



Dr. Paul Berg to Give NIH Lecture on Nov. 17 On SV40 Viral Genome

Dr. Paul Berg will present the NIH Lecture on Dissections and Reconstruction of the SV40 Genome on Wednesday, Nov. 17, at 8:15 p.m., in the Masur Auditorium.

He will describe research to identify the viral regulatory and struc-



As chairman of the NAS Committee on Recombinant Molecules, Dr. Berg has played a key role in calling attention to the potential hazards of this research and in formulating appropriate safeguards for public health.

tural genes and to map their location on the DNA molecule.

SV40 is a virus that propagates in monkey and human cells, induces malignant tumors in some rodents, and transforms the morphology and growth behavior of normal cells in culture.

Aids Understanding of Cells

Dr. Berg, Willson Professor of Biochemistry and former chairman of the department of biochemistry at Stanford University School of Medicine, is widely recognized for his contributions to understanding how living cells make proteins.

His work on the genetic apparatus that directs the cellular synthesis of proteins earned him the Eli Lilly Award in Biochemistry in 1959 and the California Scientist of the Year Award for 1963.

Dr. Berg's earlier studies elucidated how metabolic energy, in the form of adenosine triphosphate, is utilized in the formation of the pep-

(See DR. BERG, Page 6)

ELISA May Soon Replace Radioimmunoassay Tests

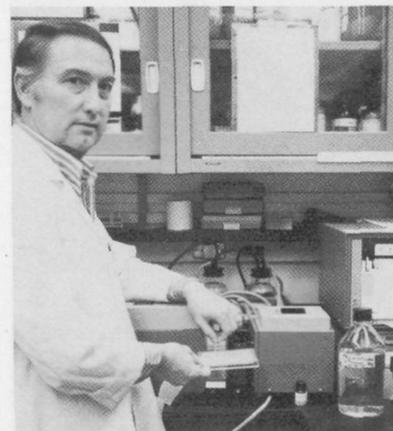
Scientists recently gathered in Wilson Hall to hear researchers invited by the National Institute of Neurological and Communicative Disorders and Stroke discuss a revolutionary new blood test that can rapidly identify a multitude of human and animal diseases.

The ELISA test (Enzyme Linked Immuno Sorbent Assay), which was first described by Swedish researchers E. Engvall and P. Perlman in 1972, is emerging as a versatile, extremely sensitive, and safe laboratory test for detecting antibody.

The system works like this—enzymes attached to specific antibodies link up with antigens or patients' antibodies contained in the sample. The resulting conjugated complex has enzymatic activity which can be measured by its ability to degrade a suitable third compound called a substrate.

The final result is a color change which can be assessed visually or with a spectrophotometer.

Participants concurred that if ELISA proves to be as accurate and universally applicable as these early studies indicate, it will replace in many instances the radioimmunoassay (RIA) which until



Dr. Maneth Gravell of NINCDS demonstrates how the spectrophotometer samples individual wells in the micro-titer plate and prints out readings that reflects color changes (r). The small bottle contains substrate and the larger bottle a washing solution used in ELISA.

(See ELISA, Page 7)

Dr. Gajdusek Wins Nobel Prize for Kuru Studies, Finding Transmissible Slow Virus



Following a shuttle flight from New York, Dr. Gajdusek addressed a late afternoon press conference on Thursday, Oct. 14, in the 14th floor auditorium, Bldg. 10, after the announcement of the Nobel Prize in Medicine. Other speakers included (l to r) his co-worker Dr. Gibbs, NINCDS Director Dr. Donald B. Tower, and NIH Director Dr. Donald S. Frederickson.

Work by Dr. D. Carleton Gajdusek and colleagues since the late 1950's has proven that kuru—a fatal "shaking" disease of the Fore people and their neighbors in New Guinea—is a transmissible slow virus infection. Recognizing the close similarity of the clinical signs and pathological lesions between kuru and the presenile dementia, Creutzfeldt-Jakob disease (CJD), Dr. Gajdusek and Dr. Clarence J. Gibbs, Jr., have demonstrated that both diseases are caused by similar viruses transmissible to non-human primates.

Some cases of virus induced CJD are apparently hereditary; nonetheless they are transmissible. More recently, Drs. Gajdusek and Gibbs have demonstrated the presence of a similar transmissible virus in two cases of familial Alzheimer's disease.

They have now defined a new group of microorganisms—very different from any other virus in numerous physical, chemical, and biological properties—which they designate as the "unconventional viruses." These include the viruses of the two human diseases, kuru and CJD, and those of the animal diseases, scrapie of sheep and goats, and transmissible mink encephalopathy (TME).

These studies represent an extraordinary fundamental advance in human neurology, and in mammalian biology and microbiology, for which Dr. Gajdusek, chief of the Laboratory of Central Nervous System Studies, National Institute

(See DR. GAJDUSEK, Page 4)

Flu Immunization Shots To Be Available to All; Dates to Be Announced

Influenza immunizations will be available to NIH employees through the Occupational Medical Service. For specific scheduling dates, check bulletin boards and look for desk-to-desk memorandum.

The schedule depends upon the dates vaccine supplies are furnished from the Montgomery County Health Department.

The Bivalent Vaccine, A/New Jersey and A/Victoria, will be offered to all employees in the high risk category. This vaccine is recommended for persons over 65 years of age or those with chronic health problems.

The Monovalent Vaccine, A/New Jersey, will be available for all other NIH employees.

This program is voluntary and provided as a convenience to NIH employees.

It is important to note that employees with known allergies to eggs or egg products should not receive this vaccine. Also, no other immunizations will be given at the same time.

the NIH Record

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Applications for Stride Training Now Being Accepted

Applications for up to 25 training positions in the NIH Stride Program are now being accepted.

Stride combines on-the-job training in a technician or para-professional position at NIH with full-time college study at American University (at Government expense) for up to 3 years.

The goal is placement in a professional position at NIH.

Employees are eligible if:

- Currently employed in a non-professional job (one grade promotions).
- Employed at NIH for at least 90 days in a career or career-conditional position.
- Willing to accept a full-time

position during training and upon completion of the program.

- In grade GS-7 or below, or wage grade equivalent at the time of application.

- Have a high school diploma or GED certification and less than a bachelor's degree.

For announcement of the Stride training positions, closing dates for applications, and details on how to apply, check the Vacancy Listing posted on bulletin boards throughout NIH.

Employees may call or visit the designated personnel office advertising the training position or the Career Development Branch, Division of Personnel Management, Ext. 66211.



