The NIH Record

U. S. Department of Health, Education, and Welfare

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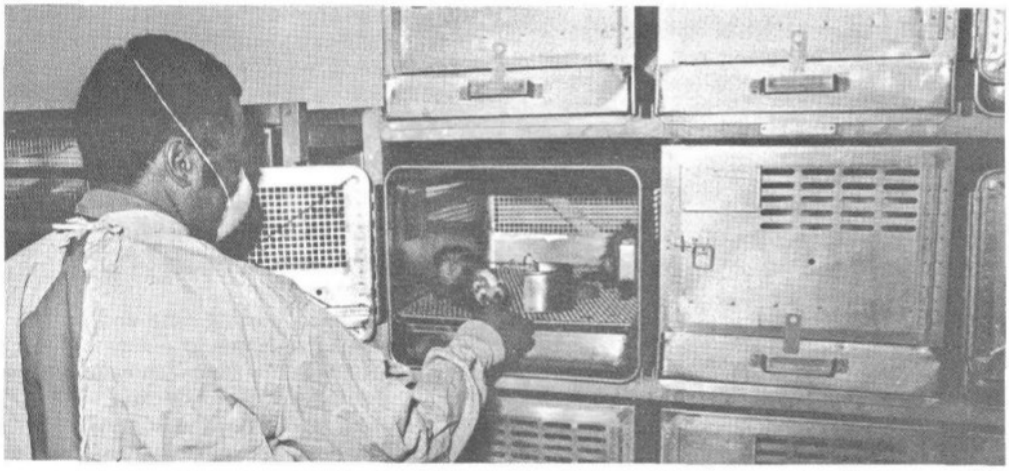
National Institutes of Health

NINCDS Sponsors International Workshop on Unconventional Viruses



Al Bacote at work in new facility.

Scientists from 10 countries joined their U.S. colleagues at NIH recently for an international workshop on the subacute spongiform encephalopathies and the unconventional viruses that cause them.

The workshop was sponsored by the Laboratory of Central Nervous System Studies, National Institute of Neurological and Communicative Disorders and Stroke, to mark the opening of new laboratory and animal research facilities at Ft. Detrick, adjacent to the National Cancer Institute's Frederick Cancer Research Center.

Many workshop participants were colleagues of LCNSS chief Dr. D. Carleton Gajdusek during his pioneering studies of kuru, a fatal brain disease of the Fore people of New Guinea.

Dr. Gajdusek won the 1976 Nobel Prize in Medicine and Physiology for the discovery that kuru was a "slow" infection caused by a transmissible agent characterized by very unusual physical and chemical properties never before associated with "conventional" viruses.

On the first day of the 3-day workshop sessions, Dr. Gajdusek took note of that discovery's far-reaching result: "Work in an exotic part of the world to determine the etiology of kuru, a disease disappearing from the face of the earth, has provided the master key which has opened exciting new frontiers in neurology, neuropathology, and microbiology."

Dr. Gajdusek pointed out that early work on kuru had led to the elucidation of an atypical virus etiology for other neurological diseases of man, notably Creutzfeldt-Jakob disease, subacute sclerosing panencephalitis

(See Viruses, Page 4)

'Record' Has a New Face

With this issue, *The NIH Record* presents a new face to its readers—the first major change in its appearance in more than 20 years. The revised format and type faces are designed for greater readability, balance, and eye appeal.

In the past 30 years, *The NIH Record* has grown from a small 4-page bulletin for employees to its present size. It has also grown in importance as a vehicle for the dissemination of significant research conducted in NIH laboratories as well as research supported by NIH Bureaus, Institutes, and Divisions.

The NIH Record is distributed to all NIH employees and on request to scientists, research organizations, and science writers nationally and in 25 foreign countries. Over the years, *The NIH Record* and its staff have received nine awards for excellence.

As NIH has grown, it has become increasingly difficult to present all relevant and pertinent information within 4, then 8 pages. Therefore, with this issue, a 12-page issue will usually be published every 2 weeks.

Raub Named to NIH Post

Dr. William F. Raub, who has been serving in the post in an acting capacity (see *The NIH Record*, April 4, 1978), has been selected as Associate Director for Extramural Research and Training, NIH.

He will continue to serve as Acting Associate Director for Collaborative Research, NIH.

Dr. Robert C. Gallo, chief of the NCI Laboratory of Tumor Cell Biology, recently received the first Frederick Stohlman Memorial Lecture Award for his significant contributions to basic research on the leukemias. He received the award at the Third International Meeting on Modern Trends in Human Leukemia, held in Wilsede, West Germany. His lecture was titled Cellular and Virological Studies Directed Toward the Pathogenesis of Myelogenous Leukemia. Dr. Donald Pinkel, director of the Midwest Children's Cancer Center, Milwaukee, shared the award for significant clinical research contributions to the treatment of childhood acute lymphocytic leukemia. The award is named for Dr. Frederick Stohlman, who was professor of medicine at Tufts University and editor of the journal Blood.

The NIH Record

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Your Rights Are Protected: Find Out How

Employees may hear telephone recordings featuring the theme, Disciplinary Action and the Grievance System, by calling 496-4608 on the dates indicated:

Sept. 18-22—Disciplinary Action and the Letter of Reprimand
Sept. 25-29—The Grievance System
Oct. 2-6—Informal and Formal Grievance Procedures
Oct. 9-13—Adverse Actions

Call to find out the procedures and how your rights are protected. See official bulletin boards for future topics.

Singles Party Tonight

The NIH Singles Club is holding a party today, Sept. 19, beginning at 5:30 p.m. in the Rec Room of Bldg. 20 (enter NIH Apartment house through back).

The party is free for members who have paid July to December dues. Non-members and guests are welcome, although there will be a $4 charge. Music and dancing are planned, as well as refreshments.

For further information on the club and its activities, call 496-2013.

Colts/Redskins Tickets on Sale

Join R&W on Monday evening, Nov. 6, for professional football—the Colts vs. the Redskins at Memorial Stadium. The bus trip and ticket are $15 per person. Buses will leave Bldg. 31C at 6:45 p.m.

Sign up soon at the Activities Desk, Bldg. 31, as limited numbers of tickets are available.

Baltimore Midnight Halloween Tour Planned Oct. 28

R&W is sponsoring a special Halloween event by Baltimore Rent-A-Tour. Join us Oct. 28 for a middle of the night tour of Baltimore, dressed in your favorite Halloween costume.

Highlights of this nocturnal tour will be a visit to the Barre Circle Homesteading area with an opportunity to see the interiors of several homes that were purchased for $1. Then on to Maryland's Science Center Planetarium for a pre-Halloween horror film. We'll also visit the *Sunpaper's* press room and the Wholesale Fish Market.

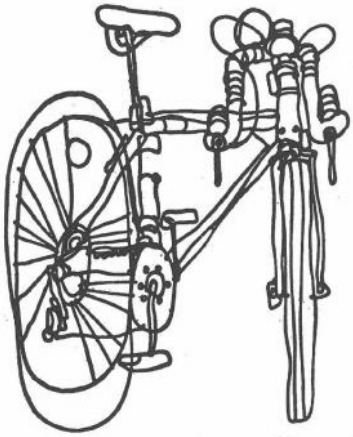
Sunrise will be viewed from Fort McHenry overlooking the Patapsco. A gourmet breakfast at a fashionable intown restaurant tops off the morning. The cost is $20, and carpools to Baltimore will be formed at NIH at 11:59 (before the stroke of midnight). Upon arrival in Baltimore, we will transfer to a tour bus. For further information, please contact the Activities Desk, Bldg. 31, 496-4600.

Avoid Frustrations—Call Central Travel Section

Have you been wasting time and getting frustrated trying to make an airline reservation? Cheer up, there's an easier way—just call the Central Travel Section, 496-3342, and ask about the computer.

If you want to insure that your rail space is not canceled, then, when making reservations, give the Amtrak reservation clerk the Government Transportation Request (GTR) number. The GTR number may be obtained from the Central Travel Section by calling 496-4907.

Federal Bike Council Cites Improvements, Seeks New Members



Nearly 3 years ago, a group of dedicated bicyclists working in various Government agencies in Washington formed the Federal Bicycle Council to coordinate the activities of hundreds of Government employees who commute to work by bicycle.

The council's major efforts have been devoted to obtaining a better riding environment for all commuting Government cyclists.

With the help of five standing committees, the council during its brief existence has:

- promoted a change in the General Service Administration's bike parking policy;
- successfully supported national, state, and local legislation designed to improve bicycling conditions;
- promoted bike safety by working closely with the D.C. Transportation Department, the police, and municipal authorities;
- been instrumental in effecting the popular 1977 and 1978 Bike Day events at the Ellipse.

The council operates unofficially without direct Government support, which it hopes to obtain in the future, according to its president, Howard Harris of the Environmental Protection Agency.

Currently, the council is conducting a drive to increase its membership and involve hundreds of additional Government bike riders in its far-flung activities. Reportedly, there are 35,000 regular bicycle commuters in the D.C. area.

