

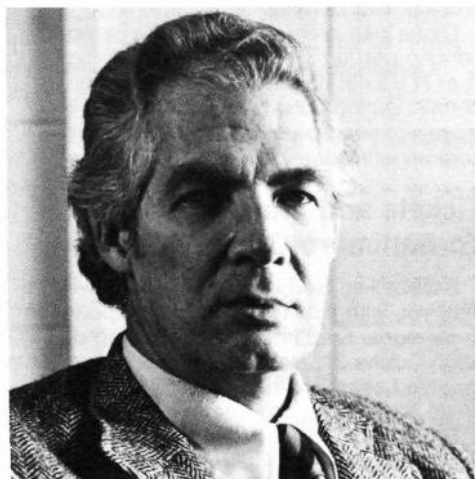
The NIH Record

U.S. Department
of Health
and
Human Services

June 19
1984
Vol. XXXVI
No. 13

National
Institutes
of
Health

Computer Medicine Expert Named NLM Director



Dr. Lindberg

Dr. Donald A. B. Lindberg, a prominent pathologist and information scientist, has been named director of the National Library of Medicine, following an extensive search by a panel appointed by Dr. James B. Wyngaarden, NIH Director.

Dr. Lindberg is presently director of the Information Science Group and professor of pathology at the University of Missouri School of Medicine in Columbia. He has taught pathology at the University of Missouri since 1962. He also served as chairman of the department of information science at the University's School of Library and Information Science (1969-1971).

Dr. Lindberg, familiar with NLM's programs through his advisory roles as a member of the Biomedical Library Review Committee and the Board of Scientific Counselors, is expected to assume his duties as NLM Director in August.

Dr. Lindberg has done research in experimental pathology, dealing with pneumonia, modes of antibiotic action, and extracorporeal oxygenation. Later, he began a long-term investigation of the use of computers in medicine, founding in 1963 one of the nation's first medical computer centers at the University of Missouri.

Early systems built under his leadership included admissions, diagnostic registry, clinical laboratory, educational systems, and a statewide EKG interpretation system. His most recent research has been in applying

(See NLM DIRECTOR, Page 11)

Dr. Robert Gallo, Three Other Scientists Awarded GM Cancer Research Prizes

NIH's Dr. Robert C. Gallo and three other eminent scientists who have made breakthrough discoveries in understanding how cancer begins and how some cancers may be cured have been named winners of the \$390,000 1984 General Motors Cancer Research Foundation prizes.

The four prize winners include three virologists—Drs. J. Michael Bishop, and Harold E. Varmus of the University of California School of Medicine at San Francisco, and Dr. Gallo of the National Cancer Institute.

Dr. Barnett Rosenberg, a physicist at the Baros Research Institute and Michigan State University in East Lansing, Mich., is the fourth investigator to be awarded one of the 1984 prizes.

All three—Drs. Bishop, Varmus and Rosenberg—have been funded by various NIH Institutes during several years: NIGMS, NCI, NEI, NINCDS and NIAID. Only Dr. Rosenberg is not a current NIH grantee.

Dr. Gallo was cited for being the first to isolate a virus causing a human cancer. Related research has brought him recent recognition for identifying the virus that probably causes Acquired Immune-Deficiency Syndrome (AIDS).

Drs. Bishop and Varmus were the first to discover that potentially cancer-causing genes, called oncogenes, are derived from normal cellular genes.

Dr. Rosenberg was cited by the Foundation for developing a drug, *cisplatin*, credited with saving the lives of thousands of patients suffering testicular cancer.

The four investigators were honored Wednesday, June 13, at NIH where each delivered a scientific lecture.

Dr. Gallo won the \$130,000 Charles S. Mott Prize—given for advances in the basic un-



Dr. Gallo

derstanding of cancer—for his discovery of the first virus proved to cause a human cancer and of the first substance that promotes cell growth. HTLV-1, as it is known, causes T-cell leukemia, a cancer affecting certain white blood cells crucial to immunologic defense. Dr. Gallo has also re-

(See GM WINNERS, Page 10)

Exercise Can Reduce High Blood Pressure Caused by Stress, Animal Study Confirms

Despite the popularly held notion that exercise can modulate the effects of stress, scientists are only just now able to point to a controlled study that would substantiate that belief.

Researchers from The University of Tennessee, Knoxville, described that study last month at the 68th Annual Meeting of the Federation of American Societies for Experimental Biology in St. Louis.

In the study, which was supported by the National Heart, Lung, and Blood Institute and the Tennessee affiliate of the American Heart Association, Tennessee researchers—Drs. Ronald H. Cox, John W. Hubbard, James E. Lawler, and Mr. Brian J. Sanders, and Ms. Vicki P. Mitchell—found that daily swimming attenuated the elevation in blood pressure caused by the stress of tail shock in laboratory rats.

In recent years, stress has been related to a variety of illnesses, including cardiovascular disease, still the leading cause of

death in the United States, claiming some 1 million lives every year. Stress is also a putative risk factor for hypertension—high blood pressure.

Studies have shown that regular exercise, by reducing body weight, shifting cholesterol to the high density lipoprotein carriers that have been shown to be beneficial, and reducing blood pressure, can retard the development or progression of cardiovascular disease.

Is it possible that exercise can also reduce the hypertension that arises from stress? While the lay press has been reporting for some time that exercise can modulate stress effects, scientists have not been convinced.

A major problem in the investigation of stress-induced hypertension is the elusiveness of the phenomenon. Chronic stress can elevate resting blood pressure in some, but by no means in all, laboratory animals. The lack of suitable experimental models has

(See EXERCISE, Page 10)

The NIH Record

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Training Tips

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

	Course Starts	Deadline
Technical		
Career Development Workshop	9/25	9/11
Executive, Management and Supervisory		
Managing Performance Feedback	7/9	6/22
Administrative Systems		
Word Processing Training (Advanced Xerox): Open to all Xerox operators with 3 months experience	To be announced	
(IBM Display Writer): Open to all operators with 3 months experience		
Basic	8/6	7/23
	8/13	7/30
Advanced	8/20	8/6
Specialized Needs	8/27	8/13
DELPRO (Delegated Procurement for new users only)	7/23	7/11

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

FAES Sponsors Conversational English Beginning July 2

The Foundation for Advanced Education in the Sciences will offer an intensive course in Conversational English called ILPAN, beginning July 2 and ending July 30.

The class, which will meet Monday through Thursday from 5:30 to 7 p.m., is designed for speakers of languages other than English. Further information may be obtained by calling 496-7976. □



Patricia Oakley, Comparative Medicine Branch Glassware Unit, National Institute of Environmental Health Sciences, uses a telephonic keyboard which allows a hearing impaired individual to send and receive messages by telephone. As a message is typed or received over the phone, the text appears in the lighted display window above the keyboard. NIEHS at Research Triangle Park, N.C., recently installed two of these devices for use by employees in the Glassware Unit and in its warehouse.

It's Election Time at R&W

It's time to vote for the R&W Board of Directors. Ballot boxes are now available in all R&W Gift Shops, the Activities Desk, Bldgs. 1 and 35, cafeterias, Bldg. 13 (Rm. 1318), Blair Bldg. Lobby, Landow Bldg. (Rm. 4C04) and Federal Bldg. (Rm. 114).

Put your ballot into an official ballot box or mail to: R&W Election, Bldg. 31, Rm. B1W30. Ballots received after noon, Thursday, June 21 will not be counted. Election results will be announced by the R&W President, June 22. □

National Toxicology Program: 1984 Annual Plan Available

The National Toxicology Program for Fiscal Year 1984 is now available, according to NIEHS Director Dr. David P. Rall, who also is director of the National Toxicology Program.

The 6th NTP Annual Plan consists of two separate parts: the NTP Annual Plan for Fiscal Year 1984 describes current research, testing, method development and validation efforts as well as the past year's program accomplishments. The Review of Current DHHS, DOE, and EPA Research Related to Toxicology lists chemicals being tested by DHHS agencies, the Department of Energy, and the Environmental Protection Agency, and describes toxicology research and toxicology methods currently being developed by these agencies. □

M and N Parking Permit Names Must Be Renewed in July

General parking permits for NIH employees whose last name begins with M or N must be renewed during July.

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

Blair Bldg., Wednesday, July 11, 1-2 p.m., Conf. Rm. 110; Federal Bldg., Wednesday, July 18, 1-2 p.m., Conf. Rm. B119; Landow Bldg., Wednesday, July 18, 2:30-3:30 p.m., Conf. Rm. C; Westwood Bldg.; Wednesday, July 11, 9-11 a.m., Conf. Rm. 3.

Affected employees will receive a memo reminding them of the upcoming renewal and providing specific instructions on obtaining replacement permits.

Those with preferential (red) or carpool parking permits whose last name begins with M or N do not need to obtain new parking permits during July. New July general employee parking permits must be displayed beginning Wednesday, Aug. 1. □

Tickets and Transportation To Baltimore Orioles' Games

Baseball season is here, and R&W will provide you with tickets and bus transportation to Memorial Stadium on the following dates: Friday, June 22, New York Yankees (upper reserved seats); Friday, July 13, Chicago White Sox (upper box seats).