COMBINED FEDERAL CAMPAIGN has been extended until Nov. 10. An attempt to conduct an abbreviated campaign this year has not been successful. For the period ending Oct. 22 contributions totaled \$122,555.06, 52 percent of our goal. The average gift was \$37.58 with 32 percent of NIH employees participating, but NIA, DRR, and FIC have already exceeded their dollar quota. NIGMS has attained 92 percent of its goal, and NLM and DRG reached 91 percent. At the recent "Lucky 13" rally, speakers were (l to r): Dr. Donald B. Tower, NINCDS Director and CFC vice-chairman; Mike Bass, former Redskin star; Edwin Sexton, Jr., Deputy to the Special Assistant to the President for Minority Affairs; Dr. Donald S. Frederickson, NIH Director and CFC chairman; and Jean Oliver, NINCDS, CFC coordinator. Mr. Bass (r) selects a winning ticket for one of the R&W door prizes.

Health Benefits 'Open Season' Offers Employees Option to Enroll or Change

During the Federal Employees Health Benefits Program's "Open Season," Nov. 15-Nov. 30, eligible employees may enroll in one of 11 different plans, change option, type of enrollment, or any combination of these.

A booklet entitled *Open Season Instructions* will be distributed in a packet to all employees. Brochures on the four major general plans and premium rates for all plans will be included.

The four general plans are University Affiliated Health Plans, Inc. of Washington, D.C.; Indemnity Benefit Plan (Aetna Life and Casualty Company); Service Benefit Plan (Blue Cross-Blue Shield); and Group Health Association of Washington, D.C.

Other available plans are: American Federation of Government Employees Plan, Alliance Health Plan, American Postal Workers Union Plan, Government Employees Hospital Association Plan, Mail Handlers Plan, and National Association of Letter Carriers Health Plan.

To enroll in one of these, an employee must become a regular or associate member of the sponsoring organization.

Employees living in the area surrounding Columbia, Md., may enroll in the local comprehensive Columbia Medical Plan.

During the "Open Season," registration assistants in personnel offices will answer questions on the Program, and help employees complete forms. These assistants will be listed on bulletin boards.

A panel of experts representing the four major plans will answer questions on the 1977 contracts on Wednesday, Nov. 17, at 2 p.m., in Bldg. 1, Wilson Hall.

All employees are invited to attend, and permission to attend should be cleared with supervisor.

New 1977 Rates

New rates become effective on Jan. 2, 1977.

GROUP HEALTH ASSOCIATION OF WASHINGTON, D.C.

| Self | 1976 | 1977 |
|---------------|---------|---------|
| High option | \$ 9.63 | \$10.62 |
| Low option | 3.93 | 4.42 |
| <i>Family</i> | | |
| High option | 24.97 | 27.37 |
| Low option | 11.38 | 12.55 |

INDEMNITY BENEFIT PLAN (Aetna)

| Self | | |
|---------------|-------|-------|
| High option | 6.71 | 6.18 |
| Low option | 2.14 | 2.06 |
| <i>Family</i> | | |
| High option | 15.33 | 11.95 |
| Low option | 5.31 | 5.10 |

SERVICE BENEFIT PLAN (Blue Cross-Blue Shield)

| Self | | |
|---------------|-------|-------|
| High option | 8.77 | 9.50 |
| Low option | 1.02 | 1.22 |
| <i>Family</i> | | |
| High option | 20.01 | 21.52 |
| Low option | 2.95 | 3.54 |

UNIVERSITY AFFILIATED HEALTH PLANS, INC. OF WASHINGTON, D.C.

(Plan has only one option.)

| Self | | |
|-------------|-------|-------|
| High option | 4.98 | 8.01 |
| Low option | 17.37 | 25.16 |

SHER Sponsors David Copus; Discrimination Is Topic Nov. 17

David Copus of the Equal Employment Opportunity Commission will speak on Job Discrimination and the Law, Wednesday, Nov. 17, at noon in the Clinical Center's 14th floor auditorium at a meeting sponsored by Self Help for Equal Rights. Everyone is invited.

Conciliates Charges

Mr. Copus is currently the acting director, Special Investigation and Conciliation Division, Office of Compliance, EEOC, which investigates and attempts to conciliate charges alleging patterns and practices of discrimination by the Nation's major employers and unions.

Previously, as an attorney in the EEOC General Counsel's Office, he directed the 2-year litigation against the American Telephone and Telegraph Company and the 22 Bell System operating companies.

For further information, call Rosalind Marimont, Ext. 64325.

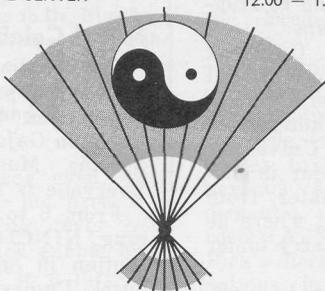




ASIAN-AMERICAN CULTURAL PROGRAM

MASUR AUDITORIUM
CLINICAL CENTER

October 20, 21, 22, 1976
12:00 — 1:00 pm



In his opening comments at the beautiful and entertaining Asian American Cultural Program, NIH Director Dr. Donald S. Frederickson said, "One of the exciting things about the NIH community is its diversity. During this and the various minority cultural events to follow, we will be able to sense, in a new way, how each of us is enriched by the cultural heritage of others." The noon-hour programs during the 3 days included singers, dancers, and instru-

mentalists from Korea, Japan, Vietnam, and China. A Japanese bonsai demonstration was of particular interest. Helen Lee of NCI, who chaired the committee, was assisted by Lois Chang of NLM, Dr. Henry Fukui of NEI, Ella Miyashiro of FDA/BOB, Helen Ou and George Yee of OD, Tsugiye Shiroishi of NIAID, and Ildefonso Badua and Florence Sato of CC.

His Associates Honor Dr. Yerkes' Birthdate At Centennial Event

Anecdotes about the late Dr. Robert M. Yerkes related by scientists who worked with him highlighted a Centennial Conference, commemorating the 100th anniversary of his birth.

The conference, held in Atlanta, Ga., on Oct. 25 and 26, and attended by 150 people, was sponsored by Emory University, host institution of the Yerkes Regional Primate Research Center.

The Center, which has its roots in a primate laboratory founded and first directed by Dr. Yerkes, is one of seven Regional Primate Research Centers funded by the Animal Resources Program of the Division of Research Resources.

Early Days Recalled

The fledgling days of the Laboratory when it was located in Orange Park, Fla., and Dr. Yerkes' initial fascination with primates as a Yale University professor were recalled.

Later, the conferees reviewed communication and language research among great apes. Researchers discussed projects that indicate apes can communicate without aid of sound, including sign language similar to that employed by the deaf.

