical physics.

Recently, Dr. Bloomfield has been investigating structural transformations of DNA "packaging" within viruses and cells. This subject, as well as his general interest in the conformation states of biological macromolecules, is of great interest to a large number of NIH investigators.

During his stay at NIH, he can be reached at the Stone House (Bldg. 16) on 496-4161.

Dr. Hans H. Ussing arrived Sept. 30 for his second term as a Fogarty Scholar-in-Residence.

Dr. Ussing is professor of biological chemistry at the University of Copenhagen. His international reputation is based on his fundamental studies from the end of the 1940s in the field of membrane transport. The results of his pioneering work are found in all physiology texts used today.

Dr. Ussing is a member of the Royal Danish Academy of Sciences, a foreign associate member of the U.S. National Academy of Sciences, as well as an honorary member of many scholarly societies and an honorary doctor of universities all over the world.

He can be reached at the Stone House (Bldg. 16) on 496-4161.

Dr. Pablo Rudomin, professor of physiology and chief of the section of neural control in the department of physiology, center for research and advanced studies of the National Polytechnic Institute, Mexico City, Mexico,

NHLBI Study**Less Respiratory Distress in Premature Girl Babies When Mother Injected With 'Steroid' Before Delivery**

Premature female babies whose mothers were injected with an adrenal corticosteroid (dexamethasone, a synthetic cortisone) shortly before delivery suffered less from respiratory distress syndrome than such babies whose mothers did not receive the drug, according to a 7-year NHLBI study on which final results have just been published.

Surprisingly, giving the drug did not reduce RDS among premature male babies.

Nor did the drug help multiple births—twins, etc.—of either sex.

Whites Benefit Less

Another surprising result of the study: whites in general seem to benefit less (in lowering of RDS) than other racial and ethnic groups.

The Collaborative Study on Antenatal Steroid Therapy also indicated that the steroid shots did not result in any immediately detectable abnormalities among the offspring of the treated mothers.

Newborn respiratory distress syndrome is a condition in which an infant's lungs have not developed sufficiently prior to birth and therefore are unable to process enough oxygen for the baby's needs even when pure oxygen is given.

Infants born prematurely are more likely to have RDS, but the underlying cause of this ailment is not completely understood.

Up to 60 percent of premature infants have RDS resulting in as many as 10,000 deaths a year among liveborn infants.

Investigators with the study pointed out that the dexamethasone therapy has the potential to prevent at least 15,000 cases of RDS each year among premature female infants, saving about \$200,000 a year in neonatal intensive care.

The NHLBI study began in 1976 and concluded in 1983. It used one Canadian and four U.S. clinical centers to screen more than 8,000 women to enroll the 696 women who participated.

Women who participated in the study were judged to be at high risk for premature delivery, fit other criteria as determined by laboratory studies and agreed to followup testing of their offspring.

Participating mothers were randomly assigned to a control group or an experimental group. The experimental group received up to 20 mg of the steroid dexamethasone, given in four doses 12 hours apart. The control group received placebo (blank) injections on the same schedule. The study was double-blind, that is neither the expectant mother nor her doctor knew whether she received the drug or the placebo.

Battery of Tests

Immediately upon delivery and at specified intervals afterwards, the infants received a battery of tests to detect RDS and to answer questions about short-term and long-term effects on the development of the child.

Physiologic, neurologic and developmental tests were performed on the infants at the gestational ages of 40 weeks, 9 months, 18 months and 36 months. During followup, 93 infants—equally distributed between the placebo and steroid group—died, and another 240 were lost to followup for other reasons such as relocation of the family.

Final study results indicated that infants of the steroid group were slightly taller and heavier at 18 and 36 months. No differences were found between the two groups of infants in head circumference or the presence of neurologic abnormalities. Results of tests measuring psychomotor, developmental and cognitive progress also were similar for the two groups.—Larry Blaser □

One of the chief objects of medicine is to save us from the natural consequences of our vices and follies.—H.L. Mencken

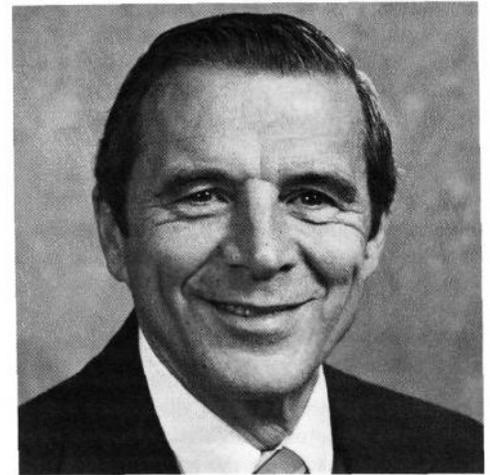
Jerry Kerkhof Retires at NLM; Joins NIH Fitness Center Staff

Management analyst and physical fitness enthusiast Jerome (Jerry) Kerkhof, a Federal employee for almost 36 years, retired recently from the National Library of Medicine to become a member of NIH's Fitness Center's training staff.

With NLM since 1965, Jerry had served as personnel officer, deputy executive officer, chief of the Office of Administrative Management Services, and management analyst.

Union Agreement

During his tenure with NLM he was also management's representative in development of a Federal employees union agreement. He was recognized with several quality increases and commendations for outstanding service from,



Mr. Kerkhoff will be traveling in Europe for 4 weeks before beginning his new position.

among others, an Assistant Surgeon General of the Public Health Service.

Jerry's interest in physical fitness began while he was in the Army Air Corp where he served as a physical training instructor and was a boxer. Ten years ago, at age 50, he entered the world of jogging and last year, at age 59, won the Washington, D.C. marathon for his age group. Having now run over 15 marathons, including the Boston, he plans to run next year in the London marathon.