The bus will leave from Bldg. 31C at 5:30 p.m. Cost is \$12.50 which includes bus transportation and seats. Sign up now at the R&W Activities Desk, Bldg. 31 or the Westwood R&W Gift Shop, Rm. 10. □

Over 60, Normal Male Volunteers Needed

Ten male normal volunteers, healthy, and medication-free, are needed for a National Institute on Aging study on the drug theophylline and its effects on nerves and muscle physiology. Two volunteers are needed between the ages of 20-40, and the rest over 60.

Nerve and muscle studies will be done. A 3½-day inpatient stay is also required so patients can be given the drug. Volunteers will be paid. For more information, call Dr. Neal Cutler, 496-4754. □

Highly Specialized Electrical Equipment Available Free

All equipment from a disassembled High Strength Electric Field Test Room is available free of charge to interested scientists. The equipment:

Hipotronics Inc. Dielectric Test Set, Model 7200-5; 200,000 volt, 2.5 KVA Transformer; Solid State Controller and Display Unit; 15, 4'x8' sheets of non-machinable 1"-2" phenolic; 600 square feet of heavy gauge 10-mesh copper screen.

Interested qualified biomedical researchers should contact Dr. Arthur Shoukas, Johns Hopkins University, (301) 955-6417 or Dr. Richard Burgess, NIH (301) 496-6561.

NIH Institute Challenge Relay 1984

Sixty-five teams entered the 7th annual NIH Institute Challenge Relay Race held May 23. There were 5 female, 15 male, and 45 mixed teams totaling 325 runners. Although no records were set for the 2½ mile relay race run in ½-mile segments, competition was particularly fierce this year.

Runners of all abilities strained and struggled for an extra inch as they reached the finish line. The all-female team race results were the most hotly contested, as only 4 seconds separated the 1st and 2nd place teams in this division.

Hepatitis A (FDA) with Phil Snoy, Louis Mocca, Jerry Moore, Henry O'Connell and Russell Abbott won the overall race with the fastest time of 12 minutes, 12 seconds. Foxes II (NIADDK) with Anne Weisenburn, Jo White, Alison Wichman, Chris Grady and Caroline Bagley won the Women's division in 15 minutes, 51 seconds. These two teams will have their names engraved on the permanent Director's Trophy.



Hepatitis A (FDA) Team—(l to r) Russell Abbott, Henry O'Connell, Phil Snoy, Jack Shawver (alternate for the team but did not run in the race), Louis Mocca, and Jerry Moore.

OFFICIAL RESULTS (INTEGRATED RESULTS OF 2 HEATS)

PLACE	TYPE	TIME	TEAM NAME
1	Male	12:17	Hepatitis A (FDA)
2	Male	13:02	Geronouts (NIA)
3	Male	13:08	First Order Processes (DRS)
4	Mixed	13:21	Nad's (NHLBI) 1ST PLACE MIXED TEAM
5	Male	13:29	Lymphocyte Lightning B (NCI)
6	Male	13:55	Lymphonectins (NIAID)
7	Male	13:56	Blaze (DCRT)
8	Mixed	14:02	NIDA A (NIDA) 2ND PLACE MIXED TEAM
9	Male	14:03	George's Ninja (NIDR)
10	Male	14:08	Drool Team (NIDR)
11	Mixed	14:35	Jose's Horde (NICHD) 3RD PLACE MIXED TEAM
12	Male	14:38	Meranda's Morons
13	Mixed	14:40	Pef-one (NINCDS)
14	Male	14:42	Columbia Flyers (ODI)
15	Male	14:47	Wurtz Possible Runners
16	Male	14:51	Equivalent Units (CSAB)
17	Mixed	14:55	C.K. and Co. (NIMH)
18	Mixed	14:56	Biohazards (NIADDK)
19	Mixed	15:10	Westwood Runners (NCI)
20	Mixed	15:13	Synaptic Relay (NINCDS)
21	Male	15:16	Buller's Bulldogs (BLDG 7)
22	Mixed	15:18	Ward's Wonders (DCRT)
23	Mixed	15:23	Heart Breakers (NHLBI)
24	Mixed	15:29	Skin Sprints (NCI)
Tie	Mixed	15:29	Safety Supporters (ORS)
26	Mixed	15:30	Schard Prudders (NIADDK)
27	Male	15:38	Team Swine (NHLBI)
28	Mixed	15:46	Wind Jammer (FDA)
29	Female	15:51	Foxes II 1ST PLACE FEMALE TEAM
30	Mixed	15:52	CPB-Fast Folks (NCI)
31	Mixed	15:55	Chariots of Fire (BB)
32	Female	15:56	Liquor is Quicker 2ND PLACE FEMALE TEAM
33	Mixed	16:01	1's Again (OD)
34	Mixed	16:04	Ray's Fatty Asses (NHLBI)
35	Mixed	16:07	Psychogenetics Blue Jeans (NIMH)
36	Mixed	16:09	The Vectors (NIAID)
37	Mixed	16:13	Billie's Goats (NCI)
38	Mixed	16:24	Computer Whizzes (DCRT)
39	Mixed	16:26	Mad Techs (CC)
Tie	Mixed	16:26	NCI Budget Deficits (NCI)
41	Mixed	16:28	NAD's B (NHLBI)
42	Mixed	16:31	Slow Pokes (NCI)
43	Mixed	16:33	Beepers (NIMH)
44	Mixed	16:35	Kid Power (NICHs)
45	Mixed	16:49	Tag-a-Longs (DRS)
46	Mixed	16:52	DRR Road Runners (DRR)
47	Mixed	17:03	Epigones (NCI)
Tie	Mixed	17:03	Occupational Hazards (NCI)
49	Mixed	17:13	Friedman's Flyers (DRG)
50	Mixed	17:17	Axons (NINCDS)
51	Female	17:23	Genetic Diversity (NHLBI) 3RD PLACE FEMALE TEAM



Foxes II (NIADDK)—(l to r) Caroline Bagley, Anne Weisenburn, Jo White, Christ Grady, and Allison Wichman.

This year's race was greatly aided by the outstanding cooperation and help provided by the NIH police and the ground maintenance department. Particular thanks is extended to Sgt. Herbert D. Jackson for his efforts to ensure and provide the best possible conditions for the runners.

The NIH Health's Angels Running Club will cosponsor a party on Friday, July 13, at the FAES House from 4:30 to 7 p.m., at which time a videotape of the race will be shown and an ample supply of munchies, soda and beer will be provided. A \$1 donation is requested.

Mixed	17:24	5-Alive (NIMH)
Mixed	17:34	Grant Man (?)
Mixed	17:37	SB's (OD)
Female	17:40	Lymphocyte Lightning T (NCI)
Mixed	17:45	DRG Masters (DRG)
Mixed	17:46	NCI Budget Activity (NCI)
Mixed	17:52	Anthropods (NIADDK)
Mixed	17:53	"5" Male (DRG)
Mixed	18:07	Dendrites (NINCDS)
Mixed	18:40	Five Snails (DRG)
Female	19:36	GRC Team (NIA)
Mixed	19:38	Drug Runners (?)
Mixed	20:46	Aches and Pains (NCI)

NIH Grantee Named Inventor of Year for Implantable Pump

NIH grantee Robert E. Fischell of the Johns Hopkins University Applied Physics Laboratory has been named Inventor of the Year for developing an implantable pump that is designed to provide an alternative to injections for people who require medication on a continuing basis.

The Inventor of the Year Award is sponsored by Intellectual Property Owners, a trade organization that represents individuals holding patents, trademarks, and copyrights.

The National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases partially supported development of the pump, which has important potential in treating diabetics who must have insulin.

Development of the pump was also supported by the National Cancer Institute, the National Institute of Child Health and Human Development, and the National Aeronautics and Space Administration.

Called programmable implantable medication system (PIMS), the new pump would automatically deliver preprogrammed doses of insulin to its wearer throughout the day. This would free the diabetic from daily injections. In addition, the delivery of insulin by the pump as needed, more closely mimics the natural action of the pancreas, the gland that normally makes insulin.

Unlike insulin pumps now commercially available, PIMS is fully implantable. It can be surgically inserted just beneath the skin of the abdomen and is not visible to an observer.

An outgrowth of an ongoing effort to apply space program technology to medicine, many of the pump's functions are carried out by components used in satellites and space vehicles.

For example, the pump, which fits in the palm of a hand, has a small computer which can be programmed to deliver insulin in specified quantities throughout the day.

The pump is programmed through a radio device held in front of the pump's location in the body. A physician can even program the pump by telephone.

Using the programming device, a wearer can instruct the pump that an extra dose of insulin is needed in response to a snack or a large meal. The pump records exactly how



Mr. Fischell with his implantable pump.

much insulin the person receives during the day, and the physician can get this information through a telemetry system similar to that used in satellites.

The pump holds a 3-month supply of insulin, and can be refilled with a specially designed device that will release the insulin only when it is correctly inserted into the pump's reservoir.