Speakers explained that great

Concert on Nov. 7 Cancelled; Ruth Laredo Will Play Dec. 5

The concert scheduled for Nov. 7 will be cancelled due to Valentin Gheorghiu's illness. Pianist Ruth Laredo will appear in his place on Sunday, Dec. 5, at 4 p.m., playing a program of music by Beethoven, Scriabin, and Ravel.

Tickets for the Nov. 7 concert will be valid for the Dec. 5 concert. Admission is by ticket only.

TRAINING TIPS

The Training and Education Branch, DPM, is beginning a series of courses this month.

Application deadlines are approximately 2 weeks before classes start.

Privacy Act Workshop for Contract and Procurement Staff, Nov. 11.

Privacy Act Workshop, Nov. 19. Entrance Testing for Adult Education, Nov. 11.

Further information is available from B/I/D personnel offices or by calling Ext. 62146.

apes can communicate through use of a computer, not only answering questions with the help of a computer, but also can pose questions to the researchers in return.

At another session, use of chimpanzees as biomedical models was discussed.

The conference concluded with

Flu Vaccine for Children and Young Adults Is Safe

Swine flu vaccine can be used safely and effectively to immunize children against swine influenza.

This conclusion was announced by Dr. John R. Seal, deputy director of the National Institute of Allergy and Infectious Diseases, on Oct. 22, following the report of successful clinical trials involving more than 3,000 children.

The studies indicated that two doses of vaccine 4 weeks apart provided the best protection.

The results of these studies will now be considered by two groups of experts—the Public Health Service Advisory Committee on Immunization Practices and the Committee on Infectious Diseases of the American Academy of Pediatrics—who will make specific recommendations on dosage and vaccination procedures.

The vaccine is already recommended for children with chronic diseases who are considered "high risks" for flu complications.

Results of the studies were described by Dr. Raphael Dolin of NIAID, who supervised the trials in young adults at NIH, and by Dr.

Peter F. Wright of Vanderbilt University, who coordinated the studies in children 3 to 17 years old that were carried out in 15 centers throughout the country.

Young adults are already being given the vaccine, and Dr. Dolin's study confirmed earlier findings that a booster dose should be given 4 weeks after the primary dose.

Dr. Wright reported on the use of both whole virus vaccines and split virus vaccines. The split virus vaccines are prepared using chemical treatment to disrupt the whole virus particle—a process designed to reduce side reactions.

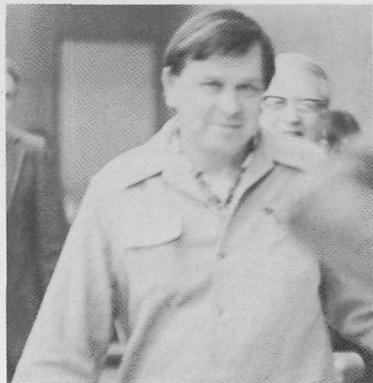
Reactions Were Minimal

The children responded well to both vaccines with slightly more side reactions reported after use of the whole virus vaccines. However, Dr. Wright stressed, in all cases reactions were minimal—perhaps some fever, malaise, headache or sore arm within 6 to 12 hours after injection, and lasting no longer than 24 hours.

Some very young children, 6 months to 3 years, were also included in the study.

They responded well to the two-dose regimen, but the investigators reported that more extensive investigations should be done before any recommendations can be made for this age group.

several evolutionary studies, including information on the release of aggression among primates, cross-modal transfer in apes, memory processing, and a summation of primate studies in the behavioral sciences.



As other speakers described the achievements of this year's Nobelists, Dr. Gajdusek, who was at his family home in Yonkers, N.Y., when he learned of the award, arrived (1) with a police escort from National Airport. Then he

faciated a TV camera lineup and a barrage of questions from reporters (c) as well as a large crowd of NIH'ers assembled in the Clinical Center's 14th floor auditorium for the exciting occasion.

DR. GAJDUSEK

(Continued from Page 1)

of Neurological and Communicative Disorders and Stroke, shares this year's Nobel Prize in Physiology or Medicine with Dr. Baruch S. Blumberg (see page 5).

The discovery by Drs. Gajdusek and Gibbs that subacute degenerative familial diseases of the human central nervous system are infectious in nature has a major impact on knowledge of genetic diseases.

It has led to the demonstration that other chronic central nervous system diseases were slow infections caused by more conventional viruses, such as measles virus which causes subacute sclerosing panencephalitis (SSPE), and the papovavirus of progressive multifocal leucoencephalopathy (PML).

Ultra-Filtrates Inoculated

In these studies, Drs. Gajdusek and Gibbs inoculated experimental animals with bacteria-free and protozoan-free ultra-filtrates of suspensions from the brains of patients with the respective diseases.

Although from the biological viewpoint, kuru and CJD differ significantly from SSPE and PML—in which inflammatory and immune responses are clearly demonstrable—the investigators hypothesized over a decade ago that the latter diseases were slow infectious diseases caused by defective measles and papova viruses, respectively.

Employing difficult long-term techniques, they have carefully characterized the physical and chemical properties of kuru, CJD, and scrapie viruses, showing them to be invisible by current techniques of electron microscopy, remarkably stable to heat, and resistant to ultraviolet radiation, most organic solvents, formaldehyde, and the inactivating enzymes RNAase and DNAase and with unusually small target size for inactivation by ionizing radiation.

Nevertheless, they have proven that the diseases are caused by filterable, self-replicating, serially transmissible agents which they call "unconventional viruses," probably representing unusually small pieces of genetically active virus

nucleic acid, tightly bound to fragments of plasma membrane.

To say the least, Dr. Gajdusek has had a career as unconventional as the viruses he studies. A native of Yonkers, N.Y., he graduated in 1943 at age 19 from the University of Rochester with a major in biophysics and 3 years later from Harvard Medical School, where he worked in protein chemistry under Dr. John Edsall.

He did his internship in pediatrics at the Columbia Presbyterian Medical Center in New York, where he did research on complement depletion in autoimmune diseases and glomerulonephritis under Dr. Michael Heidelberger.

After residencies in pediatrics, he served in post-war Germany on a Pediatric Medical Mission.

He then did postdoctoral study in physical chemistry at California Institute of Technology with Drs. Linus Pauling, John Kirkwood, and Max Delbruck, on a National Research Council Fellowship.

He continued as a clinical and research fellow in pediatrics, Children's Hospital, Boston, and in virus research with Dr. John F. Enders at Harvard, on a fellowship from the National Foundation for Infantile Paralysis.