Broadly stated, the council's major efforts have been concerned with creating a safer and more secure environment for bicyclists in the Washington area; making it more convenient and practical to ride a bike for transportation and recreation; and encouraging bicycling for pleasure, physical fitness, and energy conservation.

Specifically, its principal objectives will:

- coordinate bicycle commuter-related activities among Federal and District of Columbia agencies;
- provide a representative voice to address Government agencies, directing their attention to the needs of commuting bicyclists;
- promote Government agencies' provision of facilities for safe and convenient bicycle storage and biker clean-up (shower) facilities;
- map and disseminate information on safe routes; identify where special lanes, bike paths, and traffic signals are needed; and work with local jurisdictions toward the removal of safety hazards or obstructions.

Those interested in joining the council and lending their support within their agency should contact: Tom Pendleton, FBC Membership Chairman, 1101 15th Street, N.W., Suite 304, Washington, D.C. 20005.

Fencing Club Meets Fridays

The newly formed NIH Fencing Club is now meeting each Friday afternoon at 5 in the 14th floor gymnasium of Bldg. 10 (CC).

Whether you have never fenced before or are an advanced fencer, you are welcome to participate in each Friday's instruction and pratice session.

Some equipment is available for loan so if you don't have your own equipment just bring sneakers and a pair of loose-fitting pants.

Coast Guard Gives Safety Course

A Coast Guard Boating Safety and Seamanship course will be offered free of charge on Tuesdays from 7:30 to 9:30 p.m. in Bldg. 37, Room 1A09. Registration will be held tonight, Sept. 19.

The course offers beginners instruction and for the more experienced the latest changes in regulations, aids to navigation, and radio and emergency procedures.

Homework will be required. A certificate which is awarded to persons passing the course is the prerequisite for a course in Coastal Piloting.

For further information, contact Marceline H. Lee, 496-7133.

There is a Better Way

Why go through the biweekly hassle of waiting in line to get your paycheck, waiting again to deposit or cash it, and then have the concern of carrying extra cash around until you pay the bills. **THERE IS A BETTER WAY!**

The U.S. Treasury Department is encouraging use of its Composite Net Pay Procedure. Under this procedure your net pay and bank account number are listed with those of other NIH employees depositing at the same financial institution.

One combined check is written in the name of the bank, but the appropriate amount is deposited to each account on the list. Your check is never late, never lost, never stolen.

Contact your Payroll Representative and request S.F. 1189, or for more information about how the plan works, contact Disbursing Services Section, 496-1298.

Sailing Club Picnic Oct. 14

The NIH Sailing Club will hold a picnic in Annapolis at Thomas Point Park on Saturday, Oct. 14, from 11 a.m. to dusk, rain or shine.

Everyone is invited to attend and participate in sailing the club's boats and socializing. Boat owners may bring their own boats as well.

The park overlooks the bay and has a shelter with tables and grills. Please bring your own food and drink.

Directions to the park are available at the R&W Activities Desk, Bldg. 31, Room 1A-18. For further information, contact Warren Rumble, 496-4803.

Correspondence Study Catalog Available

The Graduate School, U.S. Department of Agriculture's 1978-80 Correspondence Study Programs Catalog is now available.

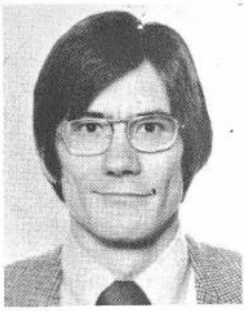
More than 30 courses can be taken by mail including: Principles of Accounting, Federal Personnel Procedures, Writing for Government Business, Modern Supervisory Practice, Report Writing, Elements of Statistics, College Algebra, Basic Electricity, and Hydrology.

Students are given 1 year in which to complete any correspondence course. Registration is open throughout the year. Registration forms are included in the catalog.

To receive a copy of the Correspondence Study Programs Catalog, call (202) 447-7123, or write: Graduate School, USDA, Correspondence Study Programs, Room 6847-S, Washington, D.C. 20250.

Dr. John Fagan To Explain TM Program

Dr. John Fagan, a National Cancer Institute postdoctoral fellow and a teacher of Transcendental Meditation, will explain the TM program at lunchtime in Wilson Hall, Bldg. 1, on Thursday, Sept. 28.



Dr. Fagan

According to Dr. Fagan, TM is a simple practice which extensive research has demonstrated offers significant psychological and physiological benefits. Dr. Fagan has been a practitioner of TM for 10 years and a teacher of the technique for several years.

This is one of the twice yearly introductory lectures sponsored by the R&W TM Club. Over the past 3 years, the club has sponsored lectures by TM teachers with technical backgrounds in physics, physiology, biochemistry, psychology, and psychiatry.

The club meets weekly for advanced lectures conducted by a TM teacher. For more information call John Knight, DCRT, 496-5361.

Columbia-Bethesda Commuters

Attention Columbia residents! A commuter bus runs from Columbia to NIH and downtown Bethesda, also stopping along Route 29 at Burtonsville, Calverton, White Oak, and Four Corners. Single rides and discount 2-week tickets are available.

For more information, call Ann Dieffenbach at 496-1752.

Health's Angels Anniversary Run Is Sept. 30; Join Now for Fun Runs, Competitions, Training

The Health's Angels Third Anniversary Run will be held Saturday, Sept. 30, at the Kengar Recreational Center (¼ mile north of Knowles Ave. on Beach Drive).

There will be a 50¢ registration fee for each event. Arrive early, as there is no pre-registration.

The first event will be a 1-mile run beginning at 9 a.m. for children under 10. At 9:15 a.m. a 2-mile Run for Your Life is scheduled. At 9:45 a.m. a 10-mile competition begins. Gift certificates will be awarded to the top NIH finisher, top male and female and several random finishers, as well as the UNbody award for the fastest time with a body that has a 2.5 or greater weight (lbs.)/height (inches) ratio.

The membership period for Health's Angels begins Oct. 1. Fees are $2 for R&W members, and additional $2 R&W membership fee for non-members, and an additional $3 for an off-campus mailing address. Applications are available at the R&W Activities Desk, Bldg. 31, Room 1A-18.

The Fall Running Series (half-mile and 1-mile fun runs) began Sept. 13 and will be held every Wednesday at 5:30 p.m. until Nov. 1. At 5:45 p.m. there is a competitive 1-mile race, also beginning in front of Bldg. 1. Election of officers will be held after the race tomorrow, Sept. 20.

The club is also sponsoring Marathon Training Runs beginning at 8:30 a.m. every Saturday at Kengar Recreational Center and every Sunday at Carderock Park.

Applications are still available for the Oct. 1 Ocean City 10-mile race and the Nov. 5 Marine Marathon (over 5,000 already entered).

Check the R&W Activities desk for details.

Viruses

(Continued from Page 1)

of children and young adults, progressive multifocal leukoencephalopathy (a disease occurring primarily in persons with certain forms of cancer), and chronic encephalitis with focal epilepsy.

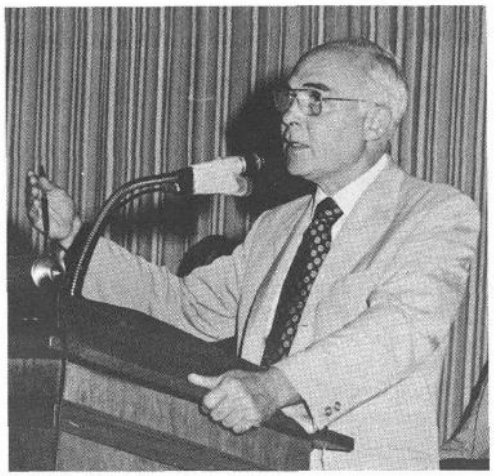
Atypical agents have also been found to cause similar diseases in animals: scrapie in sheep and a transmissible encephalopathy in mink, for example.

But Dr. Theodore Diener of the U.S. Department of Agriculture told workshop participants the list of virus-caused diseases does not end with disorders of man and animals.

He reported that viroids—tiny segments of naked ribonucleic acid with properties similar to subacute spongiform virus encephalopathies—produce devastating diseases in tomatoes, potatoes, cucumbers, palm trees, and chrysanthemums.

According to Dr. Clarence J. Gibbs, Jr., LCNSS deputy chief and an organizer of the workshop, these groups of transmissible agents pose challenging problems.

Classic methods for identifying conventional viruses—typing their nucleic acid makeup, characterizing their physical, biological, and antigenic properties, and determining their molecular nature by electron microscopy—are all well known and fully standardized.



Viroids may be an ideal model for studying human slow virus infections, says Dr. Gibbs.

But scientists have not yet found ways to apply these methods to define "atypical" viruses, Dr. Gibbs said.

Nevertheless, workshop participants presented several stimulating scientific approaches that might help uncover the molecular biology and antigenic properties of these agents.

Through molecular biology techniques, Dr. H.L. Sanger and his co-workers in West Germany have successfully characterized the structure of the nucleic acid, or viroid, that causes potato spindle tuber disease.