Looking forward to his new career with the Fitness Center, Jerry's personal goal is to make the NIH community more aware of the importance of physical fitness. □

SCHOLARSHIPS

(Continued from Page 4)

arrived Sept. 22 for his second term as a Fogarty Scholar-in-Residence.

Prof. Rudomin is an internationally recognized neurophysiologist and an acknowledged authority on the mechanisms and functional meaning of presynaptic inhibition in the vertebrate central nervous system.

While at NIH, Prof. Rudomin will continue his collaboration with Dr. Robert E. Burke, NINCDS. Some aspects of this collaboration involve a combination of electrophysiological and neuroanatomical studies of intracellularly labeled neurons and fiber systems.

Prof. Rudomin can be reached at the Stone House (Bldg. 16) on 496-4161. □

U.S.-French Researchers Meet in Interdisciplinary Heart Workshop

A workshop on cardiovascular dynamics, jointly sponsored by NIH and INSERM, the French National Institute of Health and Medical Research, was held Sept. 16-20 at NIH. The workshop, organized by Dr. Richard S. Chadwick, Biomedical Engineering and Instrumentation Branch, DRS, was part of an NIH-INSERM program of cooperation in the biomedical sciences. It was the first formal activity in that program under the heading of instrumentation and biomedical engineering.

Theme of the workshop was to increase fundamental knowledge about the heart and circulatory system, both in health and in disease, by combining clinical and animal data with mathematical and physical models.

"Cardiovascular physiologists, applied mathematicians, biomechanicians, engineers, and clinical researchers representing both countries have come together to deal with the extremely complex physical aspects of cardiovascular function," Dr. Chadwick said.

Dr. Andre LeRoy, BEIB, NIH coordinator for biomedical engineering and instrumentation aspects of the NIH-INSERM agreement, opened the workshop by introducing Dr. Robert A. Whitney, Jr., Acting Director, DRS, and Dr. Murray Eden, chief, BEIB, who welcomed the attendees.

Dr. Whitney commented, "As a veterinarian, I am happy to see that a valuable adjunct to the use of animals is possible in this type of research, with increased use of ultrasound and mathematical models."

Topics Discussed

Four topics were discussed during the workshop: factors determining the distribution of blood flow in the microcirculation of heart muscle, biomechanics of the left ventricle of the heart, pulse wave propagation studies as a means of determining mechanisms of essential hypertension, and novel uses of ultrasound in quantifying cardiac performance.

One of the central issues in the workshop was to understand the physical mechanisms involved in the blood supply-demand mismatch that often occurs in the deepest layers of the heart wall in certain disease states.

Experiments show that during contraction, blood flow into the heart wall is greatly diminished and often even reversed (like wringing out a sponge). A mathematical model is able to predict this behavior and points out the need for experiments to determine how small vessels inside the heart wall respond to the forces of contraction under various physiological conditions.

Measurements of movement of the heart wall by ultrasound have compared well with predic-



Some attendees at the NIH-INSERM cardiovascular dynamics workshop were (l to r), bottom row: Dr. Philippe Brun (INSERM), Prof. Julien Hoffman (UCSF), Prof. Christian Oddou (Univ. Paris, INSERM), Prof. Robert Mates (SUNY, Buffalo), Dr. Richard Chadwick (BEIB). Second row: Dr. Bernard Levy (INSERM), Dr. Patrick Vignon (INSERM), Dr. Gabriel Pelle (Univ. Paris, INSERM), Dr. Jean Baptiste Michel (INSERM), Dr. Maret Maxwell (BEIB). Third row: Dr. Andre LeRoy (BEIB), Dr. Murray Eden (BEIB), Dr. Jose Gonzalez-Fernandez (MRB, NIADDK), Dr. Jacques Obayon (Univ. Paris). Top row: Dr. Alain Tedgui (INSERM), Dr. Seth Goldstein (BEIB).

tions from a mathematical model of the left ventricle. When this type of study is carried further, better noninvasive clinical indications of cardiac performance should be available.

In closing remarks, Prof. Julien Hoffman (University of California, San Francisco) stressed the major importance of these types of basic studies and the need to continue the collaborative efforts on a larger scale. "To understand myocardial ischemia (inadequate blood flow to heart muscle) we need more basic hemodynamic data, which will require new techniques and novel instrumentation," Dr. Hoffman said. "Mathematical models of myocardial blood flow and ventricular mechanics organize our thinking and increase our ability to concentrate our efforts on the important aspects."

Dr. Patrice Laget of the French Scientific Mission hosted a reception at the Embassy of France in connection with the workshop. A joint NIH-INSERM publication of workshop proceedings is planned with Dr. Chadwick (NIH) and Dr. Philippe Brun (INSERM) as editors.

The NIH-INSERM agreement was inaugurated in October 1984 at ceremonies in Paris, when a Memorandum of Understanding was signed by Dr. James B. Wyngaarden for NIH and Dr. Philippe Lazar for INSERM. □

Dr. C. Carpenter, FIC Scholar, To Participate in AIDS Study

Dr. Charles C. J. Carpenter, professor and chairman of the department of medicine at Case Western Reserve University, Cleveland, Ohio, is spending a sabbatical with the Fogarty International Center as a senior resident scientist advisor.

Much of his professional experience was gained at the Johns Hopkins University, where he served in various capacities including chief resident physician at the JHU Hospital and director of the division of allergy and infectious diseases in the department of medicine.