In 1952-53 he studied virus and rickettsial diseases at Walter Reed Army Institute of Research under

Nobel Celebration Nov. 17

On Wednesday, Nov. 17, from 2 to 3 p.m., a Nobel Prize Celebration honoring Dr. D. Carleton Gajdusek will be held in the Masur Auditorium. Everyone is invited.

From 6 to 8 p.m. that evening, NINCDS will hold a reception in honor of Dr. Gajdusek. Reservations, which will be required, may be made by calling the NINCDS Information Office, Ext. 65751.

Dr. Joseph Smadel, who saw the wisdom of studying scrapie-like disease with a narrow host range but knew results might be slow in coming.

There, also, he first met some of his later co-workers, including Dr. Gibbs, (now assistant chief of the Laboratory of Central Nervous System Studies, NINCDS) and Drs. Harry A. Meyer, Jr., Richard Johnson, and Nancy Rogers.

During the next several years, Dr. Gibbs continued in the Department of Hazardous Operations, WRAIR, then studied arthropod-borne virus diseases, in NIAID, including Rift Valley fever found in Africa.



In a 1971 photo, Dr. Gajdusek (1) and Dr. Vincent Zigas, who in 1957 together first described kuru, watch as Dr. Gibbs holds one of the chimpanzees to which the disease was successfully transmitted.

Meanwhile, Dr. Gajdusek investigated virus and rickettsial disease in the Middle East, rabies, hemorrhagic fevers, and plague in Iran, Afghanistan, and Turkey, then became visiting investigator at the National Foundation for Infantile Paralysis, Melbourne, Australia, with Sir MacFarland Burnet.

While in the Far East, in 1955-57, he met Dr. Vincent Zigas, a medical patrol officer in the highlands of New Guinea, who reported a strange brain disease—kuru—that affected thousands of members of some primitive tribes, especially the women and children.

The two published a description of the disease in 1959, which was read in Britain by an American pathologist, Dr. William Hadlow, who noted the similarity to scrapie, a fatal brain disease of sheep.

Dr. Gajdusek, who in 1958 became director of the then NINDB program for the Study of Child Growth and Development and Disease Patterns in Primitive Cultures, had spent over a year in New Guinea in 1957-58, studying the people, their customs, and the disease. He has returned to New Guinea every year since then to continue to study kuru.

At that time the highlanders performed a ritual cannibalism as a rite of mourning for their dead relatives, cleaning their hands of the tissue by rubbing them over their bodies and hair.

Membranes Penetrated

The investigators think that penetration of skin lesions, eye and mucous membranes is more likely the source of infection than the gastrointestinal route.

Since then, Drs. Gajdusek and Gibbs have shown that brain tissue from kuru patients contained so much infectious virus that it could cause kuru in dilutions of 1 part to several millions.

Primate inoculations were started on the NIH campus, and as the program enlarged they were transferred to an NINDS laboratory housed at the Patuxent Wildlife Research Center.

(Continued on Page 5)

Nobel Prize in Medicine Shared by Dr. Blumberg; Found Australia Antigen

While chief of the Geographic Medicine and Genetics Section, National Institute of Arthritis, Metabolism, and Digestive Diseases from 1957 to 1964, Dr. Baruch S. Blumberg discovered Australia antigen—a discovery so important that for it he shares this year's Nobel Prize in Physiology or Medicine.

Studied Genetic Variation

Seeking genetic variations between different people in the susceptibility to disease, Dr. Blumberg found that serum from a multiply transfused hemophiliac formed a precipitin line in agar when reacted against serum from an Australian aborigine, hence the name.

It originally appeared that this antigen was related to leukemia in that only one in 1,000 normal donors had this antigen as compared with 10 percent of patients with leukemia. Later, researchers realized that this association was due to the high frequency of hepatitis virus carriers among the leukemia population.

Dr. Alter Collaborated

Working with Dr. Blumberg at the time of the original discovery and a coauthor on the first paper describing Australia antigen was Dr. Harvey J. Alter, now at the Clinical Center Blood Bank, who was also principal author of the first paper to biophysically characterize Australia antigen.

In 1964 Dr. Blumberg went to Fox Chase Cancer Center, Philadelphia, where in 1967 he and co-workers demonstrated that the antigen was associated with viral hepatitis.

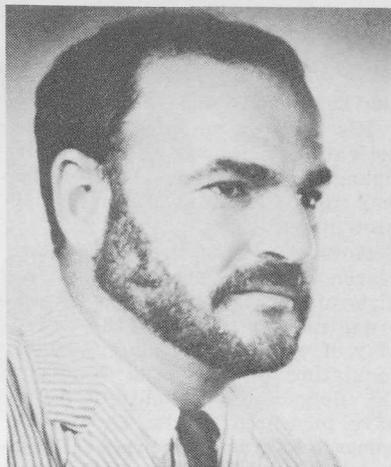
Subsequently, Dr. Alfred Prince of the N.Y. Blood Center showed that it was specifically associated with serum hepatitis virus, at that time thought to be transmitted primarily by contaminated blood or blood products.

Later, Dr. Blumberg and many other investigators described the antigen as a small virus-like particle, composed of proteins, present in the blood of many patients with both acute and chronic hepatitis.

Many Are Carriers

In addition, many persons carry the antigen without evidence of hepatitis. It is estimated that there are 900,000 carriers of this antigen in the U.S., and many times that throughout the world.

In the decade following the initial observation, the continuing work of Dr. Blumberg and others has revolutionized the field of viral hepatitis, identifying the Australia antigen as a surface antigen of the virus causing hepatitis B (serum hepatitis), which serves as a hall-



In awarding the 1976 Nobel Prize in Physiology or Medicine to Dr. Blumberg and Dr. Gajdusek, the Royal Karolinska Institut of Sweden cited them "For their discoveries concerning new mechanisms for the origin and dissemination of infectious diseases."

mark of the disease even when other symptoms are not present.

Serologic screening tests have been developed which enable blood banks to eliminate, to a large degree, the problem of post-transfusion hepatitis caused by this virus. However, it has become evident that this disease is spread by routes other than blood and still presents a major public health problem.

Vaccine Being Developed

Extraction of large quantities of this surface antigen from the blood of chronic carriers is providing the basis for the development of hepatitis B vaccines, already shown to be protective in animal studies.

A graduate of Union College, Schenectady, N.Y., Dr. Blumberg did graduate work in physics and mathematics at Columbia University before entering Columbia's College of Physicians and Surgeons, from which he received his M.D. in 1951. He also holds a Ph.D. degree in biochemistry from Balliol College, Oxford University.