Dr. Sanger showed workshop participants a "map" of the virus genome (its hereditary material) and described the genome's chemical makeup.

Understanding the genome's structure may enable scientists to develop methods of controlling viroid disease by interfering with the genome's chemical makeup, Dr. Sanger said.

Such an advance would be a boon for agriculturists, promising a cure for problems like cadang-cadang disease, which virtually wiped out coconut palm trees in the Philippine Islands.

"Because of the viroids' uniqueness, their strong resistance to inactivation by high energy light sources and radiation, and their unusual thermostability," Dr. Gibbs said, "they provide another model for determining the nature of spongiform viruses of man and animals.

"Thus to our armamentarium have been added the plant virologist and molecular biologist, who for years have been documenting new data and developing new techniques that may only now be recognized as potentially important to disease processes in man and animals."

Other workshop participants presented studies which may provide a possible first step toward delineating the chemical nature of human and animal infectious agents.

Dr. Terry Malone, University of California at Riverside, and Dr. Richard Marsh, University of Wisconsin, reported that they have partially purified the agent responsible for the sheep disease, scrapie.

The two scientists reported successful use of ultracentrifugation and gel-electrophoresis technique to separate the scrapie agent from suspensions of infected hamster brain tissue.

Using this partially purified material, they demonstrated, for the first time, that the scrapie agent infectivity can be inactivated using the enzyme DNA-ase. Their work suggests that scrapie may be a DNA virus.

Dr. Gibbs suggested that using purified virus, scientists could develop experimental immunological tests to identify the scrapie agent by making antibody to it. Apparently the extremely small infectious agents bind to host tissues so firmly they cannot be uncovered through standard immunological tests.

The technique used by Drs. Malone and Marsh shows that when separated from its hosts, the scrapie agent becomes less resistant to ultraviolet light and less thermostable. In other words, it acts more like a conventional virus. Such behavior was postulated by Drs. Gibbs and Gajdusek some years ago.

Scientists now are hopeful that agents causing kuru and Creutzfeldt-Jakob (C-J) disease in humans can be purified as well. If so, they may be able to determine whether agents that cause animal and human virus diseases are similar to or quite different from one another.

Also, by mapping the agents' infectious material, scientists might eventually develop new methods for preventing the agents'

NIH Scientist Interviews Broadcast on Sundays

WGMS radio is broadcasting an interview with an NIH scientist each Sunday afternoon during the Boston Symphony intermission at approximately 2:30 p.m.

Topics and guests heard so far are:

Back Pain with Dr. Maury Hanson, NINCDS;

Summer Ailments, Dr. Daniel Mullally, NIAID;

Carcinogenic Chemicals Testing, Dr. Elizabeth K. Weisburger, National Cancer Institute;

Nutrition and Good Health, Dr. Gerald Combs, National Institute of Arthritis, Metabolism, and Digestive Diseases;

The Aging Process, Dr. Robert Butler, National Institute on Aging Director;

Digestive Diseases, Dr. Harold Roth, NIAMDD; and

Human Learning and Behavior, Dr. James Kavanaugh, National Institute of Child Health and Human Development.

Future interviewees will include: Dr. Barbara Wasserman, Occupational Medical Services; Dr. Mortimer Lipsett, Clinical Center Director; Dr. Donald Tower, Director, NINCDS; and Dr. Lawrence Miller, NIAMDD.

The interviews are conducted by Norman Brown and coordinated by Gerry Blumberg, both of the Audiovisual Branch, Office of Communications, Division of Information. WGMS is 570 on the AM dial, 103.5 FM.

Meeting To Assess Proposals To Protect Lab Workers

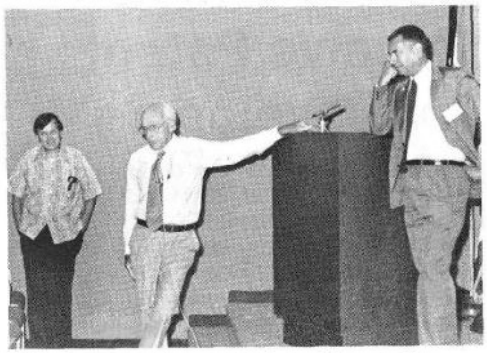
A meeting to discuss a working draft of a document being developed for the DHEW Committee to Coordinate Toxicology and Related Programs—composed of HEW employees—will be held on Monday, Sept. 25, from 1 to 5 p.m., and Tuesday, Sept. 26, from 9 a.m. to adjournment, in the Masur Auditorium.

The draft document contains proposed guidelines for protecting laboratory workers and their work environment from chemical substances that may pose a carcinogenic risk.

These proposals are based on the implementation of specific work practices and engineering controls that are applicable to the laboratory workplace. To this end, the meeting objective is to answer questions or receive comments regarding the draft document. Written comments will also be considered if received by Oct. 16.

Attendance by the public will be limited to space available so it is requested that individuals wishing to attend give advance notice to: Ronda Rice, National Institute of Environmental Health Sciences, P.O. Box 12233, Research Triangle Park, N.C. 27709, telephone (919) 541-3506/FTS 629-3506.

On request Ms. Rice will provide a copy of the draft document and additional information regarding the meeting.



Nobel Laureate Sir John Eccles addresses the workshop. Looking on are Nobel Laureate Dr. D. Carleton Gajdusek (standing, l) and Dr. Michel Jouvet (r).

infectivity.

Kuru is found chiefly among certain primitive tribes in New Guinea, and was determined by Dr. Gajdusek and Dr. Vincent Zigas to be an after effect of ritualistic cannibalism: the virus was transmitted to tribe members who ate infected brain tissues and rubbed the tissue into their bodies. With the end of cannibalism, the disease has been nearly eradicated.

C-J disease is practically indistinguishable from kuru. For some time Drs. Gajdusek and Gibbs had predicted the incidence of C-J disease throughout the world to be one or two patients per million population per year. Their prediction was borne out by recent epidemiological studies conducted by the LCNSS.

Dr. Paul Brown, LCNSS, and Dr. Francoise Cathala of the Salpetriere Hospital in Paris carried out a physician-to-physician survey of all C-J cases in France to confirm for that country an incidence of about two cases per million. Another study by LCNSS epidemiologist Dr. Colin Masters has revealed a yearly C-J incidence in the U.S. of approximately 200 cases.

Dr. Masters also reported that two clusters of the disease have been identified: a small cluster in Czechoslovakia and a large cluster among the Libyan Jewish population in Israel.

Dr. Masters said that scientists will be scrutinizing these clusters to discern any common environmental or genetic factors. He pointed out that 15 percent of C-J disease occurs in families, suggesting that some people may have a genetic susceptibility to infection.

Adding intrigue to this possibility is the recent finding by Drs. Gibbs and Gajdusek of two incidences of familial, or hereditary, Alzheimer's disease (senile dementia) caused by transmissible agents.

Dr. Gajdusek said the finding that slow viruses can cause the familial form of both C-J disease and Alzheimer's disease raises a startling possibility: Is there an inherited immune system defect which allows these agents to remain in the body for years, undetected and therefore unharmed? If so, these defective genes could have been passed on for hundreds of thousands of generations.

Meanwhile, sleep researchers may have unearthed a relationship between the atypical agents and sleep patterns. According to French scientist Dr. Michel Jouvet, normal sleep patterns—including dreaming—can be disturbed by slow viral infections.

While people normally dream approximately 100 minutes every night, slow viral diseases can alter this pattern. In fact, sleep pattern changes may be the first detectable evidence of slow virus involvement, because they occur before any clinical signs of slow virus disease are apparent.

At the end of the sessions, Dr. Donald B. Tower, NINCDS Director, attributed the workshop's highly productive outcome to its flexible nature. In place of manuscripts or rigid agenda, participants met in informal sessions, moving from group to group as their interests directed and discussing their unpublished data.

VISITING SCIENTISTS

7/12—**Dr. Peter Venner,** Canada, Laboratory of Medicinal Chemistry. Sponsor: Dr. David Johns, NCI, Bg. 37, Rm. 5C02.

8/24—**Dr. Wongil Limm,** Korea, Laboratory of Molecular Biology. Sponsor: Dr. H. Todd Miles, NIAMDD, Bg. 2, Rm. 201.

8/27—**Dr. Ragnar Bergene,** Norway, Laboratory of Pathophysiology. Sponsor: Dr. Peter Riesz, NCI, Bg. 10, Rm. BIB50.

8/27—**Dr. Raymond Boston,** Australia, Laboratory of Theoretical Biology. Sponsor: Dr. Mones Berman, NCI, Bg. 10. Rm. 4B56.

8/27—**Dr. Jean-Michel Gavaret,** France, Clinical Endocrinology Branch. Sponsor: Dr. Jacob Robbins, NIAMDD, Bg. 10, Rm. 8N315.

8/28—**Dr. Hiroyuki Hasegawa,** Japan, Laboratory of Neurochemistry. Sponsor: Dr. Seymour Kaufmann, NIMH, Bg. 36, Rm. 3D30.