His connections with NIH date back to 1965, when he received an NIH Research Career Development Award. Since then, he has been a consultant for the Office of International Research, a member of the NIH Cholera Advisory Committee, and chairman of an NIAID Study Section. At present he serves as a member of the NIH Consensus Panel on Travelers Diarrhea and as a member of the NIAID National Advisory Council.

During the 8 months of his sabbatical, Dr. Carpenter will have an office in Bldg. 1. He will work with both the FIC and with the NIH Associate Director for Extramural Affairs on the problem of AIDS. □

Gunter Thomas, National Veterans Champion, Represents U.S. in World Cup Cycling Race

Gunter Thomas, a research microbiologist for the National Eye Institute, competed in the World Cup Cycling Championship last month in Austria, finishing 12th out of the 108 participants that actually completed the race. There were approximately 2,000 riders representing 30 different Nations who started the race. He was one of two cyclists representing the U.S. Veterans National Team.

This was Gunter's first time to race in international competition. He felt the experience was incredible and the terrain beautiful, but very mountainous.

"It was a very tight and fast road race. I felt that I was physically up to the competition and well prepared. That I didn't do as well as I would have liked, I attribute to lack of rest and food prior to the race due to jet lag," he said.

Wins National Title

Gunter had been asked to ride in the Austrian World Cup race after winning the U.S. National Title at the Lehigh County Velodrom in Trexlertown, Pa., during the U.S. Cycling Federation's Veteran Championships.

He won the gold medal in the "Pursuit" event with a time of 4:01 minutes and a silver medal in the "kilo" event.

Gunter, one of six members of the Fuji Sountour Racing Team, has been a member of that team for 1 year. The Fuji team is part of an overall National contingent of men and women hosting present and previous Olympic champions.

"Our team is the strongest veteran cycling group in the Nation," says Gunter.

The team competes in races throughout the country, some in Colorado but mostly in the East Coast area from North Carolina to Maine.

Team members follow a training program outlined by National Team Coach, Ed Borysewicz of the Olympic Training Center in Colorado Springs, Colo. which requires an extraordinary amount of discipline.

"I feel lucky to have Jim Montgomery of Herndon, Va. to ride with and monitor my progress. He is the most successful veteran rider in the country, winning nine consecutive national titles. I owe much of my success to him."

Other team members are from Virginia, Maryland, and Maine.

Annually, the team competes in the dual Maryland/Delaware State races. This year, Gunter won gold medals both in the road race and time trials. Last year, he won the gold medal in the time trials.

The national racing teams consist of senior riders for ages 18-35, junior riders, younger



Gunter Thomas, NIH's National Cycling Champion, proudly displays his medals and "Stars and Stripes" jersey.

than age 18, and veteran riders for over 35. The racing year usually begins in April and runs through October.

His training, however, continues year-round. The type of bike used differs due to road conditions. For example, in winter he uses a heavy touring bike with wider tires.

Gunter tries to train with team members as much as he can because he feels they provide support and skill for each other. He rides about 150 miles a week in clusters of 30-40 miles at a time.

Pre-season conditioning begins at the NIH Fitness Center with emphasis on leg and back exercises three times a week, where Janet Vizard and Tom Klein set up the conditioning program.

On-bike training consists of riding in a group with other cyclists. In bad weather, he switches to a stationary bike. He feels his training primarily strengthens heart and lungs by enhancing cardio-pulmonary capacity.

Gunter has always been active in sports. He used to race bikes as a junior back in Germany, where he was born. He turned to track and field, rowing, and later was a member of a gymnastic team in Germany before breaking a foot and damaging his bone structure. During

rehabilitation from these injuries, he took up swimming and cycling.

Since returning from Austria, Gunter has participated in several races and placed 2nd in the Charles Street Cycling Classic and Mount Vernon Festival in Baltimore and 2nd in the Annual Cumberland Bicycle race in Hagerstown.

"However," Gunter says, "These were all anticlimatic by comparison after the National Championship and World Cup."

Gunter joined NIH in 1968 and works as a research microbiologist in the Laboratory of Vision Research of the Experimental Pathology Section. He has been with NEI for 3 years and before that worked for NIAID.—Anne Barber □

1985 Catalog of Cell Lines Available Through NIGMS

The 1985 *Catalog of Cell Lines: NIGMS Human Genetic Mutant Cell Repository/NIA Aging Cell Repository* is now available through the National Institute of General Medical Sciences.

The 12th edition of the catalog contains 290 new listings, bringing the total to 3,590 cell lines representing over 300 genetic disorders. Added to the collection this year are 10 multi-generation cystic fibrosis pedigrees, 9 thalassemia lymphoblastoid cultures, and 13 lymphoblastoid cultures from a family with a high incidence of tuberous sclerosis.

Also included is a new diagrammatic representation of chromosomally aberrant cell cultures with balanced translocations and unbalanced chromosomal defects which result in specific chromosome segments being present in single, triple, or greater dosages.

The repository also contains a number of special collections of cell lines representing diseases for which the cellular defect cannot, as yet, be demonstrated in culture.

The catalog also contains a section listing cell lines that are supported by the National Institute on Aging. Among the categories of cultures available for cellular aging studies are the IMR-90 strain, a human (female) fetal lung fibroblast developed and characterized specifically for use in cytoogerontology, and a companion strain of male fetal lung fibroblasts, IMR-91.

Single copies of the catalog are available from the NIGMS Office of Research Reports, Bldg. 31, Rm. 4A52, 496-7301. □

I don't know much about medicine but I know what I like.—S.J. Perelman

The Not So Universal Genetic Code

In March of this year, National Institute of General Medical Sciences grantee Dr. John R. Preer Jr. at Indiana University in Bloomington, reported the startling discovery that he and his colleagues had found an organism that does not follow all the genetic rules previously assumed to operate for every living creature on earth. Two researchers at the Center for Molecular Genetics in France described similar results at the same time. Now, several other laboratories have published related findings.