The pump is currently being tested with laboratory animals. Tests in human patients—possibly within a year—will determine the potential of the pump as a therapeutic device.

Other potential applications of the pump include delivery of morphine to relieve pain in terminally ill cancer patients and to deliver fertility or growth hormones.

Mr. Fischell, assistant head of the space department and chief of technology transfer for the department, has been honored for a number of his inventions in space and medical technology.

His other inventions include a rechargeable cardiac pacemaker, an artificial urinary sphincter, and a satellite spin control system.—Charlotte Armstrong □

Lung Cancer Lab Findings Promise Improved Treatment

Even though the best available treatment for lung cancer in the United States can achieve long-term survival for only 12 percent of patients, a National Cancer Institute researcher believes there is reason to be optimistic about future treatment for this disease.

Dr. John D. Minna said he bases his optimism on "remarkable" laboratory findings about the cellular and molecular biology of lung cancer, findings he believes will "ultimately be of clinical benefit."

A major advance, he said, has been the establishment of human lung cancer cell lines. Others include work with tumor "markers" and monoclonal antibodies to type lung cancer cells, determination of some of the growth factors required by human lung cancer cells, identification of certain oncogenes in some of these cancers, and early studies to test sensitivity of human lung cancer cells to drugs and radiation.

Dr. Minna gave the Richard and Hinda Rosenthal Foundation award lecture at the 75th annual meeting of the American Association for Cancer Research in Toronto, Ontario recently. The award recognizes a scientist "whose work has made, or gives high promise of soon making, a notable contribution to improved clinical care in the field of cancer."

Dr. Minna said that more than 80 percent of human cell lung cancers, 60 percent of adenocarcinomas and large cell carcinomas, and 40 percent of squamous cell lung cancers can be made to grow in culture.

"These lines retain the tissue and biochemical properties of the patients' cancers," he said, despite replication in cell culture for many years and despite transplantation in some strains of mice. And, Dr. Minna said, "the cell lines seem able to generate diverse, heterogeneous cell populations much like those seen in human cancers."

To provide the most effective treatment, it is necessary to ascertain the exact cell type of a patient's lung cancer. This may be difficult to do, because lung cancer cell populations can be diverse and overlapping.

Using cell lines, investigators have so far been able to define markers that distinguish small cell from non-small cell lung cancer, and small cell lung cancer from a variant form called SCLC-V, Dr. Minna said.

Researchers are also learning about the precursor (forerunner) cells of the various types of human lung cancers. Even though the four major types of human lung cancer appear to have distinct patterns of differentiation, Dr. Minna said, "evidence from some laboratories indicates they may all arise from a common precursor in the epithelial cells of the bronchus." □

itself; the only cost is for the computer time.

The "Introduction to WYLBUR" course is available in two formats: at your computer terminal, and in printed form. To get the printed lessons, contact the Computer Center Technical Information Office (Bldg. 12A, Rm. 1017, 496-5431). If you need help getting started or have any questions about ABC, call the Computer Center Training Unit at 496-2339, or visit Bldg. 12A, Rm. 1025. □

Computer ABCs Are Easy at NIH's Computer Center

For the past year, DCRT's Computer Center's Independent Training Assisted By Computer (ABC) has been available to all users of the center. Designed, developed, and installed by a team of Computer Center staff members, ABC displays lesson text at your terminal, handles questions and analyzes answers, monitors usage, handles multiple courses, and produces letters of credit for students completing courses.

To date, over 2,000 people have used ABC. This response, and students' favorable comments have shown that ABC is an excellent way to use computers for learning.

The interactive ABC course, entitled "Introduction to WYLBUR," is a convenient way to learn about WYLBUR, both the system and the Computer Center. The course teaches how to use WYLBUR to do word processing, to store information, and to run computer

programs.

Thousands of people at NIH use WYLBUR every day. As a result of this popularity, requests for WYLBUR training flood the Computer Center's Training Unit year after year. In the past, some requests could not be filled. Not until the advent of ABC did WYLBUR training become readily available to all who request it. Those persons who cannot travel to the Computer Center for a course or cannot schedule the time for a classroom course, have found ABC to be the most convenient way to learn about WYLBUR.

Registered users of the Computer Center can just sign on to WYLBUR and then type the command ENTER ABC. They can then browse through the WYLBUR course and brush up on individual topics and commands, or take the whole course.

There is no specific charge for using ABC

NIH Staff Members Honored at DHHS Awards Ceremony

Eight NIH staff members were honored June 12 by HHS Secretary Margaret M. Heckler during the Department's Honor Awards Ceremony held in the Great Hall of the Hubert H. Humphrey Bldg. Dr. Edward N. Brandt, Jr., Assistant Secretary for Health, PHS, and Dr. Thomas E. Malone, NIH Deputy Director, assisted with the presentations, representing Dr. James B. Wyngaarden, NIH Director.

The Distinguished Service Award, the Department's highest honor award conferred on civilian employees, was presented to Dr. Robert A. Lazzarini, NINCDS, and Dr. George R. Martin, NIDR. They were recognized for their scientific achievements. Edward H. McManus, NEI, received the award for administrative achievements.

Sylvia Z. Edelstein, NINCDS, received the DHHS Outstanding Handicapped Employee of the Year Award.

Emily E. Johnson, NIGMS, was presented one of the Secretary's Special Citations for 10 Outstanding Employees of the Year and Juanita P. Cooke, NHLBI, received the HHS Equal Opportunity Achievement Award.

Secretary Heckler presented a certificate to John W. Boretos, DRS, for First Place (Color) in the DHHS Employee Photo Contest.

Secretary Heckler also recognized Dr. Samuel Broder, NCI, as a recent recipient of the Arthur S. Flemming Award for 1984.

A reception for HHS, PHS, and NIH officials, award recipients and their guests followed the ceremony.

The recipients' pictures and citations follow:

DHHS Outstanding Handicapped Employee of the Year



Ms. Edelstein

Sylvia Z. Edelstein

Computer Systems Analyst

Office of Biometry and Field Studies, NINCDS

"For outstanding accomplishments, despite a handicap, as a Computer Systems Analyst and leader of a team developing data base management systems for medical applications."

Distinguished Service Award



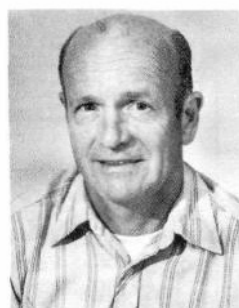
Dr. Lazzarini

Scientific Category

Dr. Robert A. Lazzarini

Chief, Laboratory of Molecular Genetics, IRP, NINCDS

"For research and fundamental discoveries concerning viral and inherited neurological diseases."



Dr. Martin

Dr. George R. Martin

Chief, Laboratory of Developmental Biology and Anomalies, NIDR

"For outstanding basic research that has significantly advanced our understanding of biological processes critical to the development, maintenance and repair of normal tissues."



Mr. McManus

Administrative Category

Edward H. McManus

Deputy Director, NEI

"For outstanding management skills in negotiating the organizational financial and policy aspects of an innovative collaborative multi-million dollar agreement with a major pharmaceutical company to test a new drug as a treatment for complications of diabetes."

Secretary's Special Citation For Ten Outstanding Employees of the Year



Ms. Johnson

Emily E. Johnson

Secretary (Stenography) to the Director, NIGMS

"For consistently outstanding performance and invaluable contributions to the Director, NIGMS, and to the Institute as a whole."

DHHS Equal Opportunity Achievement Award



Ms. Cooke

Juanita P. Cooke

Director, Office of Special Concerns, NHLBI

"For perseverance in implementing and advancing research opportunities for minorities and women as well as developing provocative interest in research careers in minority institutions."

First Place (Color) DHHS Employee Photo Contest



Mr. Boretos

in need and the dedication of those who serve science and medicine."

John W. Boretos
Physical Scientist
Biomedical Engineering
Instrumentation
Branch, DRS

"For distinguished achievement in photography for capturing the faces of 'The People Department' by showing the triumphs of the human spirit of those

Recipient of Major Non-HHS Award



Dr. Broder

Dr. Samuel Broder

Associate Director,
Clinical Oncology
Program, NCI

"For research in clinical immunology and leadership of the Clinical Oncology Program."

Fourteen NIH Publications Win Blue Pencil Awards

Fourteen NIH publications were recently awarded prizes in the 1984 Blue Pencil Publications Contest of the National Association of Government Communicators.

The Golden Screen Award in videotape was presented to the National Heart, Lung, and Blood Institute for *We Can't Go On Like This*.

The National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases won second prize in Category 1, brochure or folder, for *Prevention and Treatment of Kidney Stones*, by James N. Fordham. In Category 3A, technical publications, one color, the *NICHD Pediatric Research Digest* by Brent Jacquet won honorable mention.

Making PSAs Work, National Cancer Institute, by Needham Porter Novelli (under contract from NCI), shared first prize in Category 3B, technical publications, two or three colors. The NHLBI shared second prize in the same category for *The Physician's Guide: How to Help Your Hypertensive Patients Stop Smoking*.