Since leaving NIH, Dr. Blumberg has held grants from the National Heart, Lung, and Blood Institute and from the National Cancer Institute.

NIH'ers Contribute

Other NIH researchers who have made significant contributions to understanding hepatitis B and its antigen (Australia antigen) include Drs. Robert Purcell of NIAID, Dr. John Gerin of NIAID and the Molecular Anatomy Program, Oakridge National Laboratory, Dr. Lewellys Barker of the Bureau of Biologics, Dr. Raphael Shulman of NIAMDD, and Dr. Paul Holland of the CC Blood Bank.

Science is nothing but developed perception, interpreted intent, common sense rounded out and minutely articulated.—George Santayana.

(Continued from Page 4)

Dr. Gibbs recalls that Dr. Smadel, then NIH Associate Director of Intramural Research, said that in 5 years he expected "golden results," but Dr. Smadel died before the first successful transmission of kuru virus to chimpanzees Daisy and Georgette was observed in 1965 after inoculation in 1963.

Since then, similar and continuing experiments have been undertaken with CJD, Alzheimer's disease, scrapie, TME, and other diseases, at facilities at NIH as well as in New Iberia, La.; Davis, Calif.; Otisville, N.Y.; St. Luke's Presbyterian Hospital, Chicago; San Antonio, Tex.; Honolulu, Hawaii; Paris, and new facilities at the Frederick Cancer Research Center.

The studies have expanded as evidence grows for the relevance to other diseases including multiple sclerosis (victims have more antibodies to measles virus in their nervous systems), Parkinsonism dementia, amyotrophic lateral sclerosis (ALS), Huntington's chorea, Pick's disease, and degenerative reactions in schizophrenia, among others.

Dr. Gajdusek continues his annual visits to the peoples of the eastern highlands of Papua, New Guinea, and to Indonesian West New Guinea, and in 1972 he served from September to December as chief scientist on the research vessel *Alpha Helix* during an expedition to the Banks and Torres Islands, New Hebrides, and the South Solomon Islands in which Dr. Paul Brown, Judith Meyer, and several members of his staff participated.

Over the years, beginning in the early 1960's, he has "adopted," according to the custom of their peoples, 16 boys from the South Pacific who live with him in Chevy Chase, attending Leland Jr. High School and Bethesda-Chevy Chase High School before going to college.

Dr. Gajdusek plans to use his share of the Nobel Prize toward their college expenses. Several have now returned to New Guinea or

GMS Grantee Dr. Lipscomb Wins Nobel Chemistry Prize

Dr. William N. Lipscomb, Abbott and William James Lawrence Professor of Chemistry at Harvard University, has been awarded the Nobel Prize for Chemistry.

He was honored for his studies on the structure and bonding mechanisms of compounds known as boranes.

Dr. Lipscomb's research on Molecular Structure of Biologically Active Molecules has been supported by the National Institute of General Medical Sciences for the past 17 years.

Micronesia after completing their education.

His colleague Dr. Gibbs says the boys cook fine multicourse dinners and look after themselves. "It's rare that there are fewer than 20 people for dinner, including guests. And the music they make—it's wonderful.

"The house is like a museum, with art and decorations from all over the South Pacific—but most of the artifacts have been given to the Salem Peabody Museum in Massachusetts.

"Travel with Dr. Gajdusek is always fascinating—even though one may wind up staying in hotels that cost 25 cents a night."

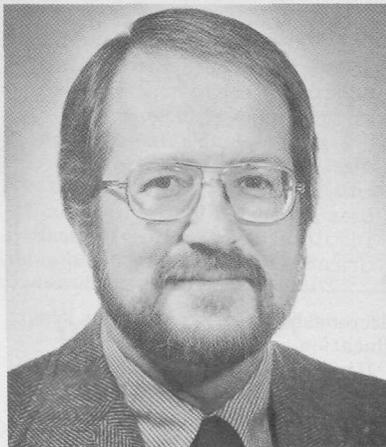
Dr. Gibbs also recalls that their project might have taken longer and hit more snafus were it not for Jeni Arliss—administrative assistant to Dr. Richard Masland, second Director of the then NINDB—who used to "go out on a limb sometimes to make sure necessary supplies got sent to New Guinea."

Internationally known as an anthropologist, Dr. Gajdusek is an expert on medical problems of isolated and primitive peoples and a formidable linguist, speaking German, French, Spanish, Russian, Slovak, Neo-Melanesian; some Persian, Bahasa Indonesia, and Dutch, and some knowledge of several languages of New Guinea and other Melanesian and Micronesian areas.



After the press conference, Dr. Frederickson (left center) congratulates Dr. Gajdusek and other Nobel laureates at NIH, Dr. Julius Axelrod of NIMH and Dr. Marshall Nirenberg (l) of NHLBI. NIAMDD's Dr. Christian Anfinsen, winner of the Prize in 1972, was out of town.

Dr. Frederick de Serres Named Asso. Director For Genetics at NIEHS



Dr. de Serres has been a leader in developing a program at NIEHS to determine the mutagenic effects of agents found in the environment.

Dr. Frederick J. de Serres has been appointed associate director for Genetics at the National Institute of Environmental Health Sciences.

"Dr. de Serres will serve as consultant to me and to our intramural research staff in the area of genetics and mutagenesis," and . . . "will take part in long- and short-term planning and policymaking of NIEHS involvement in this area," said Dr. David P. Rall, Institute Director.

Since 1972, Dr. de Serres has served as chief of the Environmental Mutagenesis Branch. During that time, he organized a group of nationally and internationally recognized scientists to lead the attack in particular areas of research.

International Projects Cited

These include microbial, biochemical, mammalian, population, and somatic cell genetics.

He has also chaired projects of special concern to NIEHS, such as the Panel on Mutagenesis and Carcinogenesis, US-Japan Cooperative Medical Science Program; the Biological and Genetic Consequences Project of the US-USSR Environmental Protection Agreement; and the Subcommittee on Environmental Mutagenesis, DHEW Committee to Coordinate Toxicology and Related Programs.

Serves as Editor

Dr. de Serres' continuing involvement is reflected in his service on the editorial boards of *Cancer Research*, *Radiation Botany*, and *Mutation Research*. Currently, he is serving as associate editor of *Mutation Research*.

In addition, Dr. de Serres published approximately 160 research papers, abstracts, and book chap-

NIH Visiting Scientists Program Participants

10/8—Dr. Alberto Chersi, Italy, Immunochimistry Section. Sponsor: Dr. Rose C. Mage, NIAID, Bg. 10, Rm. 11D10.