Scientists know that all living organisms contain DNA or RNA (the language of heredity) and that genes are sections ("words") on the DNA that dictate the characteristics of the organism. The translation of these "words" into their meaning (or protein products) is governed by rules in much the same way that writing a sentence is governed by rules of syntax (word order) and grammar.

Prior to the recent discovery by Dr. Preer's laboratory and the French team, scientists believed that the system by which information contained in DNA and RNA is translated was the same for all living organisms.

This information, conveyed by DNA and RNA (the "genetic code"), is contained in the precise arrangement of five informational subunits, or bases, called C, G, A, T, and U. A group of three of these bases (called a codon) that are found in a line on the DNA strand specified a single "command" for processing DNA such as a coding for a specific amino acid (protein building block), or to stop making a protein.

Scientists had assumed in the past that the genetic code was "universal" and that the same arrangement of bases held the same information regardless of the organism. Indeed the majority of organisms do share a common genetic code—this is what makes recombinant DNA research successful, and why products like human insulin can be made in bacteria.

But Dr. Preer has discovered one organism that deviates from the common code and thus, the assumption that it's universal now has to be changed. It appears that a few other related organisms also deviate from the common genetic code.

Paramecium tetraurelia, a member of a group of organisms called ciliated protozoans, is a single-celled organism that Dr. Preer has been studying to learn more about the genes responsible for the proteins on its surface. He found that the gene sequences that are the blueprints for these proteins contain the codons TAA and TAG, which in other organisms indicate "stop making protein." In *P. tetraurelia*, however, these codons appear to code for producing "glutamine" (one of the amino acids).

At first, Dr. Preer assumed his results were wrong and that mistakes had been made in his research procedures. How could the codon know to code for "stop" in every other organism studied to date code for "glutamine" in even one species of *Paramecium*?

Through a series of experiments designed to check his results. Dr. Preer and his colleagues concluded that the evidence indeed indicated that in this ciliated protozoan TAA and TAG are the DNA code words for "glutamine," rather than for "stop."

The scientists demonstrated concretely that they had isolated the gene for the organism's surface protein and that TAA and TAG codons were distributed throughout the section of the DNA that codes for this protein.

It was highly unlikely therefore, and these two codons could code for "stop" in *P. tetraurelia*'s genetic language because this would disrupt production of a protein. The third codon, TGA, that codes for "stop" in all other life forms studied to date appears to be the only "stop" signal for this species and possibly other *Paramecium* species.

Until further work is done, the scientists cannot show conclusively that TAA and TAG stand for glutamine in *P. tetraurelia*, though this is almost certainly the case. Other laboratories have now obtained results comparable to those of the Preer laboratory indicating that TAA and TAG code for glutamine in other ciliated protozoans as well.

What do these results mean? Scientists had assumed that the genetic code had been established prior to the divergence of all life forms and therefore is universal. They assumed this because if a mutation changed a codon assignment—if for example codon CCC (which stands for the amino acid "proline") changed to code for "histidine"—the change would cause many mistakes in the protein made from the DNA. That is, a histidine molecule would be added to the growing protein rather than a proline, each time a CCC codon appeared in the DNA. These mistakes would not likely be lethal if the codon was widely used in the DNA of the organism in which the mutation occurred because the resulting proteins would not be the correct ones.

One way such a mutation might not be lethal would be if the codon whose assignment changed is infrequently found in that organism's DNA. "Codon usage varies among the different types of organisms," says Dr. Preer. "Some codons are used to a great extent in one organism and not in another." Because there are 64 different codons to represent the 20 amino acids and the command to stop making protein, more than one codon can represent the

same amino acid. However, no codon is believed to represent more than one amino acid.

"It is possible," says Dr. Preer, "that organisms can use some codons to the exclusion of others. In this case, the less frequently used codons theoretically could change in meaning without greatly affecting the organism." This could be what happened in *Paramecium* where TGA is the only codon that means stop making protein.

Further studies in this area are expected to provide new clues about the evolution of the genetic code.—Sandy Hecker □

Dr. William Taylor Retires From NIGMS After 20 Years

Dr. William M. Taylor, a health scientist administrator with the National Institute of General Medical Sciences for the past 20 years, retired Sept. 20. Dr. Taylor came to NIGMS in 1965 as a program administrator specializing in research in the behavioral sciences.

Studies in this area currently supported by the Institute include the Lasker Award-winning neurobiological research of Dr. Eric Kandel at Columbia University in New York.

From 1965 to 1973, Dr. Taylor also served NIGMS as executive secretary for the behavioral sciences training committee. In this position, and as a member of the ad hoc advisory group on behavioral sciences, he played a key role in the development of Institute training programs in the behavioral sciences.

Born in Des Moines, Iowa, Dr. Taylor received his A.B. degree in psychology from Georgetown College in Georgetown, Ky. His M.S. and Ph.D. degrees, both also in psychology, were earned at Purdue University in Lafayette, Ind. From 1951 to 1953, he taught at Beloit College in Beloit, Wisc. After receiving his Ph.D. degree in 1953, he taught first at Georgetown College, where he headed the psychology department, then at Western Reserve (now Case Western Reserve) University in Cleveland, Ohio, and later at the University of Akron in Akron, Ohio.

From 1961 to 1965, he worked for Goodyear Aerospace Corporation in Akron, first as head of the Behavioral Sciences Laboratory and later as director of the Physiological Psychology Laboratory.