8/28—**Dr. Francoise Lavialle,** France, Laboratory of Chemical Physics. Sponsor: Dr. Ira Levin, NIAMDD, Bg. 2, Rm. B1-13.

8/28—**Dr. Mitsuhiro Matsumura,** Japan, Laboratory of Kidney and Electrolyte Metabolism. Sponsor: Dr. Joseph Handler, NHLBI, Bg. 10, Rm. 6N311.

8/28—**Dr. Alagarsamy Srinivasan,** India, Animal Virology and Field Studies Section. Sponsor: Dr. Padman Sarma, NCI, Bg. 37, Rm. 2A19.

9/1—**Dr. Alan K. Goff,** United Kingdom, Endocrinology and Reproduction Research Branch. Sponsor: Dr. Charles Strott, NICHD, Bg. 10, Rm. 12N204.

9/1—**Dr. Joel Keizer,** U.S.A., Laboratory of Molecular Biology. Sponsor: Dr. Terrell Hill, NIAMDD, Bg. 2, Rm. 317.

9/1—**Dr. Shozo Kojima,** Japan, Laboratory of Neurophysiology. Sponsor: Dr. Patricia Goldman, NIMH, Bg. 9, Rm. 1N107.

9/1—**Dr. Atsuko Minegishi,** Japan, Laboratory of Pathophysiology. Sponsor: Dr. Peter Riesz, NCI, Bg. 10, Rm. B1B50.

9/1—**Dr. Bo Bertil Nilsson,** Sweden, Laboratory of Pathology. Sponsor: Dr. David Zopf, NCI, Bg. 10, Rm. 2A25.

9/1—**Dr. Antonio Toniolo,** Italy, Laboratory of Oral Medicine. Sponsor: Dr. Abner Notkins, NIDR, Bg. 30, Rm. 121.

9/1—**Dr. Ilana Yron,** Israel, Surgery Branch. Sponsor: Dr. Steven Rosenberg, NCI, Bg. 10, Rm. 10N116.

9/4—**Dr. Roberto Bolli,** Italy, Experimental Physiology and Pharmacology Section. Sponsor: Dr. Robert Goldstein, NHLBI, Bg. 10, Rm. 7B15.

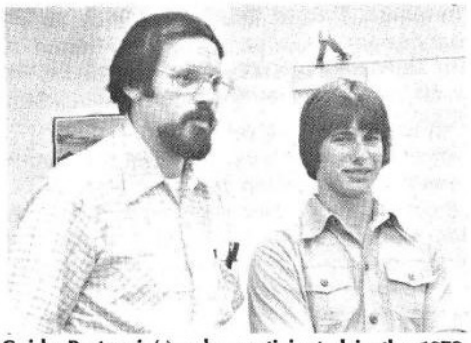
9/5—**Dr. Jurjen Gazendam,** The Netherlands, Laboratory of Chemical Pharmacology. Sponsor: Dr. Joseph Fenstermacher, NCI, Bg. 37, Rm. 5C23.

9/5—**Dr. S. Oguz Kayaalp,** Turkey, Laboratory of Preclinical Pharmacology. Sponsor: Dr. E. Costa, NIMH, St. Elizabeths Hospital, Washington, D.C.

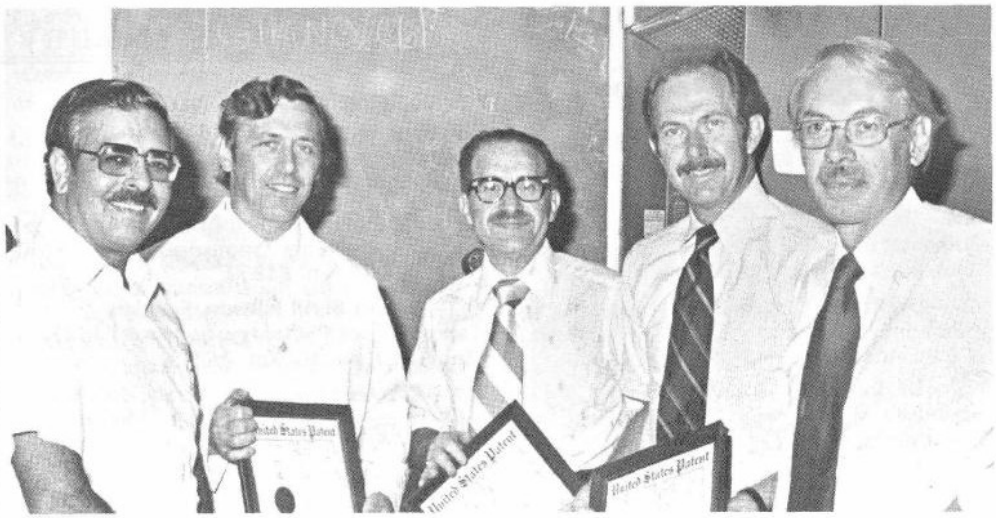
9/5—**Dr. Peter Kunzler,** Switzerland, Laboratory of Nutrition and Endocrinology. Sponsor: Dr. Robert Simpson, NIAMDD, Bg. 6, Rm. B1-34.

9/5—**Dr. Michel Pons,** France, Laboratory of Chemistry. Sponsor: Dr. David Johnson, NIAMDD, Bg. 4, Rm. 141.

9/6—**Dr. O. Hussainaiah Setty,** India, Laboratory of Cell Biology. Sponsor: Dr. Richard Hendler, NHLBI, Bg. 3, Rm. B1-06.



Guido Bertocci (r), who participated in the 1978 NIH Summer Employment Program at DCRT, received a cash award and certificate in recognition of his outstanding work in a section of the Computer Systems Laboratory. He assisted Bob Romanoff (l) in a project providing programming support of NCI-owned flow microfluorometer/cell separators that are interfaced to PDP-11 computers in the Clinical Center. Mr. Bertocci is a senior studying electrical engineering at Carnegie Mellon University.



Dr. Vincent Oliverio (l), associate director of the Developmental Therapeutics Program, Dr. Saul Schepartz (center), deputy director of the Division of Cancer Treatment, and Dr. Johns (r) present patent awards to Dr. Beisler (second from l) and Dr. Driscoll for their work on a new anticancer drug. Dr. Abbassi, the third patent recipient, was an NCI visiting fellow for 3 years and has returned to his home country of Egypt.

NCI Scientists Receive Patent for Developing DHAC

A cooperative drug development effort in the National Cancer Institute's Laboratory of Medicinal Chemistry and Biology has earned three scientists a Government patent.

Drs. John S. Driscoll, John A. Beisler, and Mohamed M. Abbassi were awarded the patent for work on the synthesis, structure, and anticancer activity of 5, 6-dihydro-5-azacytidine (DHAC). It is an analogue, or derivative, of the parent compound 5-azacytidine (5-AC), an investigational anticancer drug used to treat patients with acute myelogenous leukemia (AML).

Work on DHAC began 3 years ago at the request of physicians using 5-AC. They were

NCI Reports on Analysis of Laetrile Therapy Benefits

The National Cancer Institute has completed analysis of 93 case records of cancer patients who claimed to have benefited from the use of Laetrile therapy. These records were submitted in response to a nationwide appeal for evidence only of beneficial responses made to U.S. physicians, groups supporting the use of Laetrile, and an estimated 70,000 Laetrile users. A report of the findings was published in the Sept. 1, 1978, issue of the *New England Journal of Medicine*.

The purpose of the review was to see if beneficial anticancer responses to Laetrile could be documented to aid the Institute in its continuing consideration of a clinical trial.

According to the report, 67 of the cases submitted were considered to contain enough information to be presented to a panel of 12 oncologists for evaluation. The panel judged six of the cases to have shown a response. Two of the six showed complete disappearance of all evidence of cancer, and four showed shrinkage of measurable tumor by 50 percent or more.

In addition, three other patients were judged to show a longer survival than would normally be expected for their form of cancer, although their cases were considered non-evaluable in terms of a measurable tumor response because Laetrile was used when no definite sign of disease was present.

It is impossible to tell from these results whether Laetrile was responsible for the improvement in these patients. The review was not designed to prove the anticancer activity of Laetrile or to measure its efficacy but merely to determine how much evidence there was suggestive of activity.

The following features of the review preclude making any conclusions about the anticancer activity of Laetrile:

- Only patients thought to have had positive responses to Laetrile were asked to submit their records. No attempt was made to review the effects of Laetrile in all the other cancer patients in whom the agent has been used, since such a review was judged not to be feasible.
- The analysis provided no way to distinguish between a response to Laetrile and spontaneous variability in the course of cancer or the occurence of spontaneous remissions.
- There were no assurances that the clinical data submitted were complete.

For the remaining 58 cases presented to the panel, a total of 59 courses of Laetrile treatment were evaluated. (One patient was treated at two different times with Laetrile, and each course of treatment was evaluated separately.)