In Category 6B, book for technical audience, first prize was awarded to NHLBI for *Heart to Heart: A Manual on Nutrition Counseling for the Reduction of Cardiovascular Disease Risk Factors*, edited by Constance Raab and Jeanne L. Tillotson, R.D., M.A.

The Division of Research Resources' *Research Resources Reporter* by James Augustine won third prize in Category 7, newsletter. In Category 9, annual report, honorable mention was awarded to both the Division of Computer Research and Technology, DCRT Information Office, for *Fiscal Year 1983 Annual Report*, and to the NIADDK for the *Second Annual Report of the Director* by Dr. Benjamin Burton.

In Category 10, news release, NIH took the top three prizes. First prize was awarded to NICHD for *Results of Largest Study on Vasectomy Revealed* by Maureen Gardner; second prize went to NICHD for *Surrogate Embryo Transfer with Hormone Therapy* by Susan Johnson; and third prize was awarded to NCI for *Community Clinical Oncology Program* by Alice Collins Hamm.

Medical Update on the Pill, NICHD, by Maureen Gardner won second prize in Category 12, feature story.

In Category 14, visual design, two prizes went to the NCI. *Children With Cancer Series* by Kathleen J. Robichaud won second prize, and special honorable mention was also awarded to Ms. Robichaud for an outstanding promotional effort: *Teddy Wants You to Wash Your Hands*; *T. Bear is Specially Made for the Kids at the NCI*; and *Fever in the Child With Cancer is a Danger Signal*. □

Normal Volunteers Needed for Study

Ten healthy, medication-free normal volunteers, ages 28-55, are needed for a National Institute of Mental Health summer-winter melatonin study. Participation involves a 3 nights, 2½ days-inpatient stay with sleep studies and IV blood drawings. The same study will be repeated in winter. Volunteers will be paid. Please call Liz Ashburn for screening on 496-6982. □

New Drug Developed To Curb Kidney Stones

The development of a new orphan drug, potassium citrate, for prevention of calcium-containing kidney stones was recently announced by Dr. Charles Y. C. Pak of the University of Texas Health Science Center in Dallas during a conference sponsored jointly by the UTHSCD and the Division of Research Resources.

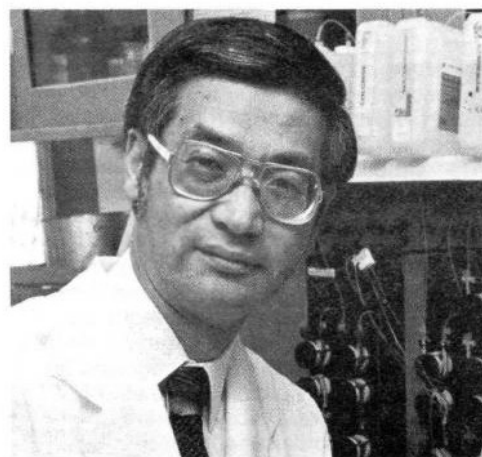
Potassium citrate, a component of citrus fruits, has been found effective in reducing the rate of stone formation in patients with "hypocitraturia," a condition in which a person has a low urinary citrate level.

Hypocitraturia affects about 50 percent of all people requiring medical treatment for active kidney stone disease, according to Dr. Pak, professor of internal medicine at the UTHSCD and director of the UTHSCD General Clinical Research Center. Up to 200,000 patients could benefit from potassium citrate, he said.

Potassium citrate was tested at the Texas GCRC on 78 patients with hypocitraturia. Research was funded by the National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases. FDA approval is expected shortly.

Stones formed by patients in the study were composed of calcium oxalate or calcium phosphate (calcium stones make up the majority of kidney stones). Of the 78 patients, 74 percent stopped forming stones while on drug therapy and 96 percent had a reduced rate of stone formation. When treatment ended, the rate of stone formation jumped to an elevated level again.

This treatment virtually eliminated the need for surgery of new stones. The 78 patients underwent 56 surgeries during the 3 years prior to initiation of treatment. Following treatment with potassium citrate (mean period of 1.8 years) only nine surgeries were required, all for preexisting stones and none for new stones. In patients who initially had small



Dr. Pak in his laboratory at the University of Texas Health Science Center in Dallas. His research on kidney stones, has led to two new treatments that were tested on patients in a DRR-supported General Clinical Research Center.

stones, some had shown a reduced stone mass.

Citrate, a substance normally found in urine, is an "inhibitor" of stone formation since it can prevent crystallization of stone-forming calcium salts, Dr. Pak said.

Potassium citrate is the second drug developed by Dr. Pak's group. The orphan drug "sodium cellulose phosphate" or SCP, as approved by the FDA in December 1982 after 15 years of testing by Dr. Pak's group.

SCP was found clinically effective in treatment of "absorptive hypercalciuria," a stone-forming disorder frequently associated with increased absorption of calcium from food.

The development of both drugs by Dr. Pak, potassium citrate and sodium cellulose phosphate, was made possible by grants from NIADDK. □

Dr. Samuel Kakehashi Receives Prestigious Dental Award

In recognition of his contributions to the Public Health Service as a clinician, scientist, administrator, and teacher, Dr. Samuel Kakehashi, chief of the National Institute of Dental Research Periodontal and Soft Tissue



Dr. Kakehashi

Diseases Research Branch, received the Jack D. Robertson Dental Award June 14.

One of the highest honors that a PHS dentist can receive, the award was established in 1982 to honor Dr. Robertson, the former Deputy Chief Dental Officer. The award is presented annually to a PHS dentist who has made outstanding contributions to dentistry and the Public Health Service.

Dr. Kakehashi, who holds the rank of dental director in the Commissioned Corps, was chosen as the recipient of this year's award for demonstrating great ability and flexibility while serving in an exemplary manner in a

variety of assignments.

The award was presented to him during the 9th Annual DHHS/Public Health Service Dental Conference, held in the Lister Hill Auditorium at the National Library of Medicine.

Dr. Kakehashi joined the PHS in 1956 when he interned at the USPHS Hospital in Boston. He then served as the dental officer in charge of the USPHS Outpatient Clinic in Cincinnati.

In 1959, he came to NIDR as a clinical associate and successively served as a clinical periodontist and as a principal investigator with the Oral Medicine and Surgery Branch. From 1969 to 1974, he served as chief of the Clinical Center Dental Department. In 1974, he became chief of the Periodontal Diseases Program, NIDR Extramural Programs.

In addition to his administrative responsibilities, Dr. Kakehashi serves as a special lecturer at the U.S. Naval Dental School and the National Naval Medical Center and is a clinical associate professor of periodontology at the Georgetown University School of Dentistry. He is a diplomate of the American Board of Periodontology and also maintains a practice. □

Dr. E. C. Albritton Dies At 93; Retired From DRG

Dr. Errett Cyril Albritton, 93, who retired from the Division of Research Grants in 1971, died May 2 at his home in Pleasant Hill, Calif.

Dr. Albritton joined the DRG staff in 1956, after having retired from George Washington University Medical School where he was professor of physiology. Shortly before his retirement from NIH in 1971, he celebrated his 80th birthday to become DRG's first octogenarian.

Dr. Albritton received his medical degree in 1921 from Johns Hopkins University. Before becoming professor of physiology at G.W.U. Medical School, he was affiliated with three other universities—Tulane University, New Orleans; University of Buffalo; and Chulalongbhorn University, Bangkok, Thailand.

In 1978, Dr. Albritton, then 87 years old, returned to Thailand at the invitation of Chulalongbhorn University to receive the doctor of science degree in recognition of his role in developing and improving the university's medical school in the late 1920s.

Dr. Albritton was a resident of Montgomery County until he moved to California in 1980.

He is survived by his wife, Dorothy, of Pleasant Hill, a son, two daughters, several grandchildren, and great-grandchildren.

Research Awards Index Available for Purchase

The 23rd edition of the *Research Awards Index*, containing scientific and administrative data on more than 20,000 Public Health Service research grants, contracts, and cooperative agreements awarded during Fiscal Year 1983, has been published in two volumes.

The first volume contains approximately 7,000 scientific subject headings under which appear identification numbers and titles of pertinent projects.

Volume II contains project identification data that includes names of principal investigators, their addresses and project titles; a separate section on research contracts, and an alphabetical list of principal investigators.

A limited number of this edition has been distributed without charge to Federal agencies and biomedical libraries (including the NICV Library and National Library of Medicine) by the Research Documentation Section, Statistics and Analysis Branch, DRG.

Single copies of the *Research Awards Index*, NIH Publication No. 84-200 (stock no. 017-040-00493-1), may be purchased for \$31 domestic postpaid or \$38.75 foreign postpaid from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. □

Sits he on never so high a throne, a man still sits on his own bottom.—*Montaigne*

Men are most apt to believe what they least understand.—*Montaigne*

Two NIADDK Scientists Win Senior Arthritis Fellowships

Drs. Daniel G. Malone and Thomas J. Santoro of the Arthritis and Rheumatism Branch, NIADDK, received prestigious Arthritis Foundation Senior Fellowship Awards June 8 at the American Rheumatism Association's 48th annual meeting in Minneapolis, Minn.