A member of the American Psychological Association, he is the author of numerous publications and has directed many graduate and undergraduate research projects.

Over the years, he has also been very active in local Parent-Teacher-Student organizations and civic associations in Bethesda, Maryland. □

Zinc Deficiency in Mice Impairs Immunity: Possibly Applicable to Malnourished Children

In an animal study that may prove important to humans, research scientists have found that even a modest period of zinc deficiency impairs the immune response that vaccinations and natural acquired immunity depend on.

Zinc deficiency is a common dietary problem in both the United States and Third-World countries, note the report's authors, Drs. Paula DePasquale-Jardieu and Pamela J. Fraker of Michigan State University in East Lansing.

Their results may bear on other published reports that some vaccinations "don't take" in malnourished children or showing that malnourished children die from ordinary childhood diseases at a rate of 50 to 500 times that for well-fed children.

Drs. DePasquale-Jardieu and Fraker found that mice fed a zinc-deficient diet showed a much poorer secondary immune response (the immune system's reaction upon second or later exposure to a germ or other antigen) than mice given adequate zinc and fed a normal or less than normal amount of food.

In the study, supported by the NICHD all three groups of mice were first injected with sheep red blood cell (SRBC) antigen 2 weeks before starting the experimental diets. The researchers reinoculated the mice after they had been on the special diets for 28 days.

Mice with deficient levels of dietary zinc showed a marked decline in their secondary im-

mune response. These mice produced only 43 percent as many SRBC antibody-producing cells as either of the other two study groups.

The amount of food eaten, however, appeared to have only a minor effect on the results, the authors say, since mice on a zinc-adequate/food-limited diet showed test results similar to mice on a zinc-adequate/normal diet.

In a 1977 paper, the authors reported that secondary responses to SRBC were substantially reduced when mice received both the first and second injections after the onset of zinc deficiency.

Even if zinc deficiency does destroy a portion of the body's memory cells, and this animal model proves valid for humans, the authors' results indicate that simply improving the diets of malnourished children may not be enough to restore their immune response to diseases they've previously been exposed to or vaccinated against.

Drs. DePasquale-Jardieu and Fraker report that the mice fed a zinc-deficient diet continued to show a subnormal immune memory response even after 1 month of receiving adequate levels of dietary zinc.

To protect malnourished children against some of these diseases, it may be necessary to revaccinate them against certain antigens after their nutritional stores of zinc have been brought up to optimal levels.—Laurie Doepel □

BIDs Test Database Systems To Improve Grants Reporting

Five BIDs are pooling financial resources and computer expertise to evaluate using a fourth generation database management systems (DBMS) for more efficient reporting on grants and contracts.

For this purpose, the key feature of a DBMS is that ad hoc (special purpose) reports or queries can be produced with just one or two commands. Unlike FORTRAN, SAS, or COBOL, the programmer or end user (for example, HSA) does not need to know data structures (the position and length of each piece of information), job control language (JCL), or much of the rest of computerese.

Each BID now uses its own unique computer system to generate reports, using data transferred from the computer files maintained by DRG.

Can a DBMS increase productivity and also serve the special needs of each BID? A BID working group chaired by Sheldon Fishman has been examining that question.

Lee Vickers (NIGMS) procured a temporary license for the first DBMS (FOCUS) starting Aug. 20. Working with the vendor, he installed the DBMS at DCRT in one day. One week later, three BIDs and Office of the Director were producing reports using the DBMS and presented a demonstration of live ad hoc queries and reports to the full working group. Later, NICHD procured a temporary license for a second DBMS (INQUIRE) which will be evaluated by three BIDs plus OD.

The full working group is: Jean Babb, DRR; Ronald Brown, NINCDS; James Dybvad, DRG; Sheldon Fishman, OD; chairman, Ernest Harley, NICHD; Carolyn McHale, NIA; Diane Ostrow, NCI; E. Anne Robertson, NIADDDK; David Scheim, NEI; Ralph Van Wey, NHLBI; Lee Vickers, NIGMS; James Washington, NIEHS; and David Wise, NIAID.

For a demonstration of either DBMS, call Sheldon Fishman at 496-4418. □

VISITING SCIENTISTS

8/1 Dr. Lajos Lamperth, Hungary. Sponsor: Dr. Henry deF. Webster, Laboratory of Experimental Neuropathology, NINCDS, Bg. 36, Rm. 4B17.

8/8 Dr. Masaki Aoyagi, Japan. Sponsor: Dr. Stanley I. Rapoport, Laboratory of Neurosciences, NIA, Bg. 10, Rm. 6C103.

9/1 Dr. Shigemi Kato, Japan. Sponsor: Dr. Luigi DeLuca, Laboratory of Cellular Carcinogenesis and Tumor Promotion, NCI, Bg. 37, Rm. 2A17.

9/1 Dr. Luisa Marcon, Italy. Sponsor: Dr. David L. Nelson, Metabolism Branch, NCI, Bg. 10, Rm. 4N117.

9/1 Dr. Maria Minelli, Italy. Sponsor: Dr. Jeffrey Schlom, Laboratory of Tumor Immunology and Biology, NCI, Bg. 10, Rm. 8B07.

9/1 Dr. Yaffa Mizrahi, Israel. Sponsor: Dr. Gordon Guroff, Section on Growth Factors, NICHD, Bg. 6, Rm. 1A08.

9/1 Dr. Tatsuya Nagashima, Japan. Sponsor: Dr. Stanley I. Rapoport, Laboratory of Neurosciences, NIA, Bg. 10, Rm. 6C103.