Eleven of these treatment courses were judged as having insufficient data for evaluation, 32 as non-evaluable (either because the patient did not have cancer at the time Laetrile was given or because anticancer drugs were given along with Laetrile), 9 as showing stable disease, and 7 as showing progressive disease.

The panel also conducted a separate review of 11 cases submitted by Dr. Mario Soto de Leon, Medical Director of the Clinica Cydel in Tijuana, Mexico.

One case was judged as having insufficient information for evaluation, 9 as non-evaluable (either because the patient did not have cancer at the time Laetrile was given or because anticancer drugs were given along with Laetrile). One case was judged as showing progressive disease.

Results of the reviews will be presented Sept. 25 to a committee, composed of NCI physicians and scientists, that advises on the development of anticancer drugs. This committee will decide whether to recommend a clinical trial of Laetrile.

The final decision will be made by Dr. Arthur C. Upton, NCI Director, after consultation with Dr. Donald Kennedy, Commissioner of the Food and Drug Administration, and other appropriate authorities.

Laetrile is an extract derived from apricot seeds. Numerous animal studies supported by the NCI and others have failed to show convincing anticancer activity for the substance.

Furthermore, the safety of Laetrile has been questioned; vials of Laetrile have been shown to be contaminated and subpotent. Several people have died of cyanide poisoning after ingesting Laetrile, and others have been hospitalized because of allergic reactions to injections of Laetrile.

Despite these findings, more than 70,000 cancer patients in the U.S. reportedly use Laetrile, 17 States have passed bills legalizing the substance, and the U.S. Court of Appeals has ruled that terminally ill cancer patients can legally procure the injectable form of Laetrile for their use.

Last January, NCI launched a nationwide search for cancer patients whose case records could be used to document anticancer activity of Laetrile with or without concomitant "metabolic therapy" (special diet, vitamins, minerals, enzymes, and chelating agents).

The following information was requested for each case: written consent of patient or next of kin (if deceased), slides to confirm a diagnosis of cancer, a palpable tumor or X-ray evidence of tumor, adequately documented medical history, use of Laetrile with or without metabolic therapy for a period of at least 30 days with a

having problems with the stability of the drug, which tended to decompose when dissolved in solution before administration. The analogue DHAC, on the other hand, has comparable antitumor activity in animals but is completely stable in solution.

Each year the Drug Design and Chemistry Section, headed by Dr. Driscoll, synthesizes an average of 50 new compounds which are submitted for animal testing of anticancer activity in the NCI Drug Development Program. The synthetic chemistry section is part of the Laboratory of Medicinal Chemistry and Biology, headed by Dr. David G. Johns.

Currently the laboratory's main interest is placed on investigating drugs that attack specific target sites—particularly inhibitors of certain enzyme systems in the synthesis of DNA and RNA.

This is a more directed approach to drug development, in contrast to earlier, more random screening of various synthesized compounds for antitumor activity. Fewer drugs are submitted for testing, but chances for positive results are increased.

The patent for DHAC is the first received by the laboratory for synthesis of a drug. Patent applications have been filed for two other compounds: AZQ (an aziridinyl quinone) and spirohydantoin mustard. Both are alkylating agents, a class of anticancer drugs, and both are active against brain tumors in mice. AZQ, which has been very effective in a number of mouse tumor systems, is undergoing toxicological studies prior to phase I clinical studies.

The two new drugs awaiting patent approval were synthesized purposefully to overcome the "blood-brain barrier" that blocks the movement of anticancer drugs into the brain and central nervous system.

Cells lining the capillaries in the membranes surrounding the brain act as sentries to guard the brain against potentially toxic substances but also restrict the entry and diffusion of many drugs.

DHAC, currently being evaluated by NCI for potential clinical use, also has shown a degree of activity against mouse brain tumors, which the parent compound 5-AC lacks.

DHAC, like 5-AC, is an antimetabolite that poisons a pathway in the synthesis of DNA and thereby inhibits cell growth. Preliminary evidence from animal studies indicates that mice with L1210 leukemia that have become resistant to cytosine arabinoside (Ara-C)—an important drug for treating human AML—can still respond to DHAC.

The parent compound 5-AC, however, has considerably less activity in this resistant line of mouse leukemia. Drug resistance is a major problem in treating cancer patients with leukemia. Whether DHAC will be as successful in the clinic as it is in animals with leukemia remains to be established.

As a result of patenting, DHAC becomes the property of the Government so that the rights for its future development are protected. Drugs are developed with NCI funds up through the clinical testing stage, private industry may be assigned patent rights on a competitive basis.

The patent for DHAC will facilitate any eventual marketing of the drug by giving a pharmaceutical firm sole rights to its manufacture and sale.

preceding period of at least 30 days in which no conventional treatment was given, and records written in English.

Two hundred to 300 such cases were sought through national publicity, contact with groups supporting the use of Laetrile, and a direct mailing of 385,000 letters to U.S. physicians and 70,000 other health professionals. Assurances were given that the FDA would not use information submitted to the Institute to initiate any legal action against either patients or physicians.

Despite these efforts, only 93 patients signed consent forms authorizing the NCI to collect information from their medical records. For 67 of these patients, enough information was obtained to allow review.

Summaries of the 67 Laetrile-treated cases containing all pertinent data ware mixed with 26 similarly prepared summaries from the NCI file of cases treated by conventional chemotherapy. A panel of 12 oncologists was asked to evaluate the results. Panel members were not informed of the actual treatment given to prevent any biases about Laetrile from influencing their clinical decisions.

The confirmed diagnoses for the two patients judged as showing a complete response to Laetrile were nodular, well-differentiated lymphoma and squamous cell lung cancer.

The four patients judged as showing a partial response were diagnosed as having Hodgkin's disease, metastatic carcinoid (a rare cancer arising from the serotonin-secreting epithelial cells that line primarily the gastrointestinal tract), an adenocarcinoma in the abdomen, and an adenocarcinoma in the chest.

Three patients judged to show increased lifespan had testicular cancer, ovarian cancer, and a malignant tumor in a lymph node.

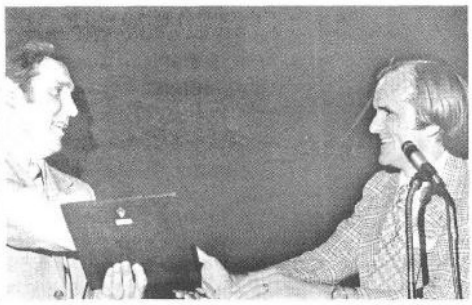
Interviews Detail Development of Child Guidance

L to r: Sylvaine Kenyon, Communications Center, NIMH; Dr. Senn; Dr. Peter Olch, deputy chief, History of Medicine Division, NLM; and Dr. Jacqueline Hall, Mental Health Education Branch, NIMH.

Dr. Milton J. E. Senn, emeritus professor of pediatrics and director of Yale University's Child Study Center, presented 55 interviews dealing with the development of child guidance clinics to the National Institute of Mental Health on July 24. At Dr. Senn's request, copies of the indexed transcripts and tapes will be deposited in the Oral History Collection of the National Library of Medicine.

This series, eventually totaling 70 interviews, was conducted by Dr. Senn with pediatricians, psychiatrists, lawyers, etc., who are leaders in the child guidance clinic movement. The interviewees were asked to discuss their contributions, changes in the field, different philosophies behind the movement, and future directions of child guidance. The collected interviews will be microfilmed by NLM and made available for loan or purchase.

This is the second series of oral history interviews that Dr. Senn will have deposited in NLM. The first series of 98 interviews dealing with history of the child development movement has been an important and frequently consulted resource for scholars interested in the child development movement.



Dr. Albert E. New (r), director of Laboratory Animal Science, National Cancer Institute, is congratulated upon becoming president of the American College of Laboratory Animal Medicine by outgoing president Dr. Gerald Van Hoosier, Jr., University of Washington. Dr. New accepted the position during the recent annual meeting of the American Veterinary Medical Association in Dallas, Tex. At the same meeting, Dr. Joe Held, Director of the Division of Research Services, became the sixth honorary diplomate of ACLAM in recognition of his significant contributions to laboratory animal medicine.

Dr. Karl Frank Retires—His Distinguished NINCDS Career Spans 27 Years

Dr. Karl Frank, an internationally known expert in spinal cord neurophysiology and director of the Fundamental Neuroscience Program, National Institute of Neurological and Communicative Disorders and Stroke, retired on Aug. 31.

During Dr. Frank's career with NINCDS, he has contributed substantially both as a basic researcher and as a director of basic research programs.

Dr. Frank joined the Institute in 1951 as a neurophysiologist to conduct spinal cord research. From 1956 to 1966, he directed that research as head of the NINCDS Spinal Cord Section.