10/8—Dr. Elzbieta Jablonska, Poland, Laboratory of Streptococcal Diseases. Sponsor: Dr. Roger M. Cole, NIAID, Bg. 7, Rm. 201.

10/12—Dr. Howard Chong Lee, Canada, Computer Systems Laboratory. Sponsor: Alan Demmerle, DCRT, Bg. 12A, Rm. 2033.

Visits From Poland

10/12—Dr. Tadeusz Pacuszka, Poland, Developmental Metabolic Neurology Branch. Sponsor: Dr. Peter H. Fishman, NINCDS, Bg. 10, Rm. 3D03.

10/13—Dr. Arnold Brossi, Switzerland, Laboratory of Chemistry. Sponsor: Dr. Bernhard Witkop, NIAMDD, Bg. 4, Rm. 330.

10/14—Dr. Adrian Charles Williams, United Kingdom, Experimental Therapeutics Branch. Sponsor: Dr. Donald B. Calne, NINCDS, Bg. 10, Rm. 6D20.

10/15—Dr. Robert Paul Weatherby, Australia, Pharmacology Branch. Sponsor: Dr. John Bend, NIEHS, Research Triangle Park, N.C.

10/20—Dr. Lucio Nitsch, Italy, Cell Organization Section. Sponsor: Dr. Seymour Wollman, NCI, Bg. 10, Rm. 4B47.

ters on the subject.

In June 1976, he received the NIH Director's Award for his outstanding accomplishments and for his leadership throughout the world in calling attention to the need for, and development of, scientific research in environmental mutagenesis.

Dr. de Serres received his B.S. degree from Tufts University in 1951. He undertook graduate work in genetics at Yale University, where he received his M.S. degree in 1953 and his Ph.D. in 1955.

Worked at Oak Ridge

Following graduation, he joined the Oak Ridge National Laboratory in Tennessee as a geneticist in the Biology Division, eventually serving as coordinator of Oak Ridge's Environmental Mutagenesis Program from 1969 until he joined NIEHS in 1972.

During the period from 1964 to 1968, he also worked in collaborative programs with NASA—on the Biosatellite and Gemini-XI missions—to investigate the genetic effects of radiation in combination with weightlessness.

In collaboration with the National Cancer Institute, Dr. de Serres was also in charge of a program to determine the correlation between carcinogenic and mutagenic activity and to develop *in vitro* tests for carcinogenicity.

DR. BERG

(Continued from Page 1)

tide bond of proteins.

His findings on the enzymatic activation of amino acids and their linkage to transfer RNA paved the way for later work on ribosomal protein synthesis.

More recently, Dr. Berg's research has centered on the mechanism of gene expression in higher organisms, particularly the interplay of viral and cellular genes in regulating growth and division. Dr. Berg and his colleagues also have pioneered in the use of enzymes to cleave segments of DNA and to recombine them, techniques that have helped open the way to recombinant DNA experiments.

In such experiments, a portion of the genetic material of one organism, for example a virus or bacterium, is isolated chemically and made to combine with the genes of a cell from another species.

As a corollary to his research, Dr. Berg has played a leading role in recognizing the potential hazards as well as benefits inherent in the interspecies manipulation of genetic materials, serving as chairman of the Committee on Recombinant DNA Molecules of the Assembly of Life Sciences, National Research Council, National Academy of Sciences.

A native of New York City, Dr. Berg is an alumnus of Pennsylvania State University, and was awarded the Ph.D. degree in biochemistry by Western Reserve University in 1952.

He was a postdoctoral research fellow at the Institute of Cytophysiology in Copenhagen and later at Washington University in St. Louis.

He remained at Washington University as a scholar in cancer research and as a faculty member

HEW Information Chiefs To Discuss How Health Agencies Can Interact

Information chiefs of HEW agencies concerned with health will participate in a panel discussion at NIH on Wednesday, Nov. 10, at 9 a.m., in Bldg. 31, Conference Room 5.

The program is one of a series being sponsored this year by the NIH Information Training Committee.

Discussants will comment on ways in which their offices can interact with those of NIH to improve Government health communications.

John Blamphin, Public Health Service, will be the moderator of the panel discussions.

Other participants are: John T. Walden, Food and Drug Administration; Mildred K. Lehman, Alcohol, Drug Abuse, and Mental Health Administration; Morton A. Lebow, Health Resources Administration, and Patricia Q. Schoeni, Health Services Administration.

The program is open to interested NIH personnel.

until 1959, when he joined the Stanford biochemistry department.

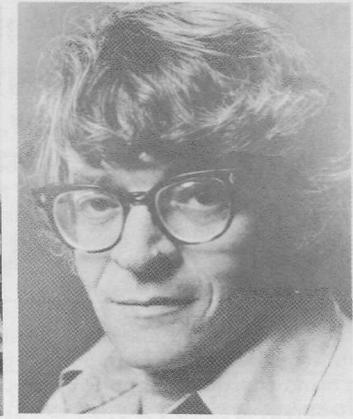
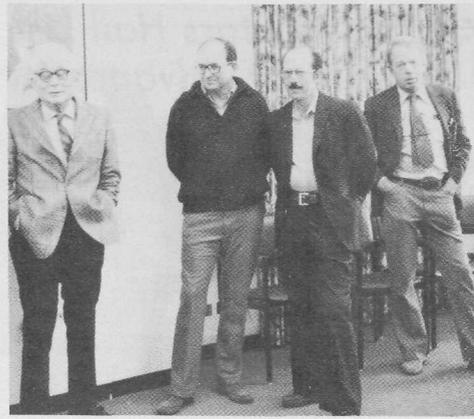
Dr. Berg was twice awarded the Henry J. Kaiser Award for excellence in teaching, in 1969 and 1972, and in 1972 was designated both the Harvey Lecturer and the V. D. Mattia Lecturer.

He is currently a non-resident Fellow of the Salk Institute for Biological Studies, and is president of the American Society of Biological Chemists.

Dr. Ruth Kirschstein, Director of the National Institute of General Medical Sciences, is the host for this lecture. The Institute has funded many of Dr. Berg's most important studies.



Dr. Robert Levy, Director of the National Heart, Lung, and Blood Institute, introduced Natalie Spingarn Davis at a seminar for members of the NIH information community on Oct. 13, a month after publication of her book, "Heartbeat: The Politics of Health Research." Mrs. Spingarn drew on her experience working on Capitol Hill and as a free lance writer and newspaper reporter interested in health care matters in telling of the changing relationship between NIH and Congress by focussing on NHLBI.