9/1 Dr. Masatoshi Noda, Japan. Sponsor: Dr. Martha Vaughan, Laboratory of Cellular Metabolism, NHLBI, Bg. 10, Rm. 5N307.

9/1 Dr. Rekha Rao, India. Sponsor: Dr. Kamal Mittal, Transportation Biology Laboratory, DCBD, Bg. 29, Rm. 232.

9/1 Dr. Evelyne Richet, France. Sponsor: Dr. Howard Nash, Laboratory of Molecular Biology, NIMH, Bg. 36, Rm. 3D18.

9/1 Dr. Klaus Thomas Stolze, Germany. Sponsor: Dr. Ronald P. Mason, Intramural Research Program, NIEHS, Research Triangle Park, N.C.

9/1 Dr. Mitsuru Tsudo, Japan. Sponsor: Dr. Thomas A. Waldmann, Metabolism Branch, NCI, Bg. 10, Rm. 4N117.

9/1 Dr. Yang Xiu Ying, China. Sponsor: Dr. Ronald Elin, Clinical Pathology Department, CC, Bg. 10, Rm. 2C306.

9/1 Dr. Le Shu-Yun, China. Sponsor: Dr. Charles DeLisi, Laboratory of Mathematical Biology, NCI, Bg. 10, Rm. 4B56.

9/3 Dr. Jan Abramczuk, Australia. Sponsor: Dr. Abner Notkins, Laboratory of Oral Medicine, NIDR, Bg. 30, Rm. 121.

9/3 Dr. Arie S. Beldegrun, Israel. Sponsor: Dr. Steven Rosenberg, Surgery Branch, NCI, Bg. 10, Rm. 2B44.

9/3 Dr. Jean-Francois Bernaudin, France. Sponsor: Dr. Victor Ferrans, Pathology Branch, NHLBI, Bg. 10, Rm. 7N236.

9/3 Dr. Moyra Smith, South Africa. Sponsor: Dr. Boris Tabakoff, Laboratory of Neuroadaptive Process, NIAAA, Danac #4, Rm. 15, Rockville, MD.

9/5 Dr. Wieslaw Dowjat, Poland. Sponsor: Dr. Nancy Colburn, Laboratory of Human Carcinogenesis, NCI, FCRF, Bg. 560, Rm. 1289 Frederick, Md.

9/6 Dr. Marina Ballin, Italy. Sponsor: Dr. Unnur O. Thorgerisson, Laboratory of Pathology, NCI, Bg. 10, Rm. B1B37.

9/6 Dr. Kenneth White, United Kingdom. Sponsor: Dr. Chaviva Isersky, Arthritis and Rheumatism Branch, NIADDDK, Bg. 10, Rm. 9N252. □

NIH Assembly of Scientists Weigh Scientific Priorities

The Assembly of Scientists-NIMH/NINCDS held a general meeting recently with guest speakers Dr. Murray Goldstein, Director of NINCDS, and Dr. Shervert Frazier, Director of NIMH, in the ACRF Amphitheater.

Also participating at this meeting were the scientific directors of NINCDS and NIMH, Drs. Irwin Kopin and Frederick Goodwin, Dr. Allan Mirsky, president of the Assembly of Scientists, and 150 to 175 members of the assembly.

Drs. Goldstein and Frazier discussed organizational and scientific priorities over the next several years for the two Institutes, state of the intramural programs, the future of social science research, plans for new buildings and more space on the NIH Bethesda campus, animal rights activists and NIH's viewpoint and stand, and congressional sensitivity to funding for NIMH and NINCDS.

Dr. Goldstein noted that intramural research at NINCDS is of high value and exciting. Though he sees no significant cutbacks in the intramural program he said that the Institutes need to set priorities in science research and approach research objectively because of limited resources.

Dr. Frazier described the changes occurring at NIMH as the Institute is reducing its educational and service functions and strengthening its research components. He said NIMH is initiating a 'disorder-oriented' research division that will encompass, schizophrenia, affective disorders (panic, anxiety, depression), childhood disorders, aging, and stress prevention. This problem-oriented approach is expected to give NIMH more public and congressional visibility.

Established in 1959 by scientists of the NIMH, NINCDS and NEI to develop and to promote the professional excellence and scientific achievement of the Institutes, the assembly serves as a general forum for communication, to formulate and express opinion, and to render advice and to take action on the general objectives of the scientists.

Any scientist in the Institutes who is a GS-11 or above, a commissioned officer, a senior executive servant, a senior staff fellow, a medical officer or a medical staff fellow is eligible to become a member of the assembly. Officers of the assembly consist of a president, a president-elect and a secretary.

The council consists of the officers and eight councilors who are elected by the assembly for 2-year terms and four councilors elected annually. Elections for council are now being held. Scientists from two Institutes, NINCDS and NIMH, maintain active roles in the assembly. □

Use of Spermicides—at Time of Conception Or Afterward—No Danger to Fetus, Study Says

Women who use contraceptive spermicides and unintentionally become pregnant have no greater chance of producing an infant with a birth defect than do women who become pregnant while using other types of contraceptives, according to a study published in a recent issue of *Fertility and Sterility*.

"These findings will help reassure women of the safety of spermicides," said Dr. James L. Mills, one of the researchers conducting the study at the National Institute of Child Health and Human Development.

Spermicides—such as contraceptive jellies, creams and foams—contain chemicals that prevent pregnancy by damaging the sperm. About 10 percent of U.S. women use spermicides to prevent pregnancy.

No contraceptive method is 100 percent reliable and about 15 percent of women using contraceptive spermicides still become pregnant.