The awards support individuals who have demonstrated outstanding competence in academic medicine, and who plan to pursue a program of advanced study in rheumatic diseases. Their program of study may be clinically-oriented, research-oriented, or a combination of both.

Dr. Malone came to NIH in 1981 as a medical staff fellow after serving a rheumatology fellowship at the University of Illinois Hospitals in Chicago.

He received a B.A. degree in physics from Cornell University, Ithaca, N.Y., and an M.D. degree from the University of Illinois' Abraham Lincoln School of Medicine. He served his internship and residency in internal medicine at the University of Illinois Hospitals.

Dr. Malone has worked closely with his preceptor in the branch, Dr. Ronald L. Wilder, studying the immunopathogenesis of rheumatoid arthritis. His studies on synovial tissue (membranes covering the ends of a bone or joint) and blood cells has led to identification of specific groups of arthritis patients based on blood cell function and the number and types of specific white blood cells in the synovium.

He has also studied production of soluble factors made by white cells in the synovium. These factors regulate activity of many types of cells present in the diseased synovium.

Dr. Santoro also came to NIH as a medical



(L-R): Drs. Ronald Wilder, Daniel Malone, Thomas Santoro, and Alfred Steinberg.

staff fellow in 1981. His preceptor in the branch is Dr. Alfred D. Steinberg.

Dr. Santoro received his undergraduate degree in pharmacy from the Brooklyn College of Pharmacy, in Brooklyn, N.Y., and a B.Sc. from Columbia University. His M.D. degree was from the New York University Medical School. Internship and residence were served at Duke University Medical Center.

His principal interest has been understanding the immunology of systemic lupus erythematosus. Using a mouse model of the disease, he has examined the role of cytokines or soluble immune mediators in development of lupus. His most recent research efforts have focused on the contribution of interferon to the etiopathogenesis of murine lupus.

The Arthritis Foundation has awarded 20 of these fellowships to date. Drs. Malone and Santoro are the fifth and sixth members of the branch to receive this award. □



The 100th meeting of the National Advisory Neurological and Communicative Disorders and Stroke Council brought together four past and present NINCDS directors. From left are: Dr. Edward F. MacNichol, Jr. (1968-1973); Dr. Murray Goldstein (acting director, 1981-1982; director, 1982-present); Dr. Donald B. Tower (1974-1981); and Dr. Richard L. Masland (1959-1968). Council presentations on May 24 focused on the need to train future generations of investigators, the crucial role of voluntary health agencies in fostering research, and the interaction of M.D.s and Ph.D.s in conducting clinical and basic investigations. Attending the session were council members whose collective tenure ranged from the first meeting in 1950 through the present.

Dr. G. Gilbert Ashwell Gets Biochemistry Award

Dr. G. Gilbert Ashwell, a staff member of NIADDK's Laboratory of Biochemistry and Metabolism and its former chief, received the 1984 ASBC-Merck Award in Biochemistry June 5 in recognition of his outstanding contributions to advancement of biomedical research.

Dr. Ashwell is noted for his many fundamental contributions that have had a profound influence on the current direction of research in cell biology and biochemistry. His original studies revealed a previously unsuspected biological role for the carbohydrate portion of serum and cell surface glycoproteins. Over a period of 15 years an impressive body of data has been collected to document and define the information content of such protein-bound sugar residues.

Dr. Ashwell's contribution is that of demonstrating that removing a molecule or two of a simple sugar from a protein molecule allows that protein to be recognized by liver cells and, consequently, ingested.

This discovery provides the basis for the understanding of those clinical conditions in which the pathology may be directly related to faulty or deficient carbohydrate signals.



Dr. Ashwell

Dr. Ashwell received the award at the annual ASBC in St. Louis, Mo., where he delivered a lecture entitled "Origins, Development and Current Status of the Hepatic Receptor for Asialoglycoproteins." □

NICHD Grantee Receives Roussel Biochemistry Prize

Dr. Seymour Lieberman, an NICHD grantee, received the 1984 Roussel Prize during a ceremony held in Paris at the Roussel Uclaf Company on Apr. 26.

The Roussel Prize is awarded every 2 years to a chemist or biochemist for outstanding work on the chemistry or biochemistry of steroids. The recipient of the prize receives a \$20,000 honorarium.



Dr. Lieberman

The Roussel Uclaf Company is a leading drug company and an important manufacturer of steroids. The founder of the award, the late Jean-Claude Roussel, created the Roussel Prize to stimulate new research in the biological study of steroids.

Dr. Lieberman is a professor of biochemistry at Columbia University and the President of the St. Luke's-Roosevelt Institute for Health Sciences in New York. He is also a member of the National Academy of Sciences.

Dr. Lieberman has received NICHD support for numerous studies relating to various aspects of the biochemistry of steroid hormones. His research has concentrated on the

biosynthesis of steroid hormones, their interrelations, metabolic pathways and excretion patterns.

After receiving his B.S. from Brooklyn College, Dr. Lieberman obtained an M.S. from the University of Illinois and his doctorate from Stanford University.

Dr. Lieberman was a pioneer in the identification and isolation of many steroid hormones. Of the 175 steroid hormone metabolites identified from human urine, 41 were isolated by Dr. Lieberman and his collaborators.

With his colleagues at Columbia University, Dr. Lieberman was the first to synthesize a steroid-protein antibody complex that possessed antigenic and anti-hormonal properties. These antibodies are capable of neutralizing the biological effects of steroid hormones and have provided a useful tool for the study of many hormonal diseases.

Dr. Lieberman's most recent contribution was the discovery of a new class of naturally occurring steroids, the lipoidal (fatlike) derivatives. He has identified five lipoidal derivatives so far. □

FAES 1984-85 Concerts Schedule

The Foundation for Advanced Education in the Sciences will present eight concerts in its 1984-85 Chamber Music Series.

The concert dates are: Oct. 21, 1984: I Solisti Italiani; Nov. 25, 1984: Carter Bray, cello; Dec. 16: Uto Ughi, violin; Jan. 13, 1985: Benita Valente & Cynthia Raim, Feb. 10, 1985: Mozart Trio, Mar. 3, 1985: Peter Serkin, piano; Mar. 24, 1985: Gabrieli Quartet; Apr. 7, 1985: Perahia-Carmirelli.

The concerts will be in Masur Auditorium, Sundays at 4 p.m. Tickets are by subscription only and cost \$64 for the season.