Unveiling a portrait of the late Dr. Gordon Tomkins (l to r): NIH Director Dr. Donald S. Frederickson shakes hands with Dr. Joseph E. Rall, director of Intramural Research, NIAMDD, then reminisces with Dr. Tomkins' former colleagues. Dr. DeWitt Stetten, Jr., NIH Deputy Director for Science, recalls that as a teacher at Harvard Medical School, he influenced Dr. Tomkins'

scientific interests, as Drs. Frederick Miles, Gary Felsenfeld, and Robert Gordon, Jr., Special Assistant to the NIH Director, listen. Dr. Tomkins' wife Millicent and two daughters, who reside in California, could not be present at the ceremony in the Bldg. 2 conference room. The portrait (r) now hangs in the room dedicated in Dr. Tomkins' memory.

ELISA

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now has served as the primary new laboratory tool for detecting and defining antibodies and antigens.

In addition to having wider application, ELISA requires none of the costly and potentially dangerous radioactive compounds or radioactive counting facilities necessary for radioimmunoassay procedures.

Detects Viruses Effectively

Many of the meeting papers dealt with ELISA's effectiveness in detecting viral diseases, particularly herpes simplex, hepatitis, and rubella.

Dr. Hal Tenoso, of Organon Diagnostic, El Monte, Calif., reported that his recently developed enzyme assay for herpes simplex offers considerable promise as an *in vitro* procedure for detecting and typing herpes simplex virus directly in clinical material.

Praise Is Unanimous

The speakers were unanimous in their praise for the tests' simplicity and the need for only minimal laboratory skills to perform the tests.

The ELISA also has a promising future in veterinary medicine. Dr. George Saunders of Los Alamos Scientific Laboratory, N.M., reported on the development of an ELISA microtest for the detection and surveillance of animal diseases.

Illustrates Use in Animals

Illustrating the effectiveness of the test for viral (hog cholera), parasitic (trichinosis), and bacterial (brucellosis) diseases of animals, Dr. Saunders concluded that ELISA should soon become a primary diagnostic and surveillance tool to control animal diseases.

Dr. John Sever, chief of the NINCDS Infectious Diseases Branch, anticipates that the new method will be very important in all serology, but particularly valuable for detecting low antibody levels in cerebrospinal fluid.

Environmental Carcinogen Clearinghouse Established; Meets Nov. 8 in Bethesda

The Clearinghouse on Environmental Carcinogens, a newly-organized advisory committee to the National Cancer Institute, will hold its first meeting on Monday, Nov. 8, at 8:30 a.m. in the Linden Hill Hotel, Bethesda, Md.

The Clearinghouse will advise Dr. James A. Peters, Director, Division of Cancer Cause and Prevention, NCI, on the Institute's program to identify and evaluate cancer-causing chemicals (carcinogens) in the environment to which

HEW Report Suggests Phasing Out of Lead in Gas by Reducing Content

Phasing out lead in gasoline by reducing its content is one recommendation contained in a report recently issued by the HEW Committee to Coordinate Toxicology and Related Programs to the Environmental Protection Agency.

The report states that phasing out lead has already been proposed by EPA, as well as by many other developed countries, and that holding the maximum allowable concentration at a lower level has been in effect in most European countries for some time.

Should Prevent Spread

The report also recommends that if lead is allowed to remain in gasoline even at lower levels, its spread into the environment should be prevented through filtration or other devices.

Further, when performance of replacement fuel additives or engine and exhaust system engineering modification is being evaluated, the primary focus should be on reduced adverse health effects.

In transmitting the report to EPA, Dr. Theodore Cooper, Assistant Secretary for Health, HEW, emphasized that "the recommendations are based on our present knowledge, recognizing its limitations."

He noted that "as the work in

humans may be exposed. Among the specific areas on which members of the Clearinghouse will issue advice are:

- which chemicals should be tested in animals to determine their cancer-causing potential;
- the appropriate experimental conditions under which such tests should be conducted;
- the significance of results from the animal tests; and
- the risk posed to humans from chemicals found to be animal carcinogens.

Subgroups of the Clearinghouse have been established to consider each of these areas.

The Clearinghouse also will respond to requests for advice on environmental causes of cancer from Congress, the President's Cancer Panel, the National Cancer Advisory Board, and other Federal agencies.

The voting membership of the Clearinghouse—limited to 30 non-Government persons—is drawn from academic, medical, and scientific research institutions, as well as from industrial, organized labor, and public interest groups.

Collectively, they provide expertise in medicine, law, laboratory animal sciences, chemistry, biochemistry, biostatistics, toxicology, pathology, and epidemiology.

Other Agencies Participate

Dr. Arnold L. Brown, chairman of the department of pathology and anatomy at the Mayo Clinic in Rochester, Minn., will serve as chairman.

In addition to the voting members, representatives of various Government agencies concerned with environmental causes of cancer also will participate. These

this field progresses, the choices will be towards a net reduction in the risk to public health."

He offered HEW's continued help to EPA in this task.

agencies include the Food and Drug Administration, Environmental Protection Agency, Occupational Safety and Health Administration, Department of Agriculture, and a number of Institutes of NIH.

The Clearinghouse will report directly to Dr. Peters, who in turn will apprise the NCI Director of findings and recommendations from the Clearinghouse.

Subgroup Meets Nov. 9

The Chemical Selection Subgroup will hold its first meeting on Tuesday, Nov. 9, the day following the general Clearinghouse meeting, in the same meeting room at the Linden Hill Hotel. Both meetings will be open to the public.

For further information, contact Dr. James M. Sontag, Executive Secretary, Clearinghouse on Environmental Carcinogens, Room 3A16, Bldg. 81, NIH, Bethesda, Md. 20014.



Linda Pastan, author of "Aspects of Eve," "A Perfect Circle of Sun," and "On the Way to the Zoo," will read some of her poetry, particularly work pertaining to scientific themes, on Wednesday, Nov. 10, at 8 p.m. in Bldg. 10, Room 9N230. The poetry reading—the first lecture in the series sponsored annually by FAES—is open to the public.

Dr. Watson Named Chief Of Devices, Technology In Heart, Vascular Div.

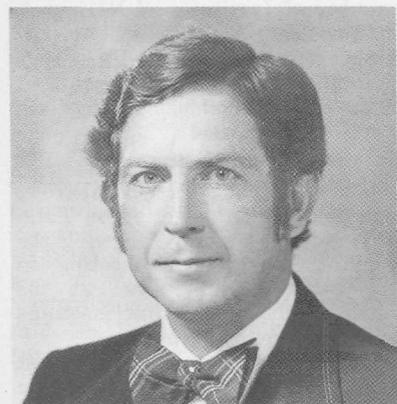
Dr. John T. Watson has been appointed chief of the Devices and Technology Branch of the Division of Heart and Vascular Diseases, National Heart, Lung, and Blood Institute.