Some women continue to use spermicides after conception because they are unaware that they're pregnant.

"Recent studies have suggested that spermicide use around the time of conception may be harmful to the fetus," Dr. Mills said. But, he added, the validity of these studies was questioned and now researchers are reexamining the possible effects of spermicides on the fetus.

In this study, the infants exposed to spermicides before birth did not have any greater chance of being of low birth weight (under 5.5 lbs) or premature (born before the 37th week of pregnancy), according to the researchers. They also found no increase in the number of spontaneous abortions among the mothers using spermicides around the time they conceived.

In addition, Dr. Mills and colleagues said this is the first study to look for a pattern of defects that spermicides might cause. Infants born to alcoholic mothers, for example, develop specific facial abnormalities that doctors can easily recognize as one of the symptoms of fetal alcohol syndrome.

No "fetal spermicide syndrome" was found in the infants of mothers using spermicide contraceptives, according to Dr. Mills.

In the study, 34,660 women at their first prenatal visit were asked what type of contraception they had used for the past year. The women were also asked if they continued to use contraceptives after they had become pregnant.

The researchers then compared the number of premature infants, infants with birth defects, and low birth weight infants born to the women who used spermicides to mothers who used other types of contraception (oral contraceptives, diaphragm, condom, IUD, or the rhythm method).

"We then divided these two groups into women who used contraceptives only before conceiving and those women who were exposed to contraceptives after they conceived, but didn't know it," said Dr. Mills. "But whether or not the women used spermicides before or after they conceived, there was no increased risk to the fetus," he added.

"There isn't any evidence that spermicides cause either malformations or any other adverse effects to the fetus," Dr. Mills said. "These findings should reinforce the fact that spermicides are a safe means of contraception." □

Molecular Geneticist Joins NIGMS Staff

Dr. Jane L. Peterson recently joined the Genetics Program of the National Institute of General Medical Sciences as a program administrator.

Dr. Peterson obtained her B.A. in biology from Western College in Oxford, Ohio, in 1969. In 1975 she received a Ph.D. in molecular and cellular biology from the University of Colorado at Boulder, where her research was on nonhistone chromosomal proteins.

From 1975 to 1978, Dr. Peterson was a postdoctoral research associate in the Yale University department of molecular biophysics and biochemistry. During this time she was studying the replication of mammalian parvoviruses.

Dr. Peterson came to NIH in 1978 as a senior staff fellow in the National Cancer Institute's Laboratory of Biochemistry.



Dr. Peterson

NIH Will Conduct Comprehensive Site Visit Of University of Pennsylvania Animal Program

NIH will conduct a site visit of all animal-related research projects at the University of Pennsylvania as a result of the recent head-injury laboratory investigation. Purpose of the campus-wide inspection will be to assess the university's animal program and facilities.

This and other stringent provisions which the university must meet were contained in an official letter from Dr. James B. Wyngaarden, NIH Director, in which he said the university must also correct several violations of NIH-PHS animal welfare policy at its head-injury laboratory before the lab's future funding can be considered.

On the head-injury lab violations, Dr. Wyngaarden concurred with all the recommendations made by an NIH executive committee headed by Dr. William F. Raub, Deputy Director for Extramural Research and Training.

The NIH Director's decision continued suspension of the head-injury laboratory's funding which was temporarily suspended on July 18.

In a letter to the university's medical dean, Dr. Wyngaarden outlined five areas of NIH-PHS policy violations at the laboratory that "constituted a serious breach of the trust relationship inherent in the university's animal welfare assurance" with NIH.

The five areas, that the NIH Director said must be corrected before resumption of funding will even be considered, were:

- **Anesthesia, Analgesia and Sedation for Research Animals:** The University disputed NIH findings concerning the adequacy of anesthesia, analgesia and sedation. Nevertheless, the committee concluded that weight of evidence indicated at least a few instances of inadequate pharmacological management of the animals.

- **A Sterile Environment for Surgery:** The NIH committee concluded that survival surgery was performed in a facility not equipped for aseptic (sterile or germfree) surgery and procedures with animals were carried out *not* using aseptic techniques.

- **Laboratory Environment and Occupational Health Program:** The committee indicated that staff members failed to maintain high standards of cleanliness, to wear proper laboratory clothing and to refrain from smoking, eating and drinking during lab experiments with animals.

- **Supervision and Training of Laboratory Personnel:** Experiments using animals were not performed under the immediate supervision of a qualified biological or medical scientist and assistants were less than adequately or improperly trained to perform important procedures involving animals.

- **Veterinary Participation in Experiments:** Adequate records of the health status of the animals

were not available and the staff veterinarian was not sufficiently involved in the choice of and/or use of anesthetics, analgesics and other pharmacologic agents.

In his letter to the university, the NIH Director also set three general conditions which the university must meet before NIH will consider any request for further funding of the head injury project involving baboons and other nonhuman primates:

- (1) file a new animal welfare assurance document with NIH conforming to the revised PHS animal welfare policy that goes into effect on Dec. 31.

- (2) provide evidence that all cited unacceptable practices involving animals have been remedied, and

- (3) provide the NIH with evidence from the U.S. Department of Agriculture that charges against the university relating to the Animal Welfare Act have been fully resolved.

Any research institution must have an acceptable animal welfare assurance with the NIH before it can receive PHS funds for animal experimentation.

Prior to any consideration for the approval of a new assurance with the University of Pennsylvania, NIH will (as noted above) conduct a campus-wide inspection to assess the university's laboratory animal program and facilities (including the head injury laboratory). This assessment must be made whether or not the university decides to seek resumption of funding for the head injury laboratory.