For further information, contact the FAES, Bldg. 10, Rm. 2C207A, 496-7976. □

Visiting Scientist Program Participants

Sponsored by Fogarty International Center

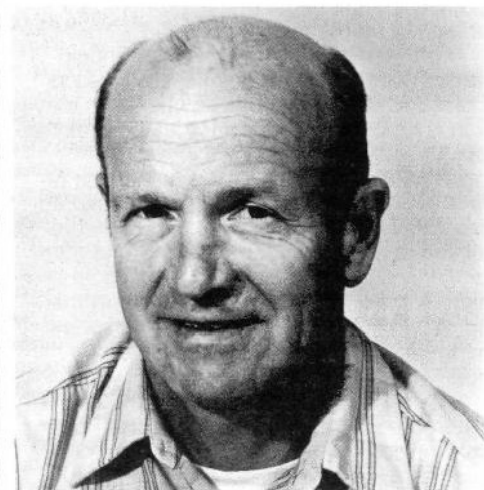
- 3/12—**Dr. Edoardo G. Sarubbi**, Italy. Sponsor: Dr. C. Michael Cashel, Laboratory of Molecular Genetics, NICHD, Bg. 6, Rm. 335.
- 3/12—**Dr. Xu Jian**, China. Sponsor: Dr. Erminio Costa, Laboratory of Preclinical Pharmacology, NIMH, W.A. White Bg., St. Elizabeths Hospital.
- 3/13—**Dr. Kaoru Sakamoto**, Japan. Sponsor: Dr. David Sachs, Immunology Branch, NCI, Bg. 10, Rm. 4B17.
- 3/18—**Dr. Lawrence J. Denholm**, Australia. Sponsor: Dr. John D. Termine, Mineralized Tissue Research Branch, NIDR, Bg. 30, Rm. 216.
- 3/18—**Dr. Renato Mariani-Costantini**, Italy. Sponsor: Dr. Robert Callahan, Laboratory of Tumor Immunology and Biology, NCI, Bg. 10, Rm. 8B07.
- 3/18—**Dr. Montserrat Puente-Cueva**, Spain. Sponsor: Dr. Kevin J. Catt, Endocrinology and Reproduction Research Branch, NICHD, Bg. 10, Rm. 8C404.
- 3/18—**Dr. Emilio Rojas**, Chile. Sponsor: Dr. Harvey Pollard, Laboratory of Cell Biology and Genetics, NIADDK, Bg. 4, Rm. 312.
- 3/19—**Dr. Maria Cossu**, Italy. Sponsor: Dr. Takami Oka, Laboratory of Biochemistry and Metabolism, NIADDK, Bg. 10, Rm. 9B17.
- 3/19—**Dr. Nora V. Esteban**, Argentina. Sponsor: Dr. Alfred L. Yergely, Laboratory of Theoretical and Physical Biology, NICHD, Bg. 6, Rm. 136.
- 3/19—**Dr. Kelko Funa**, Japan/Sweden. Sponsor: Dr. Adi Gazdar, NCI-Navy Medical Oncology Branch, NCI, NNMC, Bg. 1, Rm. 424.
- 3/19—**Dr. Françoise Mornex**, France. Sponsor: Dr. Eli Glatstein, Radiation Oncology Branch, NCI, Bg. 10, Rm. B3B38.
- 3/19—**Dr. Luis Rosario**, Portugal. Sponsor: Dr. Harvey Pollard, Laboratory of Cell Biology and Genetics, NIADDK, Bg. 4, Rm. 312.
- 3/20—**Dr. Kayoko Fukasawa**, Japan. Sponsor: Dr. Steven Li, Laboratory of Genetics, NIEHS, Research Triangle Park, N.C.
- 3/22—**Dr. Takeki Tsutsui**, Japan. Sponsor: Dr. J. Carl Barrett, Laboratory of Pulmonary Function and Toxicology, NIEHS, Research Triangle Park, N.C.
- 3/26—**Dr. Renu Tuteja**, India. Sponsor: Dr. Y. Peng Loh, Laboratory of Neurochemistry and Neuroimmunology, NICHD, Bg. 36, Rm. 2A19.
- 3/27—**Dr. Kazunori Mine**, Japan. Sponsor: Dr. Markku Linnoila, Laboratory of Clinical Studies, NIAAA, Bg. 10, Rm. 3C112.
- 3/28—**Dr. Akemi Nishikawa**, Japan. Sponsor: Dr. C.P. Glauemans, Laboratory of Chemistry, NIADDK, Bg. 4, Rm. 205.
- 3/29—**Dr. Shohken Tomita**, Japan. Sponsor: Dr. Anthony S. Fauci, Laboratory of Immunoregulation, NIAID, Bg. 10, Rm. 11B09.
- 4/1—**Dr. Shakeel Ahmad**, India. Sponsor: Dr. David Vistica, Laboratory of Medicinal Chemistry and Biology, NCI, Bg. 37, Rm. 5C30.
- 4/1—**Dr. Giulio Alessandri**, Italy. Sponsor: Dr. Pietro Gullino, Laboratory of Pathophysiology, NCI, Bg. 10, Rm. 5B36.
- 4/1—**Dr. Zsuzsanna Buzas-Orosz**, Hungary. Sponsor: Dr. Andreas Chrambach, Laboratory of Physical and Theoretical Biology, NICHD, Bg. 10, Rm. 8C307.
- 4/1—**Isao Ebihara**, Japan. Sponsor: Dr. George Martin, Laboratory of Developmental Biology and Anomalies, NIDR, Bg. 30, Rm. 416.
- 4/1—**Dr. Ondrej Foldes**, Czechoslovakia. Sponsor: Dr. Irwin Kopin, Intramural Research Program, NINCDS, Bg. 10, Rm. 2D46.
- 4/1—**Dr. Elio Gulletta**, Italy. Sponsor: Dr. Sankar Adhya, Laboratory of Molecular Biology, NCI, Bg. 37, Rm. 4B04.

Dr. George R. Martin Receives Humboldt Award

Dr. George R. Martin, chief of the Laboratory of Developmental Biology and Anomalies, National Institute of Dental Research, recently received a senior U.S. Scientist Award from the Alexander von Humboldt Foundation of the Federal Republic of Germany.

Given to outstanding U.S. scientists who have received international acclaim for their accomplishments in research and teaching, purpose of the award is to promote scientific cooperation between German and American researchers and institutions.

The award will enable Dr. Martin to spend up to 12 months in the Federal Republic of Germany, conducting research of his own choice. He plans to spend that time at the Max-Planck-Institut für Biochemie in Munich, beginning this August. His research will focus on cellular receptors for extracellular matrix molecules and their role in regulating tissue growth and repair.



Dr. Martin

Dr. Martin is well-known for his studies on the structure and formation of connective tissue and on defects that occur in connective tissues in inherited diseases such as osteogenesis imperfecta and acquired diseases such as diabetes, inflammation, and cancer.

His research interests also include the role of matrix molecules in development. Most recently he and his associates isolated laminin, a large glycoprotein in basement membranes which is the first extracellular protein to appear in developing embryos.

Dr. Martin joined NIDR in 1959 and has been chief of the Laboratory of Developmental Biology and Anomalies since 1974. He earned his B.S. from Colgate University and his Ph.D. from the University of Rochester. Author of more than 200 scientific articles, Dr. Martin is a member of the American Society of Biological Chemists, the Developmental Biology Society, and the International Society of Differentiation.

He is currently on the editorial board of the *Journal of Biological Chemistry and Collagen and Related Research*. In addition, he is a consultant to several medical foundations and serves as chairman of the research advisory board for the Shriners Hospitals for Crippled Children. □

Artificial Skin Promises Faster Healing, Fewer Grafts for Severe Burn Victims

Burn injury is the third leading cause of accidental death in the United States. Over 75,000 people are hospitalized with severe burns annually; 12,000 die. One-third of these burn victims are children under age 15.

To help cut this toll, speed recovery, and lessen disability and disfigurement, the National Institute of General Medical Sciences supports research which aims to improve our understanding of the fundamental physiological mechanisms underlying the complications of burn injury.

Although NIGMS is especially interested in basic studies on the molecular, biochemical, and physiological changes caused by burns and trauma, research results are often translated into improved patient care quite quickly.

A case in point is the development of an artificial skin by two NIGMS grantees, Dr. Ioannis Yannas of the Massachusetts Institute of Technology in Cambridge and Dr. John Burke of Massachusetts General Hospital in Boston.

Rapid wound closure is very important for burn or trauma victims since open wounds lead to serious fluid losses and greatly increase the risk of life-threatening infections. At present, wounds in which extensive areas of skin have been destroyed cannot be closed without the use of grafts.

The only grafts that "take" permanently are from the patient's own skin and, unfortunately, this may be in short supply. When this happens temporary coverings, often grafts of pig or cadaver skin, are used to cover the wound. To slow the rejection which ultimately occurs with these grafts, immunosuppressant drugs must be given.

These, in turn, lower the patient's resistance to infection. The temporary grafts must also be removed when the permanent graft is applied, thus subjecting the patient to another surgical procedure.

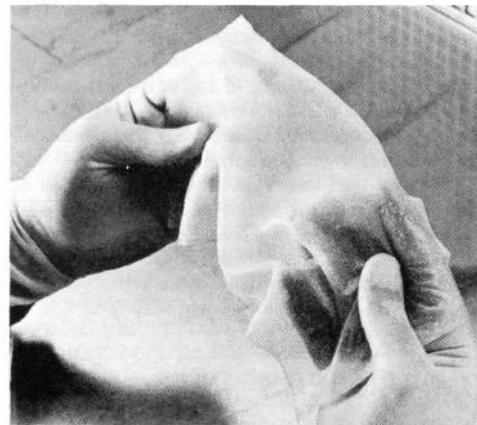
The artificial skin promises to avoid many of these problems. Drs. Burke and Yannas have successfully tested the material on 40 severely burned patients ranging from the very young to the elderly. They found the skin, which is composed of interlaced fibers constructed from cowhide collagen (a major protein of connective tissue) and shark cartilage, to be a good wound covering.

It does not cause infection, inflammation, or rejection, and it cuts healing time significantly because, although the top layer must be removed and the wound closed by thin mesh grafts of the patient's own skin, it is not necessary to obtain full-thickness grafts from the patient.

This "stage 1" artificial skin is now being developed by a commercial laboratory and has received FDA approval to be tested in selected burn centers across the country. Within the next year or so, the material should become available for widespread use in treating severely burned patients.

However, the scientist's ultimate goal is to develop an artificial skin that will not require any grafting of the patient's skin. Their "stage 2" skin, which they have tested in guinea pigs, is a step in this direction.

In both stages the artificial skin consists of two layers. The top layer is made of silicone, which can be peeled off quite easily. The bottom layer is constructed of highly porous fibers of collagen that are specially designed to serve as a template for the regrowth of the patient's dermal or inner skin layer.



Dr. I.V. Yannas, Massachusetts Institute of Technology in Cambridge, shows a portion of artificial skin.

In stage 2, the artificial skin is seeded with a small number of the recipient's own epidermal (outer layer of skin) cells which will grow to cover the new dermis, forming a complete new skin.

In guinea pig trials with the stage 2 skin, healing with new full-thickness skin took place in only 14 days. Although the new skin seemed functional, it contained no sweat glands or hair follicles.

The researchers are now working to define more precisely the properties and structure of the regenerated guinea pig skin. They also need to determine the ideal density of the epidermal cells that are used to seed the skin before this stage 2 artificial skin will be ready for clinical trials with burned patients. □

Co-Editors of NIEHS Journal Honored for Dedicated Service

Drs. George W. Lucier and Gary E. R. Hook, coeditors of *Environmental Health Perspectives*, the scientific journal published by the National Institute of Environmental Health Sciences in Research Triangle Park, N.C., were recently honored at a meeting of the publication's Editorial Board and Editorial Review Board.