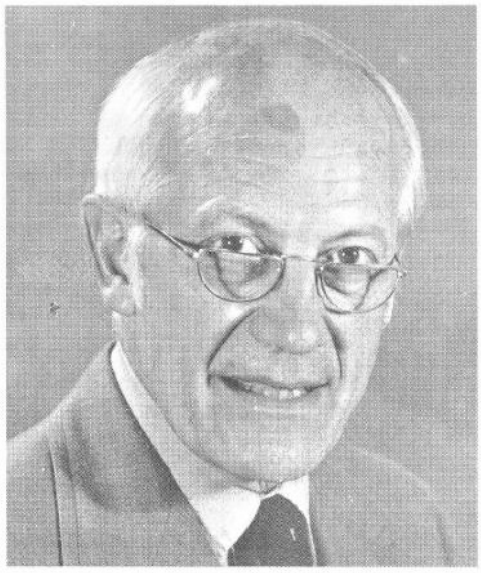
From 1963 to 1966, Dr. Frank expanded his administrative duties, serving as acting associate director for Intramural Research. During this time he helped shape the nature of research conducted by NINCDS scientists.

In 1967, Dr. Frank formed the Laboratory of Neutral Control to further studies on the nervous system's basic mechanisms of control. Under his leadership, findings from these studies were applied to the development of neuroprostheses—artificial devices to aid the neurologically handicapped.

After 8 years as laboratory chief, Dr. Frank initiated the extramural program to support grants and contracts in the fundamental neurosciences. As part of this program, he continued his interest in neuroprostheses, contributing his knowledge of motor control to studies aimed at establishing function in paralyzed individuals.

Dr. Frank's distinguished career earned him membership in numerous medical societies, as well as several awards, including the U.S. Navy Meritorious Civilian Service Award and the DHEW Superior Service Award.

An avid sailor, Dr. Frank now plans to turn to sea voyages briefly. He then plans to return to the health field, concentrating on his interest in medical research's social implications.



Dr. Frank's work has shaped basic research on mechanisms of the central nervous system. In addition, he has maintained a keen interest in exploring the social implications of biomedical research.

Privacy, Freedom of Information Workshops Offered to Employees

A series of workshops on Privacy and Freedom of Information Acts are being conducted by the Division of Management Policy and the Office of Communications.

There are several new courses this year:

- Privacy and FOI are combined for two workshops
- A workshop for employees working with biomedical records

Interested employees should submit a Form NIH-489 to their Personnel Office (form is available from your B/I/D Personnel Office). Confirmation will be made by the Training Assistance Branch. Deadline for nominations is 2 weeks before the workshop date. For additional information, call 496-2146.

Title	*Date*	*Time*	*Location*
Freedom of Information Workshop on Requests for Contract Information	Oct. 11	8:30 a.m. - 12:30 p.m.	31/Conf. Rm. 7
Introduction to PA for Administrative Staff	Oct. 18	1 - 5 p.m.	31/Conf. Rm. 4
Privacy Act Update for Administrative Staff	Oct. 23	1:30 - 3:30 p.m.	31/Conf. Rm. 4
PA/FOI Workshop for Personnel Staff	Oct. 24	1 - 5 p.m.	31/Conf. Rm. 4
Grants and FOI/PA	Nov. 1	8:30 a.m. - 3:30 p.m.	31/Conf. Rm. 8
PA and Biomedical Records	Nov. 8	8:30 a.m. - noon	31/Conf. Rm. 4
Workshop on Establishment Of New System of Records	Nov. 21	8:30 a.m. - noon	31/Conf. Rm. 4

Expanded Registry Available on Toxic Effects of Chemicals

The 1977 version of the *Registry of Toxic Effects of Chemical Substances,* prepared by the National Institute for Occupational Safety and Health with the first quarterly update, is now available on-line at NLM.

The quarterly update expands the RTECS file in several ways. Approximately 4,500 new substances are included, bringing the total to about 30,000 substances. The new file now incorporates eye and skin irritation data. Also included is a classification grouping developed by NIOSH, which is directly searchable so that one could group all categorized types together, e.g., agricultural chemicals, hormones, mutagens, etc.

The Toxicology Review data element, which previously only indicated the number of citations, is now expanded to provide the name of the book/journal, volume, page, and year.

For further information, please contact RTECS, Toxicology Information Program, National Library of Medicine.

Journal Pays Tribute To Glenn Lamson

Glenn G. Lamson, Jr., after 40 years of Federal service, is retiring as executive secretary of the Epidemiology and Disease Control Study Section, Division of Research Grants.

Mr. Lamson came to DRG in 1955 and has since served as executive secretary of five different study sections. His commitment and contribution to epidemiology and epidemiologic research were summarized in a tribute to him in the *American Journal of Epidemiology,* July 1978.

Mr. Lamson received his baccalaureate degree from the School of Government at George Washington University, and then began his first Federal job in 1938 with the Department of Agriculture.

After brief tours of duty with the State Department and the War Food Administration during World War II, he joined the PHS in 1946 as assistant chief in the Analyses and Special Study Section of the Division of Hospitals.

He served with the Region X PHS office in San Francisco before moving to the University of California Berkeley School of Public Health, where he was awarded an MPH degree.

Before coming to NIH in 1955, Mr. Lamson was with the Baltimore Public Health Service Hospital and executive secretary of the Iowa Hospital Association.

History of Medicine Society Features 2 Speakers

The Washington Society for the History of Medicine will meet on Thursday, Sept. 28, at 8 p.m. in Billings Auditorium, National Library of Medicine.

Dr. Harry F. Dowling will discuss The City Hospital and the Medical Schools: Parasitism or Symbiosis, and Dr. Zelda Teplitz will speak on Historical Attitudes Toward the Gout.

Now retired, Dr. Dowling was formerly professor and head, department of preventive medicine, and head, department of medicine, both at the University of Illinois Medical School. He is also the author of a recent work, *Fighting Infection: Conquest of the Twentieth Century*.

Dr. Teplitz, a psychiatrist in private practice in Washington, D.C., is also clinical associate professor in the department of psychiatry at Georgetown University Medical School.

Dr. Martin of NIDR Discusses Role of Collagen At Science Writers Seminar: Next Is Oct. 12

The first Science Writers Seminar for 1978-79 will be held Thursday, Oct. 12, at 1:30 p.m. in Bldg. 31C, Conference Room 6.

Dr. Thomas L. Lewis of the Clinical Center will serve as moderator for the topic, Computer Medicine. Speakers will be Dr. Jean R. Herdt, CC; Dr. William C. Mohler, Division of Computer Technology; and Gerald C. Macks, CC. All interested persons are invited to attend the free program.

Speaking at a Science Writers Seminar in May, Dr. George R. Martin, chief of the Laboratory of Developmental Biology and Anomalies, National Institute of Dental Research, described research that may bridge the gap between knowledge of how genes control production of proteins and an understanding of how those protein molecules actually become organized into body tissues and organs.

Citing research from many laboratories in the U.S. and abroad, Dr. Martin described how collagen type I, the most abundant protein in the body, appears to serve as a biological rope along which cells in a developing embryo crawl into appropriate positions.

After the cells begin organ development, the pathways are closed. He also described other kinds of collagen and their functions.

Dr. Martin noted that most human cells, except blood and brain cells, exist in a matrix or web of collagen fibers.

Cells migrate by grabbing hold of one sticky collagen molecule after another. The collagen fibers are sticky as a result of "attachment proteins," also called "fibronectins," produced by the cells forming the various kinds of collagen.

Type I, a cable-like collagen, is found in skin, tendon, and bone. Type II, found only in cartilage, forms resilient, elastic tissue. Type III collagen is in blood vessels, intestines, and smooth muscles. Type IV collagen is the principal component of the basement membrane that serves as a ground layer for the skin's epidermal cells, kidney glomeruli, and all mucous membranes; it also encloses blood vessels, nerve cells, and nerve bundles.

Other collagens exist: their exact roles are unclear.

Dr. Martin, who is also chief of the Connective Tissue Section, NIDR, noted that early findings on collagen structure were made more than 20 years ago by Alexander Rich and Francis Crick in England, and G. N. Ramachandra in India.

Subsequent important contributions on collagen chemistry and structure have been made by Drs. Francis Schmitt at MIT and Jerome Gross at Harvard, and by Drs. Karl Piez, NIDR, and Edward Miller and Paul Bronstein while at NIH.

Evidence pointing to collagen's organization role during embryonic life has been reported by many laboratories since the late 1950's, notably by Drs. Clifford Grobstein, now of the University of California in San Diego, and Elizabeth Hay of Harvard Medical School.

In 1965, Drs. Stephen Hauschka and Irwin Konigsberg, working in Baltimore, showed that collagen was necessary for embryonic muscle formation. In 1975, Drs. M. C. Johnston and Richard M. Pratt of the NIDR described the role of a collagen matrix in the migration of cells from the embryonic neural crest of chick, rat, and amphibia to form the mandible and other structures.