It will apply to all PHS-funded animal experimentation at the university and could lead to funding restrictions on other awards if NIH finds additional deficiencies.

If all three conditions are met and NIH is asked to consider a resumption of funding of primate research at the head injury laboratory, Dr. Wyngaarden's decision sets four additional conditions that would be binding on the university for 5 years:

- Future site visits by NINCDS (which funded the project) to the laboratory must include a veterinarian trained in animal science.

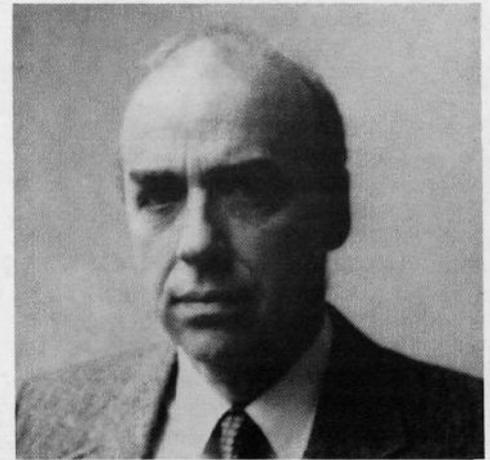
- All videotapes of research in the lab shall be provided to NINCDS on a quarterly basis, where they will be examined for compliance with the *Guide*.

- Any USDA citation of a violation of the Animal Welfare Act would result in the automatic suspension of the lab's PHS animal welfare assurance, or parts thereof, as determined by the NIH's OPR.

- OPR will conduct unannounced inspections of the lab to assess compliance with PHS policy. □

STETTEN LECTURE

(Continued from Page 1)



Dr. Brown

Research on these genes' roles and the factors that influence them has given Dr. Brown new insight into how cells acquire their final array of traits during development and how those traits are maintained.

Dr. Brown has received many honors and awards for his work, among them honorary degrees from the University of Maryland and the University of Chicago, as well as the Rosenstiel Award from Brandeis University in 1985.

He is a member of numerous honorary and professional societies.

Dr. Brown has served as an advisory board member for the National Science Foundation and the National Institute of Child Health and Human Development.

He received an M.D. along with an M.S. in biochemistry in 1965 from the University of Chicago Medical School. As a research associate at the National Institute of Mental Health from 1957 to 1959, he went on to study amino acid metabolism in animals.

Dr. Brown was next a National Cancer Institute special fellow at the Institut Pasteur in Paris and subsequently at the Carnegie Institution of Washington's department of embryology. He has been a member of that department since 1962 and its director since 1976. □

Biomedical Meetings

A calendar of biomedical meetings sponsored by NIH and other organizations through December 1986 is available from the Division of Public Information, OD. The calendar is prepared annually for the NIH information community for use in scheduling events that may be of interest to the news media. Anyone interested in obtaining a copy, contact Mrs. Nina Bacanari, Bldg. 31, Room 2B23, 496-1766. □

NOBELISTS

(Continued from Page 1)

The two Nobelists in Medicine have also received some funding from NIH's Division of Research Resources.

One of the two Americans announced as winners of the Nobel Prize in Chemistry has also received some funding from DRR.

He is Professor Herbert A. Hauptman of the Medical Foundation of Buffalo, N.Y. DRR has made institutional grants to the Foundation on which Professor Hauptman is principal investigator for a number of years.

Both Professor Hauptman and Dr. Jerome Karle, professor at the U.S. Naval Research Laboratory in Washington, D.C., the other chemistry winner, were honored for their work in developing methods to determine the structure of crystals (molecules) in "both organic and inorganic chemistry." □



His Royal Highness, Prince Philippe, future King of Belgium (r), visited NIH on Friday, Oct. 4. Dr. Thomas Malone (l), NIH Deputy Director, was the official host for the visit. Prince Philippe was especially interested in NIH's computer applications in medicine. Trained as a pilot in the Belgium Air Force, he has flown several combat jets including a U.S. Air Force F-16. Dr. Malone, also a licensed pilot, exchanged flying anecdotes with the visiting Prince.

GROUNDBREAKING

(Continued from Page 1)



Dr. Fredrickson (l) and Congressman Natcher (r) stand beside an artist's rendering of the Mary Lasker Center for Science and Education as it will appear after renovations of the former Cloister of the Sisters of the Visitation. The new center, to be jointly operated by the Howard Hughes Medical Institute and NIH, was named to honor Mrs. Lasker for her distinguished, longtime philanthropic support of biomedical science and NIH.

Congressman William H. Natcher, chairman of the House Appropriations Subcommittee on Labor, Health and Human Services—Education, noting he was the only member of Congress present, said: "Let me assure you at NIH that have many friends on the Hill."

The congressman, whose subcommittee handles the NIH budget, said, "You have some of the most unusual people in the world here (laughter) but no other facility compares to NIH."

Dr. Fredrickson, in his closing remarks, noted that the new secular activities at the former convent of the Sisters of the Visitation "also has a spiritual base. It is all a part of the universal search for better knowledge of life."

The first 23 HHMI-NIH scholars are already on campus pursuing individual research under the tutelage of distinguished mentors. Hereafter, 30 research scholars will be chosen each year under the program for 5 years.

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Mrs. Mary Lasker was unable to attend the groundbreaking ceremony. However she did send the following message: "I am delighted the first new building on the Lasker Center grounds will be devoted to encouraging young medical students to enter research careers. We will need their able minds in our struggle to prevent the killing and crippling diseases that burden mankind."



Outgoing HHS Secretary Margaret Heckler speaks at groundbreaking. Mrs. Heckler drew warm and prolonged applause as she rose to speak.

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