The coeditors, who have served since the journal's experimental issues in the early 1970s, were honored for years of work over and above their duties as research scientists at NIEHS. The journal is internationally recognized as a prime reference in the field of environmental health.

When not performing editorial duties, Dr. Lucier is chief of the NIEHS Biometry and Risk Assessment Program. Dr. Hook is group leader for Biochemical Pathology in the NIEHS Laboratory of Pulmonary Function and Toxicology. □

NIH Committee Recommends Approval of Two Experiments With Genetically Modified Organisms Being Released

The NIH Recombinant DNA Advisory Committee at a recent meeting unanimously recommended approval of two proposals from biotechnology companies to conduct experiments that would release certain genetically modified organisms into the environment in strictly controlled field tests.

One experiment—proposed by Advanced Genetic Sciences—involves spraying small fields with bacteria that have been genetically modified in an attempt to reduce frost damage to potato plants. The other experiment—proposed by Cetus Madison Corporation—would involve a small field test of plants that had been genetically altered to make them more resistant to disease.

The proposal from Advanced Genetic Sciences is similar to a proposal by scientists from the University of California which was

approved by the RAC earlier but which has been halted recently by court action.

The NIH Guidelines stipulate that any release into the environment of organisms modified by gene-splicing techniques first be approved by NIH. These guidelines apply only to institutions receiving Federal research funding. Commercial companies are not bound by the guidelines, but most of them have volunteered to abide by the NIH Guidelines.

In another action, the RAC approved proposed laboratory experiments by scientists at the Uniformed Services University of the Health Sciences in Bethesda to grow the laboratory genetic material with which bacteria make a poison, shiga toxin.

The experiments would be conducted in a laboratory classed as P-3, with strict and relatively elaborate safety precautions. □

GM WINNERS

(Continued from Page 1)

ported that a related virus, HTLV-3, is probably responsible for AIDS, a deadly disease that has afflicted some 4,000 Americans.

Dr. Gallo has recently shown that HTLV-1 is prevalent in several parts of the world, among them the Caribbean, Central and South America, parts of Africa and the southwestern United States. It has long been known to exist in southwestern Japan. HTLV-1 does not appear to be highly infectious.

Drs. Bishop and Varmus share the \$130,000 Alfred P. Sloan Prize for their



Dr. Bishop



Dr. Varmus

oncogene work, which has important implications for cancer cause and prevention. Their studies suggest that, though cancer is more than 100 different diseases, there may be common mechanisms by which they proliferate.

Drs. Bishop and Varmus, who often collaborate, identified the first of a small number of genes that switch on cancer. Under normal conditions, these genes perform functions necessary to life. But once disturbed, perhaps by radiation, a chemical or a cancer-causing virus, they start the long process toward cancer.

Discovered Cisplatin

Dr. Rosenberg was awarded the \$130,000 Charles F. Kettering Prize for his discovery and development of cisplatin, now one of the most widely used anticancer drugs in the

world. Cisplatin has turned around the statistics for several types of cancers that were once uniformly deadly.



Dr. Rosenberg

Testicular cancer, which strikes 6,000 young men in the United States alone every year, used to kill virtually all with the advanced disease. Today, however, more than 80 percent of patients

with advanced testicular cancer are cured with drug treatments that include cisplatin.

The drug is also the mainstay of present-day chemotherapy for several other aggressive solid tumors, such as those affecting the ovaries, bladder, head and neck, and cervix.

Origin of Awards

The G.M. Cancer Research Awards, which began in 1979, are given "to stimulate scientific efforts to control this disease and to recognize the truly important recent advances made in the cancer field."

The General Motors Cancer Research Foundation was formed with a \$2 million grant from General Motors to meet the need for recognition of cancer research. Subsequent grants have brought G.M.'s total contribution to \$7.5 million.

The Foundation established three awards, each consisting of a gold medal and \$100,000 in cash, to recognize accomplishments of scientists around the world in basic and clinical cancer research, with the hope of stimulating further efforts to control the disease.

Each award includes an additional \$30,000 to support a workshop or conference under the leadership of the prizewinner.

The 1984 Awards Assembly, who made the final prize selections, is composed of distinguished medical and scientific leaders from the United States, England, France, Scotland, Japan, Peoples Republic of China, Italy, Argentina, Sweden and Australia. Several are Nobel laureates. □

EXERCISE

(Continued from Page 1)

made it difficult to test many popularized assumptions about stress-induced hypertension.

The Tennessee team has been able to successfully study stress-induced hypertension in a strain of animals derived from the spontaneously hypertensive rat, a breed of animals that reliably develops high blood pressure without outside intervention.

Two groups of these animals were exposed to 2 hours of predictable tail shock daily, 5 days a week, for 12 weeks, an experimental paradigm that produces stress.

One of these groups also exercised for 2 hours daily through swimming. (These animals are naturally good swimmers.)

Each week, a minimum of 24 hours after the last shock or swim session, measurements of systolic blood pressure were made for each rat. (Systolic pressure is the blood pressure created by the contraction of the ventricles as they force the blood out of the heart. In blood pressure notation, systolic pressure is the larger of the two numbers and is placed on the top.)

The investigators found that tail shock stress does indeed elevate systolic blood pressure. But in exercise animals, that elevation is much smaller than the blood pressure rise in sedentary rats.

In looking for a basis for the exercise effect, the Tennessee researchers measured blood levels of two known blood pressure-elevating chemicals (epinephrine and norepinephrine) in the rats after a 30 minute session of predictable shock. They found that norepinephrine levels were lower in swimming rats than in their sedentary counterparts.

The reason for this difference, the investigators suggested, was that exercise training suppressed the activity of the sympathetic nervous system, that part of the nervous system relying on norepinephrine for the transmission of nerve impulses.

The Tennessee study provides the first demonstration that exercise training can attenuate one of the deleterious effects of stress—an elevation in resting blood pressure. And while further research is needed, the study also suggests that people who exercise regularly may be better able than sedentary individuals to withstand the hypertensive effects of stress—**FASEB Report**. □

SHER Sponsors Speakers

Jerry Klepner, staff director of the subcommittee on Compensation and Employee Benefits, and Sandy Fiske, general counsel for the Federal Government Service Task Force, will speak on current issues having significant impact on NIH employees. All NIH employees are invited to hear these speakers from noon to 1 p.m. June 25 at the ACRF Amphitheater in Bldg. 10.

Some of the issues to be discussed include: Contracting Out, Women's Pay Equity, Merit Pay and the plan to eliminate 40,000 middle and upper grades over the next 4 years. This meeting is sponsored by Self-Help for Equal Rights.

For further information, call Ethel Muntjan, 496-9231. □

Dr. James R. Ganaway, Distinguished Veterinary Scientist, Retires From NIH After 33 Years of Federal Service

Dr. James R. Ganaway, NIH's principal expert on naturally occurring infectious diseases of laboratory animals, retired May 31 after 33 years of Federal service. Dr. Ganaway had served since 1961 as chief of the Microbiology Unit, Comparative Pathology Section, Veterinary Resources Branch, DRS. He is a veterinary director in the PHS Commissioned Corps.

In the Veterinary Resources Branch, Dr. Ganaway conducted investigations of spontaneous diseases of NIH laboratory animals and managed VRB's program to ensure the microbiologic quality of the animals used in intramural research. Defects in laboratory animals can invalidate research results.

Dr. Ganaway received his D.V.M. from the University of Missouri in 1953; he had served in the U.S. Army 1944-1947.

He began veterinary and public health practice as a commissioned officer in the Air Force, 1953-1961, and during that period he earned the M.P.H. degree in 1958 at the Johns Hopkins School of Hygiene and Public Health. He then began his career in diagnostic and research laboratory work at the Armed Forces Institute of Pathology. He joined NIH in 1961.

Dr. Ganaway's many contributions to research on infectious diseases of laboratory animals have established him as an international authority in that field.

In 1983 he performed the first demonstration of disease in a warm-blooded vertebrate resulting from infection by a "gliding bacterium." He isolated and propagated this filamentous bacterium of the rat respiratory tract and used it to transmit obstructive pulmonary disease in rats; he has termed the organism the "cilia-associated respiratory (CAR) bacillus."

Many past studies in rats may have to be reevaluated as a result of these findings. Dr. Ganaway has also developed sensitive serologic techniques and initiated surveys for antibody to CAR bacillus in numerous animal species, including humans. He is best known for advances in the study of Tyzzer's disease, one of the most feared threats to laboratory animal colonies. Often fatal in 3 to 4 days, it is widespread in mouse colonies in several countries. Occasional outbreaks occur in the United States among various animal species. Dr. Ganaway was a member of the VRB team that identified Tyzzer's disease in animals other than mice, and he was the first person to isolate the causative agent, *Bacillus piliiformis*, from the rabbit and horse.

Dr. Ganaway characterized this elusive bacterium extensively and proved the existence of a spore form; he was the first person to successfully propagate the bacillus in tissue culture and has developed an enzyme-linked immunosorbent assay for detection of antibody.