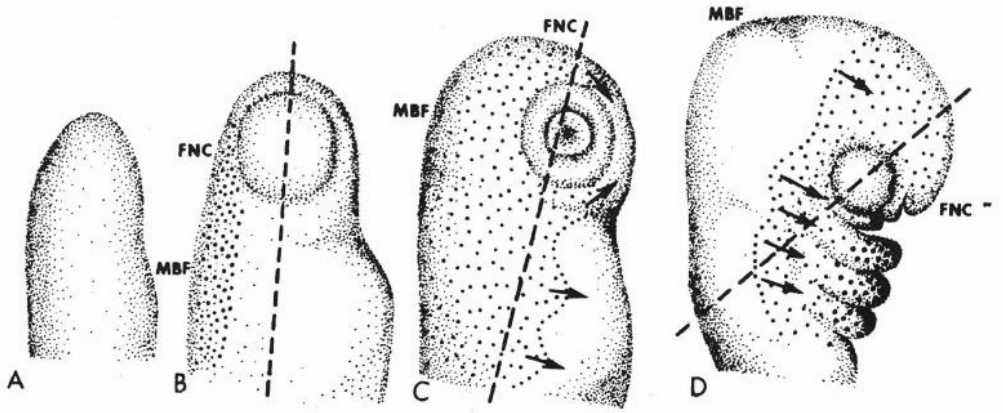
Collagen's organizational role does not end at birth, Dr. Martin said. If body tissue is injured, as in a cut or wound, the injured cells are activated immunologically to produce collagen and attachment proteins, permitting replacement cells to recolonize the site and restore the original architecture of the tissue.

Dr. Martin referred to work in Dr. Russell Ross's laboratory at the University of Washington in Seattle that showed collagen's exacting role in such cell migration when replacement cells close a wound precisely without overgrowth.

While fibroblasts can attach to any collagen, epidermal cells bind and grow only on basement membrane collagen (type IV). Dr. Martin noted that epidermal cells may use this collagen and its cell attachment protein to find their proper location in the tissues.

The finding of collagen attachment proteins or fibronectins was a major advance made by Dr. Robert J. Klebe while at the Salk Institute in 1974. Drs. James A. Weston of the University of Oregon in Eugene, Kenneth Yamada of the National Cancer Institute, Richard Hynes at MIT, and their colleagues made related observations.

Dr. Martin said that fibronectins are lost from the surface of malignant cells in tissue culture; the addition of fibronectin restores normal cellular morphology, although the cells remain malignant. He described various collagen abnormalities that play a role in diseases such as diabetes, arteriosclerosis, and in rare conditions like relapsing polychondritis and Ehler's-Danlos disease. He suggested that collagen abnormalities may be shown to play a role in other disease states in the future.



Lateral views (A-D) indicate the embryonic migration paths (arrows) of cranial neural crest cells (heavy stipple). The positions of the mid-brain flexure (MBF) and fronto-nasal crest cells (FNC) at different stages of development are indicated in B-D. Diagrams are based primarily on studies of chick and rodent embryos. (As published in Clinics in Plastic Surgery, **April 1975 by Drs. M. C. Johnston, J. R. Hassell, and K. S. Brown of NIDR.)**

Give Yourself Better Odds!

The odds are 1 in 6 that you have high blood pressure. Give yourself a better chance—get a quick and painless blood pressure check. If you need treatment, the Occupational Medicine Service can offer you medical referrals, counseling, and regular blood pressure checks at your nearest health unit.

FREE BLOOD PRESSURE CHECKS
ALL EMPLOYEES IN BLDGS. 14, 11, and 4
Bldgs. 14 A-G and 11
Sept. 21 and 22
9 a.m. to 4:30 p.m.
1st floor Conference Room, Bldg. 14
Bldg. 4
Sept. 27-28
9 a.m. to 4:30 p.m.
3rd floor Conference Room, Bldg. 4

This Is National Lupus Week

President Carter has proclaimed this week, Sept. 17 through Sept. 23, as National Lupus Week.

Five hundred thousand Americans suffer from Lupus erythematosus, an increasingly prevalent disease of the connective tissue.

The proclamation indicates that although progress has been made in understanding the disease and the outlook is far from bleak, new research and alternative approaches to treatment and diagnosis are still needed.

Edith D. Blair, head of NLM's Reference Section since 1971, recently retired. Mrs. Blair came to the National Library of Medicine in 1960 from Howard University, where she had been a reference librarian (1949-53) and medical-dental librarian (1953-60). Mrs. Blair was associate editor of the Bulletin **of the Medical Library Association in 1955-56, and after coming to NLM contributed a number of bibliographies to the** Bulletin, **including a widely used reference guide for small medical libraries.**

Nitroglycerin Found Effective for Reducing Blood Pressure During Surgery

Nitroglycerin (TNG) has been effectively utilized as a hypotensive drug during general anesthesia, and may prove to be superior to drugs currently used for lowering blood pressure during surgery.

Hypotension, or lowered blood pressure, is desired during anesthesia for several reasons—the surgical field is relatively bloodless, operative blood loss is diminished, and both the need for and risks of blood transfusion are reduced.

Currently available agents, such as ganglionic-blocking drugs and sodium nitroprusside (SNP), may produce adverse effects including tachyphylaxis (tolerance to drug action, which increases the dosage required to maintain the desired action), cyanide poisoning, and even death.

However, in this study, supported in part by National Institute of General Medical Sciences, the use of nitroglycerin during general anesthesia for major orthopedic surgery brought about no undesirable side effects.

Dr. Nabil R. Fahmy, assistant professor in anesthesia, Harvard Medical School, evaluated the effects of nitroglycerin administered intravenously to 91 patients scheduled for total hip replacement.

Since TNG currently is used to reduce blood pressure in patients with heart failure or after acute myocardial infarction (heart attack), as well as to control hypertension (high blood pressure) during coronary artery surgery, Dr. Fahmy chose to further assess its use in surgery.

The patients studied ranged in age from 18 to 72 years (average 46 years), and none showed any history or evidence of cardiovascular, pulmonary, or metabolic disease.

The subjects were divided into two groups similar with regard to age, sex distribution, and weight—44 patients received TNG and 47 were administered SNP, which is currently in widespread usage.

Both groups of patients received the same premedication and were anesthetized with a standard technique. Prior to the actual surgery, arterial hypotension was obtained in all subjects by continuous intravenous administration of either TNG or SNP.

When infusion of the drugs was halted, arterial pressure was permitted to return to original levels before wound closure in order to insure checking of the flow of blood.

For all patients, circulatory and blood-gas values were measured prior to anesthesia administration, after administration but before induction of hypotension (control value), at 15-minute intervals for a total of 90 minutes during hypotension, and after blood pressure returned to within 10 percent of the control value.

Several important differences were noted between the effects of the two drugs. Some patients who received SNP required increased doses of the agent in order to maintain hypotension. However, there was no evidence of such tachyphylaxis occurring in the group who received TNG.

In addition, with the administration of SNP, significant increases in heart rate (as compared to predrug measurements) were noted at 15, 30, 45, and 60 minutes. With the use of TNG, a significant rise in heart rate occurred only after 15 minutes; further deviations were not significant.

The intraoperative blood loss in the SNP group was approximately 184 ml greater than the group given TNG. In addition, 18 of the 47 patients who received SNP exhibited temporarily altered electrocardiograms, while those receiving TNG showed no evidence of change.

During the postoperative periods, no clinical evidence of myocardial infarction, kidney damage, or vascular brain complications was seen in either group.

Nitroglycerin has been shown to increase coronary blood flow in both animals and man. Under the influence of TNG, the blood vessels of the heart become dilated, lowering the coronary blood pressure.

Because of these effects, TNG decreases the chances of heart muscle injury due to ischemia (inadequate blood supply). SNP, however, decreases myocardial blood flow, increasing the risk of ischemia of heart tissue.

This investigation indicates that nitroglycerin is an efficacious hypotensive drug useful during general surgery. TNG is easy to administer and elicits rapid patient response. The blood pressure is reduced gradually and smoothly, minimizing the danger of inducing severe low blood pressure.

TNG, unlike SNP, provides sufficient coronary blood flow. There were no side effects, such as tachyphylaxis, attributable to TNG administration in this study

The successful application of TNG in the described surgical situation indicates the utility of further trials in other situations where deliberate hypotension during anesthesia is desired.

These findings were reported in the July 1978 issue of *Anesthesiology*.

USDA Registration This Week

Registration for evening courses at the Graduate School, U.S. Department of Agriculture are now being held through Sept. 23 in the USDA Patio, Administration Bldg., Independence Avenue between 12th and 14th Street, S.W.; Metrorail Stop: Smithsonian Station.

For catalogs and class schedules, call 447-4419.

TRAINING TIPS

The Executive and Management Development Branch is sponsoring the following courses at NIH in the next 2 months:

Supervisory

Alternative Management Approaches for the 80's Nov. 1-3

Intramural Orientation Nov. 7

Managerial

Program Management Oct. 23-27.

For further information concerning these courses call Sacelia Damuth, 496-6371.

NIH Animal Center Holding Open House Oct. 7

The NIH Animal Center near Poolesville, Md., is having an Open House, Saturday, Oct. 7, from 10 a.m. to 1 p.m. The Animal Center is part of the Veterinary Resources Branch of the Division of Research Services.

Tours of the main buildings are planned for area residents and other interested persons. NIH employees and their families are welcome to attend.