Dr. Watson is responsible for the planning and management of a nationwide NHLBI-supported program of basic and applied research in many types of devices used for diagnosis and therapy of cardiovascular diseases.

The program is particularly concerned with circulatory assist devices and the development of an artificial heart and devices to detect and measure atherosclerosis.

Dr. Watson has had 10 years experience with engineering systems, and 10 years in the medical sciences and in administration.

He holds a B.S. in mechanical engineering from the University of



Dr. Watson, who was a NICHD Special Fellow, was named one of 10 Outstanding Young Men of America by the National Junior Chamber of Commerce in 1974.

Cincinnati and an M.S. in that field from Southern Methodist University in Dallas.

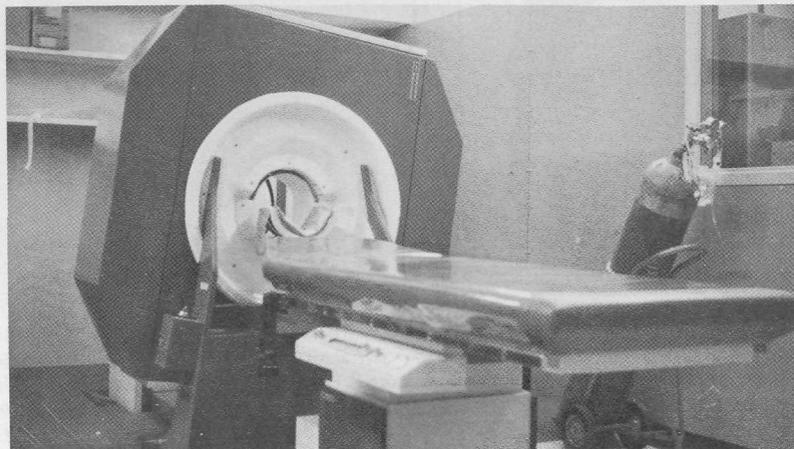
After several years in industry, he returned to full-time academic study in the department of physiology at the University of Texas Southwestern Medical School.

Dr. Watson received his Ph.D. in reproductive endocrinology there in 1972, and stayed for the next 4 years teaching at the Medical School and doing research at the Health Science Center.

His primary postgraduate research interests were in cardiovascular physiology, emphasizing circulatory assistance and methods of protecting the ischemic heart muscle, and in blood-compatible materials, particularly those suited for gas exchange.

Prior to joining NHLBI, Dr. Watson was associate professor, departments of surgery and physiology, and chairman of the Graduate Studies Program in Biomedical Engineering.

Investigators Hail Use of CAT Scanners As Great Advance in X-ray Diagnosis



This new EMI CT 1010 head scanner was recently installed in the CC.

Scientists filled the Masur Auditorium every day from Oct. 11-15 to hear 144 speakers from around the world discuss computer assisted tomography in non-tumoral diseases of the brain, spinal cord, and eye.

The demanding schedule of one speaker every 10 minutes was maintained with almost as much precision as the detailed images which are produced by these incredible new X-ray machines.

Computer assisted tomography (CAT) scanners use a computer to convert thousands of measurements into cross-sectional pictures of the head and body which are displayed on a television screen.

Because these devices are able to disclose more information about internal structures than conventional X-rays, they are being hailed by researchers and clinicians as the biggest advance in X-ray diagnosis since the invention of the X-ray tube itself.

Dr. Giovanni Di Chiro, head of the NINCDS section on neuro-radiology and chairman of the international symposium, chose the theme of non-tumoral diseases of the central nervous system and the eye because he believes these disorders often represent a tougher challenge for the investigators and a more exacting performance test for the equipment.

Symposium Provides Forum

The symposium provided a forum for clinicians, physicists, mathematicians, and engineers to discuss their experiences with both transmission CAT scanners, which use an external source of radiation to produce images, and emission CAT scanner, in which images are constructed from the emission of radioactive tracers injected in the patient.

A number of previously unpublished basic and clinical observations were presented, including new findings on degenerative diseases of the brain, hydrocephalus, the epilepsies, and pathology of the eye, as well as new types of enhancing media for improving imaging quality, such as xenon gas.

Also, a number of innovative

technical developments in the equipments were demonstrated.

The audience was treated to a rare and sometimes humorous glimpse into the early days of the CAT when three pioneers, Drs. Ronald Bracewell, Allan M. Cormack, and William H. Oldendorf, reminisced about their early experiences.

Evaluate Competing Devices

A highlight of the program was a unique presentation by 13 radiologists who evaluated images taken with competing commercial transmission scanning devices.

It became clear from their presentations that the race is on to develop machines that can scan and process faster, produce better resolution, and use less radiation.

Throughout the week participants had the opportunity to visit the Clinical Center CAT facilities, including the new CT 1010. This high resolution head scanning device is the first of its type in the United States and the second in the world, after the prototype in Wimbledon, England.



The panel of pioneers (l to r)—Drs. Oldendorf, Cormack, and Bracewell—listen to Dr. Di Chiro, symposium chairman.

PHS to Review Policy On Nat'l Immunization At Public Conference

The Public Health Service is holding a national public meeting to review Federal policy questions regarding vaccines and immunization on Nov. 12, 13, and 14 in the Clinical Center, Masur Auditorium.

Active public participation in the National Immunization Conference is invited.

On Friday, Nov. 12, the conference will be held from 8:30 a.m. to 5 p.m.; on Saturday, Nov. 13, from 9 a.m. to 5 p.m.; and on Sunday, Nov. 14, from 9 a.m. to 5:30 p.m.

Among the issues to be examined during the 3-day meeting will be allocation of resources for immunization; the role and responsibilities of Federal, State, and local Government; adequacy of current legislation; and supply, safety and effectiveness of vaccines.

Also under consideration will be the nature of recommendations to the public; marketplace difficulties from the manufacturers' point of view, informed consent and compensation; liability issues; and the implications of advances in vaccine technology for closing of immunization gaps in the future and methods of public education.

The conference is aimed at the development of future policies which will assure an adequate supply of vaccine against present and emerging diseases.

Submit Texts by Nov. 5

Private citizens wishing to address the conference should submit a text of their comments by Nov. 5 to John M. Blamphin, Director of Public Affairs, Room 731G-2, South Portal Bldg., 200 Independence Ave., S.W., Washington, D.C. 20201.

Requests to give oral presentations will be accepted on a first come basis.

While written comments may be any length, oral presentations will be limited to 5 minutes to accommodate as many as possible.