His first major contribution in his field came in 1962 when he determined the cause of a disease threatening the survival of the NIH Strain 13 guinea pig colony—valuable animals in which inbreeding was begun near the turn of the century. Dr. Ganaway pinpointed a nutritional imbalance involving vitamin D and magnesium; diet changes saved the last few



Dr. Ganaway prepares to harvest fluid containing CAR bacillus from an egg.

breeding animals. The rebuilt colony is a source of Strain 13 guinea pigs for biomedical research throughout the world.

Dr. Ganaway later demonstrated that the cause of "endemic pneumonia" of guinea pigs is the bacterium *Bordetella bronchiseptica*, and developed a vaccine now employed wherever Strain 13 guinea pigs are used in research. Until then this pneumonia was the major cause of death from infectious disease among these animals; it has been eradicated in the NIH colony.

Dr. Ganaway has contributed chapters on animal diseases and disease-causing agents to a number of standard reference books, including an International *Manual of Microbiologic Monitoring of Laboratory Animals*, a joint effort of the United States and Japan now in preparation.

Dr. Anton Allen, chief of the VRB Comparative Pathology Section, points out, "Along with his many research contributions, Dr. Ganaway has given generously of his time to teaching and advising young people entering the field of laboratory animal science and medicine. He yields continuously to requests to give presentations at teaching institutions around the country."

Dr. Ganaway comments, "With all the work I have planned, I don't have time to think about true retirement. I've been granted an NIH guest researcher position and will continue collaborative efforts with colleagues in the VRB Comparative Pathology Section. In addition, I've accepted a position as director of veterinary medicine with Microbiological Associates of Bethesda, where I'll participate in the development of diagnostic tools for infectious diseases of laboratory animals." □

E. Chu Elected Assn. President

Ellen M. Chu, librarian, Division of Computer Research and Technology, was recently elected president of the D.C. Chapter of the Special Libraries Association.

The SLA is an international association of librarians and information managers who provide information services to organizations in the fields of science, technology, business communications, and social sciences. The 850-member D.C. group is the second largest chapter. □

NLM DIRECTOR

(Continued from Page 1)

artificial intelligence techniques to the development of expert consulting systems.

In addition to numerous articles on pathology and medical informatics, Dr. Lindberg has authored two books—*The Computer and Medical Care* (1968) and *The Growth of Medical Information Systems in the United States* (1979). He also coedited *Computers in Life Science Research* (1975).

A native of New York City, he received his A.B. degree (*magna cum laude*) from Amherst College and his M.D. degree from the College of Physicians and Surgeons of Columbia University. He received his specialty training in anatomic and clinical pathology at Columbia-Presbyterian Medical Center in New York. Dr. Lindberg also holds the D.Sc. from Amherst College.

He was a Markle Scholar in Academic Medicine (1964-1969). His numerous professional affiliations include the College of American Pathologists, the Association of Science. He has been a member of the joint computer-based examination committee of the National Board of Medical Examiners and the American Board of Internal Medicine (1974-1981).

He is the U.S. representative to the International Medical Informatics Association of the International Federation for Information Processing and a member of the board of directors of the American Association for Medical Systems and Informatics. □

NIH Toastmasters Runner-Up In District-Wide Contest

The NIH R&W Toastmasters Club recently won second-place honors for 1983 among the 204 Toastmasters Clubs in District 36, which comprises clubs in Maryland, Virginia, and Washington, D.C. The trophy for Runnerup Club of the Year was presented to club president Gilbert Wright, Jr., NHLBI, by District 36 governor Paul Terry at the spring conference May 12.

Many awards went to other members of the NIH R&W Toastmasters Club at the meeting. They were: District 36 Toastmaster of the Year, Gilbert Wright, Jr.; Outstanding club bulletin, NIH Toastmasters' Tribune, Julie Guroff, NIH, editor; Outstanding area governor (runnerup), Leonard Jakubczak, NIA; Outstanding club presidents (runnerup) Lorri Ziller, OD; and Henrietta Hyatt-Knorr, NHLBI.

Dr. Jakubczak was also elected governor of Division E, comprising some 44 Toastmasters clubs in Montgomery County and Northwest Washington, D.C. His term of office will be from July 1, 1984 to June 30, 1985.

The NIH R&W Toastmasters Club meets every Friday at noon in Bldg. 31, Rm. B2C05, for self-development in speaking, listening, and leadership skills. Membership is open to all at a very nominal fee, and guests are always welcome. □

No matter how much we seek, we never find anything but ourselves.—*Anatole France*.

New Interagency Animal Research Committee Serves Expanded Role on Animal Issues

Representatives of the principal Federal agencies dependent on the use of animals for research and testing now participate in the Interagency Research Animal Committee (IRAC).

Established in 1983 by Dr. Edward N. Brandt, Jr., Assistant Secretary for Health, IRAC is the focal point for interagency discussion of issues involving animal species needed for biomedical research and testing.

Its principal concerns are the conservation, supply, use, care, and welfare of these animals, and its responsibilities include information exchange, program coordination, and contributions to policy development.

NIH has been designated the lead agency, and Dr. Joe R. Held, Director of the Division of Research Services and Chief Veterinary Officer of the Public Health Service, chairs the committee.

IRAC replaces the Interagency Primate Steering Committee (IPSC), which functioned since 1975 as the focus of Federal efforts to ensure a stable supply of nonhuman primates for biomedical research. That responsibility will remain part of the new committee's mission.

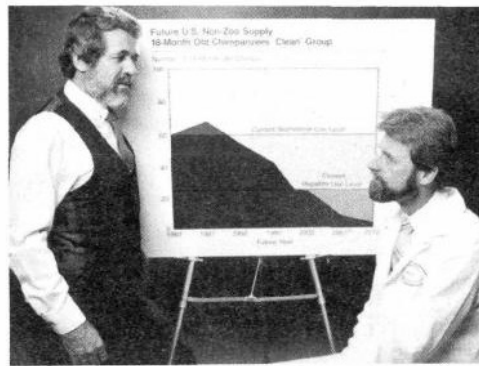
At the request of the Office of Science and Technology Policy (OSTP), IRAC recently drafted "U.S. Government Principles for the Utilization and Care of Vertebrate Animals Used in Testing, Research, and Training." These are now under review by individual Federal agencies.

The final version will be considered for inclusion in the proposed revision of the PHS Policy for Humane Care and Use of Animals and as an appendix to the revised NIH *Guide for the Care and Use of Laboratory Animals* now being prepared.

IRAC has based its statement on a draft statement of principles prepared by the Council for International Organizations of Medical Science (CIOMS), whose membership represents a large majority of the world biomedical scientific community.

"Specific practices will necessarily vary in countries with different legal and social systems," Dr. Held said, "but consensus on broad, underlying principles can contribute much to progress in research involving animals."

A potential sharp drop in the availability of cynomolgus monkeys for biomedical research is a current concern of IRAC. This macaque species has been widely used in research since rhesus monkeys (also



Chimpanzees are an invaluable and endangered biomedical research resource. IRAC executive director Dr. Thomas Wolfle (l) discusses the National Chimpanzee Breeding Plan with Dr. David Johnson, Veterinary Resources Branch, project officer for IRAC's Chimpanzee Rehabilitation Program at the University of Texas, Bastrop.

macaques) became unavailable from the wild during the 1970s. Now Malaysia, one of the principal source countries, has announced an end to export of cynomolgus and the related "pig-tailed" macaque monkeys.

IRAC has been assisting the World Health Organization with a program designed to count potentially available primate populations and to stimulate conservation and management of these animals and their natural habitats.

Participating agencies in IRAC are the Departments of Health and Human Services, Agriculture, Defense, State, and Interior; the Environmental Protection Agency; National Aeronautics and Space Administration; National Science Foundation; and Veterans Administration.

PHS components in addition to NIH are the Alcohol, Drug Abuse, and Mental Health Administration, Centers for Disease Control, Food and Drug Administration, and Office of International Health.

Within NIH, components represented are the Division of Research Resources; Division of Research Services; Fogarty International Center; Office of Program Planning and Evaluation; and Office of Protection from Research Risks.

The Veterinary Resources Branch, DRS, provides staff support for IRAC, including Dr. Thomas Wolfle, who serves as executive director. For additional information, call the IRAC office, 496-5424. □

NIEHS's Dr. Dixon Named To Head EPA Laboratory

Dr. Robert L. Dixon, chief of the Laboratory of Reproductive and Developmental Toxicology at the National Institute of Environmental Health Sciences, has been named to head the Office of Health Research at the U.S. Environmental Protection Agency headquartered in Washington, D.C.

In this new post, he will have administrative responsibility for the health research programs of EPA conducted at the EPA Health Effects Research Laboratory at Research Tri-

angle Park, N.C., which is a neighbor to NIEHS.

During his 12 years at NIEHS, Dr. Dixon established the Laboratory of Reproductive and Developmental Toxicology which is recognized internationally. □

To marry a second time represents the triumph of hope over experience.—Dr. Sam Johnson

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