The basic role of the Animal Center is to supply the larger laboratory animals and animal by-products, such as blood and tissue, for biomedical research conducted by NIH investigators in Bethesda.

The center supplies and houses primarily farm animals, foxhounds, cats, and monkeys. It consists of over 700 acres of farmland.

To reach the Animal Center from Poolesville, drive west on Route 107 (White's Ferry Road) and turn left on Elmer School Road. A map is available from the Veterinary Resources Branch, 496-2527.

Two DCRT Employees Retire: New Administrative Officer Joins Staff

Jo Morse

Betty Kuster

Gloria Crawford

Two employees of the Division of Computer Research and Technology retired this summer.

Jo Morse, who started with the War Department in 1944 and worked for the Army, the Navy, and the Marines, came to NIH in 1960. After working in the travel offices of several NIH units, Mrs. Morse became DCRT's travel assistant in 1968.

She and her husband are now sprucing up their newly purchased house in her home town of Greensburg, Pa. She is looking forward to having more time for Syrian cooking as well.

Betty Kuster, who served as DCRT's administrative officer since 1968, was a PHS employee for 28 years.

She began her career as a clerk typist after graduation from Richard Montgomery High School. At NIH she became an administrative assistant, grants management assistant, and ultimately administrative officer.

Her mother was also an NIH employee, and her son Wayne recently began working in the National Heart, Lung, and Blood Institute.

Now she is planning to relax at her backyard pool, tackle a backlog of household chores, and raise a puppy—the latest addition to a menagerie of pets that has at times included snakes and alligators.

Gloria Crawford, who is replacing Mrs. Kuster as administrative officer, comes to DCRT with 14 years of experience in HEW. She was an administrative assistant in several offices in the Health Services Administration and has previously served in the Office of the Surgeon General at NIH and in the Office of the Secretary of HEW.

CFC Kickoff Day Is Oct. 4—First Day Giving Emphasized

Last year's successful innovation—first day giving—will again be emphasized, according to Sid Gottlieb, coordinator of the 1978 NIH Combined Federal Campaign.

If even more individuals make their contributions on the first day this year than last year, the result will be well worth the effort. Last year, four B/I/D's achieved greater than 100 percent of their dollar goals on the first day.

Another objective of this year's campaign, indicated Mr. Gottlieb, is increasing participation. "We would like to get at least a token contribution of one dollar from all individuals who have not given in the past." One dollar from each new person should not cause a financial hardship for the giver, but collectively would have a significant impact on those in need who can be helped by one of the CFC charitable organizations.

The Review Services unit of the Extramural Activities Program, National Institute of Allergy and Infectious Diseases, received a group award on Sept. 5 for continuous outstanding performance. The unit prepares and distributes materials for NIAID Council meetings three times yearly. Previously serving one review committee, since 1976they have been coordinating grant applications and contract proposals for review by three NIAID committees. L to r are: Dr. Luz Froehlich, chief of the Program and Project Review Branch, Angele Kave, Mabel Battistone, Sue Bozak, Kathleen Curry, Etta Kidwell, unit head, and Dr. William I. Gay, Director, NIAID Extramural Activities Program.

King of Thailand To Honor Dr. Albritton

Dr. Errett C. Albritton, the Division of Research Grants' oldest retiree, has been invited by Mahidol University in Bangkok to receive the doctor of science degree on Sept. 28. The degree will be presented by Bhumibol Adulyadej, King of Thailand, to Dr. Albritton for his responsible role in the late 1920's in developing and improving the University's Medical School.

Dr. Albritton received the M.D. degree from Johns Hopkins University in 1921, and interned at Henry Ford Hospital in Detroit. He was awarded a 2-year National Research Council Fellowship to Ohio State University in 1922, after which he was an assistant professor of physiology at the University of Buffalo School of Medicine for 3 years.

In 1926, following a request from the Siamese Government for assistance in medical education, the Rockefeller Foundation invited Dr. Albritton, along with teachers of medicine from England and Europe, to accept a faculty position of professor of physiology, biochemistry, and pharmacology at Mahidol University (then Chulalongkorn University).

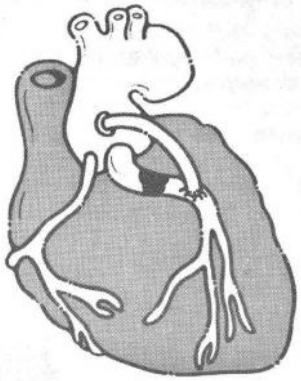
Dr. Albritton taught at the University until 1932, and made a substantial contribution to raising the standards of the institution on a par with the best U.S. medical schools.

During his tenure there, Dr. Albritton introduced his students to the use of statistics in medicine which eventually led to the development of courses in biostatistics as part of the Medical School's curriculum. He later wrote a text book on statistics, *Experimental Design and Judgment of Evidence*, that was used by the George Washington University Medical School when Dr. Albritton was head of the biostatistics department and lecturer in biostatistics there from 1932 until 1951. He was Fry Professor in physiology at GWU until 1956 when he came to NIH as a medical officer in the Division of Research Grants.

To show their regard for their former professor, Dr. Albritton's Thai students flew him to Bangkok last summer for a visit. They will host the 87-year-old professor when he returns in September to receive his honorary doctor of science degree.

Talk on Cardiovascular Surgery Begins Medicine for Layman Series

Coronary Bypass



Dr. Charles McIntosh, senior surgeon of the Surgery Branch, National Heart, Lung, and Blood Institute, will present the fall's first Medicine for the Layman lecture entitled Cardiovascular Surgery.

In his hour-long presentation to be held tonight (Sept. 19) at 8 p.m. in the Masur Auditorium, Dr. McIntosh will discuss three aspects of heart surgery-valve replacement, the coronary bypass operation, and surgical repair of congenital defects.

Next week (Tuesday, Sept. 26) Dr. H. Bryan Brewer, Jr., chief of the Molecular Disease Branch, NHLBI, will talk on the role of cholesterol in heart disease, the methods to reduce cholesterol levels, and the value of diet and physical activity in preventing heart disease.

NIH employees and their families are cordially invited to attend.

Blood Drive at Westwood On Sept. 21

The Clinical Center Blood Bank and the Montgomery County Chapter of the American Red Cross are sponsoring a joint pre-fall blood drive in support of patient care at NIH and in the Metropolitan Washington area. The drive will be held on Thursday, Sept. 21, in Conference Room D of the Westwood Bldg., 5333 Westbard Avenue, from 9:30 a.m. to 3:15 p.m.

If you have any questions or suggestions, please call 496-1048 or 1049.

Bakke Decision Talk Sept. 21

The STEP Forum series will open with a discussion of The Bakke Decision and Reverse Discrimination by Daniel Marcus, Deputy General Counsel, HEW, on Thursday, Sept. 21, from 2:30 to 4:30 p.m. in Bldg. 31, Conference Room 4.

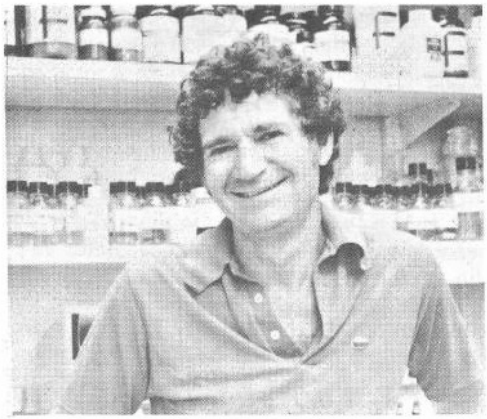
Upton Discusses Perspectives

Dr. Arthur C. Upton, who was appointed Director of the National Cancer Institute on July 29, 1977, will discuss his Perspectives After the First Year at the next meeting of the NCI Fourth Wednesday Forum on Sept. 27 from noon to 1 p.m., in Wilson Hall, Bldg. 1.

Since his appointment, Dr. Upton has reviewed the structure and programs of the Institute. He will report on the perspectives gained through this review, discuss the rationale for changes that have been made, and outline plans for future directions of the Institute.

After his presentation, Dr. Upton will welcome questions and comments from the audience.

On Sept. 6 Betty T. Butler (c) received an award from NIH Director Dr. Donald S. Fredrickson (l), for "initiative, dedication, outstanding work performance, and consistent support of NIH Recombinant DNA Activities." NIGMS Director Dr. Ruth L. Kirschstein also presented a cash award. Ms. Butler has served as secretary to Dr. William Gartland (r), director, Office of Recombinant DNA Activities, NIGMS. Ms. Butler, who joined the National Institute of General Medical Sciences in 1967, is now working in the Institute's Office of Review Activites Section.



Dr. Ira Pastan, chief of the Laboratory of Molecular Biology, National Cancer Institute, has been named one of 18 visiting professors in the basic medical sciences by the Burroughs Wellcome Fund of Research Triangle Park, N.C., for the 1978-79 academic year. Dr. Pastan will visit Texas A&M University, where he will lecture and meet with students and faculty.

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